

Training and learning for competence

Second report on vocational training research in Europe: synthesis report

Pascaline Descy
Manfred Tessaring

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Country abbreviations

A	Austria
AL	Albania
AU	Australia
B	Belgium
BG	Bulgaria
CH	Switzerland
CA	Canada
CZ	Czech Republic
D	Germany
DK	Denmark
E	Spain
EE	Estonia
EL	Greece
Eng	England
EU	European Union
F	France
FIN	Finland
GB	Great Britain
HU	Hungary
I	Italy
IRL	Ireland
JP	Japan
L	Luxembourg
LV	Latvia
LT	Lithuania
N	Norway
NL	Netherlands
NZ	New Zealand
P	Portugal
PL	Poland
RO	Romania
S	Sweden
Sco	Scotland
SK	Slovakia
SL	Slovenia
UK	United Kingdom
US	United States of America

Frequently used abbreviations

(With a few exceptions no abbreviations are listed here concerning institutions, organisations, projects, training programmes and the like, in particular at national level.)

CEECs	central and eastern European countries
CVT	continuing vocational training
CVTS	Continuing vocational training survey
DG	Directorate General (of the European Commission)

DOT	Dictionary of occupational titles
EC	European Commission
ECHP	European Community household panel
EEA	European economic area
ET	education and training
EU	European Union
GDP	gross domestic product
GED	general educational development
HCA	human capital accounting
HCR	human capital reporting
HRD	human resource development
HRM	human resource management
IALS	International adult literacy survey (OECD project)
ICT	information and communication technology
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISIC	International Standard Industrial Classification of all Economic Activities
IT	information technology
IVT	initial vocational training
LDV	Leonardo da Vinci (programme of the European Commission)
LE	large sized enterprise
LEFM	Local economy forecasting model
(C) LFS	(Community) labour force survey
LLL	lifelong learning
LM	labour market
LTU	long-term unemployed/unemployment
ME	medium sized enterprise
NACE	Nomenclature of Economic Activities in the European Community
NAIRU	non accelerating-inflation rate of unemployment
NAP	national action plan (for employment)
NGO	non-governmental organisation
NPO	non (for) profit organisation
R&D	research and development
SE	small sized enterprise
SME	small and medium sized enterprise
TQM	total quality management
TSER	Targeted socio-economic research (programme of the European Commission)
VET	vocational education and training
VSE	very small sized enterprise

Contributions to the background report of the second research report

This synthesis report is in major parts based on the contributions to the background report published separately by Cedefop:

Descy, Pascaline; Tessaring, Manfred, eds., 2001. *Training in Europe. Second report on vocational training research in Europe 2000: background report*. Cedefop Reference series. Luxembourg: Office for Official Publications of the European Communities (3 volumes).

The background report contains the following contributions; they can be downloaded from: www.trainingvillage.gr/etv/research/index.asp.

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Lieve Van den Brande

Synopsis of selected VET related projects undertaken in the framework of the Leonardo da Vinci I programme
Cedefop

Targeted socio-economic research (TSER): Project synopses
Cedefop

Preface by Viviane Reding

Following the March 2000 European Council meeting in Lisbon, the Commission and the Member States have made a priority of facilitating progress towards a knowledge-based society and economy through investment in human resources, Europe's main asset. To meet this challenge, European education and training systems must fulfil the new requirements of the knowledge economy and guarantee access for all to lifelong education and training.

Within this context, I welcome this second Cedefop report on vocational education and training research in Europe for its contribution to the ongoing debate, drawing as it does from a wealth of research activities at national and European level.

Redirecting European education and training policy towards the knowledge society must be based upon in-depth research on current trends and activities, qualifications available and current investment in human resource development.

The report's themes are very topical, in research debates, in policy, and in practice:

- new forms of learning in the context of new technologies and work patterns;
- cooperation and coordination needs in a framework of lifelong and lifewide learning to ensure employability;
- the role of training for social inclusion of disadvantaged and low-skilled persons
- the contribution of vocational training to the fostering of competitiveness and employment, and overcoming skills gaps.

These are only some of the aspects addressed in the report. They illustrate the complexity of the challenges and the almost infinite wealth of subjects with which vocational training and related research are confronted.

By promoting a clearer understanding of developments and trends, this report should stimulate debate and help individuals, enterprises, and policy-makers including social partners, make informed decisions for future action at Member State and European level.

The report therefore forms a solid basis for the transfer of research findings to policy and practice. It will undoubtedly fuel a constructive, ongoing dialogue and cooperation between all the actors concerned, as we strive together to build a Europe of knowledge.

Viviane Reding
European Commissioner
for Education and Culture

Executive summary¹

Introduction

Definition and role of vocational education and training

Broadly defined, vocational education and training (VET) comprises all more or less organised or structured activities – whether or not they lead to a recognised qualification – which aim to provide people with knowledge, skills and competences that are necessary and sufficient in order to perform a job or a set of jobs. Trainees in initial or continuing training thus undertake work preparation or adapt their skills to changing requirements.

VET is independent of its venue, of the age or other characteristics of participants, and of their previous level of qualification. The content of VET could be job-specific, directed to a broader range of jobs or occupations, or a mixture of both; VET may also include general education elements. However, the definition of VET and continuing training (CVT) in individual countries is different.

Function and objectives of VET research

Education and training policies, as with other policies, have to consider complex relationships between education and training and the socio-economic system. It is the task of research to shed light on these aspects in order to analyse, identify and explain these relationships, to improve our understanding of causes and effects, and to identify the means and strategies which are expected to be effective and acceptable in solving a problem.

In particular VET research aims to:

- (a) describe and explain the systems, conditions and frameworks for processes involved in acquiring and updating vocational skills and competences;
- (b) provide information on the interactions between VET and other areas of social action. Those interactions concern the legal and institutional framework, interdependencies with social, economic, technological and demographic change and the behaviour of the different actors in these fields;
- (c) demonstrate its relevance to the option-seeking and decision-making of the various protagonists.

Reporting on VET research in Europe

The reports on VET research in Europe published regularly by Cedefop intend to improve transparency on VET research issues in Europe, by pooling the findings of different research disciplines and, at the same time, by properly positioning other fields of social action in terms of their relationship to initial and continuing vocational training. Furthermore, the reports indicate the implications of research results for the various protagonists concerned – politicians, institutions, social partners, enterprises, individuals – and draw attention to areas where research coverage is too thin and needs building up.

The second research report builds upon the first edition published in 1998/99. Some topics have been developed further, others have been updated to consider new research findings, and some have been introduced to reflect the current debate.

The second research report consists of three publications

- the *synthesis report* that you have before you which provides a comprehensive overview on the state of the art of VET research in Europe, on the main theoretical and conceptual approaches, empirical findings and implications for decision-makers and researchers;
- a *background report* (3 volumes, effectively the basis for the synthesis report) which contains contributions on different topics from renowned researchers across Europe;
- an *executive summary* which attempts to provide an overview on the main topics, findings and conclusions presented in the second research report.

¹ This summary does not include bibliographical references; these can be found in the main text of the synthesis report.

Part one

VET systems, coordination with the labour market and steering

Part one of the report examines the coordination, financing and steering of vocational education and training (VET) systems. After providing a general review of coordination principles and the players involved, methods for financing initial vocational education and training (IVT), continuing vocational training (CVT) and vocational training for the unemployed are discussed. This Part one of the report goes on to examine the reforms that have been introduced to improve VET's standing, new methods by which competences are being certified, and changes in the profiles of VET professionals.

1. Education and training systems: regulation, coordination, steering and cooperation

The purpose of steering is to ensure that education and training systems adapt, and respond adequately to, the needs of individuals, the labour market and society as a whole. The main function of coordination is to ensure a balance between the occasionally conflicting interests of the various players (State, employers and individuals).

In every country, VET has complex links with the economy, the labour market and employment. Moreover, its highly fragmented structure and many specialisations make a coordination difficult.

State-managed planning and demand-led steering by the market represent two opposite extremes among the mechanisms by which VET systems can be co-ordinated. Both types of steering are found in every system in differing degrees. In practice, steering is based on both systems, but new co-ordination methods also are explored, such as corporatist steering or the use of networks.

- In the case of *planned management*, the public authorities are responsible for matching supply to demand (from the point of view of both individuals and the labour market) and for organising training. State-led steering, through centralised planning, generally acts on the education supply. VET systems cannot, however, be steered solely by a State system as it is impossible to forecast changes in demand beyond a certain point.

- If *labour market demand is used to steer the system*, the following principles have to be

adopted: decentralisation, deregulation and delegation of authority. Market regulation is based on feedback from VET users. The education and labour markets are interdependent.

- The market-State dichotomy has long been (and often still is) seen as the crux of the debate surrounding the methods of coordination between education and training systems. Every coordination model, however, has its weaknesses. All parties therefore seek to reach the best possible compromise - one which would allow the system to respond to market demand while avoiding excessive bureaucracy, and permit the use of alternative solutions, such as corporatist regulation or networks (bringing together players with varying interests), in order to make the VET system more flexible and improve its responsiveness.

Professional associations and the social partners play a coordinating role by bringing together players who in principle share similar interests. Employers' associations, trade unions, associations of teachers or parents, etc., thus provide a bridge between the meso and macro levels, between the supply of, and demand for, training in the VET system and between the supply of, and demand for, skills and competences in the labour market.

Networks help maintain direct but informal links between the different players. The good functioning of a network is based more on trust than on financial interests or formal authority.

Systems are steered by choosing a strategy in keeping with policy choices: distribution of decision-making powers (decentralisation, involvement of the social partners, etc.), changes to the structure of education and curriculum targets and adaptation of teaching and learning processes.

The choice of the steering system has to be based on an analysis of weaknesses and bottlenecks so that appropriate solutions can then be found.

2. The financing of training²

Finance for *initial vocational education and training* (IVT) comes chiefly from the State (including regional authorities), with the exception of apprenticeship, which receives substantial financing from enterprises. In many countries the IVT budget is increasing in real terms, though unit costs are in some cases decreasing.

Despite various innovations, the financing of IVT continues to be largely input-based³. In an attempt, however, to reduce costs, criteria are being refined and more complex allocation criteria are being applied.

With the exception of the input-based model, which is the most conventional and most widespread, all financing models (output-related financing, training vouchers, etc.) try, with varying degrees of success, to regulate service provision and to optimise certain factors (efficiency, effectiveness, quality and equity). These aims are expected to become more important: IVT budgets are increasingly tight as a result of increases in other types of public expenditure, despite the fact that costs have levelled off.

The introduction of strategies of lifelong learning is enhancing the role of *continuing vocational training* (CVT). CVT budgets have increased in most countries.

Enterprises bear most of the direct costs of CVT. However, public authorities would like private investment (by both enterprises and individuals) to increase even further.

CVT financing mechanisms depend on the preferred type of steering: State regulation, regulation through agreements between the social partners or market regulation. These three types of mechanism form a continuum. All three are combined to different degrees in the countries examined; however, one or the other tends to predominate and to influence the way in which finance is allocated.

It is necessary to introduce mechanisms to ensure that continuing training opportunities and resources are equitably distributed between enter-

prises – especially SMEs – sectors and individuals, while taking care to tie the financing of training to output. Competition between providers should become a more important factor.

The sums channelled into *training for the unemployed* have evolved proportionally to the rate of unemployment and continue to rise everywhere – except the United Kingdom – even where unemployment is levelling off or falling. This type of VET is chiefly State-financed.

Various reforms have been introduced to make training for the unemployed more efficient. They can be grouped into three main categories: decentralisation to regional agencies and employment agencies; more substantial government intervention as part of enhanced concerted action with regional and local players; and a tendency towards the privatisation of services.

To sum up, governments are trying to introduce measures that will make training more efficient with a view to containing VET costs. Such measures include decentralising regulation and financing and introducing new resource allocation methods, based on more precise measurements of both inputs and outputs. In some cases, these measures are being accompanied by greater autonomy for training institutions as well as greater competition between providers.

Some innovations in the domain of financing concern the mechanisms of distribution of resources, e.g. output-related funding and training vouchers.

Output-related funding is an innovative approach which makes the allocation of all or part of resources to institutions subject to the achievement of various performance criteria rather than just input criteria (registration and participation, length and nature of programmes).

Output-related funding helps providers become more efficient by encouraging them to improve their policies and training services and to optimise the uses to which their revenue is put. Policy-makers can also use output-related funding as a steering mechanism to achieve certain key objectives.

Despite its potential advantages in terms of steering and efficiency, output-relating funding may have negative side effects. It may cause creaming off of top students, distortion of the supply towards programmes with a high success rate, oversimplification of content, increased evaluation and follow-up costs. It may also lower assessment standards in order to boost success rates, and concentrate excessively on short-term results.

² The conclusions drawn in this chapter are based on an analysis of VET financing systems in Austria, Denmark, France, Finland, the Netherlands, Sweden, the United Kingdom, Spain and Germany (Cedefop project).

³ Payment of a lump sum, calculated differently in each country and taking certain variables into consideration: registration and participation, duration and nature of the programme.

Training vouchers make it possible to finance training demand rather than training supply: recipients can redeem vouchers in the education and training institution of their choice.

State-financed training vouchers have certain priority objectives, such as: to stimulate the demand for training by encouraging people to enter training while allowing consumer choice; to improve access to private services; to ensure better quality (since people are aware of the value of the investment they are making).

Training vouchers nevertheless require a highly flexible system (organised for instance in the form of training modules), as well as guidance services in order to help individuals define appropriate training paths. Training vouchers may, however, also cause dead-weight effects and high administrative costs.

Innovations in the financing of training are still limited in extent, and available data are very incomplete; it is difficult, therefore, to assess their effectiveness and impact. The existence of more accurate data at both national and international level and a more systematic exploration of the impact of new financing mechanisms would make it possible appropriately to monitor VET expenditure and to evaluate innovations and institutional reforms. The quest for efficiency and effectiveness also has to be underpinned by more reliable measurements of the cost-benefit ratio of training.

3. The standing of VET in comparison with general education

The attractiveness of vocational training depends to a large extent on its social standing and the opportunities that it offers on the labour market in terms of employment, pay, career prospects and actual job content. The standing of VET varies in different countries.

- In countries where the educational system is closely linked to the labour market (Germany, Austria, Denmark, the Netherlands, the Czech Republic, Hungary) increasing the prestige of VET requires two things: on the one hand, improving the higher-level career prospects of holders of general or vocational secondary certificates; on the other, facilitating access to higher education for holders of vocational training diplomas.

- In countries where links between the education system and the labour market are limited (Australia, Japan, Canada, United States), links between the two systems need to be strengthened in order to step up the involvement of employers in education and training: e.g. by creating school-enterprise partnerships, or systems of placement during training.

- In systems where links between the education system and the labour market vary in different pathways (England, Estonia, Finland, France, Greece, Norway, Portugal, Scotland, Spain, and Sweden), upper secondary education needs to be provided with a coherent structure.

An analysis conducted in a number of countries (Austria, England, Finland, France, Norway, Scotland, Belgium, Estonia, Greece, Hungary and Spain) helped to identify four strategies for the reform of upper secondary education systems.

The strategy of *vocational enhancement* aims at promoting the separate nature of VET, in which specific curricula are offered and links created between employers and training providers (Austria, Spain, Hungary, and Estonia).

Mutual enrichment aims to forge closer links between all types of schools by encouraging them to cooperate while preserving their separate nature (Finland, Norway).

A *linkage* strategy involves the introduction of a common qualification, certification and recognition structure enabling VET and general education to be placed on a footing which is in theory equal (England, France).

In the *unification* strategy, general and vocational education channels are merged into a single upper secondary system. All students therefore follow a common core of teaching. This system ensures more equitable prospects of further study (Scotland, Sweden).

All reform programmes may draw elements from different strategies and the directions taken by national policy may change over time. Nevertheless all reforms have one point in common: they respond to, or anticipate, trends in the labour market and the organisation of work requiring qualitative changes in knowledge and skills. The purpose of reforms is therefore to strengthen the links between the labour market and VET by making VET more responsive.

Dual qualifications are a further aspect of reforms. They take the form of qualifications that can be used to enter both skilled employment and higher education, especially university education.

In all the countries in which they exist, dual qualifications are taught within school-based full-time education.

Dual qualifications are more effective in promoting the social standing of VET than traditional pathways: they link the acquisition of competences to personal development, facilitate mobility both in the education system and on the labour market and make transitions between education and employment easier. This success is accompanied, however, by fairly substantial creaming off of the top students. Dual qualifications therefore have to be an integral part of a flexible and transparent education system: it must be possible to gain access to these qualifications from different vocational and general channels; they must provide access to further study in higher education.

Whatever the strategy adopted, it is difficult to change the image of vocational training systems which in many European countries accommodate pupils who have failed in general education. Substantial progress has, however, been made and VET is now being repositioned within education systems and with respect to the labour market.

4. Certification systems, assessment and recognition of skills

Our certification systems are changing. The ability of conventional diplomas to reflect an individual's competence is being called into question. New certification models are appearing, in particular systems for validating non-formal learning.

In a labour market whose main feature is growing mobility, 'credentials' take on increasing intrinsic importance. At the same time, a glut of diplomas is causing the demand for qualifications to rise even further.

At present, certification is becoming a component of training in its own right, and increasingly independent from training (what is termed 'autonomisation'). By looking for methods that are better able to measure people's competences, the stress is placed more on people's ability to mobilise their competences and less on the way in which these competences have been acquired. This approach is leading to new forms of recognition (especially for non-formal learning).

Introducing a strategy of lifelong learning makes it necessary to take account of alternative meth-

ods by which competences can be acquired and to develop links between the various stages of learning at different times of life.

If the transparency of the skills certified and their relevance to the working world are factors of flexibility, their large-scale legitimacy requires the acceptance of standards. A balance therefore has to be sought between a degree of precision through which an individual's particular skills can be readily identified and a wide enough degree of generality to enable these skills to be recognised in the broadest possible spectrum.

New certification models currently being proposed valorise alternative ways of acquiring knowledge, i.e. learning in working situations, during leisure time or in private life. Competences are assessed regardless of the way in which they have been acquired.

The European countries can be grouped into five clusters depending on the importance they attach to non-formal learning, the institutional and/or methodological initiatives they have taken and the experiments they have launched.

(a) The first cluster includes *Germany* and *Austria*. The attitude of these two countries towards non-formal learning can be described as cautious. There is no consensus among the various players in training that new assessment methods are needed. Experimental projects have, however, been launched.

(b) The second cluster includes the Mediterranean countries: *Greece, Italy, Spain* and *Portugal*. These countries do not have such a strong tradition of VET; as a result, non-formal learning has become the dominant means by which skills are reproduced and renewed. A range of methodological and institutional responses has now been introduced. However, though both the public sector and the private sector have stressed the value of recognising non-formal learning, not enough practical steps have been taken yet.

(c) In the Nordic countries (*Finland, Norway, Sweden* and *Denmark*), there are two sub-groups. In Finland and Norway, non-formal learning is at the forefront of discussions of education and training and is giving rise to far-reaching experiments and institutional reforms. In the other two countries (Sweden and Denmark), interest in this issue has up to now been limited.

(d) The fourth cluster reflects the influence of National Vocational Qualifications (NVQs) in mutual learning between countries. It includes the

United Kingdom, Ireland and the Netherlands. In these Member States, the importance of learning outside formal systems is recognised almost unanimously. Other countries are also trying to adopt a system based on the NVQ model (for instance some of the Spanish autonomous communities).

(e) The criterion for the final cluster, including *Belgium and France*, is more geographical. France has played a pioneering role in identifying, assessing and recognising non-formal competences. But though the country has the longest and most extensive experience in this field, the social recognition accorded to such learning is still limited. Belgium is still at an early stage of development and has not yet decided on a clear-cut strategy.

Other initiatives at sectoral or branch level are helping to make this issue more complex and wide-ranging.

The European Union (*White Paper on teaching and learning, 1995*, and programmes) has helped to identify the issues more clearly and has supported processes launched at national level. Intensive activity at national level is, however, motivated more by the practical challenges raised by the creation of links between formal and non-formal learning than by a desire to create systems that are transparent and harmonised at European level.

The various measures that have been introduced on a relatively large scale show that non-formal learning is still being treated as a sub-category of formal learning. The specific nature of this type of learning, leading to specific competences, has not as yet been recognised. This is partly due to the fact that formal qualifications continue to underpin industrial relations in terms of job level attribution, pay scales and collective agreements.

While the reliability and validity of non-formal learning are ensured by technical and instrumental criteria, legality and legitimacy must be ensured on a normative basis. Even perfect methods are of no value unless they are underpinned by an appropriate institutional and political framework. Though institutional structures cannot provide the whole answer, this dimension should certainly not be disregarded.

5. VET professionals: changing roles, professionalisation and steering of systems

Changes in the roles of VET professionals are being shaped by three new aspects of the training landscape: the development of learning organisations; the emphasis that is being placed on competences and non-formal learning; and the impact of the new information and communication technologies (ICTs).

The challenges that are facing VET seem to point to the need for greater professionalisation among the players involved in training. The extent to which this professionalisation can have an impact on the steering of VET systems and the forging of closer links with the labour market also needs to be studied.

Stepping up educational qualifications is the traditional approach to the professionalisation of the jobs of teachers and trainers, especially to improve the role of instruction/facilitation. The outcome of this approach is progressively to align the function of VET teachers with that of teachers in general pathways.

The widespread dissemination of educational knowledge must be accompanied by the introduction of continuing training programmes, enabling professionals to prepare for new functions (administration, planning, research, etc.).

The very fragmented nature of the various groups of professionals is accompanied by increasing convergence of their functions. Formal integration of the various groups may well prove difficult to achieve. However, alternative solutions can be explored: developing common elements in IVT (level, method and content) and new functions (research, links between IVT and human resource development - HRD); stepping up cooperation with the working world and the social partners; and introducing learner-oriented programmes and rich learning environments, in particular in CVT.

The range of tasks and functions of HRD may provide a basis for the professionalisation of the various players involved in training. It could be envisaged to diversify the role of the groups of professionals distributed throughout the various organisational spheres of training (education and workplace) in order to enrich their functions as educators by those of HRD managers.

Part two

Lifelong learning and competences: challenges and reforms

In this section, lifelong learning is addressed from a pedagogic viewpoint. The various elements of this strategy are analysed: the competences to be developed, the teaching and methods to be put in place, the reforms to be implemented in education and training systems to ensure that courses are individualised and flexible. Also analysed are new forms of in-company competence acquisition in connection with the restructuring into learning organisations.

1. Lifelong learning: from creation of a concept to a new educational paradigm

In a society where globalisation, technical progress and communication technologies underline the essential value of human capital, the advent of the concept of lifelong learning goes hand in hand with growing awareness of the importance of the processes of acquiring and updating knowledge and competences.

The concept of lifelong learning emerged in the 1970s. At that time it focused on a vision of systematic and institutionalised education and training. The value of competences acquired outside formal institutions received little recognition (except in certain countries, see for example the German dual system). Practitioners knew that it was not enough simply to extend traditional education throughout life, and that new methods would be needed; however, there was a greater emphasis on the content of learning than on the processes or the learner.

Since then, the labour market and education systems have been affected by profound changes, associated in particular with socio-economic change, technological advances and the demographic trend. This resulted, amongst other things, in considerably increased participation rates of adults in training.

These changes have shown the importance of employability, which refers to the need to develop and maintain workers' competences, equipping them with the knowledge and capacities neces-

sary to stay in employment throughout their working lives. To this end, individuals need to be empowered to ensure their own employability by becoming lifelong 'self-directed learners'. From the point of view of employability, lifelong learning appears to be a necessity and a right for all. The State and other institutions responsible for education and training should therefore provide appropriate learning conditions and environments.

Setting out the central elements of the new concept of lifelong learning helps in identifying the challenges facing States, education systems, enterprises and individuals.

- *Initial education and training must ensure that a minimum learning platform is guaranteed.* Initial training appears to be a tool preparing individuals to acquire an adequate level of employability and adaptability, by equipping them with the necessary skills and competences to gear themselves and adapt, throughout their lives, to changes in occupations and working environments.

The initial stage of education and training is crucial, since it represents a unique 'investment' in the formation of competences on which individuals can rely throughout their lives. Young people must be provided with at least a 'minimum education and training platform', composed of basic skills and key competences on which they can base and build up their later learning.

- *Enterprises and individuals play a key part in the strategy of lifelong learning.* They must invest into developing their potential, supported by public policies designed to create a favourable economic and social climate.

Increased investment in training depends on private initiative, including that of enterprises. Governments should therefore endeavour to encourage enterprises and individuals to invest in training.

Because of changes in the structure of trade systems and of work organisation and because competition is becoming keener - phenomena that are intensified by the rapid spread of new technologies - enterprises should be aware that their survival and ability to compete depend on their constantly updating the competences of their employees through training.

- *The identification, evaluation and recognition of non-formal learning is a crucial stage in the implementation of a strategy of lifelong learning and training.* It is becoming important to link

together different forms of learning in all areas of life (lifewide learning) at different points in life (lifelong learning).

- The change from instructionist education to a constructivist approach, in which the individual is active, and content is contextualised and based on problem-solving, results in a complete redefinition of the functions of *teachers* and *trainers*, both in companies and in training establishments and schools. The didactic situation is less easily foreseeable and incorporates practical dimensions to a greater extent, or indeed wholly. Previously the teacher/trainer taught, demonstrated, explained. Now, in the new forms of learning, his role is to advice and structure the processes.

- Hence specific measures must address various *disadvantaged groups*, in order to prevent any increase in inequalities as regards access to education. These groups are, for example:

- (i) young people who leave education without reaching upper secondary level;
- (ii) low-skilled workers;
- (iii) older workers;
- (iv) the unemployed or individuals at risk of unemployment;
- (v) immigrants and ethnic minorities.

- Used as a didactic tool, *information and communication technologies (ICTs)* offer individuals a significant degree of flexibility (choice of subjects, learning times and methods, particularly with the Internet). That is one of the reasons why *e-learning* is now one of the European Commission's prime aims. However, ICTs may lead to new forms of exclusion by penalising individuals with restricted access to these tools or less familiar with these technologies (especially individuals who have special educational needs and/or who come from underprivileged social backgrounds).

Institutional systems must be reformed so as to create or strengthen links between the various elements of education systems and between learning and work:

- horizontal links within the education system, establishing bridges between different education and training routes to facilitate individual mobility;
- vertical links between initial and continuing education/training systems, to ensure ease of transition between the two moments of competences acquisition;

- links between education policies and labour market policies, with a view to increasing cooperation among the various players (e.g. education and employment ministers, the social partners);
- links between education system and production system, to facilitate the transition between the two, to encourage training systems to be responsive, to increase the awareness of enterprises on the long term benefits of training and to help individuals to familiarise themselves with the world of work.

Ten years ago, the various elements of life-long learning were still being studied in isolation. Most countries now seem to opt for a *more holistic approach* to this concept, designed to bring together both initial and continuing education and training and formal and non-formal learning within a cohesive system.

2. Competences, learning processes and didactic innovations for new occupational profiles

Job content is changing at an increasing rate, mainly because of two factors:

- (a) the introduction of new technologies, which put the emphasis on intellectual competences rather than action-based skills;
- (b) the expansion of new organisational paradigms, which establish new requirements as regards variety, flexibility and quality in occupational practice.

The labour market is exhibiting contradictory demands: employers are seeking individuals who will be both highly adaptable (i.e. generalists) and immediately operational (i.e. specialists).

Most people are likely to need to undergo training and to change jobs in the course of their working life; hence VET must equip them with a broad basis of technical, methodological, organisational, communication and learning competences. VET should also provide specific skills to facilitate the transition between the education system and employment. To tackle this antagonism a redefinition of vocational education would appear necessary, and the concept of 'qualification' should be replaced by the broader concept of 'competence'.

Today, 'competence' has become a general-purpose term. It is used in various scientific disci-

plines, but often with different connotations. In the context of employment, it is tending to supplant formal qualifications. In education and training, its acquisition is becoming the ultimate objective. Competence is coming to the fore in a context of socio-economic crisis and transformation of work organisation, which in itself justifies the transition to a new management model. An attempt is even being made to define the competences individuals must have in order to take their place in our society.

In the field of vocational training and work analysis, skill has traditionally been regarded as something highly specific, associated with a job. Technical and social developments have stimulated a quest for transverse competences, in addition to specialised skills.

In Europe, various models have been proposed to VET systems for adaptation of their content and curricula. Two main trends can be identified:

- (a) the approach promoting basic and generic skills;
- (b) the approach promoting transferable (key/core) competences and broad professional competences.

The approach promoting *basic and generic skills* is characteristic of the debate in English-speaking countries, but it is also seen in certain other countries, although to a less significant extent (DK, D, NL).

The skills whose acquisition is promoted in this approach are the general elementary and/or cognitive competences required for a whole series of jobs, indeed all jobs: mathematics, reading, writing, problem-solving, social, communication and interpersonal competences. They are 'entry skills'.

The approach promoting *transferable (key/core) and broad professional competences* (dominating for example in Germany, Austria, and Denmark) is based on a collection of competences transcending divisions of labour and traditional occupational profiles. The competences cited are social and communication competences, and strategic efficiency, in particular problem-solving competences, organisational competences and leadership.

There is no fundamental difference between these competences and those listed by supporters of the development of generic skills. It is because they are regarded here as dependent on a context or a range of situations that the didactics for their acquisition will be different.

Definitions of skill/competence

Skill: the relevant knowledge and experience needed to perform a specific task or job and/or the product of education, training and experience which, together with relevant know-how, is characteristic of technical knowledge.

Competence: the proven and individual capacity to use know-how, skills, qualifications or knowledge in order to meet both familiar and evolving occupational situations and requirements.

Generic skills: the skills that support lifelong learning, including not only literacy and numeracy (i.e. basic skills), but also communication skills, problem-solving skills, teamworking skills, decision-making skills, creative thinking, computer skills and continuous learning skills.

Transferable competences: the competences individuals have which are also relevant to other jobs and occupations than the ones they currently have or have recently had.

Key/core competences: the sets of skills which are complementary to basic and generic skills and which enable individuals

- to acquire new qualifications more easily;
- to adapt to changing technological or organisational contexts; and/or
- to achieve mobility on the labour market, including by means of career development.

Sources: Bjørnåvold J., Tissot P., 2000; European Training Foundation, 1998b.

Problems of occupational practice do not appear in isolation, but in bundles specific to each occupational group; these can be called *occupational core problems*. When they arise, the worker must knowingly mobilise a collection of knowledge and competences, in order to react appropriately and in good time. These problems are determinants vis-à-vis the work and efficiency of particular groups of skilled workers. In order to become experienced skilled workers, beginners must prove their ability to deal with these problems efficiently. The ability an individual demonstrates to resolve them determines his level of expertise.

During the learning process, learners can use these problems to acquire the key elements of the skills and know-how required in their occupation, but also to develop more general competences, namely problem-solving and meta-cognitive competences. The learner must face up to elements of complexity, contradiction and uncertainty which help to develop transferable competences.

Researchers and VET teachers seem to be divided not so much on the subject of the kind of skills/competences that enable individuals to adapt, but rather on the methods of acquiring these skills/competences and on their application in appropriate occupational situations.

Some researchers believe that basic skills (reading, writing, mathematics) and generic skills (problem-solving, communication, learning to learn) must be imparted. Others, while acknowledging the value of these competences, argue that *competences are context-dependent*, and cannot be developed outside it.

Teaching innovations based on each of these two channels have been proposed. However, they all focus on autonomous learning and competences development via problem-solving, and are based on more customised and active teaching and pedagogy, as opposed to traditional teaching (traditional frontal learning or simple copying of behaviour in the workplace).

3. Individualisation and differentiation of VET pathways

In order to ensure varied, high-quality learning and implementation of a strategy of lifelong learning, VET must, inter alia, adopt new flexible methods and facilitate increased individualisation. In this chapter national examples are given, supplemented by proposals for further reforms.

Several paths have been explored in Europe in the quest to achieve flexibility and individualisation:

- increased *cohesion* between initial and continuing education and training;
- increased *modularity* of training pathways (facilitating a more flexible approach to competences);
- creation of programmes *combining* vocational and general qualifications (in particular, dual qualifications);
- *expansion* of the choices offered by training programmes (facilitating the development of customised courses of personal and vocational development).

These reforms are aimed at increasing the flexibility and differentiation of VET; they are also

designed to improve its image and strengthen its position in relation to general education (see above).

In the *United Kingdom and the Netherlands*, it is believed that customised lifelong learning necessitates gradual implementation of a modular system, which should also ensure that VET is more responsive to industrial change and creates bridges between VET and general education and between VET in a school environment and in the workplace (alternance training).

In *France*, interchangeability of general and vocational education has been formally implemented. Flexibility has been increased via validation of learning and vocational experience, which enables credits to be built up. For example, the vocational baccalaureate (Bac pro) has been put in place, a dual qualification stream.

Germany has chosen to implement a policy of internal differentiation, to promote dynamism and flexibility within programmes. A second axis of reform is designed to achieve greater customisation of vocational qualifications and to ensure a smoother transition between initial and continuing vocational training.

In *Denmark*, all young people, including those participating in VET, are given a basis of general education, facilitating increased mobility between pathways. A modular system has also been put in place. Modularity also promotes adaptation of curricula to meet the needs of particular target groups, thanks to the customised combination of learning units.

Lifelong learning is furthered by putting in place partial or full qualifications that are interchangeable, enabling individuals to move between general education, initial and continuing vocational training, and higher education, within a system which will no longer be linear (with one stage following another), but will support transfers between different places and times of competences acquisition, in an approach favouring competences acquisition rather than an accumulation of qualifications.

VET will be made more attractive by the opportunity to obtain recognised supplementary qualifications through continuing training, and by the provision of continuing training in higher education for VET qualifications.

Consistent expansion of continuing training options in the workplace is also required. New forms of work organisation appear to offer more opportunities for learning than did traditional forms of division of labour.

4. Learning in enterprise

New models of work organisation are improving the opportunities for professionalisation and learning. However, teaching incorporated into the modern work process is very different from pedagogically organised teaching. In the most audacious scenarios, new forms of work are equivalent to new forms of learning.

Training associated with work must not be restricted to experimentation or on-the-job training. Complete vocational competence cannot be acquired solely through informal or non-formal learning, which constitutes a limited situation from the cognitive point of view, since it does not provide for any reflexive return on the activity. Forms of deliberate learning must be added, to take the process beyond the level of training characterised solely by technical or economic objectives, and to encourage reflexiveness and personal development on the part of the learner.

The forms of organisation and learning characteristic of modern industrial work processes can be divided into two main categories:

- (a) learning-organisation-type forms, in which deliberate learning and informal learning are systematically combined, and which go beyond the immediate necessities of the job;
- (b) forms of work organisation in which competences are acquired informally and through experience, and remain limited to the needs dictated by the work situation.

Forms of workplace learning which can be regarded as innovative go beyond informal learning in the way in which they systematically combine learning and work.

A learning organisation is an enterprise which mobilises its entire workforce in increasing organisational and individual efficiency, through continuous deliberation on the way in which strategic and everyday tasks are carried out and by creating a learning conducive environment. Thus the work content becomes the learning content. Together, the two become elements of a spiral of continuous improvement.

Implementation of forms of learning incorporated into the work process and of self-directed learning also fulfils economic objectives; it is associated with restructuring of enterprise organisation. These initiatives lead to the creation of new training prospects and thus fulfil both economic and educational objectives by contributing to:

- the relevance of contents;
- increased prospects of personal development and individual autonomy;
- optimisation of productivity and performance;
- understanding of organisational reforms by all those involved;
- the acquisition of competences appropriate to future labour market requirements.

Learning within the modern work process offers a series of benefits as regards guidance and motivation; it also ensures a direct link between the acquisition of knowledge and its practical implementation. However, this form of organisation has not inconsiderable implications for the functions and tasks of those responsible for training and development of human resources, and for any worker who acts as a trainer at some point.

Recognition of the constructive nature of learning and strengthening of its links with the work process modify the trainer's conditions and methods of intervention. Within the learning organisation, where workplace and learning merge together, his function moves in the direction of coordination. Within this framework, in addition to his traditional functions the trainer acts as foreman, spokesperson, project manager, quality assessor, etc., a process also broached in the context of the new roles of VET professionals above.

Part three

Training and employment in a company perspective

Part three of the report focuses on companies and their role in training and employment. After an analysis of the possible impacts of globalisation on work organisation and skills, the structures and the functioning of internal and occupational labour markets and their effects on skill acquisition and utilisation are discussed. Research into SMEs, self-employment and entrepreneurship, and the implications for growth, job creation and enrichment of skills, are presented thereafter. Approaches to develop and measure human resources at company level, and the potential of enterprise surveys as a complement to labour force surveys, are further issues discussed in this Part.

1. Skill needs in a global economy

There is no clear or simple relationship between 'globalisation', the division of labour and company training needs. Changes in the division of labour are increasingly attributed to the process of globalisation which is expected to place new demands for skills, competences and work attitudes on employees.

Decreasing site-specificity and temporal constraints on the production of goods and services establish new competition criteria for globalised markets. In order to meet these criteria, firms reorganise production and work processes and workers have to face new skill requirements. However, empirical evidence on new production concepts is not always clear but shows a broad range of organisational choice between more traditional, 'neo-Tayloristic' and new organisational approaches.

'Production intelligence' – a combination of theoretical, experiential, systemic, digital and work process knowledge – as well as international, managerial and social competences will clearly gain in importance. However, it would be an illusion to believe that every job involves an equally high degree of these new competences. Globalisation in combination with new ICTs sometimes also results in work that reduces skill requirements to a minimum. Furthermore, it is hard to believe that every worker is able to meet new and ever-increasing job requirements.

Thus, a general trend towards a 'rehabilitation' of

work is not always visible. Instead, and reinforced by globalisation, there is also a tendency of *polarisation* with skill-intensive jobs on the one hand and less information and knowledge-intensive jobs on the other.

This implies a major challenge for VET systems. Training should contribute to avoiding the exclusion of those falling out of the upper and intermediate segments of skilled personnel. Within the vocational training system, ICT-applications, and the resulting qualification needs (e.g. 'e-learning'), should receive major attention. Furthermore, the ICT-sector itself faces quantitative as well as qualitative skill shortages. Vocational training should contribute to reducing at least the qualitative ones.

The widespread use of modern ICTs not only creates additional qualifications and training needs, but has also impacts on the *delivery* of training, e.g. through the provision of open learning centres, distant and self-directed learning and the delivery of learning to people who are unable to attend classes regularly. In this sense, 'globalisation' could be positively used to enhance and complement the skills needed in a global society.

2. Internal, external and occupational labour markets

Debates on the contribution of training to economic growth and employment touch upon public policies and the roles of enterprises and individuals concerning the creation and accumulation of human capital. Questions focus on the structure, functioning and mobility of internal, external and occupational labour markets as well as their implications for skill acquisition and utilisation.

Research into internal and occupational labour markets indicates that the choice of a societal model, and the resulting *wage-labour nexus*, differs across European countries. Economic approaches based on neo-classical and human capital theory are disputed, as are sociological ones based on dual labour market and segmentation theories.

All these models are only partly able to explain the wage-labour and, in consequence, the *skill-labour nexus*, i.e. the role of different actors (individuals, employers, social partners, training institutions, State) in linking the labour market and education/training system.

Up to now, empirical evidence of the interplay between all types of labour markets – external, internal and occupational – and their links to education, training and skills have been rather scarce. Longitudinal analyses, combining both individuals and firms, are at an early stage. Such analyses should include institutional characteristics and the influence of other actors on the modalities of in-company training and deployment.

They should also be able to answer the question of whether, and by which means, disadvantages in education, training and early work career can be compensated for by continuing training or targeted programmes in later working life.

Societal models and approaches up to now have tended to focus on the links between training, occupational relations and personnel management. Most of them are content with a description of structural characteristics, assuming a stable world.

However, the relationships between training, mobility and wages/career are varying: they differ by type of labour markets, by time, country and region. A similar situation applies with regard to policies concerning the competitiveness of firms, internal and external flexibility, the battle against social exclusion and new combinations of training and work.

‘Shocks’ such as the opening of Europe, globalisation, educational expansion, changing work organisations etc. should stimulate dynamic models – thus changing the view from a mere description of societal spaces to an analysis of the modalities of transformation (or perseverance).

Equally, comparative studies based on interdisciplinary approaches and using both quantitative and qualitative information – in particular at the enterprise level – are research topics that need significantly more attention.

3. The role of SMEs in training and employment

Today, small and medium sized enterprises (SMEs) are regarded as the main source of economic development, innovation and creation of employment. Empirical evidence confirms the decisive role of SMEs for growth and employment: 99,8% of all enterprises in Europe have less than 250 employees and SMEs employ the majority of the European workforce.

Independent and family businesses still form the majority of small firms, in particular in southern Europe. However, there is a trend towards more dependence (or to interdependencies) on other SMEs or large firms coincident with a shift from the owner-entrepreneur to the manager of a small or medium firm and their different strategies, e.g. in terms of long-term or shorter-term performance. This shift also has an impact on the training, recruitment and employment policies of firms.

Although SME research has a long history in some countries, it was not until the 1980s that economists and sociologists rediscovered SMEs. The decline of mass production, decentralisation, tertiarisation of economies and persistent unemployment emphasised the flexibility of small structures which are expected to improve innovation, competitiveness and responsiveness to changing markets. However, the *specificity* and, at the same time, *diversity* of SMEs – even more in a European context – impedes a coherent analysis of the role of SMEs in training and employment creation.

Research has developed a multiplicity of approaches reflecting different definitions, economic weight and historical development of SMEs in European countries. Until the recent past, with the exception of Italy and Germany, however, SMEs have not been an autonomous object of research.

In contrast, SMEs are of increasing interest to national and transnational *policies*, in terms of modernisation, innovation and development of human resources. The reasons are obvious: the growth of services and business restructuring in large firms; the crisis of large concentrations; and the advantages of small flexible units. Above all, SMEs are seen as ‘carriers of hope’ in the battle against unemployment and to foster economic dynamism.

In this context, much research work on SMEs has been devoted to manufacturing sectors, but too little to services and international comparisons. Research should focus much more on the key sectors of employment creation, e.g. business and personal services, recreation/tourism, hotels and restaurants, health, education etc. and the skills needed there.

The link between enterprise creation and employment creation is not always evident. Rapid production and employment growth among SMEs is a phenomenon which applies to a relatively small number of ‘high-flying’ and fast growing small businesses only. Most of these highly performing

SMEs are to be found in the services sectors and employ, in particular if they have surpassed the threshold from a micro to a small sized enterprise, an equal proportion of highly skilled workers as larger firms. Micro firms, on the other hand, above average employ workers (in particular women) at lower and medium skill level.

SMEs create employment but they also destroy jobs. Schumpeter's 'creative destruction' with appearance and disappearance of firms and jobs in the market is an essential element of economic dynamism, of contribution to structural change and to the reactivation of labour markets. But fluctuation may also reinforce job precariousness and may prevent workers and firms from an optimal investment in human resources.

Political support of enterprise start-ups faces the problem of targeting the measures. How to identify early the best performing SMEs which create the most jobs? And should policy also focus on *job quality* in terms of stability, durability of jobs and working conditions?

Numerous difficulties arise when trying to measure the specific contribution of SMEs to employment growth – not only because of the ongoing economic transformations but also because the terms 'creation' and 'employment' are themselves blurred.

These problems also concern the appropriate *method* of analysis, e.g. the distinction between stocks and flows, gross and net job creation, and the use of cross section or longitudinal data. Another question to be answered is to what extent job growth is endogenous, i.e. induced by the creation of enterprises and their subsequent development, or to what extent it is exogenous, for example the result of the outsourcing practices of large firms? This also affects the skill needs and different training strategies of SMEs.

In view of the diversity of SMEs and their anchorage in specific environments, research concentrated on the evaluation of impact of *training and employment practices* of SMEs.

Research has shown, for example:

- in initial training, SMEs absorb the majority of young people in Europe, in particular through apprenticeship training. Although some small firms recruit higher skilled young people, the majority of SMEs, however, is characterised by lower skilled and precarious jobs. This is one reason why a substantial number of young people leave small enterprises after training;

- the engagement of SMEs in *continuing vocational training* lags considerably behind that of large firms. CVT provision also depends on the strategic orientation and profile of the owner-manager. In most cases, CVT serves the adaptation of skills to short term demand, and is primarily done on-the-job and informally. However, high-tech or manager-run small firms in particular, increasingly rely on formal CVT measures or on cooperation, networks, external training institutions or on new forms of training supported by ICTs;

With regard to *political measures* to support CVT in small firms, European countries pursue different approaches, ranging from legal obligations of firms to *laissez-faire* approaches towards employers. Other countries have established a series of intermediary regulations within collective agreements or in cooperation with the social partners;

Recruitment and personnel policies in SMEs are often affected by the absence of a longer term personnel planning, by short term recruitment decisions reflecting temporary demand and by informal selection procedures. However, since SMEs train more young people, employ more former unemployed (and mostly older) people and more family members than large firms, they can function as 'transitional labour markets' between training, employment, unemployment and housework.

More research efforts are needed, taking into account regional aspects and the diversification of SMEs which should be reflected by appropriate policy measures.

4. Entrepreneurship and the European employment strategy

Entrepreneurs are commonly seen as 'agents of change and growth'. The conditions for starting-up a business, for its survival, and the contribution of new firms (mostly SMEs) to growth and employment are, however, not always clear.

Most research today emphasises the '*social capital*' of the entrepreneur. In this context four categories of entrepreneurs, with partly different business, employment and training strategies, can be distinguished:

- (a) descendants of entrepreneurial milieu;
- (b) entrepreneurs by compulsion;

- (c) entrepreneurs by adaptation (e.g. because of unemployment or precarious employment);
- (d) entrepreneurs by seizing an opportunity.

A large research body exists on the mechanisms of business start-up and the links to the labour market. Increasing unemployment may 'push' people to start a business. A new demand for goods and services may 'pull' the creation of new firms. However, concerning the push factor, little empirical evidence is found. This seems to confirm the importance of pull-driven business creation.

Research has elaborated a complex vision of *enterprise survival* and related employment effects. In general, the survival rate five years after business start-up in Europe and the US ranges between 50% and 60%, with variations by sector, region and country. Rapid growth of a newly-created enterprise is an exception.

The survival process is, however, more complex than often assumed. Closures are not always a sign of 'failure' but often are done because of more favourable alternatives for the founder, and many other closures are made without financial loss. Consequently, the equation of 'closure' and 'failure' is not always meaningful.

The notion of *innovation* is even more unclear. SMEs are, in general, no more innovative than large enterprises. Even among the fast growing SMEs, only certain ones exhibit superior productivity or realise innovative activities. There is no technological determinism, although, in the first period after start-up, a positive relationship can be found between innovation and survival.

In many cases neither technology nor innovation constitute a distinctive advantage. More important determinants are the specific position in the market, and within the value added chain, territorial anchorage, innovative milieus and contacts with universities or research institutes. If new enterprises enter into established markets their survival is difficult and their independence may be threatened.

Public support today not only includes financial aids and the imparting of human capital, but also attempts to stimulate a spirit of enterprise or an '*entrepreneurial culture*' by lowering labour costs and charges or by removing administrative and fiscal barriers. However, undifferentiated support measures may not solve unequal developments and imbalances in social and geographic terms, and thus may not lead to major job creation.

Research and policy is increasingly interested in *self-employment* as a source of job creation and alternative to dependent work or unemployment. The questions arising here are closely associated with the issues of SMEs and entrepreneurship.

Access to this research field is, however, difficult, given the heterogeneity of self-employment (e.g. agriculture, liberal professions, 'quasi self-employed') and different legal and fiscal definitions of self-employment across countries.

The process of acquiring independence has been encouraged and promoted by public support measures for the unemployed, people at risk and for women. The intentions were, not least, to foster innovation and economic growth, to create jobs and to reduce unemployment.

However, according to Eurostat and OECD data, a close relationship between these factors cannot be found for most countries at the macro level.

Most industrial countries have established *programmes for the unemployed*, in particular the long-term unemployed, to become self-employed, with some degree of success. However, their intensity and success varies. Participation rates in these measures have been rather low and there are some dead-weight effects in that unemployed people are supported who intended to become self-employed anyway.

An emerging sector with close links to SMEs and entrepreneurship is the '*new social economy*', i.e. the non-profit sector between the State and the market. Entrepreneurs of social enterprises combine economic and social objectives and thus differ substantially from the classical notion of entrepreneurs in Schumpeter's sense. Social enterprises meet needs that are not, or only partly, met by the public sector or the market. Most of these organisations have a social objective, e.g. to help low skilled or unemployed people back into work, to become self-employed or, more generally, to foster local and regional development.

A growing number of cooperatives, associations and consumer organisations are being established with the aim of social integration through work, at local levels and often also linked with environmental objectives. In this way, social enterprises have absorbed a number of functions from the public sector, which is more and more withdrawing from certain areas of social life.

Increasingly, research efforts are devoted to investigating the links between the training and performance of entrepreneurs, in terms of survival,

profitability, growth and employment creation. Most studies indicate that technological know how, high qualifications and specific knowledge of the business segment is a condition *sine qua non* for success. This includes knowledge of local markets and integration in networks with other firms and/or with universities and research institutes.

This calls for a targeted supportive policy which attaches information, advice, training and mentoring an equal importance as access to (risk) capital and the removal of legal and administrative barriers. Taylor-made advice and training programmes are nowadays an integrated element in almost all European programmes promoting entrepreneurship.

From an education and training point of view, however, entrepreneurship and independence should be imparted much earlier, in compulsory schools and initial training. 'To act independently' becomes a key competence in all spheres of working life. This applies not only to potential entrepreneurs but to all workers who are expected to independently plan, perform and control their work. New work organisations, plus the changing expectations and objectives of individuals concerning their work, career and life biography, make them 'entrepreneurs of their own work capacity'.

The basis for independence should already be laid in compulsory schools. Planning and performing small projects, in teams and with changing roles, could be initial steps. This type of project pedagogy is also one of the most useful for the acquisition of key qualifications and social competences.

Before entry into vocational training, contacts to the world of work could be established and intensified. The aim would be to learn to act independently, to gain self-confidence and social competences, and to gather first impressions of the world of work.

At later age, the option 'entrepreneurship' could become an *occupational goal* in its own right. European countries have developed a broad range of related activities, e.g. business simulation, team work projects, mapping exercises or role games, learning offices, model projects and the like. At this age, the internal and external aspects of entrepreneurship should be furthered by constructive – not instructive – learning and by experiential learning outside the classroom in order to develop creativity, motivation, initiative, self-confidence, risk-taking and cooperation.

In most countries, the concrete advice, support and training of the potential business starter is primarily done within higher education or continuing training measures. Many of these measures are supported by the European Commission, in particular in the framework of the European social and regional funds. In general, the objectives of these programmes are changing from more general and unspecific to *targeted measures*.

The following aims – which are partly overlapping – can be distinguished:

- promotion of entrepreneurship in innovative and high-tech areas, particularly in the services sector;
- promotion of young adults, of women, of long-term unemployed;
- promotion of the disadvantaged including immigrants;
- promotion of the environment for start-ups, for example by science parks, technology centres, mentoring, business angels, incubators, one-and-first-stop shops, etc.

5. Developing and measuring human resources

'Human resource development' refers to the activation and development of knowledge and skills in companies. The values and policies underlying a humanistic 'European' working life and education and training culture are contrasted by a competing instrumental model of 'human resource management', inspired by neo-Tayloristic work organisation principles and neo-liberal economics in which people are seen as 'resources' in the sense of being utilised to increase productivity and economic performance of the firm.

This raises the question of the future role of 'human resource development' policies in a European context.

The challenge of globalisation emphasises the building of societal frameworks which focus on new forms of inter-organisational cooperation and alliances between enterprises and knowledge producers. In this view, the neo-liberal solution must give way to the promotion of learning by people, firms and regions and to creating appropriate learning environments.

Closely connected with, and even a prerequisite for, human resource development is the *measurement of a firm's human capital*, i.e. the knowledge, skills, competences and other attributes embodied in individuals. Human capital reporting is about measuring values and processes related to the acquisition, development and dissemination of knowledge.

With the increasing importance of knowledge as an intangible asset, reporting on human capital is seen as a method for estimating enterprises' performance as well as future strategies. This has become a constituent factor in most strategic management tools developed in recent years. However, this issue is still subject to a high degree of indecisiveness.

New approaches combining reporting on, and management of, enterprises' human capital are emerging. They focus either on specific elements or on the totality of elements constituting human capital and its utilisation.

For a number of reasons enterprises show a growing interest in human capital reporting. Although still primarily occupied with the input side (costs), some programmes evaluate the return side (benefits) based on a standardised framework. Enterprises are increasingly operating with alternative internal and external reporting systems. A common human capital reporting method, however, has so far not manifested itself.

International organisations and most national governments have not yet expressed a clear standpoint concerning the standardisation and dissemination of reporting tools. It seems likely that human capital reporting frameworks with at least a minimum of standardised indicators will emerge.

Unless general approaches are developed supported by governments and/or international organisations, human capital reporting is likely to focus on the management perspective, thereby neglecting other benefits of human capital reporting, such as attracting qualified employees. On the other hand, if a set of *minimum indicators* is established, the potential of human capital reporting is likely to be a benefit for the management and other stakeholders.

6. Exploring skills and training needs by enterprise surveys

Actors in the labour market, as well as researchers, are increasingly interested in solid empirical information on the development of labour demand and skill requirements at the enterprise level, as a complement to surveys on the labour force. Some important questions to be answered by enterprise surveys are, for example, skills shortages and needs, the underutilisation of human resources, links between competitiveness and human capital investment, and questions concerning the evaluation of publicly funded training measures.

However, available data on the demand side (firms) are scarce compared with those on the supply side (workers). Although a large volume of enterprise data is being collected systematically, much of it does not focus on – and even neglects – aspects of training and skills.

Enterprise surveys can shed light on firms' measures to increase flexibility and the resulting skill needs. Changes in the organisational structure of an enterprise tend to increase both the demand for skilled workers and the need for continuing training. A central determinant for the utilisation and deployment of workers is the entire structure of the enterprise, its production concept, performance, human resources and strategies. These aspects should be covered by enterprise surveys.

The same is true for the analysis of business process reengineering, which covers the whole value-added chain of an enterprise, including sub-contractors and purchasers, and calls for a better utilisation of the qualifications of employees.

A deeper insight into training and CVT aspects, and a challenging perspective for VET research, is to be expected from *merged datasets* combining employer and employee data. This research field has begun to emerge rapidly in the past five years.

There are important reasons for considering both individual preferences and enterprise strategies in relation to training. These are not independent from each other: individual choice of training takes into account existing training offers and the subsequent perspectives on the labour market. Enterprises take account of the available human

resources in the internal and external labour market when deciding on training.

A number of questions remain concerning the design of enterprise surveys and the elaboration of merged datasets for employers and employees, and in particular concerning international comparative surveys.

Experience with existing national surveys indicates several issues, which should be considered in such surveys:

- the survey should preferably be designed as a *panel* which offers significant advantages in relation to the techniques of data collection, survey and processing;
- an enquiry of a representative group of employees within enterprises would be indispensable for construction of *merged employer-employee datasets* and for comparison of different estimates and preferences on both sides;
- the greatest potential for analysing enterprise surveys – in particular longitudinal studies – is offered by *econometric methods*. Therefore, a number of additional items should be included in the survey in order to gain insight into the most important influences on enterprise training activities and, using merged datasets, consideration of factors induced by the demand and supply side;
- *international comparisons* – based on joint activity in several countries – are useful to qualify national observations concerning, for example, the commitment of enterprises to training, actual and future skill requirements, recruitment and deployment policies, etc. First steps in this direction have been undertaken by the CVTS, and a further potential lies in Eurostat's enterprise demographics.⁴

⁴ These are mainly based upon business registers and give no indication on skills and training issues.

Part four

Employment, economic performance and skill mismatch

Part four of the report discusses a range of issues in the context of skills/competences and their relationship with employment and labour markets. Starting from a brief presentation of recent employment trends, and a discussion of the economic and social benefits of education and training, the question is raised of whether conventional definitions of formal skills should be complemented or even replaced by the notion of competences which are in reality 'traded' in the labour market. This also touches upon the various aspects of skill mismatch – unemployment, overqualification and skill shortages – which are discussed both from a theoretical and empirical point of view. The last chapter deals with the advantages and problems associated with skill forecasts at national, regional and enterprise level and presents several related activities in European countries.

1. Employment in Europe

Recent data indicate an improvement in the employment situation in Europe and decreasing unemployment figures. Employment change displays an ongoing shift towards service sectors and higher skilled jobs. However, the differences between EU countries remain enormous. Equally, employment and unemployment figures vary significantly between men and women and between younger and older workers.

Although the overall trend of unemployment has reverted to a downward direction, unemployment, and in particular long-term unemployment, remains at a high level. In addition, a considerable number of people have been sorted out during the previous decade of high unemployment: 'hidden unemployment' in the EU is presumed to account for almost 40% of all people who are unemployed or, under certain conditions, would actually like to work.

Furthermore, youth unemployment, although also slightly decreasing in the past few years, still almost doubles total unemployment. The difficult transition from education and training to work is also illustrated by the fact that almost 50% of young unemployed people are looking for a first job – with considerable variation, however, from country to country.

2. Education, training and economic performance

The contribution of education, training and 'human capital' to growth, competitiveness and employment is one of the most disputed topics in research and policy. Furthermore, a number of additional benefits or 'externalities' – most of them intangible ones – are associated with skills, such as effects on health, crime and the avoidance of unemployment and social exclusion.

Research, in particular on economic growth, for a long time neglected the endogenous factors of influence on growth and prosperity, i.e. technical progress and human capital, but concentrated on investments in physical capital and on 'labour' in general. A new insight was brought forward by endogenous growth theories and empirical applications based on these. These theories regard research and development, technical progress, human capital and knowledge as endogenous drivers of economic growth and of at least equal importance as physical capital.

A number of studies more or less confirmed the significant positive influence of research and development, human capital and knowledge on growth. However, several other studies are less optimistic. Moreover, critics argue that these new approaches have not produced a substantial new insight into the mechanics of dynamic growth. Much more research is needed on these issues, including also an improved and more coherent database for international comparisons.

When considering the external effects of education, training and skills, a number of research studies display a positive correlation (not necessarily causality) between human capital and, for example, health, reduction of criminal behaviour etc.

However, these aspects are not yet integrated in an overall measure of growth, prosperity and quality of life. A similar situation applies to the effect of skills on unemployment, although there is strong evidence that higher skills significantly reduce the potential for an individual to spend a considerable part of his or her working life within unemployment. This also has impact on reducing public spending on unemployment and thus indirectly influences economic growth.

3. Dynamics of labour market and competences

Studies on the relationship between education/training and employment mostly refer to formal qualifications and thus imply a functional relationship between both systems.

In order to understand better what is 'traded' in the labour market, and what are the implications for skill-related imbalances, the concept has to be enlarged in two ways: the consideration of different time-scales in which education, training and production operate; and the notion of 'competences' as a vector of different – formal and non-formal – human productive capacities.

There are considerable *time lags* between the identification of new skill requirements and the period until training reforms will be established and the graduates with update skills enter and pass through the labour market. Since enterprises are interested in a short-term coverage of new skill demands, the diachrony of time scales between skill generation and productive utilisation may lead to 'cobweb cycles' and thus may become counterproductive.

This touches upon the question on how skill requirements can be anticipated early. Whereas the supply and demand for *formal* qualifications (e.g. replacement and recruitment demand, new supply of education/training leavers) can be anticipated and balanced in the short and medium term with certain assumptions, competences and competence needs become unforeseeable beyond a certain horizon.

This assertion goes beyond the classic problems of imperfect information on competences required for a job and on the future performance of an individual in that job. The 'productive value' of an individual with a given set of characteristics will depend on that individual's interaction with the working environment and on the valuation of his or her competences at work. Individuals, in the course of their working lives, draw on their experiences in and outside the workplace to adjust and supplement their repertoire of competences.

For these reasons, research – including empirical research – should focus much more than before on *competences*. Research questions which still have to be tackled are the short- and long-term perspectives and coordination requirements in the systems of skill generation and utilisation.

The provision of appropriate information on possible future developments, and on 'mismatches' beyond formal categories of manpower demand and supply, is a pressing task for research. The same is true of the analysis of the manifold interactions between supply and demand of competences, the impact of education and training expansion on labour markets and competence utilisation, and the role institutions and other agents play in this process.

Overproducing and/or underutilising competences may seem a waste of resources. Avoiding wastage of human resources is one of the central problems of modern economies. It is a political problem in the true sense of the term, because imperfect information and the incompatibility between the time-scales that govern the gestation of competences and their productive utilisation, make it impossible to find a solution based on reliable economic or social calculations only.

Competences are generated in cooperation and interaction between the educational and the productive spheres. Each of the two systems establishes its own strategy in response to the action of the other.

The transition from school to work is a very special moment in the 'confrontation' of the two systems. It is the moment when the differences between the interests of the two systems come into play. At that precise moment, the production system has a customer/supplier relationship with the education system, and its normal behaviour as a customer is to try to obtain the best products at the lowest prices. Skill is regarded by the company as an intermediate good which must yield a return on the company's investment.

The aim of the education and training system, on the other hand, is to allow everyone to develop his or her potential as far as possible and to become and remain employable. Though operating in a context of imperfect information, it is required to adopt a long-term perspective: the lifetime of individuals. The knowledge imparted by education and training and by non-formal learning will be used – in whole or in part – in a future society about which there is little reliable information.

One aim, therefore, should be to develop at least those framework competences that seem likely to prove durable and to provide the best basis for subsequent further training.

4. Skill mismatch in the labour market

Skill mismatch in the labour market is discussed in this chapter under three angles: the persistence of unemployment, overqualification and shortages of skills. These phenomena are coincident in most EU countries.

(a) Concerning *unemployment*, long time series over the past 35 years reveal that in OECD countries the level of unemployment tended to remain at an ever higher level after each economic recession.

Research has explained this phenomenon of 'hysteresis' or persistence of unemployment by a decreasing probability of individuals finding a job with increasing unemployment duration ('state dependence'). The long-term unemployed increasingly become unemployable because of a loss or obsolescence of skills and work attitudes, or because of a loss of 'reputation' in the eyes of employers.

A rival view suggests that it is less unemployment itself and the associated loss of employability which explains structural and long-term unemployment. Instead, individual 'heterogeneity' in terms of skills, gender and other characteristics – which existed already before entry into unemployment – as well as selection processes by employers, are responsible for the high unemployment level in Europe.

Reasons given are skill-biased technical change, which favours the higher skilled, deindustrialisation with ongoing shifts towards higher skilled sectors (particularly services) and occupations, and competition from low-wage countries which all primarily affect the lower skilled workers.

Empirical evidence seems to prove the heterogeneity thesis, although the situation is different from country to country. Depending on which of the two explanations is more valid for a particular country, political measures should be different. Reactivation of the long-term unemployed, combined with the provision of temporary work experience, with training to compensate for the erosion of skills, with psychological support, lowering wage costs and information campaigns for employers, are some of the measures which should be appropriate if state dependence is the dominant reason for persistent unemployment.

If the heterogeneity argument applies, in particular for the low skilled, the main responsibility lies on education and training policies to upgrade the level of skills, to impart transferable as well as practical skills, to support non-formal learning

and to promote a continuous adaptation to labour market needs in a framework of lifelong learning. These skills are seen as facilitating the entry into working life as well as ensuring employability in the longer run.

However, in reality both reasons for persistent unemployment – state dependence and heterogeneity – will coincide. This calls for research and coordinated policies which do not concentrate on one of these aspects but try to integrate both, also taking into account the political, economic and social contexts of particular countries.

(b) The second type of skill mismatch refers to *overqualification*, i.e. the deployment of a worker below his or her level of qualification. Overqualification is seen as of increasing importance for European labour markets as numerous studies reveal. Overqualification seems to affect lower and intermediate skills, and in particular women, more than people with higher skills or men.

A number of theories explain, at least partly, the phenomenon of overqualification. Empirical measurement by ‘objective’, ‘subjective’ or ‘indirect’ approaches equally have their pros and cons.

Results of empirical studies based on these approaches make it difficult to gain a clear picture for different countries and periods. There are substantial differences from country to country, between younger and older workers depending on their particular status (adequately employed, unemployed, at the beginning of their work career) and between men and women. Moreover, the attitudes of employers and workers, as well as institutional arrangements and regulations (e.g. concerning unemployment benefits) affect the problem of overqualification considerably.

In addition, a clear picture of overqualification is hampered by varying results between different studies and approaches, even for one particular country. Substantial progress is being made by using longitudinal data and an enlarged set of indicators for overqualification.

A number of policy measures could remedy or prevent an increase of overqualification. These are appropriate training systems which impart broader as well as ‘marketable’ skills. Educational and vocational guidance is asked to improve information on actual and future

skill needs, and thus of the awareness of the long-term risks and chances associated with a particular choice - or political promotion - of an education and training programme. Other measures discussed are, for example, the promotion of regional mobility, the redefinition of unemployment benefits, wage differentiation and an increased involvement of people in financing their own training and higher education.

Research should make much more use of longitudinal data which take into account the gradual process of skill utilisation (or non-utilisation) in a work career perspective. More attention should also be given to the non-formal components of skills: formal qualifications alone seem less and less sufficient to explain the complex processes of recruitment, skill utilisation, mobility, career and promotion of workers.

(c) The third type of labour market mismatch discussed in this report involves *skills shortages*. These are increasingly seen as inhibitors to the development of a knowledge- and information-based society.

Most skill shortages reported for EU countries concern lack of numbers of workers with ICT and engineering skills, but also of economists, teachers, and in the healthcare sector. Moreover, firms complain about lack of core skills among workers – literacy, numeracy, communicative and basic ICT skills. A prospective study at European level, based on interviews with information system managers and intermediaries as well as on education and training statistics anticipates a shortage of more than 1,7 million information technology workers by the year 2003.

Against this background, current policy at national and European level focuses on the promotion of *e-learning* and supportive infrastructures, on imparting basic skills and on the development of ICT-related pedagogical knowledge of teachers and trainers.

Sceptical remarks on the evidence of skills shortages concern not only the occasional lack of transparency in survey methodology, but also the fact that shortages of skilled personnel in a firm are only one, and often not the most important one, of several other obstacles to innovation and production growth. Another serious counter-argument is that shortages may be of short or medium term duration and may be reversed after some years. Given the long time lag between the gener-

ation and productive use of skills, this may result in 'cobweb cycles' which induce serious problems in the longer run.

Thus, for example, present shortages in the ICT sector in some countries may also be the long-term consequence of cut-backs of public funding for computer and engineering courses, as well as of high unemployment among computer specialists and engineers in the past which also affected the choice of study at that time and led to a decrease of graduates some years later.

This calls for careful consideration of cyclical fluctuations – in particular in educational and training policy measures – and their long-term effects on individual choice of education and training and on the new supply of skills.

5. Future skill requirements

Although man is not given to know the future, efforts should be made to elucidate future possibilities and dangers, and thus political measures necessary to prevent future imbalances associated with economic change and the supply and demand of skills.

Forecasts aim to make decision-makers at all levels aware of the consequences of actions taken or not taken. They may give an indication of long-term developments, e.g. demographic change, and their implications for education, training and employment. The more rapid the change, however, the more difficult and insecure forecasting will be.

Therefore forecasts also have assessment and warning functions in that they indicate need for action or warn against undesired developments. Forecasts never can anticipate future realities. But they can serve as a didactic tool in improving understanding and awareness of the actors concerned in relation to future possibilities and the ways of influencing them in time.

This is the essence of a broad (and never-ending) discussion on skill and employment forecasting, its pros and cons and its possible use for decisions of individuals, enterprises and the State.

There are manifold *approaches* to skill forecasting. They range from 'hard' quantitative projec-

tions of supply and demand, partly based on econometric and on flow and transition models, to more qualitative approaches such as scenarios, Delphi enquiries, monitoring, benchmarking, expert panels and 'holistic' approaches.

Quantitative skill forecasts are carried out in several EU countries such as in Germany, Ireland, the Netherlands and the UK, and partly also in Finland and Sweden. Several CEEC countries, which have a certain background in economic and manpower planning, are reorienting themselves towards approaches used in western countries. However, not all European countries are convinced of the relevance and use of such forecasts. They prefer, partly also due to a lack of statistical infrastructure, more qualitative or monitoring approaches involving networks and actors at regional or local level. These issues are discussed in more detail in the report.

Moreover, the scope of forecasting is being extended. This is done, for example, by the introduction of generic skills and competences in addition to formal qualifications (which prevail so far in forecast models), by the consideration of the company level and increasingly of regional and local levels.

Equally, future developments and respective strategies are being elaborated at European level. However, due to restricted data and to the diversity of European economies and skill patterns, these forecasts are mostly prepared in the form of scenarios, benchmarking exercises and prospective analyses, partly including the development of relevant indicators such as demography, economic growth and technological development.

Part five

Individual performance, transition to working life and social exclusion

The various issues examined in Part five of the report have more of a focus on the individual level. Starting with a review of research on the determinants of participation in training and on the impact of training on individual performance, in terms of pay, unemployment, productivity and mobility, it continues with a review of the latest research on transitions from the education system to working life, an issue which continues to attract the attention of researchers and policy-makers. Chapter 3 looks at the factors causing exclusion from the labour market and from training measures and at the situation of workers with a low level of qualifications.

1. Training and individual performance

It is a widespread belief that education and training have significant positive effects on individual performance and, in general, are able to explain a major part of the variation in wages, unemployment and other variables. However, there are considerable differences in research findings on the incidence and impact of training depending on the national education and training system, and on the nature and quality of data and research methods.

At an aggregate level, the positive relationship between education, training and individual performance has been confirmed by numerous research studies. Those who are better educated and trained are, on average, more frequently in gainful employment, have higher earnings, participate more often in continuing training, are less often unemployed, are more often self-employed, have a higher regional mobility, and work with newer and more high tech equipment.

Although these findings indicate clearly the benefits of training for the individual, they are not a guideline per se for policy. There is evidence that *self-selection*, i.e. the impossibility of comparing training outcomes of an individual with the same individual without training (or with a perfectly comparable control group) may bias the results seriously.

In addition, non-negligible elements of difference in training outcome – such as earnings, unemployment or work careers – cannot be attributed to education and training alone. Innate abilities, heterogeneity of abilities and preferences, family background, political events, luck and economic and technological development are all factors which are relevant and bias the results, if not included in the analysis.

By and large, empirical evidence suggests that structured training systems with high investment in initial training tend to lower individual returns to continuing training. This seems to be the case in countries such as Germany and France. Conversely, in less structured initial training systems (such as the UK and the US) individuals yield higher returns to continuing training.

Some findings challenge the role of government in training. Obviously formal education and training cannot protect against all the storms of life for all people, but they may be very strong weapons when used at the right time, to the right extent and with the right content. At other times in an individual's working life, other strategies such as non-formal learning, regional, firm or occupational mobility might be more helpful.

For supportive VET policies, an adequate, systematic and regular research design *ex ante* is necessary to better understand the manifold relationships between VET activities and their results. Tight public budgets will cause the search for evidence of the impact and efficiency of training programmes to grow in the future. A tailored research design, preferably based on longitudinal data, that takes into account the diversity of situations, heterogeneity of individuals, differences in training systems, governments, markets, etc., is, however, expensive and takes time.

Comparative VET research based on microdata is, or can decisively be, improved by regular Europe-wide data sets, such as the European labour force survey, the European Community Household Panel, the Continuing Vocational Training Survey or the International Adult Literacy Survey. Despite some remaining methodological problems, international surveys should define the most relevant human capital and training variables in a more comparable way. Furthermore, access to these datasets for research should be considerably improved.

2. Transition from the education system to working life

The stage of transition from education and training (ET) to working life has attracted the attention of researchers and policy-makers for well over 1-2 decades. The dynamics that underpin this stage need to be understood if policies are to be better targeted.

In comparison with adults, young people are at a relative disadvantage in the labour market in terms of both the volume and quality of employment, despite a number of parameters that are favourable in the short term: gradual reduction of the size of the youth cohorts in most European countries, general increase in their standard of education, longer schooling, larger relative growth of sectors most likely to recruit a young labour force and introduction of active measures to help young people to gain a foothold in the labour market.

Unemployment is having more of an impact on young people, especially the less qualified, than on adults. Young people are occupying more precarious jobs and are experiencing increasingly long periods of transition between leaving the ET system and finding stable employment.

From an individual point of view (school leavers'), transition can be considered as a period of changing status, during which young people move away from full-time initial ET towards a stable position in (or possibly a withdrawal from) the labour market.

Comparative research is a very valuable tool in studying the determinants of this transition. It makes it possible to measure the differences and similarities between ET in different countries, to compare the processes of labour market integration and to identify the determining factors of these processes.

The nature of ET - level of standardisation and differentiation - and the labour market - predominance of internal markets, extent of the system regulating access to jobs, e.g. occupational markets - varies in Europe, as do the links that unite them (ranging from no links to a network of very close links). In addition, specific national institutional features obviously have a significant impact on the way in which socio-economic inequalities are reflected in school success, in labour market integration and in individual paths.

The way in which the employment market is structured is not directly linked with ET systems, but may well have an impact on young people's transition from the education system to stable employment.

When ET systems have a relatively general orientation and internal markets dominate the labour market, labour market entrants acquire their competences largely on the job. Most young people enter the labour market at low occupational grades and are at a disadvantage when competing with workers already employed by the company for better posts (in terms of career and job security). In occupational labour markets, however, entrants have a good chance of finding a job that is in keeping with their particular occupational qualification.

The entry of young people into working life differs greatly across Europe. In terms of the risk of unemployment, the European countries can be divided into three groups:

- (a) Austria, Germany, the Netherlands and Denmark where the unemployment rate among young people is relatively low at the end of their first year in the labour market (between 8 and 14%);
- (b) the United Kingdom, Ireland, Belgium and France where unemployment rates at the entry stage can be considered average (from 18 to 36%);
- (c) the Mediterranean countries (Portugal, Spain, Greece, Italy) where these rates are highest during the first year in the labour market (from 21 to 49%).

Differences quickly become less marked during the first ten years in the labour market. After ten years, the differences between countries are much smaller.

To study the transition of a 'youth' category solely on the basis of age is to postulate that the behaviour of people of similar ages is very homogeneous in terms of levels of education and age of entry into working life. Nevertheless, young people in a particular age group may be in very different situations (such as further education, repeated years, military service, inactivity, working life - employment and unemployment). It is therefore best to base any analysis of transition on the length of time that young people have been in the labour market, i.e. the length of time since they left the ET system.

For instance, young entrants are more likely to be offered a fixed-term contract. However, we may ask whether the greater precariousness of jobs occupied by young people, in terms of status, is due to a lack of experience or a lack of length of service in enterprise.

If the latter were the case, freshly recruited experienced workers would also be more likely to be offered fixed-term contracts. Recent recruitment shows that the advantage that 'seniors' possess in terms of employment status is relatively small (except in Sweden). It is new recruits in general who bear the burden of flexibility – not just young people.

However, cross-section data analysis does not allow a detailed look into the transition process which precedes the acquisition of a stable job. Only longitudinal studies enable this kind of analysis; but there is no longitudinal study at European level from which comparable data on transitions can be obtained.

The TSER CATEWE project (*Comparative analysis of transitions from education to work in Europe*) combines cross-section data analyses from labour force surveys with temporal series (flows) obtained from the transition surveys conducted in some countries (France, Ireland, Scotland, the Netherlands). At the time of drafting of this report only partial results of this project were available, which show that, combined with the cross-section data, the longitudinal data (even though from only some countries) provide a very comprehensive analysis of transitions between the education system and working life in Europe.

The research concludes that at present the best European ET models feature a high level of integration and coordination between the State, ET providers and employers. It therefore seems crucial to construct strong links between the ET system and the main economic players, especially at sectoral, regional and local level.

The experience gained from research on transition is much more extensive than in other fields of education and training research; however, few *comparable* data are currently available. They are limited to data from the labour force survey (which does not deal specifically with this issue⁵) and to comparative longitudinal databases, partly funded by the European Commission, which were set up thanks to cooperation between researchers in a few countries.

The lack of information concerning demand for training is one of the main features of research on transition; current research therefore tends to be

biased towards the individual level and the supply side. It is clear that more studies need to be conducted within companies.

Facilitating the transition between the education system and working life is a major political priority. However, there is at present no solid basis of empirical research that the Member States and the EU could draw on to help them to decide which measures to introduce, due to the inadequacy of available data and the lack of comparative analyses. These gaps need to be filled by setting up appropriate databases and by developing comparative research which focuses on the impact of the measures adopted.

3. Social exclusion and reintegration via training

The structural changes that have reshaped the economies of the industrialised countries over the last 20 to 30 years have also led to major changes in the structure of the labour market and social classes. Social exclusion in one form or other now threatens many more people.

Social exclusion involves the creation of dividing lines between certain groups and the rest of the population. Sex, age, health, standard of education or nationality are key factors in explaining non-participation in the labour market and training schemes.

A study of the relationship between unemployment and social exclusion shows that there are important variations in the ways in which the European social welfare systems provide a certain standard of living for the unemployed: on the one hand, the countries of northern Europe where a large proportion of unemployed people are provided with a relatively good standard of living and, on the other hand, some southern European countries where jobseekers receive minimal financial assistance.

If social exclusion is defined as a situation in which poverty goes together with social isolation and the non-achievement of life projects, unemployment clearly constitutes a major risk factor. In the southern countries, where poverty is more prevalent than in the northern countries, unemployed people are protected from social exclusion by solid ties with family and friends. The risk of isolation is much greater in countries such as the United Kingdom, France and Germany where the benefit system is fairly extensive (although levels may in some cases be low or irregular) but social ties are not as strong.

⁵ Although, in 2000, an ad hoc module on transition has been included in the Community Labour Force Survey. Preliminary results should be available during the second half of 2001.

Nevertheless, it is worth keeping in mind that unemployment and labour market exclusion is linked more to the general shortage of jobs and the recruitment practices of employers than to individual attitudes, failures or features. Improving the human capital of the excluded through the provision of education and training is therefore not enough; some structural and institutional barriers have to be lifted if the divide separating those who are well integrated in the labour market from those who are not is to be removed.

In some cases, however, unemployment is determined by individual choices:

- the individual may consider unemployment advantageous from an economic point of view; in this case 'the unemployment trap' may be the result of a financial calculation;
- the impact of the 'training trap' is more marked as jobseekers who embark on training do not just have to make a financial outlay (transport, child-minding, course materials, etc.) but also have to put off looking for a job. Training then takes the form of a 'risk' activity whose (immediate) result is far from certain.

It cannot be concluded from empirical findings that unemployed people are less committed to work than the employed. An unemployment benefit system, moreover, does not weaken people's desire to work⁶ (with the possible exception of women in countries where gender differences are culturally more traditional).

In most European countries, publicly financed training is available only for unemployed people receiving benefits (who may also have to have been unemployed for a minimum, and in some cases continuous, period). This causes the *institutional exclusion* of all groups of unemployed people who do not belong to this category, and particularly the unemployed who have not registered with social welfare or labour offices.

Tighter public budgets mean that the emphasis is being placed on the economic efficiency of training programmes, judged against the *results of the programme* (percentage of participants who find a job after

completing the course). The more the stress is placed on efficiency, the more programmes are targeted on those individuals most likely to achieve the set objectives ('creaming off') and therefore the more selective they are (*economic exclusion*).

When service providers are freer to decide on their selection criteria, they tend to give priority to the criterion of motivation (a person's desire to improve their situation). This may lead to a kind of *psychological exclusion* since the unemployed person's motivation and needs shape their desire to participate in, their access to, but also their success in, training.

Training which does not aim to reduce the gap between the 'culture' of the individual and the predominant 'culture' of the labour market may bring about the exclusion of those people whose culture least matches the predominant culture of the labour market (*cultural exclusion*).

Active measures are increasingly in vogue. Social 'activation' and related measures aim at the rapid social reintegration of people excluded from the labour market and dependent on social assistance. Under most programmes, this reintegration takes place via the labour market. The 1990s saw the introduction of what can be termed '*workfare*'⁷ where unemployed people receive financial assistance only if they are prepared to accept employment. Should they refuse to accept employment they may suffer sanctions that may go as far as total withdrawal of unemployment benefit (*political exclusion*).

An evaluation of the results of workfare needs to be based on a range of criteria and not just on the jobs obtained. Account needs to be taken of the characteristics of these jobs and of the future of people not taking part in the measure.

Training seems to be an effective active measure against unemployment. This measure has a positive impact for the most disadvantaged, as an increase in the number of people participating in training leads to more flexible selection criteria.

Certain European countries are moving in the direction of what can be termed '*learnfare*'⁸: the beneficiary must attend training to continue to

⁶ This concept has, however, many facets; while some people may say that they are 'motivated to work', they may lay down certain conditions or be unavailable.

⁷ This term is a combination of 'work' and 'welfare'.

⁸ Applied to learning, this formula refers to the introduction of an obligatory system of education and training.

receive benefits. In this case, unemployed people have to be informed how the measure enhances their employability (in order to improve their motivation and justify the compulsory nature of the measure).

Approaches which neglect the economic context are based on models of 'individual deficiency' and on the assumption that people are unemployed because they lack 'qualities'. Responsibility for success or failure is thus transferred to the individual. According to this point of view, the role of the public authorities is to provide training opportunities; people who, despite these opportunities, continue to be unemployed are suspected of being either unwilling to work or incapable of working.

In a context of high unemployment and inflation of qualifications, a low level of education is increasingly synonymous with a precarious situation in the labour market. The socio-economic context and the education and training system in each country help to define the 'risk group'. There is nevertheless an emerging consensus in Europe that the upper secondary level (ISCED 3) has become the minimum needed for a good start in working life

Several hypotheses may explain the deteriorating working conditions of the least qualified, whose numbers are now falling:

- the redistribution of employment between the sectors: low-skilled jobs are concentrated in sectors that are in decline;
- the bias that the new technologies have introduced towards more highly skilled people (*skill-biased technology*) which is leading to polarisation or mismatch on the labour market (overqualification, underqualification).
- labour market substitution: in a context where there are too many diploma holders, posts that would normally be occupied by workers with low level of qualification are being occupied by people with better qualifications. The result is that these less qualified people are being expelled from the labour market;
- labour market segmentation: the distinction between a hard core (*core workers*) and a flexible core (*non-core workers*, in the sense of *marginal workers*) of workers is central to theories of segmentation. The former group is closely linked to

the workplace through stable and advantageous contracts. The latter group is recruited under fixed-term or temporary contracts, and is mainly employed in posts necessitating fewer qualifications.

In general, and in order to prevent less qualified workers from being excluded from training, VET and employment policies have to concentrate on strategies and tools that can help them to access learning opportunities: targeted policies, social partner participation, guidance and counselling, recognition and use of non-formal learning, etc.

Improving the situation and employment prospects of less qualified workers is a necessity if European countries are to remain competitive and if the marginalisation and exclusion of a significant proportion of the labour force is to be prevented.

Comparative research has also started to look at those training processes likely to be the most effective. The TSER programme has funded a project studying the effectiveness of training available for the long-term unemployed in seven countries: Belgium, Denmark, Greece, Ireland, the Netherlands, the United Kingdom and Norway.

One of the findings of this study was that creaming off is prevalent and that it is having a positive impact on the effectiveness of training schemes, thus favouring the highest achievers and abandoning those who really suffer exclusion. Excessive creaming off reinforces the exclusion of the most disadvantaged groups and entails a high social cost.

In future the factors that determine the effectiveness of training measures should be explored further. More differentiated models need to be developed to pinpoint the impact of the various schemes.

The current ageing of the labour force is likely to generate a higher labour demand; in order to meet this demand for labour, it will therefore be increasingly important to reintegrate the unemployed and non-workers – preferably after appropriate training – and to identify the competences of all workers. If this demand is not met, the mismatch between supply and demand may lead to economic recession.

Offering unemployed people training which does not lead to real qualifications – but which instead is limited to immediate employability – may well undermine integration prospects when economic growth picks up and the demand for competences changes. Training efforts therefore need to be

'sustainable', i.e. valid over the long term and under changing working conditions.

Financial assistance offered by public authorities should, on the one hand, help the unemployed to avoid poverty and, on the other hand, free them from the daily problems of social and material 'survival' so that they can actively look for a stable job that is in keeping with their competences and aspirations. Encouraging unemployed people to accept any kind of job worsens their chances of integration (under-skilled and unstable jobs, risk of a return to unemployment).

Back-up measures should be put in place to ensure the continuing participation of the unemployed in the life of the community. Such measures reduce the risks of isolation and the subsequent loss of social identity.

As far as the individual is concerned, it is crucial to take account of motivation and the ability to learn and to evaluate the potential benefits of learning. Unemployed people want more than anything else to work. A sustainable policy to motivate and re-integrate the unemployed, under which employment and training can be combined, is therefore preferable to compulsory training programmes.

Part six

VET research outside the European Union

Chapter 1 of this Part six sets out to survey VET research in eleven countries of central and eastern Europe (CEECs). It endeavours to evaluate the extent to which research is responding to the major socio-economic challenges posed by the transition from a centrally planned economy to a market economy. The aim is to identify the main weaknesses in VET research in the CEECs and to make it more transparent, by analysing its findings and its failures.

Chapter 2 reviews VET research, in particular the role and main issues of research institutions, in a selected number of other non-EU countries. In addition, research undertaken by international organisations is described briefly.

1. VET research in the countries of central and eastern Europe (CEECs)⁹

Generally speaking, VET research in the CEECs appears to have responded successfully to the major challenges of the transition period. In the past few years, national research has demonstrated increasing maturity; it has played an increasingly assertive part in the reform process. However, its development is being hampered by certain systemic (organisational, institutional, financial) obstacles.

In addition to the problems specific to the economic transition, the CEECs must submit to the same demands as EU Member States: globalisation of the economy, technological change and the advent of the information society. The most important challenge facing the CEECs is to complete the transition to a market economy while at the same time creating enough jobs to avoid too high a level of unemployment and inactivity.

The change of regime has had a profound impact on the research community. Under socialist rule, research was dominated by political rhetoric dictated by the regime. Applied research was rejected, since the regime did not consider it necessary to use empirical data to support (or question) its political arguments.

⁹ Albania, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

It is essential for research to have a global understanding of the system and of the dynamics of change. VET research in the CEECs is often focused on analysis of isolated elements of the system, with little attempt to obtain an overall view of the system and thus understand the interactions that govern its operation. This fragmentation of research is reflected in the division of institutional structures, each 'specialising' in studying one element of the system, with little information on results obtained in related fields.

Another weakness is the lack of sound theoretical research into the socio-economic context (in the broadest sense) of VET. The involvement of the social partners in research is limited. Private enterprises and non-profit-making associations also play an extremely limited part. Research into civil society is not yet very active.

VET research is mainly financed by public funds, primarily distributed among the principal institutes. Labour market research is primarily financed by labour ministries and VET research by education ministries. This system leads to fragmentation of research and a lack of intersectoral cooperation and contextual perspectives, since research fields are narrowly defined.

In a period of economic problems, financial support for research from international institutions is essential. Its impact in the field of VET research in particular is huge in the CEECs. However, certain adjustments would help to make international aid more efficient and bring it more closely into line with national needs. In particular, there is a need to concentrate on follow-up projects designed to implement research results and recommendations. At national level, coordination mechanisms would increase the transparency of research projects already carried out thanks to international support, in order to prevent duplication of effort and to ensure that national priorities are taken into account.

VET research in the CEECs focuses on two main areas: research into VET systems and contextual research.

Some themes are indicated as regard research into systems:

- From the viewpoint of implementing a strategy on lifelong learning, it is important for

researchers to clarify their vision of VET and position their work in relation to the various elements of the education and training system. Hence multidisciplinary research must be encouraged, to avoid fragmentation of analysis – and practices (characteristic of the reform process in the CEECs). Unfortunately, such fragmentation currently exists, with initial vocational training being researched separately from continuing vocational training and from the rest of the system, often without particular reference to the labour market or the socio-economic context.

- Research into financing of VET must apply itself to finding ways to encourage the participation of employers in financing and organisation of training. Research must also propose solutions designed to make VET financing more efficient.

- No systematic research has been devoted to continuing vocational training. While initial training has been relatively well researched, there are no data or indicators confirming the development of certain sub-sectors in continuing training. There is also a shortage of research results relating to human resources development (HRD) in enterprises.

- Research into innovative teaching methods (project work, group work, etc.) should be coordinated with the work recently undertaken on training of teachers and trainers. The various elements of this training (transparency, standardisation, updating, etc.) are inseparable from the changes affecting the entire education system (integration between teaching and world of work, evolution of the teacher's/trainer's function in the learning process, new flexible learning methods, opening up of school to the outside world, and the role of the education system in lifelong learning).

- The rehabilitation of organisations in civil society (NGOs, public and professional associations, and unions) discredited by the previous regime should be covered by researchers from a broader sociological perspective.

The following observations can be made as regards *contextual research*:

- All the countries have better analytical and statistical coverage of unemployment than of employment. It would be useful to carry out supplementary analyses of unemployment and the impact of measures in support of employment, and of their role in the transition process, in order to have a basis for comparison in evaluating the changes that have occurred in the CEECs in the past ten years.

- Social exclusion, a new phenomenon in the CEECs, is a research subject currently receiving little attention.
- Research into the transition of individuals is definitely too limited to the school/work dimension and neglects other aspects, such as the transition between unemployment and employment, from one type of employment to another, between occupations, etc.
- There are few studies in the CEECs analysing employers' needs in terms of qualifications and skills and their impact on education and training, mainly because they are very costly. In economies in transition, occupational profiles change more rapidly than occupational norms. The added value of research into particular know-how or competences is obvious, as is that of reconstructing current job profiles to update occupational norms.
- In the CEECs, short-term forecasts are more common than medium- and long-term research.

The most convincing research result to date has been the drawing up of a concept for a system of human resources development at national level, in the context of lifelong learning.

However, VET research still suffers from certain weaknesses: too limited a field of investigation, inadequate quality, poor methodological approach and inefficient organisation in some fields of research:

- the global challenges posed by the development of knowledge-based enterprises; the service sector; SMEs; questions of access to knowledge, information and ICTs;
- conceptual and theoretical research into VET processes and results;
- learners' needs in the context of continuing training and in-company HRD;
- dissemination and implementation of research results;
- multidisciplinary research and collaboration between institutions.

There is a need for backing research, whether national or transnational, in the fields showing certain weaknesses. Similarly, assistance is needed in research fields which, although better covered, are not sufficiently conceptualised and do not possess adequate methodology.

2. VET research in other non-EU countries

This chapter provides a brief overview of VET research in a selected number of non-EU countries. However, apart from time and budget constraints, a comprehensive and consistent survey is hampered because of the very different demarcations of VET (and of VET research respectively), of the multi- and interdisciplinary orientation of VET research and of the heterogeneity of the institutions, associations and researchers in different countries.

In general, there is an increasing VET research focus on the interrelationships between economic development, labour market needs and vocational training. Another research field is pragmatic or policy-oriented research concerning the evaluation or development of system reforms. Other main fields are curriculum research, didactics, methodologies and media in training.

The support of thematic networks and the provision of information (databases, research results, etc.) is of increasing importance. Cooperation and taking on board experiences and suggestions from other countries rank high in the promotion and development of national systems of vocational training. Equally, international or supranational organisations (in particular the European Commission, ILO, OECD, Unesco/Unevoc) are important providers of information, documentation and cooperation.

Brief description of VET research in selected countries.

Due to the reforms to the VET system in *Australia* since the early 1990s, VET research has shown a significant expansion with a number of institutions involved at national and regional level. Current VET research done, for example, by the National Centre for Vocational Education Research (NCVR) focuses, amongst other things, on the economic, social and employment implications of VET; on transitions from school to work; and on the quality of the provision of VET.

The federal system in the *US*, and the manifold training and research activities, hamper a comprehensive overview on VET research in this country. At national level, the National Centre for Research in Vocational Education (NCRVE), for example, conducts VET research focusing, amongst other things, on innovative ways of linking education

and work, curriculum research and qualification standards, performance at the workplace and the development of work-related technological skills.

Canada is involved in numerous development projects, international VET research and cooperation and exchange with researchers abroad. School-to-work transitions, reforms of vocational education and further training, skill standards, political and industrial-sociological labour market research and the establishment of research networks are some major topics of relevance for VET research in this country, carried out, for example, by the Human Resources Development Canada (HRDC) and by sector councils.

South America, with the examples of Brazil, Argentina and Uruguay, displays rather heterogeneous training systems and, correspondingly, VET research.

In *Brazil*, the economic transformation is characterised by high school dropout rates and a high level of illiteracy. Therefore, reforms of the training system, establishing closer links between education, training, work and technology, lifelong learning and the reintegration of adults and young people, rank high in the agenda of VET policy and research, as, for example, carried out by the International Centre for Education, Labour and the Transfer of Technology (CIET).

These problems apply to an even higher degree to *Argentina*, where initial training is almost exclusively the responsibility of the State. Increased international competition and the fact that the level of qualification no longer satisfied firms, led to a decentralisation of competences in VET and to an increasing involvement of social partners. The relationships between skills, growth, labour market and education/training, human resource development and information technology are some research topics of the recent past, conducted, for example, by the National Research Centre for Human Development (CENEP).

In *Uruguay*, education and training are highly acknowledged and the illiteracy rate is amongst the lowest in the world. Research topics are similar to those mentioned for other countries, supported also by the Inter-American Centre for Research and Documentation (Cinterfor/Cinternet).

In *Japan*, the Japanese Institute of Labour and the Polytechnic University (under the aegis of the Ministry for Labour) carry out numerous research activities also in the field of VET. Economic and employment aspects, working life studies, the development of work skills and research into

teaching and learning are only some of the numerous research programmes to be mentioned here.

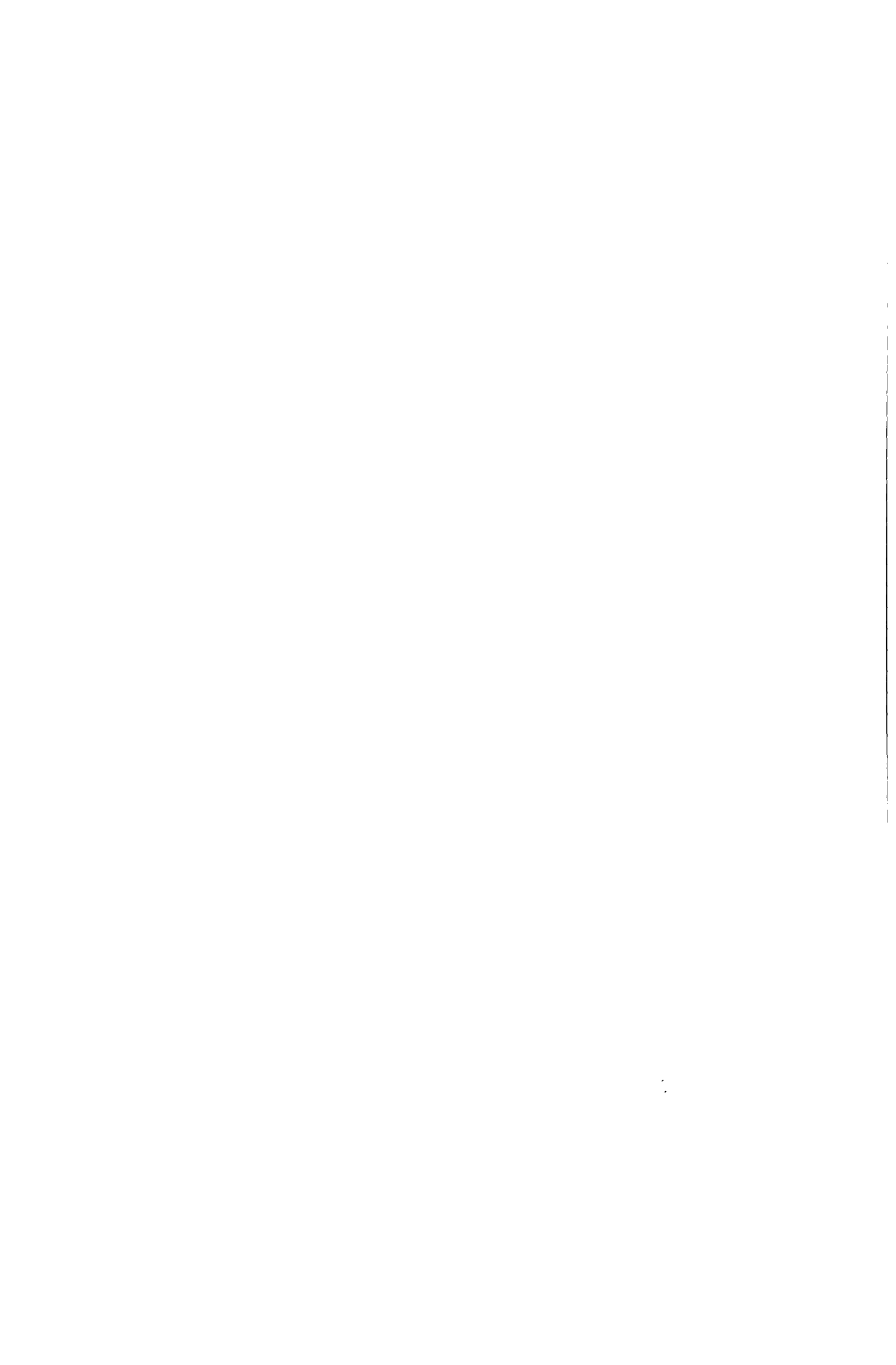
The reform of the system of vocational education in the *People's Republic of China* since the early 1980s increased the demand for research into steering, reform strategies and monitoring of measures. However, only a relatively limited number of researchers work in VET research fields. Some of the research centres to be mentioned here are the Central Institute for Vocational Training (CIVT) and the Occupational Skill and Testing Authority (OSTA). Applied VET research is most highly valued, e.g. concerning social and economic development, curricula and teachers, educational management and information and support. It is felt, however, that the theoretical basis of VET research is still underdeveloped and that research is too much related to the direct implementation of policy matters.

Russia has a long tradition in 'occupational education', including the development of teaching methods and policy advice, carried out, for example, by the Russian Education Academy and the Academy for Vocational Education. However, VET research is predominantly tied in with the various levels of vocational education – basic vocational education and middle-grade vocational education. Numerous specialised departments are engaged in VET research, increasingly also run by the regions.

In *Switzerland*, a large number of mostly small-scale institutions – coordinated by a coordination unit – are working in the field of educational/training research and school development. In spring 2000, the Federal Office for Vocational Education and Technology (BBT) identified a number of research areas which will be given priority (and funding) in the future. Topics of relevance for VET research include: VET systems; continuing training; costs and benefits of VET; evaluation, steering, quality and innovations; new occupations; and research on young people, gender and disadvantaged groups.

This report also contains a review of VET related research activities by educational associations and international organisations, in particular the World Bank Group, Unesco/ Unevoc, ILO and OECD.¹⁰ Numerous research issues are tackled by these organisations. Moreover, they provide comprehensive material and statistics which are highly useful for international comparisons.

¹⁰ Research activities of the European Commission, in particular within the framework of the Leonardo-da-Vinci and the TSER programmes, are integrated in relevant chapters throughout the synthesis report. Similar applies to research done by OECD.



Introduction

This report continues the series on European research on vocational education and training (VET) which Cedefop started in 1998. The aim of the reports is to give a comprehensive overview of the state of the art of VET research in Europe and the main theoretical and conceptual approaches, empirical findings and implications for policy-makers.

The reports will be updated regularly and complemented by new topics which emerge in the course of time.

Definition and role of vocational education and training

Broadly defined, VET comprises all more or less organised or structured activities which aim to provide people with knowledge, skills and competences necessary to perform a job or a set of jobs, whether or not they lead to a recognised qualification. Trainees in initial or continuing training thus prepare for work or adapt their skills to changing requirements.

VET is independent of venue, age or other characteristics of participants and previous level of qualification. The content of VET can be job-specific, directed at a broader range of jobs or a mixture of both; VET may also include general education elements. However, the definition of VET and continuing training (CVT) in individual countries is different.

The major importance of VET for individuals, enterprises and society as a whole is widely acknowledged, especially in the framework of a lifelong learning strategy.

For *individuals*, skilled work is one of the most important means of social participation and recognition, personal identity and self-awareness – and, of course, for making a living. VET, in developing and maintaining employees' competences, plays a major role in employability.

Enterprises are highly dependent on skilled employees and the generation and utilisation of their competences, particularly when restructuring their business process and work organisation to become or remain competitive on global markets. This is confirmed by the trend towards establishing modern production processes and

learning organisations, which both require workers to have a high degree of responsibility, initiative, skills and competences.

And for *society*, a high skill level among the population and workforce is important to enhance competitiveness, growth and employment, as well as to foster citizenship and prevent inequalities and social exclusion.

However, and this should be stressed, education and training alone are not expected to solve all the crucial problems of our societies in the short term, in particular unemployment and social exclusion. But they can play a complementary role in improving the allocation of jobs and workers and in correcting market failures by supporting the integration of young or disadvantaged people into the labour market and by updating the competences of unemployed people to prepare them for reentry to the labour market. In short, they contribute to improve people's employability.

Function and objectives of VET research

Education and training policies, as well as other policies, have to consider the complex relationship between education and training and the socio-economic system. It is the task of research to shed light on these aspects in order to analyse, identify and explain these relationships and their effects; to reduce complexity and thus to improve our understanding of causes and effects; and to identify the means and strategies expected to be most effective and acceptable in solving a problem.

In particular, VET research aims to:

- describe and explain the systems, conditions and frameworks for the structures and processes involved in acquiring and updating vocational skills and competences;
- provide information on the interaction between VET and other areas of social action. This interaction concerns the legal and institutional framework, the interdependence of social, economic, technological and demographic change and the behaviour of the different actors in these fields;
- demonstrate the relevance of VET research to the option-seeking and decision-making of the various protagonists.

One of the most important focuses of current VET research is the link between VET and work. Research is called to identify new requirements and their implications for innovation and development. Another important topic is the modernisation of VET in the perspective of lifelong learning. Research is asked to study the place of VET within the training system, the relation between initial and continuing training and the competences every individual should acquire to face the requirements of our modern societies.

Transparency and research cooperation

The diversity of VET systems and cultures (and sometimes language and terminological problems) within Europe impedes the understanding of national differences and poses challenges to the theories, methods and findings of VET research.

Further problems are shortages of interdisciplinary or multidisciplinary research and, in some cases, inadequate cooperation among researchers. Lack of cooperation is also observed between research and policy and practice.

These difficulties are made worse by a lack of transparency in research projects and findings, due to the fragmentation of VET research being done by universities, State-run research agencies and private research institutions.

On the other hand, an increasing number of research cooperation networks are spreading throughout Europe (see the Annex of the first research report, Tessaring, 1998b), as well as comparative research projects boosted by EU funding and new electronic means of communication.

Reporting on VET research in Europe

The reports on VET research in Europe published regularly by Cedefop (every two to three years), of which this is the second, intend to improve transparency on VET research matters in Europe, by pooling the findings of different research disciplines, and, at the same time, by properly positioning other fields of social action in terms of their relationship with initial and continuing vocational training. Further, the reports indicate the implications of research results for the various protagonists concerned – politicians, institutions, social partners, enterprises, individuals – and

draw attention to areas where research coverage is too thin and needs building up.

As these reports are research reports, the most important underlying theories, concepts and approaches are discussed. Without knowledge of them and understanding them it is difficult to interpret specific results.

The reader may observe that simple questions often require complex answers. This does not necessarily mean that science and research produce uncertainty, but rather in our world nothing is certain. Everything ultimately depends on the non-predictability of human behaviour, actions and reactions.

Finally, the reports should also contribute towards improving cooperation and communication both within the research community itself and between researchers, policy-makers and practitioners.

This second research report builds upon the first edition published in 1998-99. Some topics have been developed further, others have been updated to consider new research findings, and some have been introduced to reflect the current debate. The synthesis report you have before you is based on a number of contributions by researchers from various disciplines of VET research (see pages 3-4) and personal additional research.

In view of the vast wealth of research material available on European and, to a greater degree, national aspects, it was impossible to cover them all in this publication. Moreover, the diversity of training systems and training problems in Europe, the dynamics of vocational training developments and VET research, and the changing social, economic and technological conditions, all call for regular updating of the reports. Critical comments, references to relevant research work and suggestions for further topics are most welcome.¹

Cedefop should like to thank all those who have contributed to this report – whether preparing a contribution, providing constructive comments and support, or by their hard work in translating and editing this document. It would not have been possible to publish this report in its present form without them.

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Contents of the second VET research report

The second research report consists of three publications:

- (a) this *synthesis report* which provides a comprehensive overview of the state of the art of VET research in Europe and the main theoretical and conceptual approaches, empirical findings and implications for decision-makers and researchers;
- (b) a *background report*² (three volumes) which contains contributions on different topics from renowned researchers across Europe;
- (c) an *executive summary*³ with the main findings and conclusions.

The synthesis report is structured as follows:

Part one deals with VET systems, their coordination with the labour market and steering. It starts with a discussion of the general coordination and steering mechanisms, followed by an analysis of different issues which have an impact on the orientations taken by VET systems: financing, reforms to enhance the standing of VET, certification systems and recognition of non-formal learning, evolution of the role of VET professionals.

Part two discusses the challenges and reforms imposed by the implementation of a lifelong learning strategy and by the acquisition of competences relevant to current professional profiles. Lifelong learning is tackled from a pedagogical point of view, analysing the competences to be developed, the didactics and methodologies to be implemented, and the reforms to be undertaken in education systems in order to ensure the customisation and differentiation of pathways. New modes of competence acquisition in enterprises linked to the development of learning organisation are also discussed.

Part three focuses on companies and their role in training and employment. After an analysis of the possible impacts of globalisation on work organisation and skills, the structures, functioning and mobility in internal and occupational labour markets and their effects on skill acquisition and utilisation are discussed. Research on small and medium-sized enterprises (SMEs), self-employ-

ment and entrepreneurship and their implications for growth, job creation and enrichment of skills follow. Approaches to the development and measuring of human resources at company level and the potential of enterprise surveys as a complement to labour force surveys are also discussed.

Part four discusses a range of issues in the context of employment and labour markets. Starting with a brief presentation of recent employment trends and a discussion on the economic and social benefits of education and training, the question of whether conventional definitions of formal skills should be complemented or even replaced by the notion of 'competences' which are in reality traded on the labour market is raised. This also touches upon the various aspects of skill mismatch in labour markets – unemployment, overqualification and skill shortages – which are discussed from both a theoretical and an empirical point of view. The last chapter deals with the advantages and problems associated with skill forecasts at different levels and presents some related activities in European countries.

Part five discusses several issues mainly at the individual level. It starts with a review of research on the determinants of participation in training and on the impact of training on individual performance, such as wages, unemployment, productivity and mobility. It continues with the state of the art of research on transition from the education system to active life, a topic still retaining the attention of researchers and policy-makers. The third chapter of this Part looks at social exclusion from the labour market and from training measures as well as the situation of low-qualified workers.

Part six deals with VET research taking place outside the European Union. The first chapter seeks to evaluate the responsiveness of VET research in central and eastern European countries to the major challenge posed by the process of transformation. The second chapter provides a brief overview of VET research in other selected countries (Australia, the US, Canada, south American countries, Japan, the Peoples Republic of China, Russia and Switzerland). Some VET research activities of international societies and organisations are also briefly reported.

A list of *references* and a *bibliography* containing the sources used and additional literature appears at the end.

Pascaline Descy, Manfred Tessaring

² Bibliographical reference: see page 3.

³ Descy P., Tessaring M., 2001. Training and learning for competence. Second report on vocational training research in Europe: executive summary. Cedefop Reference series. Luxembourg: EUR-OP (published in 11 EU languages).

Part one

VET systems, coordination with the labour market and steering

Part one of the report examines various issues that are having an impact on the directions taken by VET systems.

The chapter starts by reviewing the classical mechanisms of steering, which either involve State management or focus on making systems respond to market demand. It then shows the limits each of these methods, applied in isolation, has with regard to the regulation of supply. This will demonstrate the interest of finding a compromise between, and a combination of, these methods and of working to establish alternative coordination mechanisms. This analysis is fleshed out by an examination of examples from the Member States.

Following this theoretical approach, the following chapters look in greater detail at certain aspects which are not simply policy options but have a major impact on the directions being taken by training systems and their ability to match training supply and demand: financing; reforms being undertaken to improve the standing of VET; certification and validation of non-formal learning; and changes in the occupational profiles of VET professionals.

In Chapter 2, which reviews the financing of VET, current financing models in Europe and the ways in which they are changing are described and analysed. We will examine trends in the operation of the financing systems and pinpoint their impact on the efficiency, quality and distribution of the training supply. Training is divided into three categories for the purposes of this analysis: initial training, continuing training and training for the unemployed. Two innovations – output-related funding and training vouchers – are also described and critically reviewed.

The attractiveness of vocational training depends to a large extent on its social standing and the potential that it offers in the labour market in terms of employment, pay, career prospects and actual jobs. Chapter 3 looks at the reforms and strategies that have been introduced in Europe to improve the standing of VET, both in comparison with general education and on the labour market. We identify measures to improve – directly or indirectly – the quality of VET. In a brief review of results we attempt to determine the impact of such reforms.

Certification systems are changing. The ability of conventional diplomas to reflect people's competences is being called into question. New certification models are appearing. The trend is to make certification systems independent from training systems. This is being reflected in particular by the introduction of systems for validating non-formal learning. In addition to analysing why certification systems are being called into question, the second part of Chapter 4 looks at institutional reforms to recognise non-formal learning. It examines the specific features of this type of learning and the problems that it raises from the point of view of identification, evaluation and recognition. The chapter provides an overview of the reforms that have been introduced and analyses their extent and the political support they have received in the Member States of the EU/EEA, as well as the role of the European Commission and European initiatives.

Chapter 5 looks at the roles of what might be termed 'VET professionals', the ways in which these roles are changing and the introduction of new profiles. We also analyse the potential ways in which these functions can be placed on a more professional footing and the extent to which they can be a mechanism for steering and coordinating systems within the framework of the mechanisms and concepts discussed in the first chapter.

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1. Education and training systems: regulation, coordination, steering and cooperation¹

This chapter examines the different ways of steering and regulating VET systems, their origins, recent trends and possible alternatives.

Following a brief review of the changing ways in which the education and training supply is being coordinated (State-managed and manpower planning approaches; regulation by the market; and combination of these two methods), alternative steering methods lying in different dimensions than the market-State continuum will be analysed. An analysis grid will be drawn up to help identify these methods.

Three policy options will then be proposed, corresponding to three levels of intervention with an aim to regulate the education and training supply: the distribution of decision-making powers, the structural organisation of studies and the choice of teaching and learning processes.

In conclusion this chapter will analyse a number of practical approaches that go beyond traditional steering mechanisms.

1.1. Introduction

The purpose of steering is to ensure that the education system offers a satisfactory response to the needs of the labour market, the individual and of society in general. Unlike general education systems, VET straddles the boundaries between education and employment systems. Internal steering is therefore influenced (and to some extent determined) by external demand.

The origins of vocational education and training lie in the labour market. Through a gradual institutionalisation, VET became separated from the labour market and integrated into the education system. VET nevertheless has to be coordinated with both the education system and the labour market. In the latter case, the issue can be seen as one of revising practices that have always existed.

¹ This chapter is based to a large extent on the paper of L. Lassnigg, 2000: 'Steering, networking and profiles of professionals in vocational education and training'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 1 (published 2001).

In the 17th and 18th centuries, the gradual integration of components which had up to then been separate (the 'forebears' of higher education, general education and various kinds of training) was one of the main features of education system development. Divisions between these components nevertheless continue to exist today. The integration of general and higher education was a relatively simple task, whereas VET has remained separate (see the discussion of parity of esteem in Chapter 3).

VET institutions were set up as a result of the gradual transfer of activities (or some activities) from the workplace to specialist bodies, bringing about structural changes: in the 1960s, policies tended to isolate VET from professional life and to integrate it into the formal system²; changes in human resource management in the 1980s slowed down – or even reversed – this trend. People now feel that the links between VET and the working world need to be reestablished and intensified³ and that learning organisations combining production and learning need to be developed.

VET has complex links with the economy, the labour market and the employment system. Its highly fragmented structure and many specialities make coordination difficult.

1.2. Steering and coordination – trends in policy

We noted above that VET was originally part and parcel of the labour market, whereas the two other pillars of the education system (general education and higher education) were the responsibility of the public sector.

The relatively complex institutional framework of VET differs from one country to another. The first research report (Koch & Reuling, 1998; Tessaring, 1998b, pp. 19-25) drew up a typology of VET systems by their main method of regulation: State, corporatist or market. These three mecha-

² This trend was more marked in some countries than in others. The State has nevertheless introduced national regulations and standards even in countries retaining a VET system in which enterprises continued to play an important role, through the existence of an apprenticeship system.

³ In initial vocational training, this is being reflected by the inclusion of periods of in-company practical training in some curricula, by alternance schemes, and even by a modernisation of apprenticeship. Initial vocational training that continues to take place entirely at school is tending, however, to become closer to general education (see Chapter 3 for a detailed discussion of this issue).

nisms are to be found in all the Member States, although their relative importance varies. Some Member States are, moreover, introducing alternative steering mechanisms. Classifying countries by their main method of regulation tends therefore to simplify the actual picture and to mask the diversity of methods used. We need to bear in mind that all forms and mechanisms of steering – including corporatist methods – are to be found to a varying degree in every system.

Nevertheless, three periods can be distinguished in Europe from the point of view of methods of coordinating education and employment – and of steering the (chiefly school-based) VET system:

- (a) fundamentally State-led regulation of VET (1950s-1960s);
- (b) gradual awareness of the limits of State-led regulation (1970s); crisis of the welfare state and introduction of market mechanisms (1980s);
- (c) awareness of the shortcomings of the market, search for an optimum combination of the two mechanisms and use of alternative steering methods (1990s)⁴.

Box 1.1: Regulation of apprenticeship

Koch & Reuling (1998) present a third kind of regulation that is a feature of the dual system: corporatist regulation. Lassnigg (2000) describes the apprenticeship system of the German-speaking countries as a paradigm for VET. This structure, which illustrates the methods by which alternative mechanisms operate, combines several elements:

- the market, which determines how apprenticeship and practical training placements are to be allocated;
- the State, which regulates the conditions by which apprenticeship is to be managed and ensures part-time training at school;
- self-regulation of a corporatist type by various interest groups (employers, trade unions);
- 'professional' mechanisms acting through professional groups.

⁴ This three-stage development can be seen in all the Member States, albeit at a different pace and with a State- or a market-based approach retaining the upper hand. The tendency gradually to combine these two methods is a typical development.

1.2.1. State-led regulation

Between the 1950s and the 1970s there was a gradual increase in the State's prerogatives in the area of school-based vocational training (nationalisation and legalisation). Public authorities took responsibility for matching supply and demand and organising training.

Management of the VET supply by the State alone had limits, however, as evidenced by manpower planning methods.⁵ The paradigm of planning, which was the main strategy of the 1950s and 1960s in the field of education (especially in France), was extended to the links between training and employment. As there was little confidence in demand-led market regulation, State-led regulation therefore spread to the labour market. This strategy proved to some extent to be defective, as it entailed the risk of inadequate forecasting of labour market needs and led to very long skill production times in the education system relative to rapid changes in demand.⁶ It is now accepted that VET systems cannot be steered by a State system alone as it is unable to forecast changes in demand beyond a certain point.

1.2.2. The introduction of a market perspective

From the mid-1970s onward, criticisms of State management grew. During the crisis of the welfare state in the 1980s, market mechanisms seemed to offer a real alternative to State-led steering. Policies therefore shifted in the direction of demand-driven steering.

In many countries, politicians then adopted the following principles: decentralisation, deregulation and delegation of authority (OECD, 1996i, pp. 172-173). One of the key aspects of this process was the evolution of State accountability. Quasi-markets were created that tended to uncouple consumers and providers and introduced the notion of choice – and therefore of competition – into the training supply (Levacic, 1995, p. 167).

Nevertheless, regulating systems solely by market mechanisms also had limits:

- market failure: the State had to intervene when the distribution role played by the market proved inadequate;

⁵ Reference should be made to Chapter 5 of Part 4 of this report, dealing with forecasts, for an analysis of the benefits and limits of manpower planning.

⁶ See Chapter 3 of Part 4 of this report.

- the market could not guarantee some of the social aspects of training (reducing selection effects and social inequalities, taking a future-oriented rather than short-term approach), even when governments provided subsidies and information.

Thus, the dichotomy between market and State has long been (and is often still) seen as the crux of the debate surrounding the methods by which education and training systems should operate. To some extent, this tension is inherent in the nature of VET, whose role is to satisfy economic interests while preserving social and societal interests.

1.2.3. The search for compromises and alternative methods

The combined effects of economic recession and cost pressures, growing cohorts of young people and ever faster changes in the training demand hamper the operation of both planning systems (technocratic planning and ‘adequationist’ approaches⁷) and market mechanisms (self-regulating and able to find a rapid match between supply and demand) which can no longer play the role of training system coordinator. Complementary solutions need to be found, such as corporatist regulation or decentralisation.

‘[...] the ‘free play of market forces’ has to be backed by public regulations in order to ensure socially desirable as well as future-oriented training offers and to alleviate undesired selection effects’ (Tessaring, 1998b, p. 23).

Faced with these developments, the State has to adapt and carry out a function of evaluation based more on leadership and management methods than on traditional technocratic structures. Whitty *et al.* (1998, p. 12) note the appearance of a combination of the ‘evaluative State’ and ‘quasi-markets’ in five countries (England and Wales, United States, Australia, New Zealand and Sweden). The dynamic is therefore one of finding the best possible compromise between market-led and State-led management.

The main aspect of coordination is to find a balance of different and conflicting interests between market failures and State failures.

⁷ Manpower planning has been used in this ‘extreme’ way in France in particular. In other countries, forecasts are used as one of a number of information resources (see Chapter 5 of Part 4 of this report).

It seems possible, however, to go beyond the two regulation methods discussed above. Organisational theory refers to two further mechanisms: networks and corporate associations. These should not necessarily replace the two mechanisms discussed above, but can play an equally important role in regulation.

1.2.4. Alternative steering and coordination bodies

To identify alternative steering mechanisms, Lassnigg (2000) identifies several coordination processes depending on:

- the type of player;
- the sector;
- the level of society.

Lassnigg also proposes to:

- determine what the tasks of coordination and steering are; and
- identify the many possible interactions and mechanisms.

To explore the results of this ‘dissection’, we may look at Figure 1.1, which describes the types of organisation in which coordination takes place and the various potential links between them. This figure shows the various types of players, in different systems and at different levels: the individual micro level, the meso level (schools, enterprises) and the macro level of national institutions and organisations. At a ‘supra’ level, other actors may also play a role of varying importance, for instance the public authorities (legislation, government, European Union⁸, etc.) and those labour market institutions that provide a bridge between the two poles of the labour market.

Building on the previous figure, Figure 1.2 analyses coordination and steering tasks according to training supply and demand, competences and qualifications and teaching and learning processes. This figure shows, for each category, those policy options that may have an impact on VET systems.⁹

⁸ Although the role of the European Union is limited in the case of VET, because of the principle of subsidiarity which gives Member States full responsibility for organising education and training.

⁹ Reference should be made to Part 1 of the first research report (Tessaring, 1998b) and to Part 4 of this report for an analysis of coordination between the labour market and VET.

Figure 1.1: Stylised coordination actors and tasks

	VET systems		Labour market	
	Demand for education/training	Supply of education/training	Supply of competences	Demand for qualifications and competences
	Legislation, political parties			
	Actors in education/training		Actors in the labour market	
Macro level (national, regional, local)	Students'/parents' organisations	Administration Teachers'/trainers' organisations	Workers' organisations	Employers' organisations
Meso level (organisational)	Students'/parents' representatives	Education/training providers	Workers' representatives	Enterprises
Micro level (individual)	Individual households	Teachers, trainers, etc.	Individual employees	Individual employers

Source: Lassnigg, 2000.

Different potential areas of intervention for the coordination of systems exist at various levels. There are many coordination links between these different levels and within each level.

- *State-led steering*, via the centralised hierarchy and centralised planning, generally acts on the education supply.
- *Demand-led market regulation* is ensured by feedback and individual compensation. The education and labour markets are therefore interdependent.
- *Professional associations* provide for co-ordination through relations between players with similar interests. The consensus reached from bargaining is a key element here. Employers' associations, trade unions, teachers' and parents' associations, etc., thus provide a bridge between the meso and macro levels – between the training supply and demand in the VET system and between the supply of and demand for skills in the labour market.
- *Networks* help to maintain direct but informal links between the different players. What is important in ensuring that the network can work as a coordinating body is not financial interest or formal authority but the climate of trust between players.

As the two most current steering mechanisms have shown their limits, it seems reasonable to explore the potential of others.

1.3. Main policy dimensions and options for the steering of systems

Following the above discussion of coordination mechanisms, we can now explore the levels that can provide a basis for steering policy and strategy:

- the distribution of decision-making powers between organisations linking up the various players at the various levels;
- education and training pathways, their division into units and the possible ways in which these pathways can be structured;
- teaching/learning processes.

1.3.1. Distribution of power

As discussed above, the concept of steering evolves in the space between the failures of the State and those of the market. It is possible to set up structures that enable the players (training providers) to adopt behavioural practices geared more towards demand.

These practices may be generated by a new distribution of power (decentralisation of decision-making, further involvement of the social partners, etc.). The aim is to listen more closely to the demand from consumers (individuals or enterprises) and to leave more scope for them to express themselves.

Figure 1.2: Coordination tasks and main policy options		
Coordination tasks	Quantitative	Qualitative
Coordination between education/training supply and demand		
	Numerical allocation – determination of numbers, – provision of study places, – determination and selection of applicants	Definition of profiles – composition of curricula, – breadth - depth, – overall study lines - modules
Main policy options		
Social demand approach: quantitative (allocation), qualitative (adaptation) Enhancing market forces in relation to allocation (training vouchers ^(a)), selection/promotion (costs, incentive measures), information (signalling, examination results) Guidance and counselling Entrance examination/assessment		
Coordination of teaching/learning processes		
– Managing pupils/students	Selection, retention during teaching and learning processes	Conversion of potential into competences
– Managing personnel	Workload, Working conditions, Pay setting	Preconditions (training, etc.) Division of work between professionals Advancement, continuing training, careers
– Managing resources	Resource allocation in terms of the number of study places available for students	Standards for the use of resources in terms of the number of study places available for students
– Shaping learning environments	Selection/allocation of learning sites	Design/use of learning environments
Main policy options		
Standards and assessment New teaching/learning methods (teaching → learning) New technologies in teaching and learning Integration of formal and non-formal learning, workplace learning Professional policy, changes to working conditions and the division of work in training establishments, continuing training Input-related standards New methods of resource allocation (levies, training funds) New organisation/management methods (total quality, etc.)		
Coordination between competences/qualifications supply and demand		
	Numerical allocation Transition from the education system to working life	Determination of credentials in relation to the structure of the labour market Relation between level achieved and credentials Formulation of qualification profiles for working life
Main policy options		
Competence-based assessment, creation of credentials independent from certain types of study Combination of education and work (apprenticeship, human resource development) Education/training and enterprise partnerships Inclusion of representatives from the working world in steering committees Introduction of mechanisms to anticipate developments and changes in the qualification demand Policy to facilitate transition		
Overall policies	Development of the knowledge base, research and development in the education field Overall changes in steering methods Lifelong learning policies Education and training policies as components of a policy of innovation	
Industrial relations (role of the social partners)		
Wage-labour nexus, skill-labour nexus ^(b)		

(a) See Chapter 2 on the financing of training.

(b) For further information, reference should be made to Caroli, 1998; Tessaring, 1998b, pp. 13-31, and Chapter 3 of Part 4 of this report.

Source: Lassnigg, 2000.

Innovative concepts in the area of steering systems are currently based on public-choice based approaches.

‘The rule is simple: no demand, no training. In other words, the training demand must be closely monitored and whatever is in keeping with clearly identified demands must be offered. No more, no less’ (de Moura Castro, 1995, p. 4).

The issue is therefore one of creating steering structures that not only make it possible for employers to exert an influence but also allow for an evaluation of individual and labour market demand. Three conditions therefore have to be satisfied:

- (a) employers must be able to exert a genuine influence through steering bodies that also offer sufficient scope to balance the interests of those involved (those of employers versus those of individuals: productivity versus employability);
- (b) mechanisms for feedback, evaluation and forward planning in respect of the labour market demand must be set up for training institutions;
- (c) practical cooperation links must be forged to bring training and employment systems closer together.

This approach probably oversimplifies many aspects of the coordination of education and employment and makes the dynamics and direction of changes subject to the choices and preferences of consumers. VET professionals in schools have to be able to adapt and use market strategies.

1.3.2. Structure of pathways

The organisation of education and training pathways is also a lever for steering the training supply (for instance by diversifying outputs from the training system) and a means for making the VET system more responsive to demand.¹⁰ Four dimensions, corresponding to different policy options, can be distinguished:

- (a) conceptualisation of the target components of qualifications and training content (traditional division of academic subjects or a more holistic approach to facilitate transfers – basic knowledge, key qualifications, etc.);
- (b) division of the general and specific aspects of qualifications: dissociation or integration;

(c) choice of longer and more complex training options or division into flexible and modular systems;

(d) relationship between education processes (curricula) and certificates: joint or separate planning, type of standards on which qualification is based (see Chapter 4 on certification).

1.3.3. Teaching and learning processes

Teaching and learning processes are largely determined by the model and the profile of educators, the distribution and nature of learning sites and the extent to which learning takes account of context.

To target steering, priority is given to four dimensions:

- (a) the professionalisation of educators and trainers (see Chapter 5 on VET professionals);
- (b) the division of labour between occupational profiles in the education sector (how to react to the growing complexity of the role of VET professionals, see Chapter 5);
- (c) types, organisation and format of school, non-school and practical simulation environments;
- (d) learning sites or development of learning organisations as alternatives to the school-enterprise dichotomy.¹¹

1.4. Policies going beyond the market-State dichotomy

Some recent practical approaches and reforms (discussed by Lassnigg, 2000) which go beyond the conventional steering mechanisms will now be examined. This description is not intended to be exhaustive, but merely illustrative. It should be noted that the strategies have been selected on the basis of their ability to involve VET professionals in the steering and coordination of systems (see Chapter 5).

(a) Strategy of comprehensive reform of the VET system (Finland, Spain)

This educational policy entails many changes at various levels affecting funding and steering structures, the organisation and level of training pathways, curricula and final examinations, links

¹⁰ See also Chapter 3 of Part 2.

¹¹ See Chapter 4 of Part 2.

with practice, etc. This gives education and training systems a new form, and also reorganises the links between players and different categories of VET professionals. Nevertheless, most of these links are implicit and unplanned, and are mainly a result of initiatives taken by players outside the educational sector.

(b) Complex coordination systems

The apprenticeship system is being rediscovered (many countries are trying to breathe new life into it – Germany, Austria and, to a lesser extent, Denmark, but also in France, the Netherlands and the UK). Its complexity is nevertheless often underestimated. This pathway requires cooperation between different social systems with different institutional cultures and methods. In apprenticeship, institutionalisation goes alongside cooperative coordination mechanisms based on dialogue between the social partners (coordination through association) and the State (legal regulation and hierarchy). Steering also takes place at different levels, e.g. national standards, decentralisation to the regions. The viability of the system depends to large extent on the trust between the players involved.

Another feature of apprenticeship is that it is part of the formal education system, whereas training and selection are organised in enterprise. Key steering decisions are therefore taken by the enterprise using a market-based approach, despite the fact that the practice is rooted in a fairly strict regulatory system controlled jointly by the professional associations and the public authorities.

(c) Introduction of new holistic steering systems in the traditional environment: the Austrian higher vocational education institutes

The reform of the higher vocational education institutes in Austria shows that a steering system that deviates from the traditional organisation of the education sector and that becomes a new training sector may provide an impetus for the system as a whole, giving rise to a new division of labour between the system's players and the emergence of new functions.

(d) Sectoral organisation of steering and VET (Netherlands, Finland, Germany)

Rather than taking place through a piecemeal combination of State steering and parallel market mechanisms, regulation is in the hands of sectoral organisations. These bring together the social partners, professional organisations and represen-

tatives of the State. This type of steering, by developing a sector-specific knowledge base contributes to the improvement of training contents and to the involvement of different players.

(e) Modular education: reforms of education in Spain, Denmark, the United Kingdom and Switzerland

Making training schemes or occupational qualification profiles modular increases the number of options and leads to a new distribution of steering functions. Training therefore becomes more accessible; but this (de)structuring of the system may make it more difficult to implement overall training and steering objectives, as this type of reform requires greater efforts to coordinate its various components. Such reforms provide a special impetus to guidance and counselling.

(f) Competence-based qualifications: NVQs in England and SVQs in Scotland

This system makes it possible to provide the labour market with the best possible signals by focusing on outputs from the education sector. Reformulating qualifications as competences creates a new system of expertise. This is perhaps the road towards a more constructivistic approach to knowledge and learning in comparison with the naturalistic signalling function of the vocational system.

(g) Policies focusing on the transition between the education system and the labour market

The active measures that most Member States have devised to assist young people leaving the education system and entering the labour market are covered by both labour market and educational policies. Efforts have been made recently to coordinate these measures better and therefore to step up cooperation between the various players (e.g. the Ministries of Education and Labour). This interaction is essential if measures are to be made more efficient.

(h) Feedback from anticipation of change and innovation in the employment system: preventive projects and initiatives of the European Social Fund

New methods are currently supplementing traditional research methods of recording and projecting changes in the qualification demand. These new approaches should provide feedback that can

be fed into interactive consultation systems between the various labour market, educational system and government players. In this way, the predominantly quantitatively-oriented research models are embedded in a community of practice, and at the same time systems for generating and exchanging more qualitative knowledge are created.¹²

(i) Efforts to develop the formal knowledge base in educational spheres (Netherlands)

In VET, knowledge is often of a largely informal nature among the various categories of VET professionals. Constructing the knowledge base needed in order to develop alternative steering and coordination models makes it necessary to formalise this knowledge. This has been attempted in the Netherlands with the creation of institutes hosting different functions: research, curriculum development, testing and test development, etc.

(j) Alternative financing strategies (collective funds and training vouchers)

Financing strategies have a major impact on steering and coordination mechanisms. The introduction of market mechanisms into the budget traditionally allocated by the State encourages market strategies. Distributing costs through sectoral training funds is an alternative that requires cooperative interaction and decision-making. Training vouchers tend for their part to lead to quasi-markets.¹³

(k) Strategies to develop lifelong training

These strategies make it necessary to coordinate the various parts of the education system and to create links and bridges. Many countries are starting to introduce strategies of this type (or at least some aspects of them)¹⁴.

1.5. Conclusions

In order to coordinate education/training and employment a link must be created between a fundamentally State-managed education system and an employment system that operates through market mechanisms.

One solution that has been used involves steering via training demand (to ensure that it is coordinated with supply). Quasi-markets are created in which training providers have to some extent to adopt market strategies to respond to demand. Priority is then given to output-based approaches.

This approach is based, however, on a simplistic view of many aspects of labour market supply and demand coordination and makes the dynamics and direction of change subject to consumers' choices. VET professionals are forced to adapt accordingly.

There are alternative steering and coordination mechanisms that go beyond the conventional market/State dichotomy, such as corporatist mechanisms or networks. Choices have to be based on an analysis of existing structures, identifying their main shortcomings and bottlenecks, so that appropriate solutions can be devised.

VET cannot be steered by a purely State-managed structure as it continues to have strong interconnections with the employment system. Nor can it be regulated by the labour market alone (market failures, timescale, etc.). VET steering is complex and requires coordination not just between different players (many of which can be considered as VET professionals)¹⁵ whether individual (pupils, parents, teachers, employers, employees, etc.) or organisational (schools, training providers, enterprise, trade unions, etc.) – but also with higher level organisations (legislative systems, governments, political parties, labour market institutions, etc.).

Development of coordination and steering strategies has to be based on the competences of, and cooperation between, VET professionals who need not just to be coordinated with one another but also to forge links with political structures, enterprises, the social partners, etc. Associations and networks can be used for this purpose.

¹² See Chapter 5 of Part 4 of this report and the reference contribution of Wilson (2000).

¹³ See Chapter 2 'The financing of training' and the reference contribution of Green *et al.* (2000).

¹⁴ See Chapter 1 of Part 2 of this report and the reference contribution of Ní Cheallaigh (2000).

¹⁵ The concept of VET professionals is analysed in Chapter 5.

Systems are steered by targeting policy strategies as a function of the priorities attached to the various options: the distribution of decision-making powers (decentralisation, involvement of the social partners, etc.); the structure of education and curriculum objectives; teaching and learning processes.

In this Part one of the report, following this discussion of the general mechanisms of coordination, various themes that have an impact on the directions taken by VET systems will each be examined in a separate chapter: financing (Chapter 2), reforms undertaken to improve the standing of VET (Chapter 3), the evolution of certification and the validation of non-formal learning (Chapter 4) and changes in the profiles of VET professionals (Chapter 5).

Box 1.2: TSER project 'Education governance and social integration and exclusion in Europe'

The overall objective of this research project is to identify relationships between education governance and social integration and the exclusion of youth in European contexts and to discuss and propose policies on governance that will help to minimise social exclusion and to maximise inclusion. Of special interest are student transitions between different levels or kinds of education, or from education to work or unemployment.

In order to reach this overall objective, the following subsidiary objectives have to be fulfilled:

- to review and analyse current research on education governance and social integration and exclusion among youth;
- to describe and analyse different national/regional systems of education in the context of educational traditions and governance strategies in different European countries;
- to describe and analyse the discourse on education governance in international organisations and the potential impact of this on national discourses;
- to analyse experiences of, and strategies to deal with, new governance structures in education among politicians and administrators as well as teachers and head-teachers in different European countries;
- to analyse national and international statistics on social integration and exclusion related to education;
- to describe and analyse the implications of education governance for the social integration and exclusion of youth;

- to compare different national cases in Europe, with a focus on relations between education governance and social integration and exclusion;
- to inform and discuss results and conclusions of this study with education actors in different contexts.

In this project, it is considered of vital importance to analyse the restructuring of education under different circumstances and to make comparisons between cases in different contexts.

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2. Financing of training

*This chapter analyses and describes current financing models for training in Europe and the ways in which they are changing.*¹⁶

We will attempt to highlight trends in the operation of financing systems and their effect on the efficiency, quality and distribution of the training supply.

Financing mechanisms are analysed for three main categories of training: initial and continuing training and measures for the unemployed. Over and above these categories, two innovations are also examined and critically reviewed: output-related funding and training vouchers.

2.1. Introduction

The picture sketched out here does not include all the European countries. Pragmatic criteria were used to make the selection. The conclusions drawn are based on a detailed analysis of financing systems that is being conducted by Cedefop.¹⁷ The following countries are studied: Austria, Denmark, France, Finland, Netherlands, Sweden,

¹⁶ This chapter is based largely on the paper of A. Green *et al.*, 2000: 'Financing vocational education and training'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol.1 (published 2001).

¹⁷ The 'Financing Portraits' are published by Cedefop (1998e, 1999k, l, m, n, o; 2000b, e) and are available for the following countries: Austria, Denmark, France, Finland, the Netherlands, the United Kingdom, Germany and Spain. Portraits will also be published for Sweden, Belgium, Luxembourg, Italy, Portugal, Greece and Ireland.

United Kingdom, Spain and Germany.¹⁸ Bearing in mind the countries analysed (over-representation of the North and under-representation of the South of Europe), it should not be assumed that the conclusions drawn could be applied to all countries.

It should also be borne in mind that international comparative studies, and in particular aspects connected with financing, raise certain problems, in particular:

- the terminology and categories used vary from one country to another with the result that different targets are studied and data are collected in different ways using differing definitions;
- there are major gaps in the data of all European countries, and few results are available concerning the evaluation of new policies implemented.

For these reasons, we shall be examining the trends apparent in each national context without making direct comparisons.

The context in which financing reforms have taken place also needs to be described. In recent years, the policies implemented have managed to increase participation in training in real terms. This has led in turn to growing pressures on public budgets (which are also required to bear the costs of overall economic change and the ageing of the population), owing to the combined effect of reduced taxation revenue¹⁹ and increased expenditure channelled into social welfare and unemployment benefits.

Although the development of lifelong education is at the core of political discourse, governments do not seem to be in a position to bear additional expenditure (OECD, 1996i; OECD, 1998f).

Political discussions of VET financing are therefore concentrated around three themes:

- (a) how to increase the proportion of private investment;
- (b) how to make VET more efficient and effective;

- (c) how to ensure an equitable distribution of training.

We will examine how some innovations could make it possible to achieve these objectives in the various types of training.

2.2. Initial vocational education and training (IVT)²⁰

Various political considerations and trends have a direct impact on the financing of IVT and the reforms to which it is subject.

A number of general features are typical of the development of IVT systems: political decision-makers have tried to step up participation in post-compulsory education; increasing unemployment among young people means that the stress is being placed on those leaving compulsory education with few qualifications; there has been renewed interest in apprenticeship and alternance in some countries (F, NL, S, UK); compulsory education has been extended, in some cases up to the age of 18.

These developments and their expected social and economic impact have helped to increase government investment (in relative terms at least) in education and training. The resources currently being channelled into education and training seem to be sheltered from any risks of transfer to other areas with a high political priority.

The increase in the real cost of training and the few prospects of budget increases are leading to a search for greater efficiency and effectiveness. Changes in regulation and financing methods are needed.

Box 1.3: Effectiveness and efficiency

In general, the term effectiveness refers to the ability of a person or an organisation to produce a set result. The efficiency of a training programme refers to its cost-effectiveness ratio: the ratio between the results obtained and the resources invested to produce these results.

¹⁸ Green *et al.* (2000) analysed and summarised the 'Financing Portraits' for Denmark, France, Finland, Netherlands, Sweden and the United Kingdom. The portraits of Germany and Spain (Cedefop, 2000b, e) were analysed and included as this chapter was being prepared.

¹⁹ This trend has recently been reversed and taxation revenue is again increasing. It remains to be seen whether the funds collected will be redistributed to VET.

²⁰ Differences between systems and their implications from the point of view of data classification have imposed a number of constraints on this comparison:

- institutional boundaries (for instance, the removal of some aspects of IVT from compulsory education) have had to be imposed;
- a broader and less well-defined comparison category has had to be created;
- comparisons have had to be limited to levels of financing and historic trends within countries rather than between countries.

2.2.1. Decentralisation of financing mechanisms

The most significant change in the organisation of IVT is the tendency to decentralise its control and financing. This aim of this process is to extend the IVT investment base, to make IVT more responsive to demand, to make suppliers more aware of cost issues and lastly to transfer decision-making to those players who are most aware of local circumstances.

Decentralisation scenarios have taken three non-exclusive forms:

- (a) the devolution of powers to the regions and the local level;
- (b) the delegation of aspects of decision-making powers and responsibility (horizontally and vertically) to various social partners;
- (c) the delegation of responsibility to training institutions themselves.

Decentralisation and greater institutional autonomy often go hand in hand with more detailed methods of unit cost calculation and the development of a consumer/training provider relationship. The aim of all such measures is to make expenditure more transparent and improve its accounting methods. A further aim is to reward the efficiency and quality of training providers.

The countries examined in this chapter can be grouped as follows from the point of view of their institutional and financing structure.

(a) Centralised systems with some devolution of power to the regions and social partners (France and Austria)

Central government continues to play a predominant role, largely because it is directly responsible for teachers' pay. Decentralisation is often used to enhance the powers of regions over taxation and the distribution of funds. The social partners are encouraged to play a part in apprenticeship programmes.

(b) Decentralised systems of social partnership (Denmark, Finland, Sweden, Germany and – as regards VET at school - Spain)

Decentralisation is carried out by transferring decision-making powers over financing to the local authorities. The aim is to encourage rational economic approaches and cost evaluation, to

reduce the volume of the central budget and to make the training supply more accessible by bringing it closer to its target audiences.²¹

(c) Market systems (United Kingdom and, to a lesser extent, the Netherlands)

Administrative and financial control is delegated to training providers. Centralised control is, however, retained over strategic issues such as setting of standards, qualification systems and overall resource distribution.

2.2.2. Sources of financing

These include, in general, taxation collected at national, regional and local level, levies collected from employers, European funds and registration fees paid by individuals. Although the public authority contribution is by far the largest, the contribution from employers may be substantial when training takes place at the workplace (D, DK, F, UK, A). The European Union contribution varies depending on eligibility for special funds (for instance, European Social Fund subsidies for countries or regions facing difficulties).

2.2.3. Resource distribution mechanisms

Table 1.1 reviews the mechanisms by which resources are distributed to training institutions (schools and measures for young people), presents their main features and provides an evaluation.

With the exception of the input-related – and most conventional and widespread – model, all financing models represent attempts, with varying degrees of success, to use financing mechanisms to regulate provision and to achieve a high level of efficiency, effectiveness, quality and equity. Two innovations in the financing of training – output-based funding and training vouchers – will be discussed at the end of this chapter.

Despite some innovations, IVT financing continues to be largely input-related. In an attempt to reduce costs, however, criteria are being refined and more complex allocation methods are being applied.

²¹ In Spain, the decentralisation law made seven of the Autonomous Communities responsible for education and its financing (special privilege and Article 151); central government retained responsibility and continued to provide financing for the ten other Autonomous Communities (Article 143).

Table 1.1: Main financing models for school training and measures for young people		
Type	Characteristics	Evaluation
Input-related funding	<p>National formulae based on the number of participants in relation to the cost of courses. Form of lump-sum funding.</p> <p>Teachers' pay (normally accounting for 80% of financing) is not at the discretion of institutions.</p> <p>The proportion of financing actually delegated is fairly small.</p> <p>This is currently the most widespread model in the countries compared.</p>	<p>The development of more 'sensitive' input-based models, rather than financing based on previous years, is intended to make providers more attentive to costs and to promote rational economic approaches at local level.</p> <p>These models tend to maximise recruitment rather than quality, particularly when some providers have a monopoly.</p>
Mixed input- and output-related funding models ^(a)	<p>The whole budget is officially delegated to the institution.</p> <p>The funding of institutions is based on a set of input and output criteria (in the case of further education colleges in the UK: number of students, course fees, services offered – guidance, etc. – student retention and course results).</p> <p>This model is being studied in several countries but has not as yet been applied on a large scale (it is to be introduced in 2000 in the ROCs (Regional Training Centres) in the Netherlands).</p>	<p>In mixed models, funding allocations depend to some extent on quality criteria (such as the provision of initial guidance or retention) and course results.</p> <p>In the case of the British experiment, this type of funding was initially interpreted as an input model which led to an increase in recruitment with the issue of quality emerging only some years later.</p> <p>The success of the model seems to depend on the balance between input and output criteria.</p>
Contract models	<p>While this is also an input/output model, it has substantially more output elements than the mixed model.</p> <p>It involves the negotiation of performance contracts.</p> <p>Used in the United Kingdom for the 'Youth Training' schemes, it was also tried out in the United States at the end of the 1980s and beginning of the 1990s.</p>	<p>The main objective is to reduce funding costs through student performance.</p> <p>The experiments that have taken place show that models that are geared more towards outputs have pernicious effects (for instance creaming off of students and fraudulent activities on the part of training providers)</p>
Training voucher models	<p>Students are offered training vouchers which they can use to 'buy' education and training.</p> <p>By transforming the recipient into a purchaser/consumer, the aim is to increase individual commitment.</p> <p>The real value of the training voucher is nominal as institutions are paid on the basis of the cost of their various programmes.</p> <p>Tried out in the 'Youth Training' schemes of the early 1990s.</p>	<p>Research into the pilot Training Credit projects in the United Kingdom shows that training vouchers do not encourage students to become more involved in their educational choices and do not increase the training demand.</p> <p>Training vouchers are again on the agenda of the new labour government in the form of 'Individual learning accounts', this time for adults.</p>

(a) Output-related funding methods and training vouchers are discussed in further detail in Section 2.5.

Source: Green *et al.*, 2000.

2.2.4. Financing of apprenticeship

Apprenticeship is subject to different rules as employers play a major role in it. The general picture seems to be that the State takes full (or almost full) responsibility for the school components of this kind of training and employers take responsibility for all (or almost all) of the practical components.

Employers may finance apprenticeship directly or through collective funds (DK, F and D to a lesser extent: sectoral funds, cooperative training).

A distinction can be drawn between two kinds of system, depending on the relative weight of the contributions made by the State and employers: either the majority of funds come from the State (Finland, Netherlands and Sweden) or employers contribute a higher proportion (Austria, France, Germany and Denmark). There is, however, no standard financing system. Each model depends on political structures, labour market traditions and the specific ways in which apprenticeship has evolved in each country in comparison with IVT.

2.2.5 Future trends

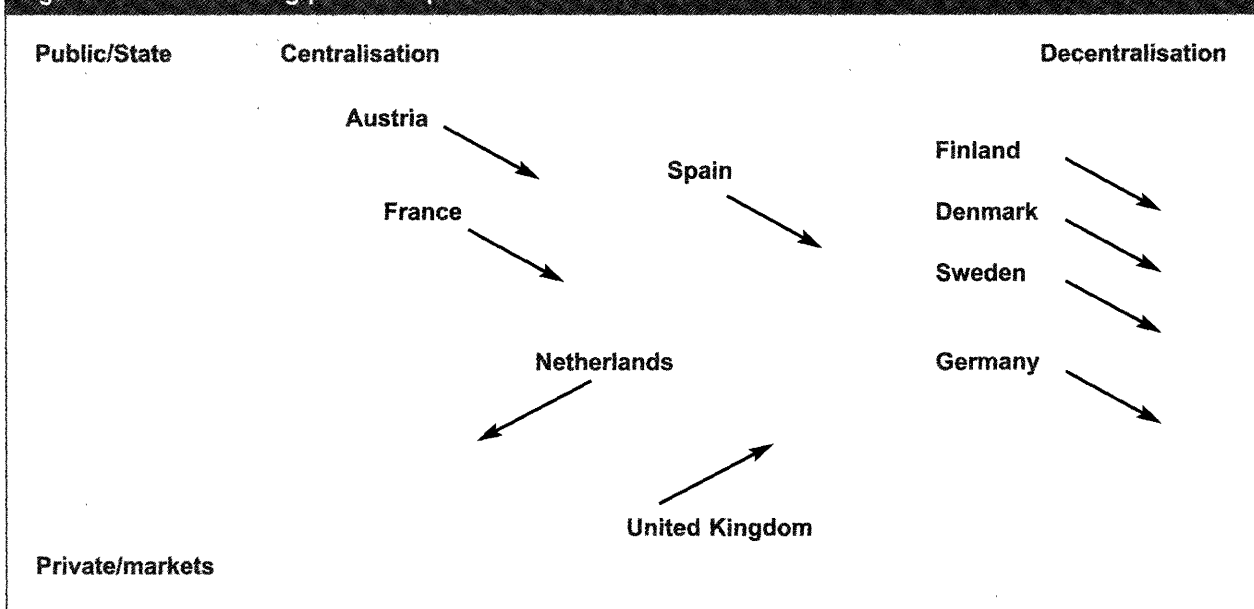
There seem to be few indications of a significant growth in participation in the 16-19 age-group, since participation is already very high (except perhaps in the United Kingdom and Spain where participation is substantially lower in this age-group); the cost of IVT should therefore level out.

Increases in other types of public expenditure mean, however, that budgets are likely to be even tighter. The tendency is thus to look for efficiency (containing or reducing costs) and effectiveness (improving results). This may well be reflected by the following reforms (based on the models currently in place in the countries studied):

- France and Austria: increased public decentralisation;
- Spain: continuing decentralisation to the Autonomous Communities which do not as yet have powers over education or its funding;
- Denmark, Germany, Finland and Sweden: greater decentralisation through increased institutional autonomy; in Germany, collective and in particular cooperative funds are likely to increase in importance;
- United Kingdom: trend towards regionalisation with renewed interest in public planning;
- The Netherlands: increased decentralisation and a liberal orientation, with priority attached to steering by output-related funding.

Figure 1.3 gives a simplified overview of the current position and likely future trends in the various countries examined. Readers should bear in mind, however, that this is no more than an outline and that conflicting developments can sometimes be found within individual countries.

Figure 1.3: IVT financing policies – position and trends



Source: Green et al., 2000.

2.3. Financing of continuing vocational training (CVT)²²

Introducing lifelong education policies tends to enhance the role of CVT. In all the countries examined, the volume of funding channelled into CVT has increased and it would seem that this trend is set to continue (Table 1.2). It would also seem that individual investment in training was more substantial during the 1990s (although the data do not make it possible to obtain a clear and consistent picture).

This raises a number of questions: how can government resources be distributed? how can efficiency be improved? and most importantly, how can further private investment, especially by enterprises, but also by individuals, be generated?

CVT is currently a mix of training activities including:

- training schemes offered by public education and training establishments which are largely funded by the national, regional and local authorities, although employers and individuals may make a contribution to direct and indirect costs;

- training schemes offered by private education and training establishments (including non-profit-making associations and non-governmental organisations – A, S) whose direct and indirect costs are borne by enterprises and individuals, although government funds may in some cases be used by individuals or enterprises to finance training;

- in-company education and training paid for by employers who bear the majority of direct and indirect costs; occasionally, the national, regional and local authorities may grant subsidies and individuals may (directly and/or indirectly) contribute to costs.

2.3.1. Sources and mechanisms of financing²³

CVT has six potential sources of financing:

- the European Union;
- taxes levied nationally;
- taxes levied regionally or locally;
- private enterprises;
- training funds into which levies are channelled (under social partnership agreements);
- individuals.

²² The definition of continuing vocational training used here is broad and covers all training for workers (excluding IVT). It therefore covers VET at or outside the workplace and long-term education for adults, with the exception of education taking place solely in a higher education institution. Using this definition raises a whole set of method problems that limit the scope of comparative studies of financing in countries at a general level.

²³ An analysis by Elson-Rogers & Westphalen (2000) has made it possible to include various other countries in this section.

Table 1.2: Changes in CVT financing levels

Country	Period (1 st year = baseline 100)	Comparative financing level (1996-97)		
		Public expenditure	Enterprise expenditure	Individual/household expenditure
Austria	1986-97	188	-	-
Denmark	1985-96	263	162	-
England	1986/7-96/7	261	-	-
France	1987-96	174	187	206
Finland ^(a)	1986-96	-	143	700
Spain ^(b)	1995-96	-	142	-
Netherlands	1986-96	-	161	110

^(a) Unlike other countries, Finland indexed all pre-1996 data to 1996 level.

^(b) Financing amounts based on the training levies collected from employers and employees, not including EU contributions.

Source: Elson-Rogers & Westphalen, 2000.

At present, the direct costs of CVT are largely borne by companies. As a result of growing pressure on public finances, public authorities are keen for companies to continue to invest in training, even increase their investment. They would also like more people to pay for training from their own funds (OECD, 1998f).

According to Green *et al.* (2000), the financing mechanism used depends on the regulation system to which priority is given: State-managed regulation; social partnership regulation; or demand-led market regulation.

These three mechanisms form a continuum. All three are to be found in the countries examined, although the way in which the financing of training is used to steer the training system means that priority tends to be given to one or another.

2.3.1.1. State-managed regulation

National legislation and planning methods are used to regulate supply and financing. All the Member States use this mechanism to guarantee that certain population groups have access to CVT, thus ensuring that training is distributed in a socially acceptable way.

This type of regulation has three main advantages:

- (a) simpler planning of national training and skill needs;
- (b) major centralised control of the quality of the supply;
- (c) strategic supervision of the distribution of the supply.

These three advantages make it possible to ensure that training opportunities are distributed in the best possible way.

However, this type of regulation has certain drawbacks: lack of flexibility – and therefore of the ability to react to demand and individual needs – and substantial dead weight effects.

2.3.1.2. Social partnership regulation

Sectoral agreements between social partners are used to regulate the training demand. In some countries, a proportion of enterprise investment is obtained by collecting levies or through collective agreements. The funds collected may be absorbed

into public expenditure or administered separately by the social partners. In some cases this system is not that different to the previous system, as it is sometimes the State that initiates or formalises funding by the social partners (F, DK). In some countries, this mechanism is limited to a few sectors (IRL, NL, D, UK to a limited extent).

The main advantage of this kind of system is that it tends to offset market failures which may discourage individuals and enterprises from investing in training. This system makes it possible to create strong and transparent links between recruitment, promotion, pay and training; these links in turn stimulate demand. Theoretically it fosters a better distribution of training supply, including sectors in recession, by taking in contributions from both sides and creating collective funds. It also enables training to be planned (as in France where training plans have to be drawn up before subsidies are awarded).

This system is not popular, however, among employers. In France, it is felt to be too bureaucratic. It is also felt to work against SMEs and to generate training which is not of very good quality; training policy is felt to be reduced to a sum of money to be spent rather than based on an analysis of needs.

In France, for instance, this system has however encouraged companies to make a substantial investment in training. This investment is at present higher than the percentage represented by the levy. Making training funds collective is also leading to greater investment in the Netherlands and Denmark.

2.3.1.3. Regulation by demand

This system is based on the voluntary action of enterprises and individuals. It may be supported by passive measures, for instance the abolition of taxes, and by active measures: training leave (e.g. F, E, D, DK), grants, training vouchers (e.g. B), individual learning accounts (UK).²⁴

Active measures may be financed by national, regional and/or local authorities and/or by the social partners (including companies).

²⁴ Initiatives in various Member States involving the distribution of training vouchers or the creation of individual learning accounts are discussed in section 2.5.2. of this chapter.

Regulation by demand has four potential advantages:

- (a) it satisfies the direct needs of employers and workers as they arise;
- (b) it does not generate a dead weight effect;
- (c) it is more flexible;
- (d) and, as a result of the three above advantages, it is potentially more effective.

The adverse effects of regulation by demand cannot, however, be disregarded. This system, which is based entirely on individuals and employers, does little to safeguard national interests from the point of view of skill development and competitiveness, or the creation and support of socially desirable training initiatives (which cannot now be provided by IVT alone). Individuals generally tend to under-invest in CVT, since they find it difficult to perceive its value and usefulness, and may have problems financing it. Employers have similar problems: it is difficult for them to define what skills are needed and they are afraid that they might not benefit from training (for instance, when workers have to be laid off or are poached from the company). Moreover, demand for training cannot be planned, it is subject to the fluctuations of the economy and cannot ensure quality and equity. This mechanism forces VET professionals to adapt their practices and use market strategies.

Nevertheless, regulation by demand, which is being viewed with increasing interest by European countries, seems to be the factor most likely to stimulate private investment in CVT. The drawbacks of this kind of regulation, as discussed above, would indicate that regulation by the social partners using contribution funds is the better option. However, allocating public funds to enterprises and individuals (active measures, such as the distribution of training vouchers) may make it possible to offset some of the shortcomings of regulation by demand.

2.3.2. Distribution of resources to providers, employers and individuals

The way in which resources are distributed obviously depends on the source of financing of CVT and the existence of agreements between social partners.

2.3.2.1. Distribution to providers

There are three main mechanisms:

- (a) direct lump-sum funding paid on the basis of historical data (e.g. S);

- (b) unit allocation based on the number of equivalent full-time students (e.g. DK, FIN);
- (c) unit allocation on the basis of the number of equivalent full-time students and including performance criteria (e.g. UK).²⁵

2.3.2.2. Distribution to employers

Distribution takes three main forms, the first two of which can be used in countries where regulation is achieved through agreements between the social partners:

- (a) distribution of collective funds on the basis of the number of training days allocated to each worker;
- (b) distribution of collective funds in accordance with a training plan;
- (c) targeted State subsidy, tax exemptions and other concessions.

2.3.2.3. Distribution to individuals

Individual funding may take two forms:

- (a) targeted allocation in the form of tax concessions, loans on demand and/or expenses;
- (b) allocation of a flat-rate amount (individual learning accounts) or training vouchers to be used to pay for training schemes (experiments are being planned in UK, F, A, US, B and S).²⁶

2.3.3. Prospects

The growth in the volume and coverage of CVT and the introduction of lifelong learning will make it necessary to increase private investment.

Mechanisms will therefore need to be introduced to ensure that training opportunities and resources are distributed equitably among enterprises (especially SMEs), sectors and individuals, while ensuring output-related financing and competition between providers.

2.4. Financing of VET for the unemployed

VET schemes for the unemployed are intended to improve their qualification levels or specific skills so that they can be brought back into the labour market.²⁷ The target groups for this kind

²⁵ See the discussion of output-related funding in section 2.5.1.

²⁶ See the discussion of training vouchers in section 2.5.2.

²⁷ For a discussion of active measures for the unemployed that take account of the lack or deterioration of skills, see the reference contribution of Bollens (2000) and Chapter 3.1 of Part 4 of this report.

of training vary in different countries. The following active measures will be examined here: training programmes, training and measures to help people acquire experience on-the-job, job creation (including special employment contracts) and other methods of support (guidance, assessment, etc.).

In the 1990s, passive measures (payment of unemployment benefit) were supplemented by active measures. This change obviously had an impact on resource distribution. Targeted programmes, including various training models, were set up in most countries. There was a growing awareness that needs were wide-ranging (for instance: UK – New Deal, F – TRACE, DK). The success of these programmes depended nevertheless on greater investment.

Four distinct aspects of the financing of training for the unemployed can be discerned: its level, its sources, its structure and its distribution.

(a) There is a relationship, in some cases indirect, between unemployment rate changes and the level of funding (Figure 1.4). Other factors may also have an effect on expenditure. Falling unemployment may in some cases make it necessary to increase training efforts for people remaining unemployed (DK). The level of funding for this type of scheme seems to depend largely on the extent to which the public authorities wish to combat unemployment (and therefore social exclusion, as in France and Finland). EU action may also determine funding levels (E). The proportion of VET expenditure earmarked for the unemployed has generally increased (Table 1.3).

(b) Everyone agrees that training for the unemployed must be financed chiefly from public funds. The various possible sources are: national or regional taxes, unemployment insurance funds, contributions from private enterprises and households, contributions from the social partners and other public authorities and EU subsidies.

In Denmark and France, the private sector plays an indirect role in financing by remunerating the services provided by unemployed people placed in enterprise. In Finland, 50% of the cost of some training programmes is borne by the private sector (6% of the budget channelled into training for the unemployed in 1996). In Spain, the training levy collected from enterprises and workers finances a proportion of training for the unemployed; the remainder is generally covered by the European Social Fund.

(c) Various reforms have been introduced in relation to the structure of funding in order to make it more efficient. They may be grouped into three main categories:

- decentralisation to regional institutions and employment agencies (DK, NL, FIN, S, E) in order to distribute tasks better between the national and regional levels and the social partners;
- more substantial government intervention as part of enhanced concertation with the regional and local levels;
- tendency to privatise services – but not financing (DK, FIN, NL, S), since stronger competition is assumed to increase efficiency and quality.

Even though bargaining is now more intensive and more responsibilities are being delegated to the regional institutions and the social partners, central governments seem to be keeping the organisation of training for the unemployed among their prerogatives. The allocation of funds is often linked to performance-based objectives. Measuring performance solely against results may, however, bring about the pernicious effects connected with the application of output-related funding²⁸ that run counter to the objectives of this kind of training.

2.5. Financing mechanisms for training - innovations

Changes in the criteria by which funds for education and training are allocated are all intended to provide greater objectivity. States are gradually moving away from the provision of services and toward the consumption of services, a trend which is encouraging them to rationalise their expenditure (new and more accurate formulae for calculating inputs, performance criteria, funding by demand; see Table 1.1). Two innovations characteristic of these new trends are examined below.

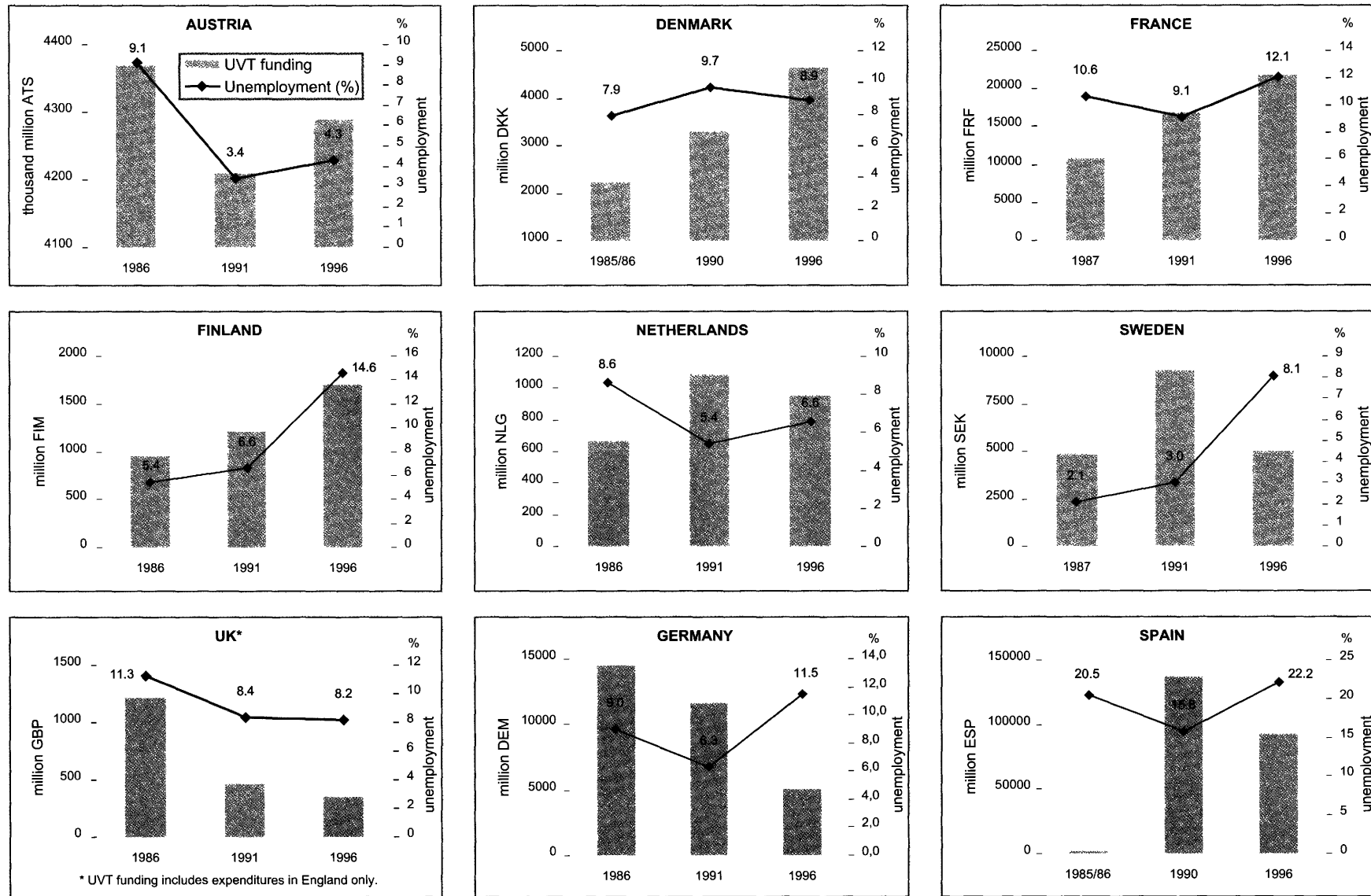
2.5.1. Output-related funding²⁹

Output-related funding makes the payment of all or part of the resources allocated to institutions subject to the achievement of certain performance

²⁸ See section 2.5.1 of this chapter.

²⁹ This analysis of output-related funding draws to some extent on Felstead (1998).

Figure 1.4: Unemployment rates and funding of training for the unemployed (UVT), constant prices 1985



NB: Spain: no ESF intervention in 1985; Germany: 1986 without the new *Länder*; Denmark: total expenditure 1986 is for 1985.

Source: Green *et al.*, 2000.

Table 1.3 Percentage of total VET expenditure allocated to training for the unemployed

	1986-87	1991	1996-97
Austria	9.1	9.1	9.8
Denmark	17.8	24.3	22.8
Finland	11.7	11.1	16.0
France	9.8	11.4	12.9
Netherlands	7.3	10.2	8.3
Sweden			9.4
United Kingdom	38.7	21.1	16.3

NB: The figures for Denmark refer to 1985, 1990 and 1996 respectively.

The figures for the United Kingdom are based on recurrent public expenditure on VET in England only.

Source: Green *et al.*, 2000.

criteria, rather than input criteria (i.e. registration/participation, length/nature of the programme). In some cases, funding depends on a combination of input and output criteria.

The introduction of this type of mechanism has several potential advantages for policy-makers:

- a more flexible supply from training providers who can formulate and adapt programmes to meet objectives;
- improved performance;
- better use of resources, since training providers need to show a degree of commitment;
- simpler administration and clearer accounting criteria.

Output-related funding has a number of advantages from the point of view of efficiency, since it encourages providers to improve some aspects of their training policy and the way in which they use their revenue. Policy-makers can also use output-related funding as a steering mechanism to achieve certain key objectives.

From an operational point of view, introducing output-related funding makes it necessary to find a fair balance between input and output criteria so as to achieve the highest possible efficiency of training schemes, while reducing costs.

Care also needs to be taken in defining not just which results are being sought but also how they are to be measured. There are three possible solutions:

- measurement in absolute terms (by assessing the results achieved by the institution irrespective of the initial competence of participants);
- measurement in relative terms (by linking funding to an improvement in the provider's performance);
- measurement by added value (by comparing participants' results with their level on entry into the programme).

While the third kind of measurement is more likely to minimise the negative effects of output-related funding, it also leads to the greatest increases in transaction and follow-up costs.

Despite its obvious advantages in terms of steering and efficiency, output-related funding has potentially pernicious effects that need to be taken into account: creaming off of participants; distortion of supply towards programmes with a high success rate; simplification of content; increased audit and follow-up costs; lowering of assessment standards to increase success rates; concentration on short-term results; and an impoverishment of the possible ways of developing human resources.

Box 1.4: Creaming off

Creaming off refers to the selection, on entry into training, of those candidates most likely to achieve objectives. To boost their own performance, training programmes prefer to address themselves to high achievers (in terms of learning capacity or labour market success).

Experiments in the United Kingdom and the United States, reported by Felstead (1998), show that the potential adverse effects of output-related funding should not be underestimated:

- creaming off is undoubtedly a problem of output-related funding;
- in the absence of corrective measures, long-term and/or expensive programmes tend gradually to be abandoned in favour of short-term and/or inexpensive programmes;
- the financial equilibrium of some providers is threatened and the market access of new

providers becomes more difficult, thereby reducing the supply and therefore competition;

- policy-makers have to make a choice between complex but equitable measurements and simpler measurements that are less appropriate but easier to administer;
- some fraudulent practices have been reported;
- additional transaction costs have also been reported: follow-up, recording and reporting on results (Felstead, 1998; Green and Mace, 1994; Kath, 1998).

Moreover, as output-related funding is rarely used as the sole method of regulating financing, it is therefore difficult to assess its impact in isolation.

The evaluation of such financing models shows that they run counter to the objectives of equity and quality and that they shift a proportion of the cost of training away from initial investment into the follow-up of results.

It seems, however, that output-related funding may have beneficial effects in terms of quality and efficiency and that distortions can be prevented if certain conditions are met (e.g. using output-related funding appropriately to supplement other financing mechanisms, with output criteria that allow for a full range of learning objectives, defined as genuinely measurable indicators). Nevertheless, there is no denying that an increasing proportion of administrative costs tends to be swallowed up by audit and follow-up. Increased efficiency goes together with an increase in transaction costs.

2.5.2. Training vouchers³⁰

Training vouchers are an innovation as they make it possible to finance the demand for, rather than the supply of, training. Large-scale use of this type of mechanism would completely change the methods by which education and training is financed today.

Training vouchers are allocated to recipients who can redeem them in the education or training establishment of their choice. Purchasing power is therefore transferred to the individual without a transfer of actual money (at least in the case of the conventional voucher³¹). When their value is

other than financial (for instance when they are made out in training hours) they are known as 'quasi-training vouchers'.

The basic principles governing the introduction of State-funded training vouchers are as follows (West, 1996):

- they offer individuals (rather than training providers) an incentive to undertake training and promote consumer choice;
- they help with personal development. Individuals choose their own training routes which may well help to improve their motivation;
- they stimulate the demand for training and for better quality, as individuals are aware of the value of their investment;
- they make up for market failure, for instance by compensating any handicaps on the part of SMEs or by satisfying skill needs in some fields;
- they help to combat social inequality, for instance by linking the award – and the value – of the voucher to income levels;
- they promote competition between providers and the matching of courses to participants' needs;
- they improve access to private services.

Training vouchers also make financing more transparent. This is felt to make the system more efficient, to improve quality, to generate greater interest and to promote equity.

Awarding training vouchers that cover a proportion of training costs, with the remaining amount being paid by the enterprise or the individual, encourages cofunding and therefore stimulates private investment.

Training vouchers may also be funded directly by private enterprises. In such cases, they no longer function as demand-led market regulation mechanisms but are intended to involve workers more closely in their own training.

As part of a policy of lifelong learning, it could be envisaged to use vouchers to finance the training of individuals up to a certain level of education (Osterbeek, 1998; Hans Böckler Foundation Committee of Education Experts). In addition to all the principles discussed above, vouchers should then in theory allow wider access to training; help to offset income and educational inequalities; distribute individual training capital throughout life; and ensure uniform treatment of all post-compulsory education.

³⁰ This section is based on West *et al.* (2000).

³¹ The Individual Learning Accounts recently introduced in the UK represent a genuine transfer of money from the State to the individual.

Achieving the objectives targeted by training vouchers nevertheless depends on the parameters attached to them (target group, currency, format, etc.).

If they are to meet criteria of equity, efficiency and effectiveness, vouchers have to be accompanied by the provision of information, counselling and guidance so that people can make informed choices. The training market also has to be regulated so that the variety of supply is guaranteed; furthermore, consumers and their choices need to be monitored. If they are to be efficient, training vouchers require a highly flexible system (organised, for instance, as training modules). There needs to be some consistency not just between modules but also between the guidance service supply, so that individuals can design an appropriate training route.

Training vouchers are generally felt to have the following drawbacks:

- dead weight effect;
- high administrative costs;
- they may exacerbate social inequalities (vouchers that have to be topped up from personal funds may be of more use to people on medium to high incomes);
- the supply is in some cases inadequate, which may in practice limit choices (for instance, in regions with low population densities);
- they may pose a threat to the budgetary stability and planning ability of some providers.

Training vouchers have been allocated in some European countries (UK, F, A, B) and in the United States. West *et al.* (2000) note that training vouchers or similar systems are very flexible mechanisms that can meet a whole range of economic as well as social and political objectives.

2.6. Conclusions

As the development of lifelong learning continues, pressure will be exerted on the public finances of many industrialised countries. The issue is now one of containing budgets, encouraging private investment, and stepping up efficiency and effectiveness while ensuring equity and quality.

- IVT (with the exception of apprenticeship) is predominantly funded by the State. Its budget is continuing to grow in real terms in many countries, although examples of unit cost reductions are also to be found.

- The potential expansion of CVT is unlimited. This raises concerns about the ability of States to control cost increases. CVT expenditure has increased in most countries (with levels remaining stable only in Austria). It is therefore necessary to find methods by which investment by private enterprise and individuals can be encouraged.

- The budget channelled into training for the unemployed has so far developed in parallel with the unemployment rate. However, with the exception of the United Kingdom, it is still rising everywhere, even when unemployment is levelling off or falling. This type of VET is funded chiefly by the State.

To contain the costs of VET, States are trying to implement various measures to make it more efficient, such as the decentralisation of regulation and financing and the introduction of new mechanisms for distributing resources, based on more accurate measurements of both inputs and outputs. In some cases, these measures are accompanied by greater autonomy for training institutions as well as greater competition between providers.

The current trend towards decentralisation seems set to continue. However, this development could well be accompanied by a strengthening of State prerogatives in strategic areas such as the setting of standards.

As innovations in the financing of training are still limited in extent and the data available are very incomplete, it is at present difficult to carry out a genuine evaluation of their effectiveness and impact. The results available show that radical policy choices (output-related funding) have adverse effects that run counter to equity and quality. It is also too early to assess the efficiency of training vouchers, which are at present being used only on a small scale.

More precise national and international data and more systematic research into the effects of these new funding mechanisms would allow for better monitoring of VET expenditure and would also make it possible to evaluate innovations and institutional reforms.

The quest for efficiency and effectiveness also has to be underpinned by more reliable measurements of the cost-benefit ratio of training.

Financing mechanisms for training are also being used to steer VET systems. Decisions taken in this area therefore have repercussions that may have an impact on the development of VET.

Policy implications

Decentralisation can take two forms. First, an administrative form where powers and some financing are delegated to more local levels of the public administration (regions, municipalities) in order to step up local financial contributions and improve responsiveness to local situations. Second, a market form, designed to increase competition between providers and develop a relationship between training recipients and providers. Would a combination of these two approaches lead to greater efficiency, responsiveness, quality and equity?

As discussed above, the need to find private investors in CVT means that countries are tending to focus on market types of regulation, based on demand, in order to determine the supply and financing of training. So that VET is not completely steered by market forces (and therefore to avoid undesirable social effects), States need to study the possibilities of strategic action in fields such as minimum standards, inspections and audits, controlling social inequalities and long-term planning of skill needs. Alternative steering mechanisms (see Chapter 1) need to be introduced, involving e.g. associations. This is also the case with training fund administration.

The analysis of systems shows that financing mechanisms also play a part in steering and regulation. Objectives should not, however, be confused. Output-related funding, which tries to combine equity and profitability, may be failing on both counts. Even if this is an extreme example, this reasoning applies to all areas of financing. The issue is therefore to strike the right balance between cost management and system regulation; to give priority to one or the other depending on need; and to monitor the effects of both these parameters.

Box 1.5: TSER project 'Public funding and private returns to education (PURE)'

The objective of this project is to study the impact of different systems of public financial support for school attendance on observed outcomes in the labour market, particularly in terms of the levels and dispersion of private returns to education and education-related inequality in earnings.

The project divides into four closely related issues as follows:

- (a) analysis and comparison of wage and human capital structures and private returns to education between countries and within countries over time;
- (b) analysis of the impact of country-specific trends in educational returns and of changes over time in underlying market forces;
- (c) analysis of the structure and evolution of the national systems of education, admission rules and systems of financial support for school attendance to be used as an input;
- (d) analysis of the effects of differing systems of public support for the cost of education to individuals and admission rules on the private returns to education and on earnings inequality related to differences in educational attainment.

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3. Standing of VET in comparison with general education³²

The attractiveness of vocational training depends to a large extent on its social standing and the opportunities that it offers on the labour market in terms of employment, pay, career prospects and actual jobs.³³

This chapter will describe the reforms and strategies that are being used to improve VET's standing in comparison with general education and on the labour market. It will also examine the meas-

³² This Part one is based on the paper of J. Lasonen and S. Manning, 2000: 'How to improve the standing of vocational compared to general education: A collaborative investigation of strategies and qualifications across Europe' Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EURO-OP, Vol. 1. (published 2001).

³³ Tessaring (1998b, pp. 18-19) describes, for three countries (D, F, UK), the reasons for and consequences of the lack of equal standing of VET and general education.

ures taken to improve – directly or indirectly – the quality of VET. The chapter will end by briefly reviewing the results of these reforms.

3.1. Introduction

In most European countries vocational and general education pathways are separate. Students who opt for vocational pathways generally fare less well in terms of employment, income, social standing and access to higher education.

Rehabilitating VET with respect to academic education and on the labour market is nowadays a growing concern in Europe. There are a number of reasons for this.

- There have been efforts to ensure high standards of general and vocational education in order to pave the way for a highly technological and democratic society.
- The introduction of concepts such as key skills, transferable competences, action-based learning, workplace knowledge, etc., is leading to changes in the quality of VET and new standards for general education.³⁴
- The need for a highly skilled labour force, coupled with negative demographic growth, are making the reform of education systems imperative. Improving the quality and content of VET seems to be a necessary step in this direction.
- The relative labour market advantage that people with general education qualifications have over those with vocational qualifications means that students tend to be less interested in VET and more interested in general education.
- Educational development since the 1960s has increased numbers in upper secondary education, thereby highlighting VET's shortcomings.

While the trends listed above are general, the forms that they take vary depending on the history and institutions of each country.

VET's standing differs in different countries. An examination of education and training systems, their organisation and their attendance levels (Table 1.4), and of the relationships that they have with the labour market (Table 1.5), goes some way towards explaining the relative differences in VET's standing in different countries.

³⁴ For a more detailed examination of these new concepts and their impact on vocational teaching methods, reference should be made to Chapter 2 of Part 2 of this report.

The breakdown of participation in upper secondary education between VET and general education highlights three groups of countries:

- those where general education predominates (participation over 50% – Ireland, Portugal, Spain, Greece, Estonia, United Kingdom);
- those where VET participation is lower than (or equal to) the European average, but where it nevertheless overshadows participation in general education (Sweden, Finland, France, Denmark, Norway);
- those where VET participation is higher than the European average (Austria, Hungary, Germany, the Netherlands, Belgium).

In overall terms, it seems that VET's standing is better in countries where it is highly developed than in countries where it is less or not developed.

The classification set out in Table 1.5 follows a normative approach, based on the general features of

Table 1.4: Breakdown of students between vocational and general education in upper secondary education in European countries, 1995-96, %

Country	Vocational education	General education
Ireland	25	75
Estonia	26	74
Portugal	29	71
United Kingdom	31	69
Spain	39	61
Greece	47	53
Sweden	52	48
Finland	52	48
France	54	46
Denmark	57	43
Norway	58	42
Belgium	61	39
Netherlands	70	30
Germany	72	28
Hungary	73	27
Austria	81	19
EU-15	58	42

Sources: European Commission, Eurostat, Cedefop, 1999, p. 35; European Training Foundation, 1998a.

Table 1.5: Links between the education system and the labour market: typology		
Type	Country	Features
Close links between the education system and the labour market	Austria, Czech Republic, Denmark, Germany, Netherlands, Hungary	<p>Differentiated education system with links with the workplace (especially placement schemes, apprenticeship).</p> <p>Qualification structure of direct importance for entry into the labour market.</p> <p>VET is a prerequisite for entry into skilled occupations (laws and regulations).</p> <p>Employers consider that certification offers a direct indication of skills and expertise acquired.</p>
Limited links between the education system and the labour market	Australia, Japan, Canada, United States ^(a)	<p>Education mainly school-based, wide-ranging vocational education, specific training usually given at workplace (after leaving education).</p> <p>Flexible match between qualifications and occupations or employment. No direct relationship between training specialisation and job occupied.</p> <p>For employers, qualifications offer indirect information about candidates' abilities rather than a proof of skills and expertise.</p> <p>Vocational certificates therefore tend to have less standing than general certificates.</p>
Variable links between the education system and the labour market	England, Estonia, Finland, France, Greece, Norway, Portugal, Scotland, Spain, Sweden	<p>Good match between qualifications and occupations confined to apprenticeship or specialist VET.</p> <p>Hazy match for full-time training.</p> <p>Problems of transition between the education system and labour market due to the variety of VET institutions, courses and certificates.</p> <p>Need for a coherent education and qualification framework for all sectors.</p>

Sources: Lasonen & Manning, 2000; Hannan et al., 2000; (a) Durand-Drouhin, 1999.

systems rather than on empirical results.³⁵ The reforms that have been introduced to improve the standing of VET, which will be examined below, are not therefore taken into account here. This classification merely aims to identify relationships between education systems and the labour market. Its purpose is to help to understand the differences in the image of VET. This classification makes it possible to define the main problems and to apprehend the scope of the corrective measures that have been introduced.

3.2. Method

In order to carry out a comparative analysis of the ways in which the issue of VET's standing are being tackled in the European countries, Lasonen & Manning (op. cit.) examined a number of aspects. Three analysis levels were used:

- (a) courses and curriculum;
- (b) education system;
- (c) labour market.

Criteria relating to standing and their context were studied for each of these analysis levels (Table 1.6).

Several studies were selected for secondary analysis. Their respective results will be reviewed before drawing general conclusions:

³⁵ For a more detailed examination of the various types of education system and labour market, the relationships between them and their impact on transition processes, reference should be made to Chapter 2 of Part 5 and the contribution of Hannan *et al.* (2000).

Table 1.6: Analysis levels, criteria and frameworks for the standing of VET		
Analysis level	Criterion of 'standing'	Context of 'standing'
Course/curriculum	Development of personal competences, including occupational expertise	Social value of vocational training in comparison with general education
Education system	Opportunities for educational mobility and advancement through lifelong learning	Choice between pathways, selection for university entry
Labour market	Prospects of jobs and occupational mobility	Competition between all qualifications for entry into jobs

Source: Lasonen & Manning, 2000.

- 'Post-16 strategies' and 'SPES-NET';
- 'Unified Learning Project – ULP', 'Home International Project' – (UK);
- INTEQUAL, DUOQUAL;
- PAVE.

3.3. 'Post-16 strategies' and 'SPES-NET': equal standing of VET and general education

The purpose of these two projects was to analyse strategies for the reform of post-compulsory secondary education aiming to promote the equal standing of vocational training and general education.

Box 1.6: Transnational projects on parity of esteem between VET and general education

'Post-16' involved eight European countries (Austria, England, Finland, France, Germany, Norway, Scotland, Sweden) and led to the 'SPES-NET' project during which the partners reviewed and assessed the reforms identified by the initial project against their national VET systems. This network has twelve members (Austria, England, Finland, France, the Netherlands, Scotland, Belgium, Estonia, Greece, Hungary, Spain).

The Post-16 analysis identified four strategies for the reform of upper secondary education systems; during the second project (SPES-NET) these strategies were refined and differentiated but were not, however, called into question. These strategies are discussed below.

3.3.1. Vocational enhancement

The strategy of vocational enhancement stresses the separate nature of VET, as shaped by its typical contents and the links between employers and training providers.

When VET has a high standing as a result of its content and the educational methods used, the aim of a vocational enhancement strategy is to promote access to higher education on completion of vocational education (Austria, Denmark, Germany).

When VET has low standing, this strategy may take the form of creating technical and vocational schools (Greece) or of restructuring the VET system, stressing the need for on-the-job experience during training (Spain).

The third group of countries opting for this approach includes those where the VET system was developed under a planned economy, which is now being replaced by a market economy (Estonia, Hungary). Three methods can then be seen: rehabilitation of traditional professions, access to post-secondary education for those holding vocational qualifications and inclusion of practical training components (whether real or simulated).

3.3.2. Mutual enrichment

This strategy aims to forge closer links between all types of school, by encouraging them to cooperate, while at the same time retaining their separate nature. The aim is therefore to promote interactions between general and vocational upper secondary schools, for instance by allowing students from vocational pathways to include theoretical options in their syllabus and students from general education to study vocational subjects (Finland). Measures are also being taken to set in motion and consolidate cooperation with companies, especially by including workplace placement periods in training courses (Finland, Norway).

3.3.3. Linkages

Introducing a common qualification, certification and recognition structure helps to place VET and general education on a footing which is in theory

equal (England, France). In England, the Dearing Review proposed that the following measures be taken to create links between the three existing channels (academic, applied and vocational): adoption of a common nomenclature, procedures to verify levels and quality, overarching certification restructuring courses into smaller units or into groups of units to promote exchanges and transfers between pathways, and lastly a merger of the main regulation bodies. A vocational baccalaureate based on the general and technical baccalaureates has been introduced in France.

3.3.4. Unification

In this model, vocational and general education are merged into a single upper secondary system. All young people therefore follow a common core of subjects in order to ensure more equitable prospects of further study (Scotland, Sweden). A unified curriculum and assessment system for general and vocational education has been introduced in Scotland. This unified system replaces almost all the education structures for young people and adults aged over sixteen. In Sweden, upper secondary education is organised as sixteen three-year pathways (two general and fourteen vocational) with a substantial common core.

All reform programmes may draw elements from different strategies and the directions taken by national policy may change over time. However, all reforms have one point in common: they respond to – or anticipate – trends in the labour market and the organisation of work that require qualitative changes in knowledge and skills. Reforms are therefore a way of strengthening the links between the labour market and VET, while making VET more responsive.

However, while labour market demands seem to be providing reforms with a new dynamic, the measures introduced are taking little account of the labour market's needs. They seem to be geared more towards meeting the need for internal rationalisation within the VET system. The way in which systems respond to changes in the labour market may well be secondary to internal considerations within VET.

Box 1.7: Implications of the unification of post-compulsory education – the British case

The 'Unified Learning Project' studied the impact of measures to improve the standing of post-compulsory education. Another project (Home Internationals) studied the flows, pathways and destination of students leaving post-compulsory education.

In the mid-1990s (Hillier & Oates, 1998), the United Kingdom made parity of esteem into an objective but failed to back up this policy with any real thinking about its significance, aims, relevance (or need), implications and measurability.

This reform, motivated by the need to reorganise the qualification system, was introduced by overhauling the GNVQs and then by unifying GNVQs and A Levels. In this the United Kingdom differs from other European countries which undertake reforms motivated by thinking about contents, processes and institutional structures.

Main aspects of the reform

- Basic competences and key competences can play a unifying role by providing all learners with a common knowledge base; they are linked to both employment and education and represent a conception of learning that is more process-based.
- Maintaining an on-the-job training pathway and harmonising education provided at school. This choice was underpinned by the efficient way in which on-the-job training was felt to provide high-quality skills in keeping with employers' needs.
- Generic certification, i.e. overarching, for academic and vocational pathways ensures an equivalent level of training. Certification therefore defines the scope of the curriculum and ensures consistency between pathways.

Evaluation of the reform

This is provided by an empirical analysis of flows and transitions in British post-compulsory education. There is a significant correlation between educational results and social background. In all three systems (England, Wales, Scotland), top students from the middle classes choose academic pathways while average and weak students – and students from the working classes – tend to choose on-the-job training. Participation in full-time vocational education follows a more differentiated pattern depending on the system. In Scotland, these pathways have a low brand image and a low participation rate (in comparison with England), and in particular recruit weak students from the working classes. In England, however, vocational education has higher levels of average students (weak in Wales) from the middle classes. The Scottish academic sector therefore seems to be more exclusive than the academic sector of the other systems.

Even the most unified system does not make it possible to achieve parity between the two educational pathways. More generally, these pathways continue to play a role of educational and social differentiation. Making the curricula of general and vocational education more comparable does not therefore manage to offset the role of social reproduction played by the education system.

Problems linked to a lack of parity or a lack of standing are deeply rooted in the traditions of the education system, in society and in young people's aspirations. Targeted measures are needed. Reform of qualifications does not seem, however, to have much effect.

If the standing of VET, and in particular of on-the-job training, is to be improved, it is necessary to improve the quality of its content and teaching methods in order to pave the way for the unification processes discussed above.

The Unified Learning Project (see Box 1.7) made it possible to draw the following conclusion: unification should not be presented as a simple rejection of the divisions between academic and vocational education. New avenues need to be explored to find links between academic and vocational learning.

3.4 Dual qualifications: labour market and higher education

The 'INTEQUAL' and 'DUOQUAL' projects studied the characteristics of dual qualifications and their practical implications.

Box 1.8: Dual qualifications

'Dual' qualifications are vocational qualifications that can be used for entry into both skilled jobs and higher education, in particular university.

Initiatives in European countries differ in terms of their function, extent and structure. A whole range of solutions has thus been adopted in different countries (Czech Republic, Norway, Sweden, England, France, the Netherlands, Austria, Finland, Germany, and Greece).

Three main models can, however, be distinguished:

(a) models covering an integral part of the education system (Czech Republic, Portugal, Norway, Sweden);

(b) models covering only certain courses or qualifications (Bac Pro – France, GNVQ – Eng-

land, IML – Greece, MBO/BLO4 – the Netherlands, WIFI – Austria);³⁶

(c) pilot projects (Finland, Germany).

In all countries, dual qualifications are awarded in full-time school-based education. Figure 1.5 shows the position of the various initiatives within upper secondary education.

Analysis of the characteristics of the various dual qualification models and their practical implications shows the many differences between various initiatives being taken in Europe.³⁷

From the point of view of access to higher education (one of the two main objectives of dual qualifications), students from dual pathways seem to face a number of obstacles which are to some extent removed when there are partnerships and agreements between institutions offering dual qualifications and higher education institutions.

Most of the programmes studied are geared more towards employment than towards higher education (Figure 1.6); they also offer better prospects of finding a job than the traditional upper secondary qualification pathways. There seems to be a fairly positive relationship between the occupational levels envisaged and those actually obtained.

The conclusion is therefore that dual qualifications match the criteria discussed above for improving VET's standing more than traditional pathways, i.e. the acquisition of skills linked to personal development, easier mobility both in the education system and the labour market and easier transition between the education system and employment.

This success, however, is accompanied by fairly substantial creaming off of the top students (Durand-Drouhin, 1999).

The challenge is therefore to ensure the integration of dual qualifications into a system which is flexible and transparent, both in terms of accessibility from vocational and general pathways and in terms of higher education.

³⁶ Reference should be made to Figure 1.5 for the list of abbreviations.

³⁷ The specific features of these different systems (dimension, type of certification, role in education and employment processes, target groups) are analysed in detail in the background report. Their practical implications (participation, level of curriculum integration, rate of success of students within the measure and in subsequent education, balance of dual approaches, social advancement patterns) have also been analysed (Lasonen & Manning, 2000).

Figure 1.5: The position of dual qualifications within upper secondary education

Country	Dual qualifications analysed in the project		Dual qualifications outside the project		
	General education Full-time (at school)	Vocational education Full-time (at school)		Vocational education Dual or part-time (at the workplace)	
Greece	General upper secondary school	IML	Technical upper secondary school	Voc. School	Apprenticeship
Finland	General upper secondary school	Ex-perim-ental reform	Vocational schools		Apprenticeship
England	GCE 'A' Level	GNVQ: Advanced level		NVQ	
Netherlands	VWO/HAVO	MBO/BLO4		Apprenticeship	
Sweden	Preparatory study programmes	Vocational programmes		Apprenticeship	
Portugal	General courses	Vocational courses		Apprenticeship	
Norway	General pathways	Vocational pathways		(including apprenticeship)	
Czech Republic	Gymnasium	Sectoral studies (also part-time)		(including apprenticeship)	
France	General pathways	BT	Bac Pro	(including ap-prenticeship)	Appren-ticeship
Germany	Baccalaureate/lycée	Technical courses	Pilot project	Dual system	
Austria	Baccalaureate/general education lycée	Vocational lycée		Berufs-matura	WIFI Academies

List of abbreviations

A	Advanced level (GCE programmes)
Bac Pro	Vocational baccalaureate
BLO4	Level 4 vocational training pathway (from 1997)
Berufsmatura	Vocational baccalaureate
GCE ('A' level)	General Certificate of Education (Advanced Level)
GNVQ	General National Vocational Qualification
IML	Integrated Multivalent Lyceum (Upper Secondary School)
MBO	Full-time upper secondary vocational education
WIFI	Wirtschaftsförderinstitut

Source: Manning, 1998.

Figure 1.6: Orientation towards higher education and employment in dual pathways (examples)

Higher education > employment	Higher education = employment	Higher education < employment
Pilot project (D: Bavaria)	GNVQ: advanced level (Eng)	Vocational pathways (N)
	IML (EL)	Vocational programmes (S)
	Sectoral studies (CZ)	Vocational courses (P)
	Experimental reform (FIN)	WIFI Academy Courses (A)
		MBO/BLO4 (NL)
		Bac Pro (F)

NB: See list of abbreviations in Figure 1.5.

Source: Lasonen & Manning, 2000.

3.5. Attitudes to VET – case studies

Under the PAVE project (England, Finland, Greece, Ireland, the Netherlands) case studies were drawn up at national level in schools among students, teachers, some administrative staff, parents and professionals. Interviews and questionnaires were used to discover people's perceptions of, and attitudes to, vocational education, and to develop ways to influence these attitudes.

The aim of this project was to evaluate the relative standing of the two types of education (general and vocational) in a social context in which vocational education generally has lower prestige than 'academic' education. This discrimination is shaped by people's values, attitudes and beliefs.

Box 1.9: LDV project 'Promoting the attractiveness of vocational education (PAVE)'

This project, of which the results were used (among others) in this chapter, was concerned with five countries. Its aim was to examine vocational education in these countries with a view to finding ways of improving its status and attractiveness.

The three main hypotheses were:

- (a) vocational education in general has a lower prestige than liberal education, because it is perceived to lack the quality traditionally associated with the latter;
- (b) liberal education at its best has a vocational dimension and vocational education at its best has a liberal dimension; hence it makes sense to integrate both;
- (c) there are already examples of such integration, but they need to be examined critically and articulated more clearly.

The methodology had three dimensions: philosophical, historical/hermeneutic and ethnographic.

Results were drawn on the basis of case studies in England, Finland, Greece, Ireland and the Netherlands.

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Final report: Curriculum Development Unit: 'Reconciling liberal and vocational education', Dublin, 1999.

The world of education reflects, transmits and communicates the values of society, in addition to which it also develops its own.

One of the main findings of the study was that vocational education should not prepare individuals just to become technicians and skilled workers, but responsible citizens as well.

Whatever the quality of the educational environment in which young people learn, they will have to tackle some prejudices against VET after they have obtained their qualification. The opportunity to continue education, and in particular to enter higher education, is a critical factor in the prestige of a training pathway.

Therefore, this project, which focuses on values and attitudes, reaches more or less the same conclusions as the studies focusing on dual qualifications: facilitating access to higher education plays a key role in making VET more attractive.

3.6. Typology of systems and reforms to be promoted

Taking up the typology proposed at the outset in order to study the relations between the education system and the labour market (Table 1.5) and the various conclusions reached by the studies discussed, Lasonen & Manning (2000) identify measures to be taken or advocated in order to enhance the standing of VET for each of the following groups.

(a) When there are close links between the education system and the labour market, the challenge is, on the one hand, to improve higher level career prospects for holders of general or vocational secondary certificates and, on the other hand, to promote the access of the latter to higher education.

The following measures are likely to improve the status and quality of VET:

- promotion of key qualifications (D, A);
- development of flexible links between school education and workplace training, at different levels and in different institutions (DK, NL);
- creation of dual qualifications (giving access to higher education) for the best students from vocational pathways (D, A).

Countries moving towards a market economy should pursue the following objectives:

- limiting the degree of specialisation;
- developing key qualifications;
- maintaining traditional forms of on-the-job qualification.

(b) In countries where there are few links between education systems and the labour market, better links need to be forged between the two systems. This requires efforts to involve employers more closely in education and training via school-enterprise partnerships and placement schemes during training.

(c) In systems where there are variable links between the education system and the labour market, a coherent structure needs to be introduced for the upper secondary level. The reforms introduced have tended to:

- integrate general and vocational programmes in comprehensive schools (N, S);
- provide a general framework for the legal recognition of vocational training incorporating certificates and programmes (Eng, EE, F, P, E, Sco);

- develop output-related qualification structures, in particular for modular systems (Eng, Sco);
- develop equivalences between general and vocational education: access to higher education (P), common certification (Eng);
- reform curricula (EL: new programmes³⁸, P: new vocational competences);
- develop links with companies.

3.7. Conclusions

Vocational education's standing in comparison with general education and on the labour market is linked to:

- the acquisition of key competences the integration of general and vocational education;
- the possibility of access to general education and higher education;
- the existence of qualifications giving access to skilled occupations.

The standing of VET tends to improve when:

- (a) the three above criteria are met;
- (b) the status of the majority of upper secondary vocational education is good;
- (c) the reforms introduced take account of the esteem attached to vocational training.

Various cases can now be taken as examples:

- the German dual system satisfies only two criteria as participants have limited access to higher education;
- the French Bac Pro meets all three criteria, but concerns only 14% of upper secondary vocational students (VET database – Eurostat, 1996-97);
- in Sweden, VET satisfies all three criteria and covers a large proportion of upper secondary education; even so, VET does not have a particularly good image among the public – probably because it is traditionally a second choice for less gifted students.

Policy implications

As discussed above, it is difficult to change the image of vocational education which, in many

³⁸ This VET programmes have since been abolished by the Greek government.

European countries, remains the option for students unsuccessful in general education. Nevertheless, not all the strategies used to reverse, or at least change, this dynamic should be seen as failures. Substantial progress has been made; VET is being repositioned within education systems and with respect to the employment market.

Further efforts need to be made in two areas: strategies geared to national contexts (i.e. the structure of the education system and its links with the labour market) need to be differentiated and customised. There is also a need to go beyond the chiefly institutional reforms introduced up to now. Curricula, teaching methods, approaches to the concept of skills and the ways in which competences can be accumulated need to be reviewed. This will allow the regeneration of VET systems and enable VET effectively to respond to the challenges posed by changes in the skill demand.³⁹

4. Certification systems, assessment and recognition of skills⁴⁰

Certification systems are changing. The ability of traditional qualifications to reflect people's competences is being called into question. New certification models are appearing. Certification systems are beginning to break out of education systems, for instance with the introduction of systems for validating non-formal learning.

These questions are being raised because of the emerging need better to show and make use of people's production abilities, that is to take better account of their skills. Priority is increasingly being given to the result (output) – to what people are actually capable of doing and to the competences they can mobilise –, and not to the place, way and time at which these competences were acquired (input). We will tackle this issue by examining changes in traditional certification

systems and the challenges these systems are now facing.

Going beyond this analysis of the questions being raised by certification systems, the second part of this chapter will analyse institutional reforms geared towards the recognition of non-formal learning. It will look at the specific features of this type of learning and the problems that it raises from the point of view of identification, assessment and recognition. Reforms that are underway will be summarised; their extent and the political support that they are receiving in the Member States of the EU/EEA will be analysed, together with the role and initiatives of the European Commission.

4.1. Introduction

What role do certification systems play in the recognition of skills in the labour market and in enterprise? What conditions need to be met to ensure:

- that the qualifications awarded receive both social and labour market recognition;
- that certificates actually reflect occupational practice;
- that the skills certified are transferable?

The following objectives need to be achieved: signalling people's competences in the best possible way – especially by making clear the knowledge acquired from job experience; and optimally matching people to production, while ensuring their continued adaptability and employability.

From an institutional point of view, the State has played a historic role in setting up bodies responsible for training and certification. However, the tendency is for certification to separate itself from training.

From a methodological point of view, these changes raise the problem of how to convert skills into performance standards. We need to think about the nature of the skills being validated and the legitimacy of validation bodies.

All these issues are crystallised in the discussions surrounding the identification, assessment and recognition of non-formal learning.

³⁹ See Chapter 2 of Part 2 of this report 'Competences, learning processes and didactic innovations for new occupational profiles' and the contribution of Onstenk (2000).

⁴⁰ This chapter draws on papers of A. Boudier *et al.*, 2000: 'Certification and legibility of competence' and J. Bjørnåvold, 2000a: 'The changing institutional and political role of non-formal learning: European trends'. Contributions to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 1 (published 2001).

4.2. Certification: development of an institutional setting⁴¹

This section will examine the ways in which the various forms of certification have developed, the traditional function of certification and recent trends.

Box 1.10: Certification and credentials⁴²

Certification is defined in the broad sense: it is a formal and official recognition of people's vocational abilities. It is seen both as a process (setting of standards and formulation of the conditions by which they are to be assessed) and a result (assessment procedures and award of 'credentials').

Four factors help to explain the changing role of certification:

- (a) the specific nature of a 'credential effect';
- (b) the changes transforming the labour market;
- (c) changes in qualification needs;
- (d) the recognition that knowledge takes different forms and can be acquired in different ways.

4.2.1. Brief history of certification

Certification, which tended to be relatively informal at the outset, is nowadays regulated and formal.

In general, despite differences between countries, the State has gradually taken responsibility for vocational training (of young people) and its certification in order to provide it with a national dimension and national validity. This development started from higher level diplomas and gradually moved down to lower levels.

The outcome of this process was the introduction of a national reference framework for certification, placed under a single authority. This was done largely in order to break the traditional control companies exercised on formulating and recognising qualifications, in order to make qualifications transparent and ensure worker mobility.

Certification thus became a natural and logical conclusion to, and endorsement of, the education process.

⁴¹ The conclusions drawn in sections 4.1 and 4.2 are based on an analysis of developments in five European countries: Germany, Belgium, France, Spain and the United Kingdom.

⁴² The term 'credential' is used in this chapter to refer to the concrete form of certification. In this sense, it includes traditional certificates as well as new and alternative ways of certifying people's skills and competences.

States have used certification as a tool for regulating education and training systems: by defining what is to be acquired and assessed they define what is to be taught. To take one example, the National Vocational Qualifications (NVQs) were grafted onto existing systems that the British State was trying to change. Their mere existence, and the State backing they receive, have brought about major changes in the structure and content of the education supply in the United Kingdom.

Despite common dynamics, certification is expected to take a whole range of forms, including at sub-national level; it is not evolving towards transnational harmonisation.

4.2.2. Recent trends

The signal theory (Spence) and the filter theory (Arrow) highlight what can be termed a credential market: those who possess qualifications have a labour market advantage over those who do not, even when the latter have the same skills, length of training and job experience.

In a labour market whose main feature is growing mobility, 'credentials' take on increasing intrinsic importance. At the same time, a glut of diplomas is causing the demand for qualifications to rise even further. One possible solution is to diversify access to qualifications. This would lead to a gradual separation of certification from the education and training system.

The role of certification becomes more important:

- it makes it possible to reveal people's qualities, using a formal code shared by jobseekers and employers;
- it becomes a stable reference with respect to increasingly variable tasks or job descriptions.

Current changes therefore seem to be pointing to the fact that certification is required to play an increasingly operational function: attesting to people's ability to achieve the performance expected of them. It is a replacement for the micro-economic models of job allocation or occupational advancement which were predicated on a relatively durable labour collective organised in a stable work framework. Paradoxically, however, in a market in which the number of certificate holders is rising sharply, the value of certification is declining.

At present, certification is becoming a component of training in its own right, and increasingly independent from training (what is termed 'autonomisation'). By looking for methods that are better able to measure people's competences, the stress is placed more on people's ability to mobilise their competences and less on the way in which these competences have been acquired. This approach is leading to new forms of recognition (especially for non-formal learning). Section 4.4. of this chapter examines this particular issue in detail.

4.2.3. Introduction of the concept of competences

Specific jobs with a relatively stable content of activity are no longer the dominant model. This change is bringing about new qualification requirements. The concept of competences seems better geared towards meeting the new needs of the labour market as it involves:

- periodic updating of knowledge;
- higher standards of general education, paving the way for a broader understanding of the occupational environment and greater adaptability;
- identifying new non-technical skills (relational skills, communications, problem-solving, autonomy, etc.) (based on Bertrand, 1997).

The recent focus on competences raises two questions: how they can be acquired (which may bring into play both traditional forms of learning and alternative models, outside the formal education and training system) and how they can be identified, assessed and recognised. The feeling is that traditional education and certification models cannot meet these challenges adequately.

4.2.4. New settings

Two types of proposal for the renewal of certification systems are currently being put forward:

- (a) adapting existing systems, while retaining socially recognised and traditional assessment standards (individual routes, modular training and certification by learning unit, etc.);
- (b) developing alternative systems which call established standards into question in a fairly radical way (the European Commission's accreditation system, branch certification, *Bilan de compétences*, etc.).⁴³

These methods are not mutually exclusive. An 'ideal' model could well be envisaged in which people would use existing systems – between which there would be equivalences – to create their own certification paths, thus promoting skill accumulation and gradual access to certification.

However, the paradoxical role played by certification (on the one hand, mechanism of social advancement enabling people's aptitudes to be recognised and, on the other hand, instrument of selection that helps increase and reinforce social segmentation; Béliet, 1997) makes it necessary to spell out the limits of this ideal.

The proposed new certification model would presuppose the complete transparency of systems, largely through the existence of counselling and guidance services. Less qualified or socially integrated people are not always able to find their way within certification mechanisms. The fragmentation of these systems (as a result of their modular character and the existence of partial qualifications) could be a further obstacle to accessing qualifications. The ultimate effect of all these mechanisms could be to create more inequalities in obtaining qualifications: complex systems tend to favour those who are most familiar with the complexity of such systems.

For this reason, it is necessary not just to introduce new models of access to certification, but also to develop information networks and guidance services, so that everyone can have an overview of the opportunities offered by the system. This will ensure equitable access to assessment and certification mechanisms and skill recognition.

4.3. Setting standards

4.3.1. External validity of certification

A common criticism levelled against traditional certificates is that they do not reflect people's skills. It is therefore essential to build up social and labour market recognition of qualifications by making them more transparent.

⁴³ Section 4.4 of this chapter deals with the institutional and political reforms that European countries have implemented in order to introduce systems for assessing and recognising non-formal learning and analyses systems proposed and supported by the European Commission.

The State generally guarantees the legitimacy of assessment procedures (validity, reliability, equity, and objectivity). To criticise traditional certificates is to call into question the entire regulation function of the State.

For certification to be valid the labour market must know what qualifications represent – therefore, qualifications must reflect performance standards.

Box 1.11: Competences and production system

Bouder et al. (2000) examined three angles from which the production system interprets qualifications.

(a) *Domains of skills* are the most general level in which the main occupational fields are defined. After examining an analysis of classifications of fields of training and occupations for statistical purposes (Andersson & Olsson, 1996), it seems difficult – or even inappropriate – to draw a direct correspondence between nomenclatures of training specialisations and occupations.

(b) *Fields of skills* lie within domains of skills. These are more or less coherent sets of occupational activities and tasks that help to define occupations and skills in both the production and training systems. Ideally, the reference frameworks for activities drawn up by both systems should correspond. Constructing the reference framework has to involve genuine field analysis by 'work experts' and 'education experts'.⁴⁴

(c) *Levels of skills* give an idea of the degree of mastery of an occupation by an individual. In this case it is necessary to go beyond simple performance, taking into account the processes which underpin it and the conditions under which these processes are developed. The issue is therefore one of focusing on individual activity, both in school and in working situations.

4.3.2. Legitimacy of qualifications

The macro-social efficiency of certification presupposes validation methods whose legitimacy and scope is proportional to their degree of generality.

⁴⁴ It should be borne in mind here that the scope of an occupation cannot be defined by lengthening the list of activities in the reference framework. Describing actions in too detailed a way ends up by depriving them of any content and meaning (Savoyant, 1999). The extension of an occupation has more to do with the range of situations that the person is able to handle in a given field of skills and can be perceived more in terms of the knowledge required to perform a range of actions than via a simple list of these actions. An overly detailed description of tasks, intended to close the gap between the performance standard and occupational practice, has adverse effects on the transferability of the competences attested by the certification.

If the transparency of the skills certified and their relevance to the world of work are a factor of flexibility, their large-scale legitimacy requires the acceptance of standards. A balance therefore has to be sought between the precision of the reference framework through which an individual's particular skills can be readily identified and the degree of generality which will enable these skills to be recognised in the broadest possible spectrum.

Finding a balance between the immediate effectiveness of individuals in jobs (specificity) and their potential adaptability and mobility (generality) is a challenge for education and certification systems. The result is that the stress is being placed on both the contextual and transversal (cross-context) nature of skills.

The British NVQs, intended to combine very specific skills (acquired from real or simulated working situations) with very generic competences which can in theory be mobilised in any circumstances (key competences) offer a good example of an attempt to reconcile the two points of view.

4.4. Identification, assessment, recognition and certification of non-formal learning

The current rhetoric justifying the overhaul of certification systems points to a series of factors assumed to be motivating the changes underway: labour market trends, new skill needs, the need for constant renewal of knowledge, etc. These changes make it necessary to take a wider and more varied view of individuals' competences.

New certification models currently being proposed take into account various paths to acquiring knowledge, i.e. learning in working situations, during leisure time or in private life. The issue at present is one of assessing what a person can do regardless of the way he or she has acquired these skills.

New assessment models that place the emphasis on individuals' skills can fulfil several functions (Bjørnåvold, 1998, pp. 215-234):

- for individuals, they may provide access to training and enable their integration into the labour market;
- in enterprises, they enhance the potential for human resource management;

- in society, they simplify the transfer of skills between different spheres (education, work, private life) and improve resource allocation.

The processes by which non-formal learning is recognised allow an analysis of the links and tensions between certification, education, competences and occupational performance.

The introduction of these new forms of assessment and certification raises two questions:

- by which methods can individual learning be identified and assessed? Related tasks include formulating standards and putting them into practice during assessment;
- under what political, economic and cultural conditions can a legitimising social value be attached to non-formal learning?

The first research report (Tessaring, 1998b, based on Bjørnåvold, 1998) tried to describe the methods used, identify the main challenges and define the conception of knowledge on which these new systems are based.⁴⁵

Two options were identified. The first focuses on the individual and contextual nature of the skills to be assessed (*Bilan de compétences* – F, Accreditation of Prior Learning – UK, etc.). This option uses a combination of interviews, diagnostic assessments, self-assessments and tests. In some cases, tasks performed in real or simulated conditions are assessed. This recognises the fundamentally contextual and social nature of the skill.

The second option uses electronic expert systems. These methods, which involve the assessment of knowledge that is objective and isolated from action, have advantages in terms of cost, capacity and objectivity. The measures proposed and funded by the European Commission come under this heading.

Whatever option is chosen, methods and systems must be legitimate. In this the role of the State is decisive. At present, the choice is open: either the State introduces collective parameters in order to ensure that the general interest is maintained in the area of competences, assessment methods and registration conventions, or enterprises and professional sectors are free to introduce their own systems. Finding a balance between the interests of the different players – State, enterprise, social partners and individuals – is important in legitimising the system.

⁴⁵ For a more recent analysis, reference should be made to the reference contribution of Bjørnåvold (2000a).

The type and extent of the institutional reforms taking place in the Member States of the EU/EEA will be examined below to identify common trends and national solutions. To start with, however, we will review some of the theoretical aspects touched upon in the first part of this chapter. The nature of non-formal learning will then be examined in more detail and the dynamics paving the way for the introduction of new models for the recognition of competences will be analysed.

4.4.1. Features of non-formal learning

Some features of learning, especially non-formal learning, need to be highlighted if valid and reliable assessment methods are to be introduced.

Box 1.12: Reliability and validity

A reliable assessment must produce an identical result when it is repeated.

Validity of assessment: this concept refers to the quality of the measurement and its ability to measure what it is supposed to measure.

Content validity: the test reflects the performance of a specific task in a correct way.

Construct validity: ability of the test indirectly to measure a theoretically constructed entity (intelligence, creativity, numeracy, verbal reasoning, etc.)

Good reliability is of little value if the result of the assessment presents a distorted image of the domain and candidate in question (Bjørnåvold, 2000b, p. 9).

Learning is fundamentally *contextual*. Skills are acquired within a context and a community of practice which therefore need to be taken into account for assessment.

Learning does not only involve reproducing knowledge and skills, but also reformulating and updating them. Faced with a new problem, a learner, like a professional, cannot just rely on acquired skills but must find new solutions and develop alternative practices.

Learning to learn, and therefore to tackle new problems, is a skill that should be taken into account when assessing non-formal learning.

Another feature of experience-based learning is its *tacit* nature. It is difficult to express and circumscribe the stages of acquisition and the intrinsic rules of a particular skill.

People are not always conscious of their skills. Tacit skills are so deeply rooted in the performance of a task that they become difficult to dissociate from the activity.

Assessment methods therefore have to identify skills so deeply rooted in people that they are not themselves aware of them. It is nevertheless very difficult – not to say risky – to transform tacit and intuitive knowledge into explicit and officially recognised and standardised elements.

4.4.2. Assessment: reference frameworks and standards

It seems obvious that any assessment has to be carried out on the basis of previously defined common criteria, i.e. standards. Reliability and validity are hollow concepts if they are not connected to points of reference, evaluation criteria and/or performance standards (Bjørnåvold, 2000b, p. 40).

The national standards drawn up to validate non-formal learning may be identical to those used to validate training courses or they may be drawn up specially for experience-based learning.

At present, methods of identifying non-formal learning make considerable use of the performance standards drawn up to assess formal courses. Using existing methods that are considered reliable is a pragmatic choice.

However, the experience mobilised for the purposes of its 'school' validation is not the same as the experience gained from work itself. The skill will be organised in different ways in these two cases. The assessment methods used in formal education do not therefore seem to be fully appropriate for the assessment of non-formal learning.

On the other hand, constructing the reference framework in direct connection with a working situation has also met limits. The British, who have tried to find an ideal assessment standard, moved away from the criteria used in the formal education system. Assessment started increasingly to focus on more and more specialised skills in specific contexts; this did little for the reliability and transferability of qualifications. As a result, this approach has gradually been abandoned; the State is again trying to formulate national standards (DfEE, 1999).

Is the ideal for setting standards to be found halfway between these two options? In France, reference frameworks are generally adapted and contextualised for the purposes of training and assessment in a working situation (Kirsch, 1989).

The standard is nevertheless still the national reference framework.

'[Assessment] methodologies must be able to combine the need for standardisation and simplification with an open attitude towards the non-standard and what is specific to an individual or a group. Proper "measurement" implies openness for the richness and complexity of learning; maps should be drawn according to the terrain, the terrain should not be described to fit the map. To find the balance between optimal validity and necessary standardisation and simplification is the basic challenge' (Bjørnåvold, 2000b, p. 37).

The requirements of competence-based assessment must be taken into account in the search for ideal standards. Assessing skills, however, involves a paradox: skills are fundamentally contextual (specific) and yet they are assumed to predict employability (transferable). The assessment method determines the information that will be given about an individual's skills. If in assessing we overly reduce the role of the context we may make it impossible to speak of skill identification. But what external validity can be attached to standards based on too detailed a description of the activity? Are competences truly transferable?

4.4.3. Recognition of non-formal learning in Europe

Over the last ten years, most European countries have started to introduce methods and institutions to assess and recognise learning acquired outside formal education and training systems. An examination of these measures highlights the lack of a common European approach. As stressed in the first two parts of this chapter, however, these reforms have been shaped by the same challenges and dynamics.

Assessment systems are being given a new direction where increasing stress is placed on what people are able to do (outputs) rather than on the place or method of learning (inputs).

This change is to some extent due to the growing importance of lifelong learning, making it necessary to take account of alternative methods of acquiring skills and to develop a permanent structure providing a link between the various stages of learning throughout life. Among other things, this approach makes it necessary for individuals' skills to be legible.

The labour market selects those who possess the most appropriate skills. It is now felt that formal education and training systems cannot identify all the skills that an individual acquires throughout life, new methods need to be designed.

The legitimacy of methods of assessing and recognising non-formal learning does not depend only on the quality of the methods used and the qualifications awarded, but also on the political and legal value that the State or other authorities attach to these qualifications. Institutional systems therefore need to be set up to help ensure that qualifications are legitimate.

On the basis of studies conducted in 1998 and 1999 (Cedefop, 1998c, d; 1999a-j), Bjørnåvold (2000a, b) uses three dimensions to group European countries into five clusters:

- (a) the role of non-formal learning in a country's existing political and institutional context;
- (b) permanent methodological and/or institutional initiatives;
- (c) existing experiments.

Following clusters have been constructed.

(a) The first cluster includes *Germany* and *Austria*, where the issue of recognising non-formal learning has recently led to the launch of experimental projects to test a variety of assessment approaches. The attitude of these two countries to non-formal learning nevertheless has to be seen as cautious. The various players in training do not accept that new assessment methods are needed.

This reluctance is explained to a large extent by the success of the dual system both as an educational model (combination of formal and experience-based learning) and in terms of percentage attendance. Paradoxically this very success is responsible for the growing interest in non-formal learning. By focusing on the training of young people the existing system can only go some way towards satisfying demands for a renewal of knowledge and competences among adults.

(b) The second cluster includes the Mediterranean countries: *Greece*, *Italy*, *Spain* and *Portugal*. These countries all share common ground as regards the identification, assessment and recognition of non-formal learning. In comparison with the northern European countries, these countries do not have such a strong tradition of VET and set greater store by academic education, though their systems have been reformed in rather far-reaching ways. As a result, non-formal learning (especially through

occupational experience) has become the main way in which skills are reproduced and renewed. However, this method of learning does not guarantee the quality of competences.

Appropriate identification and assessment systems could be one way of tackling this problem and, where necessary, of identifying any supplementary measures that need to be taken to recognise such learning. The common challenges facing these countries have nevertheless led to a variety of methodological and institutional responses whose commitment and intensity vary. Both the public and the private sector have stressed the usefulness of recognising non-formal learning. The current stage could be termed one of planning: legal and policy decisions have been made but there has been little change in practice. Initiatives financed by the European Union have been very important as they have provided a nursery for experiments that may well be permanently incorporated alongside the tools already being used by systems.

(c) The Nordic countries (*Finland*, *Norway*, *Sweden* and *Denmark*) are the third cluster. Despite many common traditions in the field of education and training, there are two sub-groups: Finland and Norway where the issue of non-formal learning is at the forefront of public discussions of education and training and where there have been far-reaching experiments and institutional reforms in the area of non-formal learning. In the other two countries (Sweden and Denmark), interest in this issue has up to now been limited.

It is not therefore possible to speak of a Nordic model, as the four countries have chosen different approaches and timetables. Practical steps have been taken, however, as a result of legislative and institutional measures to strengthen the links between formal education and training and non-formal learning. The reforms introduced in Finland and Norway are part and parcel of a lifelong learning strategy. The plans put forward in Sweden and Denmark show that these countries are moving in the same direction. It is also worth mentioning that the social partners occupy a strong position in these four countries.

(d) The fourth cluster reflects the influence of NVQs in the process of mutual learning by countries. It obviously includes the *United Kingdom*, but also *Ireland* and the *Netherlands*. The last two countries are probably those that have drawn most heavily on the British model, although experience gained from the introduction of NVQs has also been put to use in other countries. One of the main features of NVQs is that they tackled the

accreditation of different learning routes from the outset.⁴⁶ These countries are grouped together because of their acceptance of the output-related and performance-based model of education and training. The importance of learning outside formal systems is hardly ever called into question. Nevertheless, in assessing the reforms introduced we can highlight certain problems in developing:

- generally accepted qualification standards;
- assessment models that are both reliable and valid;
- assessors' skills.

(e) The final cluster includes *Belgium* and *France* and is based more on a geographical criterion than on the types of reform introduced or the systems put into place.⁴⁷ France — like the United Kingdom — has been a pioneer in identifying, assessing and recognising non-formal knowledge. It has the longest and most extensive experience in this area. The *Bilan de compétences* was the first initiative to establish a genuine system for recognising non-formal learning. Since its introduction in 1985, interest in such issues has continued to grow. A law of July 1992 places skills acquired inside and outside the formal system on the same legal footing. Competences acquired solely outside the formal education system cannot, however, be used to obtain a diploma (although these alternative forms of learning may be used for partial certification and exemptions).⁴⁸ In contrast to France, Belgium is currently at an early stage of development and has not as yet decided on a clear-cut strategy; it seems however to be moving towards an output-based approach. Specifically, the country has issued decrees establishing procedures for the recognition of learning upon entering training. This would enable people to be exempted from the certain course requirements or units.⁴⁹

⁴⁶ For a discussion of the strengths and weaknesses of NVQs, reference should be made to the contribution of Bjørnåvold (2000a).

⁴⁷ Levels of activity in Luxembourg were not felt to be sufficient to merit a separate national study. Luxembourg is not therefore included in the analysis.

⁴⁸ The reform of continuing vocational training which is currently underway will use validation systems for non-formal learning to provide access to all qualifications, including diplomas (speech by N. Pery, 2000).

⁴⁹ Decree of 16 April 1991 organising Social advancement training (*Enseignement de promotion sociale*).

In all countries, however, irrespective of their experience, the legal recognition of non-formal learning is no more than an initial step. General acceptance and the recognition that non-formal learning has a value equal to that of formal learning is more ambitious an objective and more difficult a task.

4.4.4. Role of the European Union

The Commission's White Paper 'Teaching and learning: towards the learning society' (1995a) helped to draw attention to ways of identifying and recognising non-formal learning by stressing the importance of skills acquired outside the formal system. Programmes such as Leonardo da Vinci and ADAPT have provided a nursery for experiments with methods and institutional systems.

The White Paper proposes the issue of personal skills cards in order to make people's skills as visible as possible within a European system. Despite the development of expert (software) systems, the proposed methods have not yet received the political, institutional and social impetus that their implementation requires.

The Leonardo and Socrates programmes have financed a number of projects to develop automated assessment in the three skill areas defined by the White Paper:

- (a) basic skills;
- (b) technical and vocational skills;
- (c) key skills.

Commissioned by the Commission in 1998, *Guildford Educational Services* drew the following conclusions after studying initiatives in this area:

- it is difficult to develop computer-assisted tests which are both valid and reliable in a number of countries because it is difficult to find a common core of contents that is valid in all these countries;
- even if there is a common content, questions have to be contextualised, i.e. they must take account of the cultural and learning conditions specific to each country;
- appropriate and user-friendly software has to be made available for users; however, the use of the new technologies, especially the Internet, is still raising problems;
- if assessment is to lead to recognition and certification, the necessary administrative infrastructure needs to be put in place;

- the conditions under which assessment can be made legitimate still need to be defined.

In 1997, Cullen & Jones conducted a comparison of European and American initiatives in this area. The main challenge is to be found in the 'sociotechnical contextualisation' of such systems: technologies need to be incorporated within an appropriate institutional and organisational environment.

Years after the appearance of the White Paper, it seems that the ambitious principles it contains have largely remained general statements and have had no specific, measurable impact on European or national policies. However, programmes that were launched in the meantime have played a much greater role. From 1995 to 1997 the Leonardo programme alone supported more than one hundred projects connected with the recognition of non-formal learning.

In this sense, European Union initiatives have helped define the issues more clearly, and have thus supported processes launched by the Member States. Nevertheless, the intensive activity carried out at national level is motivated more by the practical challenges raised by forging long-term links between formal and non-formal learning than by a desire to create transparent, harmonised systems at European level. The issue now is one of examining the way in which European activities can support practical initiatives at the national, regional and sectoral levels.

4.4.5. Other initiatives⁵⁰

Sectoral or industry-wide initiatives are making this issue more complex and wide-ranging.

While all initiatives share common interests, their objectives and instruments vary. A Europe-wide assessment system obviously differs from a national or sectoral system. There are very different economic and organisational constraints at these different levels, even though there are some common problems in terms of reliability and validity.

The methods developed can also be classified in terms of the framework in which they have been developed: integration of formal and non-formal learning, individual career advancement and human resource management. Although systems linked to formal education have continued to retain the upper hand, at least in terms of the methods actually used and put into practice, the number of approaches linked to the labour market or the enterprise seems to be increasing.

Table 1.7 groups some examples in terms of the level at and framework in which they are operating. Initiatives at levels other than the national and European are briefly reviewed below.

The French Chambers of Commerce and Industry have been testing a European standard (EN 45013) on assessment intended to establish a pro-

⁵⁰ This section is based on Bjørnåvold (2000d).

Table 1.7: Examples of assessment methods for non-formal learning in terms of the level at, and framework in which, they are operating

Level	Framework	Education system	Education system – Labour market	Labour market – Enterprise
European				Personal skills card (EC)
National		External assessment (<i>Externenprüfung</i>) (D) §-20 (N)	Competence-based assessment (UK, NL)	<i>Bilan de compétences</i> (F)
Sectoral				Methods based on EN 45013 (French Chambers of Commerce and Industry)
Enterprise				Internal enterprise methods (Daimler Chrysler)
Specific technology, task, issue				Computer Driving Licence (European Association)

Source: Bjørnåvold, 2000d.

cedure to specify no less than the content, transparency, impartiality, reliability and validity of assessments. Introducing quality control at all levels may provide the assessment with a much higher level of confidence.

Systematic skill improvement within an enterprise requires a comprehensive survey of the skills available. A good example of this is provided by the experience of *Mercedes Benz* (now *Daimler Chrysler*) in Alabama, US. Most of the pool of people on whom this enterprise could draw to recruit new workers had been trained in a context quite different from the automobile industry and did not therefore possess any appropriate formal qualifications. A 12-level assessment procedure was devised, starting from zero and combining interviews, tests and observations of behaviour in a working environment. This experiment made it possible to identify learning abilities and conditions of learning, i.e. elements that cannot be captured by automated and standardised tests; they require tailor-made solutions.

The *European Computer Driving Licence* (ECDL) is a good example of an approach specific to a task and/or a technology. The success of this experiment, based on clear definitions of the field to be assessed and on an efficient institutional structure, provides food for thought for future strategies. This type of test covers fields that can be readily measured in an almost objective way (true/false) but masks key competences such as those linked to communication, cooperation and problem-solving.

4.6. Conclusions

Certification is generating a debate on occupational knowledge and the conditions by which it is produced that is calling conventional thinking into question.

What was certain in the past (qualification, employment) is being replaced by hypotheses (competence, employability) (Bélier, 1998). Competence is now to qualification what employability is to employment.

The increasing independence of certification is being reflected by the diverse means by which it is pursued, in particular the introduction of new ways of recognising competences acquired by alternative ways of learning.

Taking account of alternative ways of learning seems increasingly necessary if we are to respond better to the dynamics underpinning the reproduction and renewal of knowledge and

to recognise the diversity of methods by which knowledge can be gained.

There is increasing interest in the EU/EEA Member States in learning outside the formal system; the ways in which this learning can be recognised are central to the debate on lifelong learning.

This debate is still restricted, however, to general objectives, with a fairly high level of abstraction. Some institutional barriers need to be removed and the variety of learning needs and methods must be taken into account.

The few measures that have been taken on a relatively wide scale show that non-formal learning is still being treated as a subcategory of formal learning. The specific nature of non-formal learning, leading to specific competences, has yet to be recognised.

The shift towards output-related systems and therefore towards more individual competences will however increase the need for control mechanisms.

While legality and legitimacy can be ensured by regulatory criteria, for reliability and validity technical and instrumental criteria need to be established. Perfect methods are of no value at all if the appropriate institutional and political system is lacking. It may be true that institutional structures cannot provide the whole answer but this dimension should certainly not be disregarded.

Decisions made in the area of certification will have major civic and moral repercussions. Effective recognition of the competences acquired by alternative learning methods will have an impact on access to employment, recruitment methods, the way in which pay is set, the organisation of labour, etc. Detailed thinking about all these issues cannot be avoided.

Policy implications

The certification market is booming. Certifications, assessment methods and qualifications are proliferating. A broad political consensus – involving the social partners in particular – and State control are needed to ensure that these are legitimate. We need to formulate quality standards for all of Europe.

Varied as the approaches to the certification of non-formal learning may be, they are all generated by common trends and face common challenges. Better exchanges of experience between countries, regions and enterprises have an important role to play in improving understanding of the tasks to be accomplished and in promoting high-quality local, regional or national solutions.

Box 1.13: LDV project 'A European network of national reference structures for vocational qualification: a feasibility study (Natnet)'

The project was designed to contribute to the transparency of vocational qualifications by establishing a framework for concrete cooperation between expert bodies engaged in awarding, accrediting and developing vocational qualifications at a national level.

The main objectives of Natnet are the following:

- (a) to establish the working framework for a network of reference structures among the European Union and the associated countries with the intention of removing obstacles to the transparency of vocational qualifications;
- (b) in the context of such a network, to assume the function of developing and providing information on vocational qualifications on a transnational basis by establishing a simple methodology to enable data exchange, a human interface and the use of available information;
- (c) to develop the network in such a way that other countries may be easily integrated, extending the 'feasibility element' of the investigation from the original six countries to the European Union and associated countries.

Austria and Norway were selected for conducting case studies for investigating the feasibility of the creation of reference structures among the range of public and private constituencies.

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Final reports: J. Gordon and D. Parkes: 'A European network of national reference structures for vocational qualifications' - A feasibility study (Natnet). The project case study: Austria and Norway. EIESP/Leonardo/F3742, 1998.

'Using qualifications transnationally - a manual for those designing policy and practice'. Compiled by Leonard Bill for the Leonardo Natnet Project, European Institute of Education and Social Policy, Paris, 1998.

5. VET professionals: changing roles, professionalisation and steering of systems⁵¹

This chapter examines the roles of those people who can be termed 'VET professionals', the ways in which these roles are changing and the introduction of new profiles. The potential ways in which these functions can be made more professional and the ways in which they can be a resource for steering and coordinating systems are also analysed, in connection with the mechanisms and concepts discussed in Chapter 1.

Box 1.14: VET professionals

The term 'VET professionals' is used here to designate the various groups of skilled workers involved in the VET system. Examples: teachers and trainers, HRD-managers, trainers and tutors at the workplace.

5.1. Teachers and trainers

Cedefop (1997a) identified six categories of tasks connected with teachers' and/or trainers' work: tutoring, teaching, counselling, development, training management and decision-making.

The following conclusions can be drawn from the comparative studies conducted by Cedefop:

- full-time teachers/trainers are differentiated from part-time/temporary teachers/trainers in all countries;
- divisions of teachers into categories, like their various training pathways, depend on the extent to which different education systems are differentiated;
- teachers in general pathways are more often educated in higher education than teachers of vocational subjects;
- in most countries, teachers of vocational subjects need to possess, in addition to their qualification, several years of practical experience in industry (except in Italy and the United Kingdom)

⁵¹ This chapter draws largely on the papers of L. Lassnigg, 2000: 'Steering, networking and profiles of professionals in vocational education and training' and M. Brugia and A. de Blianières, 2000: 'The problems raised by the changing role of trainers in a European context'. Contributions to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 1 (published 2001).

which do not have a regulated vocational training system for personnel of this type);

- good information is available on teachers, but is harder to find for trainers due to their various places of work (companies and training institutions);
- in the apprenticeship system, in-company trainers are subject to regulation;
- the flexible and complex training structures for trainers (in both IVT and CVT) are often rooted in the market economy sector;
- VET teachers and trainers belong to two occupational groups, their area of expertise and educator.

5.2. Context and factors in the development of the profiles of VET professionals

Taking discussions within TTnet (Training of Trainers Network, see Box 1.15) as a starting point, Brugia and de Blignières (2000) describe three dimensions that are helping to modify the roles and skills of VET professionals:

- (a) the development of learning organisations;
- (b) the emphasis that is being placed on competences and non-formal learning;
- (c) the impact of information and communication technologies.

Box 1.15: Training of Trainers Network

TTnet (*Training of Trainers Network*), a Community network in the area of the training of teachers and trainers, was set up by Cedefop in 1998. It groups together national networks, made up of institutions and organisations specialising in the training of trainers.

Changes in the tasks and skills of trainers have a strategic importance, especially considering how the various Member States are planning to upgrade the professional status of trainers. For this reason, TTnet chose to focus its work in 1998 and 1999 on three areas:

- (a) innovation, seen as a transferable practice central to the process of change in training trades;
- (b) tutoring, seen as a convergence point for the formulation of a European policy to step up the professional status of trainers;
- (c) changes in the professional role of trainers (theme common to all works).

Source: Brugia & de Blignières, 2000; website: <http://www.trainingvillage.gr/etv/ttnet/index.asp>.

5.2.1. Learning organisations

To developing a learning organisation it is necessary to reconcile working and learning, while ensuring productivity. Breaking away from Fordist and Taylorist workforce models – standardisation, minimisation of qualifications needed, separation of production tasks from planning and development tasks – improves job-linked functions while making learning into a permanent aspect of competitiveness.

‘The purpose [of this organisation], perceived as a system of permanent learning, is to make organisations and people more flexible, responsive and adaptable’ (Brugia & de Blignières, 2000).

The development of learning organisations has three consequences for the education system and VET professionals:

- (a) the development of mentoring tasks that straddle work and training, the emergence of new mixed profiles (trainer-tutor, occasional trainer) and the incorporation of training tasks into occupational skills;
- (b) the value of non-formal learning acquired at the workplace, and the practices from which it is acquired, have to be accepted; links must be forged between this type of learning and more formal methods;
- (c) education and training agencies and institutions must themselves gradually break away from task segmentation and set up learning organisations.

5.2.2. Competences, non-formal learning and tacit knowledge

The introduction of the notion of competences and the recognition of the value of non-formal learning and tacit knowledge has an impact on the functions of VET professionals.

Identifying and building on competences acquired seems to be the main form that this kind of approach is taking. *Bilan de compétences*, vocational guidance, validation and recognition of prior learning, valorisation of transversal professional skills and a focus on the cognitive dimension of learning are taking place both before and after training schemes and have a relatively significant impact on the tasks of educators and trainers.

5.2.3. Information and communication technologies (ICT)

Information technologies are penetrating both production and education and training on a mas-

sive scale, forging closer links between learning and production models.

Using the ICT as a support for learning requires a sustained commitment on the part of teachers and trainers. The fact that some teachers and trainers lack ICT skills and do not understand the educational implications of computer-assisted learning is probably the main barrier to progress in this field.

The introduction of the ICT is also breaking down the unity of place, action and time of the training process (databases, exchange networks, resource centres).

The introduction and use of the ICT in VET will have a radical impact on the role of teachers and trainers who will have the status of learning facilitators rather than providers of knowledge and skills (Cedefop, 1999p).

5.3. VET professionals and steering mechanisms

5.3.1. Responsiveness of education systems

If we are to think about VET professionals within the overall steering of systems, we need to break away from the traditional view of a coordination between education and employment, which is often synonymous with reactive adaptation. Primarily, VET needs to be able to identify real changes in the labour market and adapt to them. It should be borne in mind, however, that the institutionalisation of education also plays a part in the social construction of reality. The perception of the system by its players and the control that these players exert on the basis of knowledge specific to their professional fields then assumes a central role.

We therefore need to study the extent to which the professionalisation of trainers can have an impact on the steering of VET and its closer links with the labour market.

5.3.2. Professionalisation and new roles of teachers and trainers

The traditional approach to professionalising the jobs of teachers and trainers involves upgrading educational qualifications, especially in order to improve the training/facilitation role. The outcome of this method is progressively to align the function of VET teachers with that of teachers in general pathways.

The role of the groups of professionals distributed throughout the various organisational spheres of

learning (education and workplace) could possibly be diversified in order to make teachers and trainers more like human resource development (HRD) officers.

The main findings of Cedefop's comparative studies of the profiles of teachers and trainers were examined in section 5.1. We will now turn to the profile of HRD managers.⁵²

Box 1.16: Professionalisation

Roche (1999) defines professionalisation according to five criteria.

- (a) *economic*: acquiring the ability to live off one's professional activity. Paid work helps to forge a socio-occupational identity.
- (b) *ethico-philosophical*: introducing or reintroducing ethics into occupational activity.
- (c) *sociological*: obtaining a better social standing.
- (d) *psychological*: identifying key internal factors helps people place their work within economic and social change.
- (e) *educational*: inventing new methods of training which make it possible to acquire every dimension of the competence.

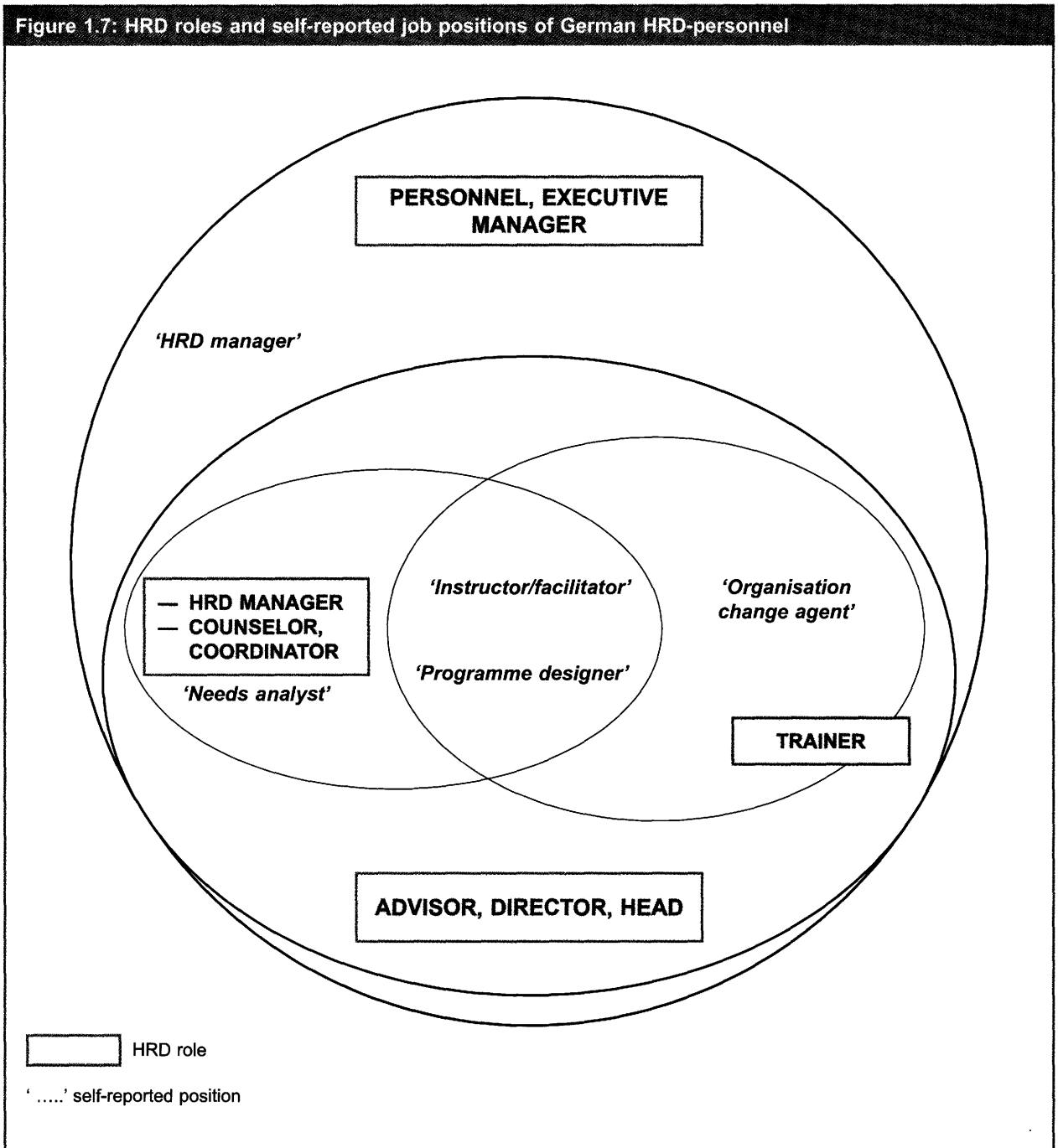
HRD professionals and their role

HRD professionals cover a wider range of tasks and functions than VET teachers and trainers. Figure 1.7 presents the functions reported by HRD managers themselves during a survey conducted in Germany (Odenthal & Nijhof, 1996, p. 69).

The functions of instruction/facilitation and programme design are cited by two thirds of professionals. These two functions are therefore essential. However, trainers also play a role in organisational reforms. In addition to their normal tasks, HRD managers and consultants carry out need analyses. Management consultants and directors carry out all the tasks listed.

At European level (de Rijk & Nijhof, 1997, p. 8), HRD work seems to be concentrated in two fields: trainer/facilitator and leader of organisational reforms (cited in four countries by a quarter of participants). This latter function therefore seems to be part and parcel of the work of HRD staff.

⁵² The material used by Lassnigg (2000) to analyse the role of VET professionals in the coordination and steering of the system was gathered from recent European projects (CEDEFOP, 1995a, b, 1997a; de Rijk & Nijhof, 1997).



Source: Odenthal & Nijhof, 1996, p. 69, Table 4.23 (figure produced by Lassnigg, 2000).

A comparison of the two profiles shows that HRD managers have more complex functions (often directly linked to administrative and consultancy functions) whereas in teachers and trainers' functions tend to be segmented along Taylorist and Fordist lines: teaching and facilitation tend to be quite separate from analysis, planning, development, evaluation, etc.

The following lessons can be drawn:

- examination of the tasks and functions connected with teachers and trainers and HRD occupations highlights their differing objectives and areas of activity; however, HRD professions may add a further dimension to the professionalisation of the education world;

- HRD staff undoubtedly have more complex roles which combine training and organisational functions;
- focusing on 'VET professionals' tends to broaden the usual focus on teachers and trainers to include all categories; as a result, professionalisation does not merely involve improving educational qualifications;
- extending the learning organisation concept to education institutions could help extend the range of functions of teachers and trainers (Lassnigg & Stoeger, 1999; Lassnigg, 1999).

The Europrof project (see Box 2.5 in Part 2) came to the same conclusions (Attwell, 1997a; Heidegger, 1997; Brown, 1997; Heikkinen, 1997). Attwell (1997a, p. 261) notes in particular that today's roles of teachers and trainers and HRD professionals tend to converge on the management of learning:

- the functions of VET professionals are being extended as a result of the expansion of continuing training and the emergence of new groups of learners;
- work organisation is gradually moving in the direction of the learning organisation model (linkage between work and learning processes);
- training for the unemployed is increasing the importance of counselling and development functions and the organisation of new programmes;
- learning in context and at the workplace has helped develop activities that integrate learning and practice (mentoring, tutoring, simulation, etc.).

5.3.3. Steering and professionalisation

What input do systems need to move towards professionalisation? How can professionalisation be used to steer systems?

The division of labour among VET professionals has evident repercussions in terms of steering and coordination. Any redistribution of roles within VET will affect the structure of education systems. It should be borne in mind that any policy to professionalise VET professionals would have a direct impact on the overall direction taken by training.

Current proposals based on steering by demand are intended indirectly to change the behaviour of teachers and trainers by enhancing external influences, for instance through quasi-market structures.

Market-oriented reforms currently in place (England and Wales, United States, Australia, New Zealand and Sweden) are having the following impact in terms of professionalisation (Whitty *et al.*, 1998, pp. 12-14):

- school principals are starting to assume an important role and becoming more like businessmen;
- work is becoming more intensive, without, however, any gains in terms of autonomy and professionalism; collective agreements are also being threatened;
- reforms have not improved standards for students while traditional aspects of education have been taken further (fragmentation of curricula, marginalisation of aspects that are not assessed, implicit curriculum for marketing purposes, etc.);
- external players have a very limited involvement; the professional market is strongly represented and there is a certain tendency towards vote-catching as regards parents.

5.3.4. Proposals for professionalisation

Heikkinen (1997) suggests a strategy of professionalisation which retains the specific nature of the different groups of VET professionals. Cooperation between players should be improved if they reach a better mutual understanding of their respective roles; what should be emphasised is expertise, practical knowledge and closer links with industry and professional life. Educational knowledge should be widely disseminated and continuing training programmes should be devised to enable professionals to carry out their new functions (administration, planning, research, etc.).

In England, Young et Guile (1997) suggest that the traditional aspects of professionalism (technical skill, reference knowledge, practical experience, sense of responsibility) should be supplemented by various components (ability to research and innovate, customer/consumer awareness, flexibility, familiarity with electronic learning) in order to develop a specialist profile (*connective specialist*) able to provide a link between technical know-how and teaching/learning. This new specialist should also be able to analyse the costs and benefits of training schemes in order to be able to convince company accounting departments of the value of the training schemes offered.

The Europrof project highlighted how fragmented the various groups of professionals are; at the same time, however, there is a trend towards con-

vergence of their functions. Formally integrating the different groups may well be a problem. There may be a number of alternative solutions:

- developing common elements in terms of IVT (level, method and content) and new functions (research, HRD-VET links);
- increasing cooperation with the working world and the social partners;
- introducing learner-oriented programmes and rich learning environments.

5.4. Conclusions

This chapter has attempted to describe the changing functions of VET professionals.

The new concept of the learning organisation, the development of the concept of competences, the methods by which these are produced and the introduction of communication technologies are making it necessary to look again at the functions of VET professionals so as to analyse the role they can play in coordinating and steering systems.

Professionalising the personnel responsible for in-company human resource development – a notion based on the development of learning organisations – can be seen as the opposite of steering by demand. The spectrum of tasks and functions of HRD may well provide a basis for the professionalisation of the various players involved in VET.

The segmentation of labour between different functions is changing and is leading to increasingly complex profiles. The concept of 'education' is being overtaken by that of 'learning' and organisational functions (development, planning, decision-making, assessment, accounting, etc.) are gradually becoming part of the teaching function.

Box 1.17: TSER project 'Teacher training, reflective theories and teleguidance: prospective and possibilities in teacher training in Europe' (thematic network)

The research analyses reflective competences training in initial teacher training for general secondary and vocational education, using teletutoring as an instrument in school-based training

This research includes the following activities:

- an inventory study of research activities in the field of IT related to the development of reflective competencies in training;
- four preparatory studies on the use of telematics as a reflection aid. These studies will focus on:
 - (a) development of instruments to measure the reflective skills;
 - (b) installation of the technical requirements for the research;
 - (c) development of hypothesis and research questions (they will focus on the effects of telematic intervention of teacher trainers in the reflection process);
 - (d) development of research agenda/ design for future research by partners involved.

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<http://www.ivlos.uu.nl/reflect/index.htm>

Part two

Lifelong learning and competences: challenges and reforms

In this part, lifelong learning is addressed from a pedagogic perspective, analysing the skills to be developed, the teaching and the methods to be put in place, the reforms to be implemented in education systems to ensure that courses are individualised and flexible, and new forms of skills acquisition in enterprise in connection with the restructuring into learning organisations.

The first chapter discusses the new educational paradigm underlying the strategy of lifelong learning. The way the concept has evolved, from its initial appearance in the 1970s up to the present day is analysed. The various elements of the current approach are considered, with a view to identifying reforms aimed at breaking through the isolation of these elements and implementing a holistic approach. The analysis endeavours to answer two questions: what are the factors justifying the introduction of lifelong learning strategy into the debate, and how does the lifelong learning strategy affect education and employment policy elements?

The chapter headed 'Competences, learning processes and didactic innovations for new occupational profiles' endeavours to show that curricular reforms are necessary to respond to changes in the labour market (emergence of competences and new occupational profiles). It begins with a brief look at the new requirements, labour market trends and the responsiveness of training systems. This introduction is followed by an analysis of the various competence elements and, in particular, of key/core competences. The way in which these concepts are transposed into curricula and related teaching practices is then considered. Follows an attempt to specify how the incorporation of generic skills and/or key/core competences into VET curricula can meet the new needs of the labour market (and of modern society in general) and respond to technological change.

To ensure a range of high-quality learning, VET must, among other things, incorporate new elements of flexibility and facilitate increased individualisation. This topic is addressed in Chapter 3. At European level, the debate is increasingly concentrating on the following priorities: improved coordination of initial and continuing vocational training; an increased use of modules in training streams, encouraging a more flexible approach to skills; creation of programmes combining vocational and general qualifications (dual qualifications in particular); addition of 'supplementary' qualifications to training options, facilitating individualisation of pathways and career development. These reforms are aimed not only at increasing flexibility and differentiation in VET, but also at making it more attractive and improving its status in relation to general education.

'...a modern enterprise [must] be continually open to its environment so as to import (learn) new knowledge and [...] to transform this knowledge and create new knowledge, making it part of the company's unique 'know-how' (Nyhan, 1999, p. 16). The work and organisational concepts currently being proposed involve new social links and improve the possibilities for dynamic professionalisation and for learning. However, learning integrated into the modern work process is radically different from pedagogically organised training. In the boldest scenarios, new forms of work are equivalent to new forms of learning. These concepts are analysed in Chapter 4.

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1. Lifelong learning: from creation of a concept to a new educational paradigm¹

In this chapter, we shall be looking at the concept of lifelong learning, from its creation in the early 1970s to its current meaning, and asking two important questions: what are the factors justifying its introduction into the debate, and what education and employment policy elements do it further? The majority of the subjects addressed here are covered in greater detail in other parts of the report, which means that readers will find many references enabling them to cover the various subject areas in greater depth.

1.1. Why lifelong learning?

In a society where globalisation, technical advances and communication technologies underline the increased importance of human capital, the advent of the concept of lifelong learning is accompanied by increasing awareness of the importance of processes of acquiring and updating knowledge and skills.

Learning is a process which has always accompanied individuals throughout their lives. However, today there is an awareness of the value of this learning, leading to institutionalisation of the various forms of knowledge and skills renewal. Another new dimension lies in the fact that while education used to be regarded as a social right of which people could take advantage if they wished, it is now seen as an economic duty which must be imposed on everybody (Carré, 2000, p. 50).

The rapid rate of technological change and the instability of the labour market force individuals to be prepared to perform several jobs in the course of their working life and face profound social changes. In this context, the initial phase of acquisition of knowledge and vocational skills no longer enables individuals to adapt effectively to the various stages punctuating their working life as a whole. Continuing training in its current form (often unregulated and detached from the initial education system) is also unable to provide an entirely satisfactory answer here. Individuals

need to be equipped with core and vocational skills, continuously updated within a cohesive system. The shortcomings of the initial and continuing training systems are leading the authorities to ask themselves various questions:

- What skills need to be acquired in the course of initial (general/vocational) training, which will not very rapidly become obsolete?
- What skills will enable the individual to derive maximum benefit from continuing training and from the various stages of learning?
- What links need to be established between schools and enterprises, to facilitate both the transition between these two structures and the acquisition of relevant skills, as well as responsiveness on the part of the systems?
- How can employers be encouraged to make a strategic and financial commitment to updating of knowledge and skills of their employees, including those of the lowest-skilled workers?
- How can access to education and training be ensured for individuals excluded from the labour market (the unemployed, excluded individuals of all kinds)?
- By what means are skills updated in new organisational structures characterised by a reduction in the segmentation of work?
- How can the different time points, places and channels of learning be combined in both institutional and pedagogic terms – both horizontally (the various general and vocational channels) and vertically (initial and continuing education and training)?
- Assuming that a solution is found to each of the previous questions, how can it be ensured that such a complex system is transparent for all the players?

Implementation of a policy of lifelong learning aims at answering all the above questions. In addition to the choice of skills to be imparted to individuals, the system's institutional model must be called into question.

1.2. First appearance of the concept

In the early 1970s, the concept of lifelong learning suddenly acquired a political dimension, given concrete expression by three similar but independent statements from the Council of Europe, Unesco and the OECD.

¹ This chapter is largely inspired by the paper by M. Ní Chaellaigh, 2000: 'Lifelong learning – How the paradigm has changed in the 90s'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 1 (published 2001).

At that time, implementation of a policy of lifelong learning was based on two basic elements: (1) extension of post-compulsory education to cover the entire lifespan, and (2) organising the system in order to cover all aspects of life in recurring fashion (work, leisure time, and even retirement).

Thus it appeared to be necessary to implement such a policy for the following reasons:

- alternative educational approaches to initial education need to be developed, to accompany the increasing recognition of non-formal learning and the growing diversity of learning materials and technologies, but in particular because of the wish to develop 'second chance' schools;
- the political will exists to ensure fairer access to education for all social groups;
- the education system is no longer able to respond satisfactorily to the changes affecting the world of work;
- it is realised that mass education can also mean exploiting certain opportunities later in life;
- education, social and labour market policies must be made cohesive.

The approach proposed in the 1970s focused on a vision of education regarded as systematic and institutionalised, with little recognition of options for learning outside formal institutions (except in certain countries, cf. for example the dual system). Of course it was accepted that simply to extend traditional education throughout life was no solution, and that new methods would be needed; however, there was a greater emphasis on the content of learning than on the processes or the learner.

The initiatives taken primarily consisted of promoting so-called open or distance learning. These measures mainly benefited those with tertiary qualifications, thus demonstrating their limitations in respect of the aim of mass education. The United Nations conference on '*Education for all*' (1990) also emphasised that the concept must aim at the 'universality and quality of initial or basic education for children and hitherto illiterate or undereducated adults'.

Moreover, Wain (1993) shows that the concept of lifelong learning appears to have been used by different authors with different meanings. In common usage, it was (and often still is today) synonymous with adult education.

1.3. Reappearance of the concept

The economic recession in Europe disrupted the implementation of an education policy that had emerged at the end of the 1960s. Structural economic changes linked to the crisis exerted increasing pressure on public finances, sometimes culminating in a reduction in budgets. To some extent, therefore, the concept was abandoned until the 1990s. That is why a large number of organisations, including the European Commission, appeared to recreate the concept. However, is our current perception of lifelong learning similar to the concept as originally put forward?

Many changes in the interim made it necessary to rethink the concept. Compulsory education was extended in many countries, and young people stay at school for longer²; the increase in youth unemployment (although this now appears to have been declining for several years) led to access to upper secondary education being developed; new programmes with a vocational component were introduced into non-university higher education, sometimes including periods of work experience; certain concepts, such as that of alternance training, became more widespread; the demand for education later in life was rising, even extending to people in retirement. Post-secondary and adult education attempted to respond to these demands by offering short and modular courses, some of them including a practical component. Distance learning, part-time studies and open universities developed. Thus education provision diversified and to some extent courses were individualised. Non-formal learning linked to work experience began to be recognised.

In order to combat unemployment, measures were implemented with a view to facilitating the transition of young people from the education system to the labour market (e.g. the Youth Training Scheme in the UK); training was developed for the unemployed and the long-term unemployed, along with training programmes for women returning to the labour market.

The question of competitiveness and performance has come to the fore on the labour market. Enterprises have increasingly been confronted with new needs, in order to adapt not only to technological change but also to innovations in work organisation (products and processes, management methods, work structure and globalisation of markets).

² The TSER 'EDEX' project (see Box 4.5 in Part 4) deals with these questions.

These developments have accelerated the depreciation rate of skills and knowledge acquired before entry into and during working life.

Thus since the concept of lifelong learning first appeared, the labour market and education systems have been affected by profound changes, associated in particular with technological advances and the demographic trend.

These changes have shown the importance of the idea of employability, which refers to the need to develop and maintain workers' skills, equipping them with the knowledge and ability necessary to stay in employment throughout their working lives. To this end, individuals need to be empowered to influence their own employability by becoming independent (self-directed), lifelong learners. In this context, lifelong learning must be seen as a requirement and as a right for all.

Box 2.1: Lifelong employability

The ILO's Committee on Human Resources, Training and Development (2000) has adopted a broad definition of employability, in terms of a person's ability to secure and retain a job, to progress at work and to cope with change throughout their working life.

According to the ILO (1998, pp. 116-118), 'a major issue facing training systems nowadays concerns the development of workforce skills from a lifetime perspective'.

Since there are considerable doubts that initial training can now suffice for the employment needs of a lifetime, enterprises which actualise learning and proficiency are powerful assets in the maintenance of lifelong employability. If employers are reluctant to extend lifelong learning to the entire workforce or to share the regulation of worker training, it is up to the public authorities to promote lifelong employability by assisting individuals to train at their own expense (subsidised loans, training vouchers; see Part 1, Chapter 2).

Skills certification can encourage individuals to invest further in their own skills (see Part 1, Chapter 4). Modern communication methods – including TV-based technical courses and the open learning institutions – allow adults to learn at their own convenience, as correspondence courses did for many earlier generations.

Sources: ILO, 1998, 2000.

In its current sense, the concept is gradually putting the emphasis on the idea of 'learning' at the expense of that of 'education/training' (teaching). This means that the individual must be autonomous and take responsibility for choosing his/her own training, provided that he/she is provided with the

necessary prerequisites to assume this role (see Box 2.12). This new approach puts individual at the centre of the process and made the active party in his/her training, rather than simply being a 'receptacle' for knowledge. Thus in the debate at least, we are moving from an instructive-based approach to learning to a constructive-based approach.

Box 2.2: Lifelong learning: important stages at European and international level in the 1990s

1995

Publication of the European Commission's White Paper on 'Teaching and learning – towards a learning society' (European Commission, 1995a).

1996

- European Year of Lifelong Learning.
- Conclusions of the European Council of 20 December 1996 on a strategy for lifelong learning (European Council, 1997).
- OECD ministers adopt the goal of lifelong learning for all, specifying that it is a continuous process extending from infancy to retirement (OECD, 1996i).

1997

European Union Employment Ministers make lifelong learning a key element of employment strategy.

1999

At the Cologne European Council, the European Commission and Member States agree on a common definition: 'All purposeful learning activity, whether formal or informal, undertaken on an ongoing basis with the aim of improving knowledge, skills and competences' (European Council, 1999).

1.4. Dynamics

The facts available to us in the literature lead us to suppose that development of a policy of lifelong learning is based on political rather than social reasons. The first stage of the national strategies seeks, for the most part, to promote:

- investment in skills associated with the working environment with a view to increasing competitiveness;
- employability, by helping individuals fully to develop their potential, in particular the unemployed and other disadvantaged groups, in order to prevent social exclusion;
- quality, efficiency, efficacy and accessibility of measures supported by the State.

Table 2.1: Main emphasis of national lifelong learning strategies							
Council Decision (1996) – fields of development of lifelong learning	Points covered by national strategies						
	DK	F	IRL	NL	FIN	UK	N
Challenges for the education system							
1. Efforts to combat illiteracy & improve communication skills			x	x	x	x	
2. Promotion of scholastic success				x	x		
3. Reform of schools and school management/improvement of curricula	x	x		x	x		
4. Provision of advice and quality guidance		x	x	x	x	x	
5. Promotion of schools in the community (also as an educational resource)							
Economic and social considerations							
6. Specific measures for the long-term unemployed, including young people who have left the school system prematurely without qualifications	x	x		x		x	
7. Facilitation of transitions within schools and from school to training				x			
8. Provision of initial training programmes as a direct response to the requirements of contemporary life	x	x		x	x	x	x
9. Active partnership between education, training and working life	x	x		x	x	x	
10. Workplace role as a learning environment		x		x	x	x	x
11. Development of local communities through education and training							
12. Learning in informal systems		x	x		x	x	x
13. Construction of bridges between informal and formal education		x					
Continuing education and training							
14. Social partnership		x		x		x	
15. HRD strategies in the workplace					x		
16. Stimulating investment			x	x		x	
17. The role of tertiary education vis-à-vis adults and working life	x		x			x	x
18. Creating bridges between work and education	x						
11. General education for adults to reinforce personal development and job options	x						x
Bridges and links between general and vocational education							
20. Closer links between general education and all types of vocational education and training	x						
21. Active involvement of students in the learning process				x		x	
22. More work experience and more possibilities for accrediting it		x			x		x
23. Access, certification		x				x	
24. More flexible tools for certification and accreditation	x	x		x	x	x	
25. Methods of accrediting earlier learning and experience		x		x	x		x
26. Access to higher education					x	x	
27. Large-scale dissemination of information on training opportunities	x	x			x	x	x

Table 2.1 (contd.)

	DK	F	IRL	NL	FIN	UK	N
28. High-quality initial, in-service and continuing training for teachers and trainers	x			x	x		
29. Distinguishing of the roles of the adult educator	x		x				
The role of new technologies							
30. Flexible access and delivery utilising technologies and distance education	x	x	x	x	x	x	x
31. Availability and utilisation of multimedia tools in educational institutions			x	x	x	x	x
32. Training of teachers in the use of multimedia tools				x	x		

Sources: compiled by Ní Cheallaigh (2000) based on:

- 10-point programme on recurrent education, Copenhagen: Danish Ministry of Education, 1995;
- La formation professionnelle: Diagnostics, défis et enjeux, Paris: Secrétariat d'État aux droits des femmes et à la formation professionnelle, 1999;
- Adult education in an era of lifelong learning, Green paper on adult education, Dublin: Department of Education and Science, 1998;
- Lifelong learning: The Dutch initiative, Zoetermeer, Ministry of Education, Culture and Science, 1998;
- The joy of learning: a national strategy for lifelong learning, Helsinki, Ministry of Education, 1997;
- The learning age: a renaissance for a new Britain, Green Paper, London: HMSO, 1998;
- New competence: the basis for a total policy for continuing education and training for adults. (NOU 1997:25 – Abridged version), Oslo: Ministry of Education, Research and Church Affairs, 1997.

Most strategies recognise, to varying degrees, the importance of lifelong learning for citizenship, individual wellbeing and the future of society (e.g. in Finland), but they focus more strongly on material and economic aspects. Table 2.1 contains a summary overview of the strategies employed in various countries in relation to the Decision of the European Council (European Council, 1996).³

1.5. Essential elements of the current concept of lifelong learning

At this point we shall examine the essential elements of the new concept put forward, in order to

bring out the challenges thus set for States, education systems, enterprises and individuals.

1.5.1. Initial education and training for young people: a minimum learning platform

Despite the reduction in the size of the youth cohort as from the mid-1980s and the expansion of sectors capable of providing more jobs for young people, the situation of young people on the labour market is less good, comparatively speaking, than that of adults (despite a fall in youth unemployment in the past few years, see Part 4, Chapter 1).

Many organisations, including the ILO (1998), are expressing increasingly serious doubts about the current ability of initial training to develop skills in the labour force for the whole of working life.

Moreover, many empirical studies show that individuals with a higher level of initial education derive more benefit from continuing education and training measures throughout the rest of their lives.

These arguments militate in favour of an initial education system capable of equipping young people with foundation skills enabling them to become lifelong learners.

³ This table summarises the Council's recommendations and omits pre-school education. It may also suggest that the countries shown are more active than the others are. The countries included are characterised by implementation of a global strategy in this field. Denmark will be including large-scale vocational programmes as from 2000. The United Kingdom has published *Excellence in Schools* (DfEE, 1996). Since 1996, Norway has been making great efforts to implement its 94 reform at upper secondary level. In Ireland a white paper entitled *Human Resource Development* (Department of Education and Science, 1997) has been published by the Department of Enterprise, Trade and Employment.

Thus initial training appears to be a tool preparing individuals to acquire an adequate level of employability and adaptability, by equipping them with the necessary capacities and skills to orient themselves and adapt, throughout their lives, to changes in occupations and working environments.

However, initial education and training do not currently seem to be performing this function. The skills cited as essential to a good start on the labour market include basic literacy and numeracy skills. Few data are available on the skills levels of individuals leaving the education system, to enable us to assess the size of the effort required in order adequately to equip young people. According to McIntosh and Steedman (1999), taking the TIMSS⁴ results as their basis, a substantial proportion of individuals leaving school at the end of compulsory education (ISCED 0-2) have insufficient numeracy skills to ensure that they are employable and can update their qualifications. This study establishes that technological change is likely to increase the demand for qualifications, and that the ISCED 0-2 (at best, diplomas of lower secondary education) and ISCED 3 (diplomas of upper secondary education) groups will be obliged to update their skills in the course of their working lives.

On the basis of these two conclusions, McIntosh and Steedman (op. cit.) maintain that it is essential to raise the skills level of the lowest qualified individuals. This is what is required in order to ensure that the entire population will have the necessary potential for lifelong self-directed learning.

With regard to literacy levels, IALS results (see Box 2.4) show that young people (16-25 years old) have a higher level of literacy than adults aged 46-55 (Table 2.2). Thus young people are better equipped than their elders as regards their basic reading skills. However, it should be noted that in the majority of the countries studied, only around two thirds of young people achieve at least literacy level 3, which is described as the minimum necessary to cope with the demands of our advanced societies.

Development of a minimum platform of foundation skills assumes the acquisition of, in particular:

- a series of generic skills, such as literacy, numeracy, learning to learn, self-organisation,

⁴ Third International Mathematics and Science Study.

Table 2.2: Percentage of the population achieving a score of 3 or more in the IALS literacy levels (1994-95)

Country	Literacy level 3 or higher	
	16-25	46-55
S	80	73
NL	77	52
B(FI)	76	52
CA	67	46
CH	67	45
D	66	58
AU	62	49
UK	56	47
IRL	50	34
US	45	51
PL	35	17

The IALS survey distinguishes five levels of literacy, including: **Level 3:** this level is regarded as the minimum required to cope with the demands of everyday life and work in complex and developed societies. It is roughly equivalent to the level of skill required to complete secondary education successfully and enter higher education. Like the higher levels, it requires the capacity to integrate several information sources and resolve complex problems.

Levels 4 and 5: these levels describe respondents who demonstrate high-quality information-processing skills.

Source: OECD, Statistics Canada, 1997.

self-responsibility, ICT skills, problem diagnosis and solving, teamwork, communication, etc.;

- key/core competences, transferable within occupational groups, since initial education and training no longer prepare individuals for the whole of their working lives, and specific theoretical and practical knowledge must be replaced by widely applicable vocational competences.⁵

These skills and competences cannot be acquired in a traditional scholastic environment alone.⁶ Reforms must be implemented, in order:

- (a) to facilitate integration of these skills/competences into the curricula of both general and vocational education;

⁵ See Chapter 2 for an analysis of the components of the skill/competence concepts.

⁶ Chapter 2 discusses the skills and competences required to cope with changes in the world of work and takes up some teaching proposals drawn from pilot projects aimed at the acquisition of generic skills and/or key competences.

- (b) to facilitate their acquisition by means of changes in teaching processes;
- (c) to create combined training channels (alternance) to permit contact with the world of work right from the initial training stage, etc.

The countries participating in the *Newskills* project (F, NL, P, S, UK – McIntosh & Steedman, 1999)⁷ reached agreement on the content of a minimum learning platform, identifying the following skills/competences:

- all forms of communication, including quantitative literacy⁸ and self-presentational skills, which require a good command of one's mother tongue and basic numeracy skills;
- knowledge of a foreign language (preferably English);
- a minimum level of understanding and mastery of ICTs.

Personal and social skills are also becoming increasingly important: the capacity for self-directed learning, the ability to respond to unforeseen situations at work and to manage interpersonal relationships effectively, and the ability to manage one's time and one's work independently.

McIntosh and Steedman also emphasise that in all European countries, the vast majority of schools fail adequately to prepare young people to take advantage of continuing training provision, even though certain teaching reforms and innovations have been implemented (see Chapters 2 and 3). More seriously, some young people leave initial vocational training with an aversion to learning and are reluctant to participate in any further training.

In Europe, education and training for young people are dominated by four types of education, whose respective importance varies from country to country: general education, school-based VET, alternance training, and training measures restricted exclusively to the workplace. Figure 2.1, based on the VET data collection (Eurostat), shows the distribution of young people at upper secondary level among the various types.

⁷ See Box 5.20 in Part 5.

⁸ Quantitative literacy: the knowledge and skills required to carry out isolated or sequential arithmetical operations with figures included in printed material (e.g. checking the amount of a bill, filling in an order form, or establishing the interest level of a loan in an advertisement).

Box 2.3: Initial education and training: current international statistical sources

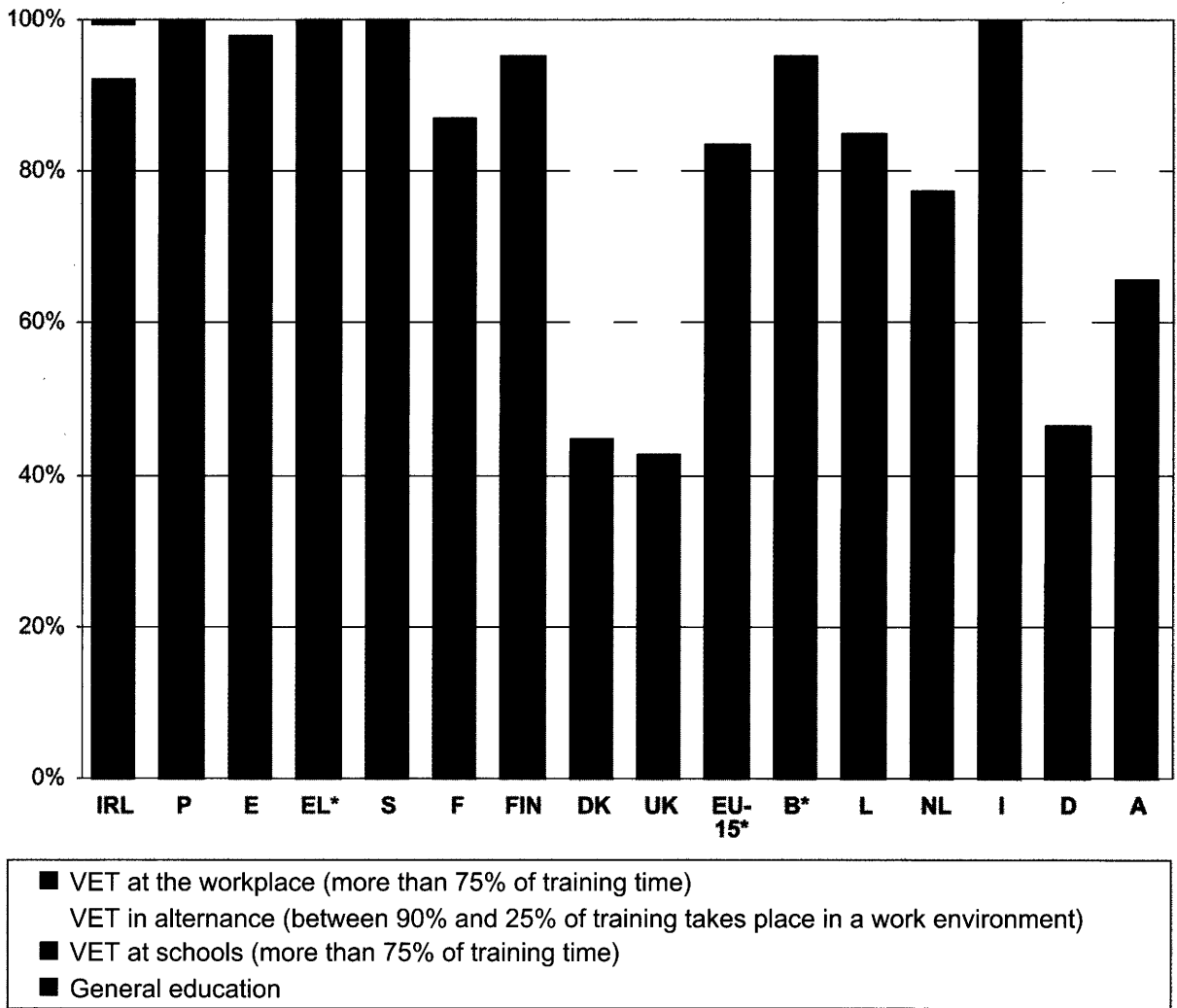
Two international sources offer comparable statistical information, updated annually, on initial education and training.

(a) The UOE data collection (UNESCO/OECD/Eurostat) is a tool used by the three organisations to compile each year, from administrative sources, comparable international data on important aspects of education systems. The data collected relate to student numbers, new students, successful students, teaching staff, establishments, and expenditure on education. The data are classified by level of education, sex, age, type of programme (general/vocational), type of teaching (full-time/part-time), type of establishment (State/private), field of study and nationality. In order to be included in the field of the survey, a programme must take place at least partly within an educational establishment.

(b) The main objective of the VET data collection (Eurostat) is to collect comparable data on VET programmes in EU and EFTA (European Free Trade Association) countries and to produce statistical indicators for the use of political decision-makers. The statistical data on the participants are compiled programme by programme. The main characteristics of each programme, such as duration, training venue and method of financing, are also collected. Training programmes are included in the scope of the data collection when they enable all the necessary skills to exercise an occupation to be acquired, thus permitting labour market access, if they are of secondary, or higher non-university, level, and last (for the main field of data collection) at least 600 hours.

The initial stage of education and training is crucial, since it represents a unique 'investment' in the founding of skills on which individuals can rely throughout their lives. Through the medium of a minimum education and training platform, young people will be able to develop basic skills and key competences on which they can base and build up their later learning.

Figure 2.1: Distribution of participants by general education and by vocational education and training in upper secondary education (ISCED 3), 1995-96, EU-15, %



UK: no data available for venue of training.

* Estimation.

Source: Cedefop, European Commission, Eurostat (forthcoming); countries sorted by general education.

1.5.2. Continuing education and training in the private sector

Enterprises and individuals play a key part in the strategy of lifelong learning. They must be involved in developing their potential through the expedient of government policies designed to create a favourable economic and social environment.

Box 2.4: Continuing education and training: current international statistical sources

Four international sources currently provide comparable statistical information on training in the workplace and adult education.

(a) The Community labour force survey (CLFS, Eurostat – EU) collects data relating to the working life of individuals. It enables information to be obtained on the highest level of education attained

and on training received in the four weeks prior to the survey (<http://europa.eu.int/comm/eurostat/>).

(b) The Continuing vocational training survey (CVTS, Eurostat – EU) was carried out for the first time in 1994, and was repeated in 2000. It collects information from employers on the training organised by the enterprise in the previous year (Eurostat, 1997; European Commission, 1998a).

(c) The European Community household panel (ECHP, Eurostat – EU) collects data of various kinds from households. It enables information on adult education to be obtained. However, the possibilities for analysis are limited owing to the size of the sample and the poor definition of some categories (<http://europa.eu.int/comm/eurostat/>).

(d) The International adult literacy survey (IALS – OECD) was carried out in order to identify the scope and nature of the literacy problem and to make it possible to investigate the factors influencing the development of adults' skills in different (working and home) environments in different countries. The survey results for seven countries were published (CA, D, NL, PL, S, CH, US; OECD & Statistics Canada, 1997).

The European Commission and Eurostat, with the support of various organisations including the OECD, Unesco, Cedefop and Eurydice, have set up a task force under the name of 'Measuring Lifelong Learning', whose aim is to propose measurements for lifelong learning, covering its many aspects. This task must be carried out in keeping with the European Commission's political orientations in the international context, and in accordance with the European definition of the concept of lifelong learning (see Box 2.2).

1.5.2.1. Work organisation and learning enterprises

Governments have authorised many efforts to encourage enterprises to invest in training, since the increase in the quantity of training is based on private investment, emanating primarily from enterprises.

Enterprises are facing a need for restructuring and for updating of their workforces' skills, to which training offers an essential response.

Over and above organising training courses, some enterprises tend increasingly to integrate learning and training into the work process and involve themselves in higher education and research. Certain enterprises appear to go as far as modifying their work organisation and to develop on the lines of the learning enterprise model.⁹

⁹ See Chapter 4 for an analysis of progress towards this organisational method; see Part 3, Chapter 1 for an analysis of developments based on empirical results.

In restructuring their human capital, such enterprises turn towards forms of learning integrated into the production process, with the work process replacing the classroom or training centre (the focus being on development rather than training; see Chapter 4). Teamwork, job rotation, coaching and mentoring, training workshops, quality circles, the intranet (or other ICTs), exchanges with other enterprises, dealing with customers, and self-directed learning using distance learning aids, to name only some of the methods used, offer employees opportunities to develop their skills.

The transition from a traditional division of labour to new organisational methods incorporating the learning dimension cannot be effected in one day, and requires the active involvement and support of management and workers.

Generally speaking, human resource development (HRD) is part and parcel of the policies of many enterprises in Europe, the US and Japan (see Chapter 5.1. of Part 3 of this report).

1.5.2.2. Cooperation among players

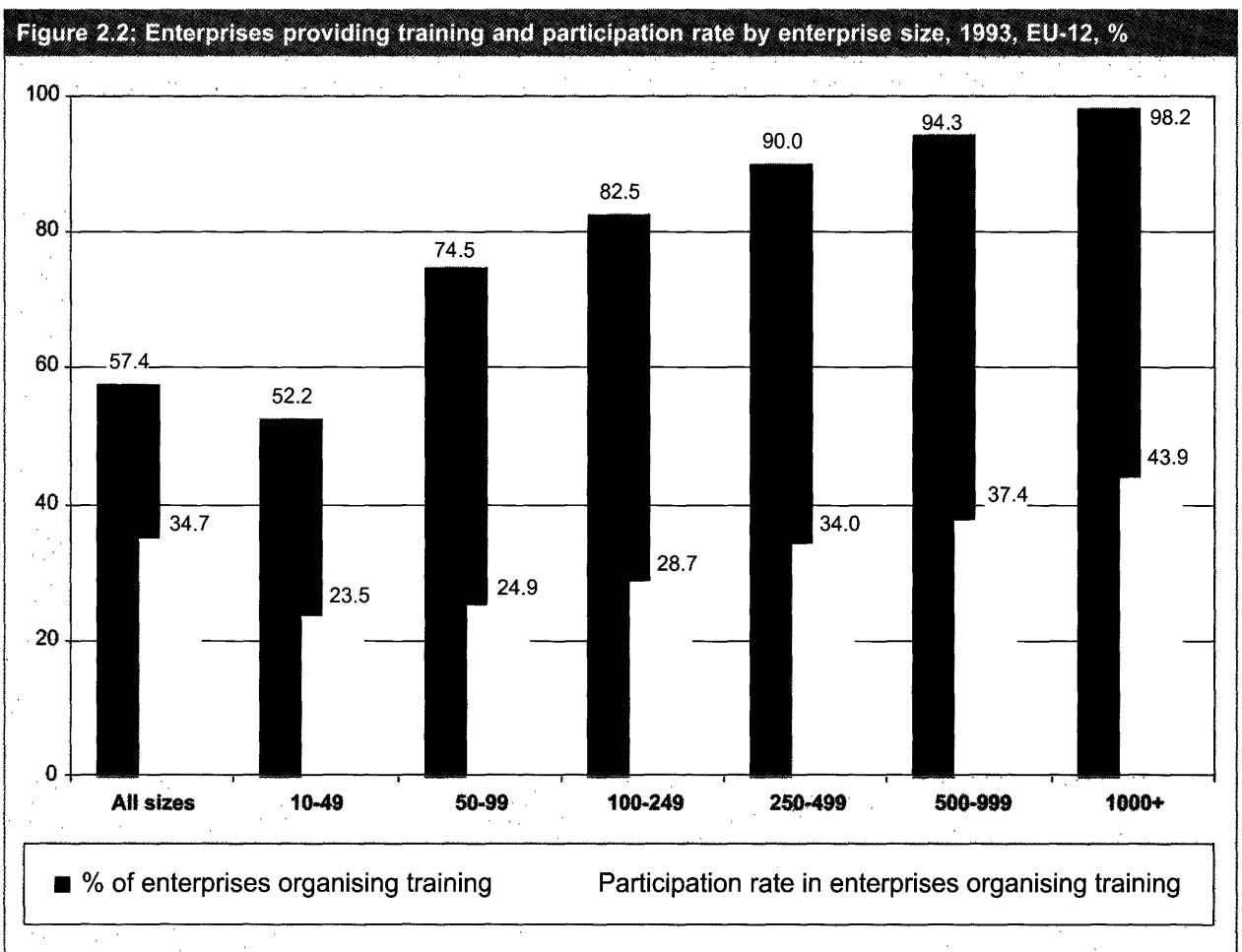
When training takes place outside the enterprise, it is not easy to match the content of the measure to the enterprise's specific needs: firstly, it is difficult for employers to define the skills they need, and secondly, the skills acquired are not transferred directly to the work environment.

In Denmark, the OVE project (Bottrup, 1995) showed that collective involvement of the various players is needed – workers, management, managerial staff, teachers and training institutes – in order to stimulate relevant learning and cross the boundaries between training providers and enterprise. There must be ongoing cooperation in preparation, training and its evaluation/follow-up, to facilitate the transition between work and training and vice versa. This project also showed that skills are acquired better in context, i.e. in the context of the working environment and not in isolation, in institutions.

1.5.2.3. Small and medium-sized enterprises

Empirical studies have shown that SMEs favour experiential learning¹⁰, often relatively unplanned, rather than formal continuing training. Figure 2.2 shows that SMEs organise less formal training than larger enterprises do.

¹⁰ See Table 2.10 for a definition of this term and of the various types of learning it covers (see also Chapter 3.5 in Part 3 for a discussion on training in SMEs).



Source: European Commission, Eurostat, Cedefop, 1997.

Research conducted by Cedefop into micro-enterprises in the sales, car repair and printing sectors (1997b, 1998f, g) emphasises that individuals who have had no initial training derive less benefit from informal continuing training. Workers who have received initial vocational training are more capable of taking the initiative with regard to updating their know-how and skills, while the lowest qualified workers are more dependent on others. In the car repair sector, trained mechanics learn:

- by solving problems themselves;
- by carrying out regular job rotation;
- by dealing with customer complaints;
- by doing work that is increasingly complex.

Mechanics with no initial training tend to ask their superior for help or to watch an experienced colleague. Thus they derive less benefit from

informal learning than the first group (trained mechanics).¹¹

1.5.3 Non-formal learning: identification, assessment and recognition¹²

Development of a methodology for identifying, assessing and recognising non-formal learning must be regarded as a crucial stage in preparing to implement a strategy of lifelong education and training. It is becoming important to link various forms of learning in all areas of life (*lifewide learning*) at various stages of life (*lifelong learning*).

This approach involves establishing bridges and links between a wide variety of fields of learning,

¹¹ For an analysis of the particular problems of SMEs, see Chapter 3.5. of Part 3 of this report.

¹² Chapter 4 of Part 1 of this report is partly devoted to this subject.

facilitating combinations and synergies that would be inconceivable within traditional institutional systems.

These bridges are:

- within the formal education and training system, (a) *vertically* between initial and continuing education and training (e.g. by facilitating combination of self-contained training modules); (b) *horizontally* between different education and training streams (e.g. facilitating a move from VET to general education by means of a common-core syllabus in the curriculum of the two streams);
- between the national and transnational levels, enabling individuals to combine skills and qualifications acquired in different systems and cultures (e.g. the computer driving licence or the personal skills card suggested by the European Commission);
- between formal learning (initial and continuing education and training) and non-formal learning (on-the-job, in one's free time, at home, etc.), e.g. through mechanisms for identifying, validating and recognising experience acquired, such as the French *Bilan de compétences* (Bjørnåvold, 2000c).

Identification and recognition of individuals' competences is a key factor in establishing the above-mentioned bridges.

Knowledge acquired in the workplace or in other situations in everyday life is rarely taken into account or recognised. Little has been done to develop procedures for assessing this informal knowledge. It has now been established that experiential learning constitutes a major element of continuing training in the enterprise, particularly in SMEs and micro-enterprises. There is increasing acceptance of the need for accreditation mechanisms enabling this type of learning to be assessed and recognised, in order to make individuals' competences more visible (see Chapter 4 of Part 1), and for the creation of a system of interchangeable qualifications (see Chapter 3 in this Part).

Furthermore, enterprises can use human resources accounting as a method of assessing intangible assets, i.e. the value of an enterprise's human capital in terms of competences and know-how not apparent from a curriculum vitae or certificates and diplomas (see Chapter 5.2. of Part 3 of this report). This approach enables private enterprises to promote themselves with investors and future employees, and to workers concerned with their career development or wishing to change jobs.

1.5.4. Teachers and educators¹³

School-based education is a fundamental element of implementation of a strategy of lifelong learning. Unesco's report 'Learning: the treasure within' (1996), reaffirms the irreplaceable value of institutionalised learning. If one supports this view, teachers and educators have a crucial role. The teaching population is ageing – admittedly to a moderate extent – and a large proportion of it is now in its 50s (with wide variations from one country to another – from 43% in Sweden to 13% in Austria). The majority of teachers working in 1998 were likely to have been trained before the 1980s (OECD, 1998g). As with most other occupations, initial teacher training then followed (and often still follows) a model of Taylorist specialisation. In 'modern' schools, teachers are increasingly asked to work in line with the learning organisation model. This involves teamwork, a broader definition of functions, administrative tasks, etc. The continuing training measures proposed do not appear to enable teachers to adapt sufficiently to these new requirements.

Lassnigg (2000) suggests professionalising teaching, in particular by training teachers to perform tasks for which human resources managers are responsible in enterprises, instead of systematically focusing on updating on the educational function (see Chapter 5 of Part 1). The author draws attention to the essential part to be played by VET professionals in steering systems and their modernisation.

In its conclusions, EUROPROF recommends organising new forms of education for both VET and HRD professionals, 'based on a new teaching system which recognises the links between technology, education, training and work' (Brown, ed., 1997, p. 115).

The new educators will be multidimensional, combining educational and professional competences. Their training will need to be based on broad profiles, and to focus on knowledge of work processes and key qualifications, facilitating the transfer of learning both within a family of occupations and into associated domains. This will open the way to a university discipline entitled 'VET pedagogy' (Brown, ed., 1997).

¹³ For a more detailed analysis of the new challenges facing teachers and trainers, readers are referred to Chapter 5 of Part 1 of this report.

Box 2.5: LDV project 'New Forms of Education of Professionals in Vocational Education and Training (EUROPROF)'

EUROPROF is a two-year research programme which is being carried out by an international team bringing together 16 partners drawn from research institutes and universities in 14 different European countries. The project is sponsored by the European Community Leonardo da Vinci programme.

The long-term aim of the project is to develop a 'community' of VET researchers and practitioners and the 'professionalisation' of VET as a discipline and a profession in its own right. In the shorter term the project aims to build an international network of VET researchers and to develop new qualifications for VET professionals, planners, teachers and trainers, through a European Masters (MA) qualification to be offered in universities in different European countries.

Source: EUROPROF web page: <http://www.itb.uni-bremen.de/PROJEKTE/europrof/Default.htm>

In the workplace, the tutor's and trainer's role is experiencing a situation in which initiation and supervision are becoming less important and are being replaced by team management and organisation, definition of tasks and development of colleagues' potential. Longworth (1999) speaks of 'learning counsellors' who guide and facilitate the learner's activities, whatever the learning venue – school, work, etc.

A more constructivist concept of learning

In recent years the concept of comprehensive education has come into being, along with a change in the basis of learning theory: the constructivist perspective acknowledges the essential role of learning by action.¹⁴

These developments involve a fundamental change in the functions and roles of training staff.

The learner is no longer regarded as a passive receptacle which must take in knowledge. Teachers and trainers must gradually adapt in line with the active and reflective part played by the learner. Table 2.3 illustrates the various dimensions of this change of perspective, in terms of both the way in which individuals learn and the pedagogy and methods.

Table 2.3: Constructivist and instructionist principles of teaching and learning.

Teaching and learning from the instructionist perspective	Teaching and learning from the constructivist perspective ^(a)
Learning is passive (the individual is receptive), largely linear and systematic.	Learning is an active/constructive, self-governed process, based on situations, with results that cannot be foreseen.
The teacher teaches, demonstrates, explains; the student copies and integrates.	The learner plays an active, largely self-determined part. The teacher becomes an adviser and helps to structure the learning process.
Learning content is seen as a closed system of knowledge and elements.	Learning content and knowledge are not defined in isolation, but conceived as being dependent on individual and social contexts.

(a) Implementing constructivist learning does not mean that the stages of transmission of knowledge disappear, but that they are incorporated into more active forms of learning and contextualised.

Source: Authors, based on Dehnbostel & Dybowski, 2000.

Generally speaking, for both teachers and trainers, the transition from instructionist education to a constructivist approach¹⁵ involves completely redefining duties within the enterprise, training establishments and schools. Hitherto, teachers and trainers have taught, demonstrated and explained. In the new forms of learning, they will be advising and structuring processes.

1.5.5. Disadvantaged groups

In the new paradigm, institutionalisation and rationalisation of learning are based on the assumption that every individual must be a life-long learner, i.e. must have the capacity to learn, the necessary tools and access, while being responsible for choosing his/her own route. In the

¹⁴ Cf. Tessaring, 1998b, pp. 182 ff.; Straka & Stöckl, 1998.

¹⁵ In which the individual plays an active part and content is contextualised and influenced by the problems encountered, which means that the teaching situation is less foreseeable and incorporates practical aspects to a greater extent, indeed completely.

current participation model, however, lifelong learning appears to be 'elitist', since it favours individuals with a higher level of initial training (OECD, 1999e). The ILO (1998) emphasises that education and training are primarily available to adults who have a head start and are most highly integrated into the labour market. Furthermore, it is the highest categories of staff who derive most benefit from training (OECD, 1996j; Pfeiffer, 2000). Research has also shown that the direct influence of factors such as social origin is less strong today, but that they exert an indirect influence in terms of access to and success in education and training programmes (see Part 5 of this report).

Specific measures must be aimed at various target groups in order to prevent any increase in inequalities as regards access to education.

(a) *First target group: young people who leave secondary education without reaching upper secondary level*¹⁶. This group has to overcome a double obstacle on a highly competitive labour market: a lack of both qualifications and experience. Moreover, being unemployed reduces the opportunities for acquiring experience and training. Hence this group is more exposed to the risk of entering the vicious circle of social exclusion (state dependence, see Part 4, Chapter 4). The EU's Employment Strategy plans and specific initiatives at national level are tackling this group's problems (Youthreach – IE, New Deal – UK, Programmas de garantia social – E, etc.).

However, in many Member States the main problem is still the shortage of jobs. Programmes preparing young people to enter the labour market by encouraging them to take their own – lifelong – learning in hand in order to ensure that they are employable do not create jobs per se. Actual training courses for young people, leading to qualifications, should be put in place to make them more eligible for job vacancies (see Part 4, Chapter 4.1.; Bollens, 2000).

(b) *Second target group: lower qualified workers*.¹⁷ The minimum level of qualifications required for access to the labour market has now

been raised to that of upper secondary education, and many adults in the population of working age are below this level. The results of the international adult literacy survey (IALS; OECD & Statistics Canada, 1997) confirmed the need to promote basic education and work-related skills among adults.

McIntosh and Steedman (1999) note that in the workplace, the lowest qualified workers (ISCED 0-2) have limited access to training measures organised by employers (Table 2.4). It also appears (IALS) that when they have the same access, the lowest qualified are more reluctant to participate in a training measure. There are two possible reasons for this scenario: (1) these workers are less aware of the potential benefits of training (for example, they do not necessarily receive a wage increase); (2) they have a more negative perception of school and learning. The formal adult education and training system is failing because it replicates the education system and is not attractive to lower qualified individuals who are already in the active population.

A general consensus emerges among players as regards governmental responsibility vis-à-vis training for disadvantaged groups. However, an individual's occupational survival in our modern

Table 2.4: Participation of employees^(a) in continuing education and training in a workplace context in previous years, by level of education, 1994-95, %

Country	Level of education			
	Below ISCED 3	ISCED 3	ISCED 5	ISCED 6-7
Participation rates				
B (FI)	8	23	36	41
IRL	16	24	32	41
NL	24	37		49
UK	44	59	69	79
PL	9	24	25	33
CH (Fr)	7	26	45	37
CH (D)	11	37	44	45
CA	21	28	49	56
AU	30	38	50	60
US	19	35	57	70

(a) Employees: 25-64-year-olds, mainly working full-time (over 30 hrs/week) for at least 42 weeks in the past 12 months and not having student status.

Source: OECD and Statistics Canada/IALS, 1997.

¹⁶ Chapter 2 of Part 5 of this report describes the many facets of the process of transition between the education system and working life.

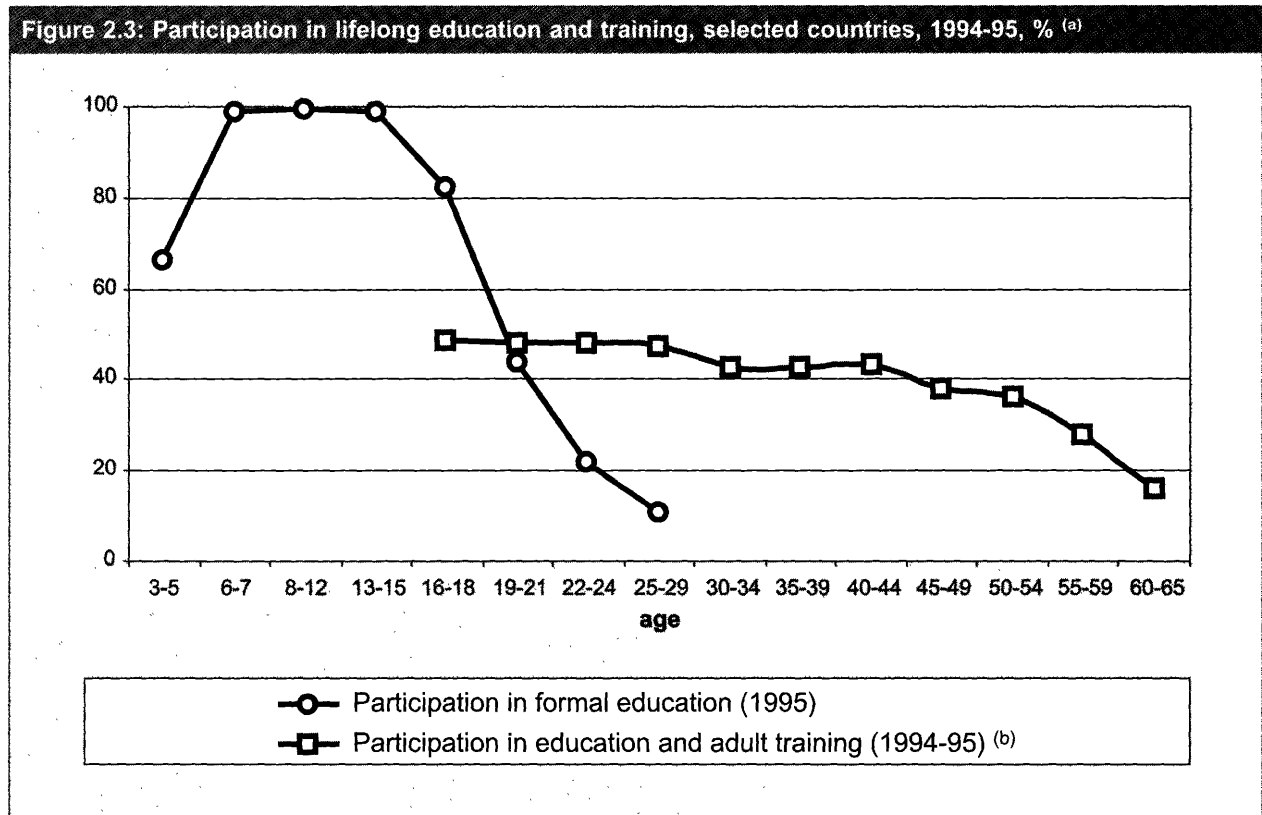
¹⁷ Section 3.3. of Part 5 deals with this group's particular problems.

society is also dependent on opportunities for continuing training in the workplace. Trade unions play a crucial part in negotiating the rights of workers to training, particularly as regards the lower qualified or those with a more precarious occupational status (part-time or fixed-term contracts).

(c) *Third target group: older workers*, whose rate of participation in continuing training is also below average (Figure 2.3). They also receive fewer hours of training in the context of their work (Table 2.5). Over the next years, most European countries and Scandinavia in particular will experience an ageing of their populations, which will affect the workforce – fewer young people will come onto the labour market, and their entry there will be delayed by an increase in the duration of their initial education. Here, Unions can play an important part by encouraging older workers to undergo training and by making employers aware of the specific needs of this category of employees.

(d) *Fourth target group: the unemployed or individuals at risk of unemployment*¹⁸ who should benefit from active measures on the labour market. The concept of social activation and the ensuing initiatives are aimed at rapid reintegration into the labour market of the unemployed and those living on welfare benefits. These active measures are generating increasing interest, but their implementation varies from country to country (compulsory or non-compulsory nature of these measures, choice of activities deemed appropriate to reintegration). In most of the programmes, social inclusion must take place solely by means of the labour market (Geldof, 1999). No clear link has yet been established between programmes of this type, aimed at reintegrating individuals, and a strategy of lifelong learning. These programmes

¹⁸ Chapter 3 of Part 5 of this report is devoted to an analysis of active policies for reintegrating the unemployed into the labour market.



(a) % of each group participating in formal education (from 3-29 years), and participation in education and adult training (16-65 years); non-weighted average of 9 countries (B, CA, IRL, NL, NZ, S, CH, UK, US).

(b) Except full-time students younger than 24 years.

Source: OECD database and IALS, OECD (1998g).

Table 2.5: Participation of employees^(a) in continuing education and training in a workplace context in previous years, by age, 1994-95, %

Country	Age group			Overall
	25-34	35-44	45-64	
Number of hours per employee				
B (FI)	32	22	28	27
IRL	59	44	34	47
NL	84	57	27	57
UK	69	59	34	53
PL	29	18	12	20
CH (Fr)	55	20	16	31
CH (D)	52	29	28	37
CA	42	48	28	39
AU	58	48	31	45
US	62	33	26	38

(a) Employees: 25-64-year-olds, mainly working full-time (over 30 hrs/week) for at least 42 weeks in the past 12 months and not having student status.

Source: OECD and Statistics Canada/IALS, 1997.

are short and specific and so need not necessarily be coordinated with the rest of the system. On the other hand, if the aim is to achieve genuine requalification of individuals, programmes of this type are likely to be less effective (Bollens, 2000), and links will need to be established with the rest of the system of lifelong learning.

1.5.6. Impact of information and communication technologies as a didactic tool

Information and communication technologies (ICTs) may lead to new forms of exclusion. While offering individuals a major degree of flexibility (choice of subjects and learning times and methods, particularly via the Internet), they introduce a risk of marginalisation, especially for individuals who have particular learning needs and/or come from disadvantaged social environments, who are therefore less familiar with these technologies.¹⁹

¹⁹ See also Tessaring, 1998b, pp. 180 ff.

The policies in place attach more importance to providing schools with ICT equipment than to the skills teachers need in order to use these tools and guide students.

Teachers and trainers have an essential part to play in implementing learning through ICTs, but there are two major obstacles to be overcome: the lack of skills of certain teachers in the field of ICTs, and inadequate understanding of the educational implications of this type of learning (Cedefop, 1999p).

ICTs help to expedite changes in the role of teachers, from instructor to facilitator of learning. Despite everything, in general ICTs are continuing to reinforce instructionist teaching, since they are used above all to promote more flexible forms of delivery rather than autonomous or problem-based learning. Objectives need to be clarified before these technologies are used – is the primary aim to promote a method of flexible delivery or interactive learning? (Onstenk, 2000)

1.6. Institutional settings

Education systems and labour market policies need to undergo radical structural reform, in order to incorporate all the aspects mentioned in this chapter and to create links between existing sub-systems.

1.6.1. Horizontal links

Within the education system, bridges need to be established between the various education and training streams to facilitate individual mobility. These bridges can be organised in various ways, e.g. modularisation (the different programmes contain common units), integration and/or mutual enrichment of the two streams in terms of organisation and/or curricula, or creation of dual qualification streams leading to highly qualified occupations and opening up access to higher education (see Part 1, Chapter 3). Chapter 3 of this part of the report offers further examples drawn from national practice.

1.6.2. Vertical links

Links need to be established between initial and continuing education/training systems to ensure ease of transition from one to the other. The task of developing certain competences assigned to continuing training will be easier if a knowledge base and certain attitudes have been acquired in

the course of initial training. Various reforms have been proposed, in particular the introduction of learning periods in the workplace in initial vocational training to familiarise individuals with learning at work, the creation of modular training courses enabling individuals to design their continuing training on the basis of the modules covered in initial training, or recognition by the education system of competences acquired by informal means for individuals starting training or acquiring a new qualification (see also Chapter 3 below).

1.6.3. Links between education policies and labour market policies

Education policies and labour market policies should be coordinated with a view to strengthening cooperation among the various players (e.g. education and employment ministries, the social partners). Such interaction is desirable in order to make interventions more effective and to widen the range of options available to individuals.

1.6.4. Links between the education system and the production system

Links should be created between the education system and the production system, with a view to facilitating transition from one to the other, making training systems more responsive, and helping individuals to familiarise themselves with the world of work. Creation of such links necessitates coordination of all the players (authorities, education and training establishments, enterprises, and social partners).

An integrated system of lifelong learning requires the establishment of an effective network of links and bridges as described above.

1.7. A genuine change of paradigm?

Various elements confirm the advent of a new paradigm of lifelong learning.

Ten years ago, the various elements of lifelong learning were still being considered in isolation. Today, most countries appear to be opting for a *more holistic approach* to the concept as a whole.

Various elements are now regarded as essential:

- initial education and training must enable a solid skills base to be acquired, enabling every individual to design his/her own course of lifelong learning;
- adults manifesting a certain aversion to learning should be encouraged and supported by measures designed to develop them at work and in the knowledge-based society;
- it is now recognised that enterprises have become an essential driving force as regards updating the skills of adults in the labour force;
- reforms are no longer confined to the education system; all the players (authorities, education and training establishments, unions and individuals) are aware of the social and economic upheavals and of the need to take action;
- coordination of and cooperation among teaching and training establishments, enterprises, the authorities and the social partners has become essential.

The definition adopted by the European Union underlines the importance attached today to certain elements of lifelong learning (see Box 2.2). One speaks of learning activity (and no longer of teaching), formal or informal (demonstrating recognition of the variety of types of access to knowledge and skills), entered into on a permanent basis (the process is continuous).

Unesco (1997, presented by Laberge, 1999) traces the development of the concept in distinguishing between the original term, 'continuing education', and the current term, 'lifelong learning' (Table 2.6).

The change in vocabulary illustrates an evolution in the way in which researchers, VET professionals and policy-makers understand the concept. The value of this policy must be acknowledged in different spheres of society so that different types of learning, implemented at different stages of life, can receive equal social recognition, promoting the linking and legitimacy of the various stages and kinds of skills training.

Table 2.6: Definitions of lifelong learning

Continuing education	Lifelong learning
<i>Linear</i> approach to learning: accumulated in the course of life	Accumulation has developed into interaction between knowledge acquired in the initial stages of education and that acquired later on in life, and between theoretical and practical knowledge → <i>multilinear</i> learning concept
<i>Acquisition</i> of knowledge	<i>Renewal</i> and updating of competences in new contexts
<i>Focused on the individual</i> , the learner	<i>Focused on competences</i> rooted in the individual (the idea of key competences is introduced)
Recognition of <i>prior learning</i> through validation mechanisms originating in the school system	<i>Recognition of competences</i> acquired in different places through appropriate validation mechanisms and having value in social spheres other than school: workplace, family, etc.
Education, teaching (instructionist)	Learning (constructivist)

Source: Authors, based on Unesco, 1997, presented by Laberge, 1999.

Many observers denounce the assumption by labour market policy of the strategy of lifelong learning. In fact this strategy is often reduced to a mechanism for updating workers' competences in the course of their working life, with the aim of maintaining their employability – the essential function of social advancement and social cohesion is often neglected, something which risks taking us towards a two-speed, elitist, knowledge-based society.

1.8. Conclusions

A new educational paradigm is currently taking shape. It is based on a concept of lifelong learning which endeavours, on the one hand, to transmit general skills and key/core competences to young people and, on the other, to ensure that adults have access to ongoing training.

We have reviewed the various elements which combine to form the system of lifelong learning. Responsibility should be shared by governments, employers, unions, local authorities and individuals. In practice, however, these partners are still wondering about their respective duties and roles. Governments are postponing reforming existing structures, and training provision for disadvantaged groups is often inadequate.

As yet, the involvement of employers and workers is apparent only in the quantity of training programmes organised, with 'learning enterprises' still representing diverse realities. Unions are preparing to take on their new role as promoters of learning for workers. New forms of social partnership and networking are slowly coming into being.

Countries equipped with an efficient education system, whose population has a good general level of education, have made most progress with implementing a practical strategy for lifelong learning. At present every research field is limited to specific elements, and there have been few signs of an interdisciplinary approach.

Financing of this strategy, a key factor in its development, requires reform of public expenditure on education and training. Moreover, the ambitious objectives which have been established make it necessary to call for private investment (enterprises and individuals). Readers will find a more detailed discussion of the possible implications in Chapter 2 of Part 1.

Practical implementation of a modern policy of lifelong learning is a long-term task, which will be aided by a transnational exchange of experiences.

Box 2.6: TSER projects relevant to research on lifelong learning

'Forum of European research in vocational education and training' (thematic network)

This forum has as its objective to explore a European dimension for VET and for research into the capacity for change and adaptation of education systems.

The network will examine the pressures to increase the quality of VET, skill levels of those in VET, quality assurance, flexibility, and transnationality, while taking into account different responses to employer involvement, individual funding and changing work organisations.

Five forum workshops are envisaged:

- (a) common practices and values in VET;
- (b) VET and the labour market;
- (c) organisational changes required of vocational training institutions;
- (d) in-company training and school-to-work transition;
- (e) the Learning Organisation.

Coordinator: M. Kuhn, University of Bremen, Institut Technik & Bildung, Germany.
E-mail: mkuhn@zfn.uni-bremen.de

'Implementation of virtual environments in training and education' (thematic network)

The key objectives of the project are as follows:

- to map out the teaching and learning approaches in virtual learning environments (VLE), especially those arising from combining face-to-face and distance education methods in traditional institutions and companies;
- to critically assess the impact of European diversity into international VLE, in relation to common elements of curriculum, language issues, and institutional adaptation of the E&T systems to open and distance learning;
- to contribute to innovation in public educational institutions, in relation to the restructuring of its functioning, and cooperation with similar European institutions and with the private sector when implementing VLE.

The intended outcomes are, among others:

- (a) Three empirical studies on issues, problems and practices in the following areas:
 - teaching/learning approaches in virtual open learning environments;
 - cross-cultural and academic dimensions in European diversity;
 - institutional/organisational factors in fostering innovation on public institutions and training companies through the implementation of VLE.
- (b) A report integrating each empirical study with the aim of contributing to the innovation policy of both public and private institutions in developing new ways of open and distance learning based on VLE;

Coordinator: J. M. Sancho Gil, University of Barcelona, Spain. E-mail: jmsancho@doe.d5.ub.es

'Lifelong learning: the implications for universities in the EU'

The general aim of this project is to investigate how the universities in the EU respond to the concept of lifelong learning (LLL).

The project will identify, analyse and discuss the actual forms of involvement in LLL of the universities concerned. In addition the research will explore actual and potential policies and strategies of universities referring to LLL and will compare them with corresponding policies and strategies of international organisations namely the EU, OECD, Unesco and the Council of Europe.

Coordinator: D. Tsaousis & N. Kokossalakis, Pantio University - KEKMOKOP, Greece.
E-mail: akokosa@panteion.gr

'Changing working life and training of older workers'

The research focuses on individual and organisational effects, needs and opportunities emanating from the intersection of two trends: the ageing of populations and the changes in working life.

The key objectives of the research project are:

- to investigate the extent to which the knowledge, skills, experience and attitudes of older workers (45+) can be recognised, valued and utilised in work and learning situations;
- the ways in which older workers learn within work settings;
- the extent to which human resource development (HRD) practice and educational interventions involving older workers can facilitate lifelong learning and productivity;
- the ways in which the diversity of the workforce in these terms can contribute to the development of learning organisations in the work context and, more generally, to the creation of the learning society;
- through case studies and comparative analysis of good practice in different countries, the ways in which the above objectives can contribute to the flexibility and productivity of the European older workforce and to social cohesion generally.

Coordinator: T. Tikkanen, University of Jyväskylä, Department of Education, Finland.
E-mail: tikkanen@campus.jyu.fi

Final Report: SOE2-CT97-2016 – T. Tikkanen: Changing working life and training of older workers.

Box 2.7: LDV projects related to lifelong learning

'Advantaged not disadvantage (AND): a project to establish new models of initial training for disadvantaged young people based on the assessment of current provision in 6 EU geographic areas'

The principal aim of this project is to establish new models of initial training for disadvantaged young people based on critical assessments of the current conditions in 6 EU geographical areas. However, the final report concerns three countries: Finland, Greece and the UK.

Respondents were invited to value the quality of training design, delivery and development. Another objective was to consider the most important external influence on training development, and to suggest possible changes.

Coordinator: SQW Segal Quince Wicksteed Ltd, Cambridge UK, E-mail: mailbox@sqw.co.uk.

Final report: SQW Ltd: 'Advantage not disadvantage (AND). Final report for Finland, Greece and the UK.' 1998.

'Over 45: Causes of exclusion and the role of lifelong learning'

The European Observatory on Ageing and Older People (EOAOP) was established in 1990 to monitor four key policy areas:

- (a) incomes and living standards;
- (b) health and social care;
- (c) social integration;
- (d) age and employment.

This study has provided a picture of the approach of four Member States (Spain, Italy, Sweden and Finland) towards continuous training / lifelong learning. The consolidated experience and tradition in educational interventions of the Scandinavian countries may be very important for the rest of the EU, but also Spain shows what can be achieved, even from a relatively low base, when the political element is present.

Recommendations from the research concern different levels: EU level, national level, the enterprise/organisational level, the older-worker level.

Country reports were prepared for Finland, Italy, Sweden.

Coordinator: M. L. Mirabile by the IESS-AE, Istituto europeo di studi sociali- associazione europea. Rome Italy;
E-mail: m.l.mirabile@ires.it

Final report: 'Over 45: causes of dismissal and the role of lifelong learning'. 1999.

'Lifelong learning policies in European cities and new employment opportunities for disadvantaged people (POLLis)'

The main aims of this study were:

- (a) investigation of major lifelong learning initiatives promoted by European cities;
- (b) developing tools and methodologies useful for those wishing to initiate new lifelong learning policies or to improve the ones which are already established.

The survey has been structured in two phases. The first is a comprehensive review of European learning cities in countries belonging to the EU and also outside the Community. The second is a comparative analysis of cities selected as interesting cases and studied in greater depth.

Learning City: citizens participate in policy-making to shape their educational and learning agendas; the city is responsive to its citizens needs and provides appropriate learning environments and opportunities. 'A learning city addresses the learning needs of its locality through partnerships.... Learning cities explicitly use learning as a way of promoting social cohesion, regeneration and economic development, which involves all parts of the community.'

Policy orientation: This study identifies six elements of policy orientation that were confirmed by the PoLLis survey and can be found, to different extents, in most city policies of lifelong learning.

Policy definition: Policy definition has to do with considering and finally choosing the best ways to achieve the agreed goals. Several steps were taken to promote awareness and dialogue between citizens and the city as a learning environment.

Policy implementation: How to put policy into practice with regard to learning cities; the leading roles in taking forward the learning city from concept to reality are played by people and institutions.

Policy evaluation: Three main steps were defined for carrying out an evaluation: exploring and planning; data collection and analyses; utilisation and dissemination.

The POLLis Learning Cities Forum (LCF): The LCF is not an association, but an informal, structured and focused gathering of cities that want to work together and to prepare the ground for other partnerships. It is a project generator, a city-based core structure that allows the validation of surveys and analyses. It was established to design and run joint lifelong learning initiatives and to exchange experiences and opinions on a wide range of issues.

Coordinator: C. Dondi and C. Brecciaroli, SCIENTER- Centro di Ricerche e Servizi Avanzati per la Formazione, Bologna, Italy.

Survey report: C. Brecciaroli, C. Dondi, SCIENTER (eds.): 'Lifelong learning policies in European cities and new employment opportunities for disadvantaged people'. Bologna, 1999.

2. Competences, learning processes and didactic innovations for new occupational profiles²⁰

This chapter addresses the prospects offered by updating of VET curricula in response to changes in occupational profiles and the skills and competences required. We begin by taking a brief look at the new requirements, the labour market trends and the responsiveness of training systems. This introduction is followed by an analysis of the con-

cept of skill and competence and, more particularly, of key/core competences. We then look at how these concepts are actually put into practice in the curricula and what teaching practices ensue. We endeavour to specify how incorporation of generic skills and/or key competences into VET curricula can respond to the new requirements imposed by the labour market, technological change, and modern society in general.

2.1. Responsiveness of VET systems

As we say throughout this report, job content is changing at an increasing rate, mainly because of two factors:

- (a) the introduction of new technologies, which put the emphasis on intellectual competences rather than action-based competences;

²⁰ This chapter is largely inspired by the paper of J. Onstenk, 2000: 'Training for new jobs: contents and pilot projects'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 1 (published 2001).

- (b) the expansion of new organisational paradigms, which establish new requirements as regards variety, flexibility and quality in occupational practice.

The new production and organisational concepts stress the importance of worker autonomy and responsibility. Job content is enriched by new competences (e.g. problem solving) and places emphasis on the importance of quality. There are fewer hierarchical levels (Onstenk, 1997b).²¹

'The modernisation of production, based on criteria of quality, efficiency and competitiveness, cannot be achieved by a workforce trained for given posts. [...] training geared to the old Fordist- and Taylorist-type models of work organisation does not permit development of the new competences required in the context of a highly competitive and international market; concentration of training on a single skill will henceforth be regarded as a reductionist model [...].' (Mertens, 1999, p. 45)

Box 2.8: Qualifications and skills/competences

A *qualification* refers to the potential capacity to perform tasks corresponding to an activity or a job (primarily recognised through a formal certificate).

A *skill/competence* relates to certain aspects of that stock of knowledge and capacity, namely those required in order to achieve certain results required in a given situation. This definition does not consider a priori transferability as a condition of competence, since there is a debate on whether transferability should be part of the definition or should be considered as an attribute a posteriori.

'[...] Technological and organisational change, like modernisation of working conditions, compels us to concentrate on the individual's *possibilities* and on his capacity to mobilise and develop these possibilities in specific, evolving work situations, which takes us away from classic job descriptions.' (Reis, 1994, quoted by Mertens, 1999, p. 63)

Source: Mertens, 1999.

The increasing volume of information to be processed requires literacy and numeracy skills. New forms of work organisation necessitate application of key/core competences in addition to technical know-how.

Levy & Murnane (1999, pp. 3-4, 16-17) present some conclusions drawn from the business literature with regard to the skills/competences required in our advanced societies:

- Basic literacy and numeracy skills influence the long-term position of individuals on the labour market and their capacity to adapt in line with occupational changes. The impact of literacy and numeracy skills increased between the end of the 1970s and the mid-1980s. As a result, students who leave school today without these skills are at a much greater disadvantage on the labour market than was the case 25 years ago.
- The capacity to communicate effectively both orally and in writing is also important to long-term labour market integration.
- Work organisation within enterprises attaches increasing importance to the capacity for productive group work.
- Changes within enterprises (with the emphasis on group work) and in the economy put emphasis on emotional intelligence, including the capacity to relate to other people.
- Computer skills are increasingly crucial on the labour market. In the United States in 1993, 47% of workers stated that they used a computer in their work, in comparison with 25% in 1984 (Autor, Katz, Krueger, 1998).
- Economic success is increasingly determined by qualifications gained in formal education. However, the empirical data available do not make it clear whether employers are prepared to pay a higher wage or salary to workers with the highest levels of education (see also Chapter 1 in Part 5).
- Market forces increasing the value of key competences are influenced by a number of institutional determinants: work organisation, the link between enterprises and educational establishments, the extent to which national markets are regulated, and the national distribution of income, as modified by the welfare state.

Levy & Murnane (op cit., p. 20) continue:

'Globalisation of commerce and the international dissemination of technologies are forces promoting a global set of key competences. [...] Without a doubt, cultural differences between countries play a part in defining the significance of certain competences.'

The concept of employability is also brandished about, though without having been clarified, and

²¹ However, there are few empirical results confirming this trend. Chapter 1 of Part 3 of this report suggests a critical approach to the changes assumed to be occurring in work organisation.

Table 2.7: Changes in competences deriving from new technologies and new forms of work organisation

Factors of competence	Old content	New content
Responsibility	Based on behaviour, such as effort and discipline	Based on taking the initiative
Expertise	Related to experience	Cognitive – identifying and solving problems
Interdependence	Sequential; hierarchic	Systemic; group work
Education and training	Acquired once and for all	Continuous
Learning	Passive – being trained	Responsible for own learning – self-learning, lifelong learning

Source: Green, Wolf & Leney, 1999, p. 128, adapted by the European Commission, Eurotecten programme.

allocates a key role to general skills. However, most of the time specific skills are still constituting the best guarantee of (immediate) employability a worker can have.

The labour market is exhibiting contradictory demands: employers are seeking individuals who are highly adaptable to various working situations (i.e. generalists), but who must be immediately operational (i.e. specialists). To address these conflicting requirements, it would seem necessary to redefine vocational education.

The previous chapter, which covered lifelong learning, emphasised the importance of acquiring a base of competences and knowledge on which the individual can rely in the course of lifelong learning. Initial vocational training is regarded as the beginning of a learning career rather than as a final stage in the acquisition of knowledge and skills.

Since most people are likely to need to undergo training and to change jobs in the course of their working life, VET must equip them with a broad base of technical, methodological, organisational, communication and learning competences. Several responses are proposed with a view to achieving this objective.

2.2. The concept of competence²²

Today, the concept of competence has become an all-purpose term. It is used in various scientific disciplines, but often with different connotations. In the context of employment, it is tending to supplant formal qualifications. In education and training, it is replacing know-how in that its acquisition is becoming the ultimate objective. Competence is coming to the fore in a context of socio-economic crisis and transformation of work organisation, which itself bears out the transition to a new management model (Dietrich, 1999, p. 22). An attempt is even being made to specify competences individuals should have in order to take their place in our society.

Box 2.9: Definitions of skill/competence

Skill: the relevant knowledge and experience needed to perform a specific task or job and/or the product of education, training and experience which, together with relevant know-how, is characteristic of technical knowledge.

Competence: the proven and individual capacity to use know-how, skills, qualifications or knowledge in order to meet both familiar and evolving occupational situations and requirements.

Generic skills: the skills that support lifelong learning, including not only literacy and numeracy (i.e. basic skills), but also communication skills, problem-solving skills, teamworking skills, decision-making skills, creative thinking, computer skills and continuous learning skills.

Transferable competences: the competences individuals have which are relevant to jobs and occupations other than the ones they currently have or have recently had (European Training Foundation, 1998b).

Key/core competences: the sets of skills which are complementary to basic and generic skills and which enable individuals

- to acquire new qualifications more easily;
- to adapt to changing technological or organisational contexts; and/or
- to achieve mobility on the labour market, including by means of career development.

Source: Bjørnåvold & Tissot, 2000.

²² This section is largely inspired by the publication by Rey (1996).

The various specialists and political decision-makers are now less concerned with specialised skills than with key/core competences, which are useful to workers in a whole range of situations in working life, and more generally to citizens, enabling them to cope with the demands made by modern society.

Yet what does the concept of skills/competences cover? How can their acquisition be encouraged? We shall endeavour to clarify these questions by addressing them from a pedagogic and didactic point of view.

For educationalists and specialists in adult education, the introduction of the concept of key/core competences raises many questions, two of which are essential (Rey, 1996, p. 21):

(a) The question of how to learn them – do key/core competences require special educational situations, or must they be mapped out in the context of a discipline?

(b) The question of evaluating them – adequately precise and objective indicators must be found for competences such as ‘being capable of solving problems’, ‘knowing how to communicate’.

In this chapter, we shall begin by addressing the first point: can skills/competences learned within a particular context immediately be transferred to other contexts? Are key/core competences possible to acquire irrespective of content?

2.2.1. Competence and key/core competence

‘When speaking of skill or competence, one is usually referring to a specified field of activity: a job, an office, a technique. [...] In short, in essence every skill/competence is restricted to a subject or a domain. [...] Is the concept of key/core competence not contradictory?’ (Rey, 1996, pp. 23-24)

The same author (*ibid.*, p. 46) puts forward three ways of thinking of skill/competence:

- (a) Skill/competence can be defined in terms of the *behaviour* to which it gives rise.
- (b) However, in order to restore to behaviour its meaning of human conduct, skill/competence must be understood in terms of its socio-technical *purpose* and defined in terms of its function.
- (c) It may be the ability possessed by human beings to *adjust* acts and words in accordance with an infinite number of new situations.

The first definition sees skill/competence as a form of behaviour, from a behaviourist point of view. Therefore it is always specific and its field of use is rigorously delimited to one situation or a family of situations. The second definition adds to this the dimension of purpose (definitions one and two are based on the same concept of skill/competence). However, individuals are capable of exercising certain of their skills/competences in unfamiliar situations. Skill/competence then appears to be the capacity to decide on the objectives to be achieved, and to find the necessary means (third definition).

When Chomsky (1969) analyses linguistic competence, he is dealing with a non-specific competence. Every human speaker is capable of producing utterances he has never heard or of immediately distinguishing between grammatical and ungrammatical sentences (even if he is unable to justify his choice). Linguistic competence, which consists of adapting to suit any situation, is therefore a core competence.

Thus we are in the presence of two conflicting models of competence: competence associated with performance of a function relating to a class of situations (definitions one and two) and competence conceived as a capacity capable of generating an infinite number of types of behaviour in response to an infinite number of new situations (definition three). As we shall see, this conflict has an effect on both curricula and education.

Nevertheless, these two concepts have one thing in common, namely the fact that they oppose to a certain concept of knowledge (seen simply as a result, detached both from the processes which produced it and from the intellectual plan in which it can be used).

2.2.2. Key/core competences and vocational training

In the field of vocational training and work analysis, skill/competence was traditionally seen as highly specific, associated with a job.²³ A number of technical and social developments made it necessary to seek key/core competences in addition to specialised skills. These changes are associated with three factors: developments in the technological environment, job mobility and unemploy-

²³ In Germany, skills/competences acquired in the dual system do not relate to a specific job, but to a vocational domain. The reforms implemented since the mid-1980s were inspired by the debate on key qualifications (Mertens, 1972).

ment. The introduction into enterprises of forms of learning organisation also increasingly highlights individuals' competences.

'Consequently, training requirements are changing completely: it is no longer a question of suiting the individual to a rigidly defined job, but of equipping him with general competences capable of being mobilised in varying occupational situations which cannot be foreseen at the time of training. [...] Now one needs to assume competences which, acquired in one situation or a range of situations, can be transferred to completely different and new situations. Only then does training still have meaning. [...] The retraining required and the huge increase in unemployment make it necessary for individuals to develop a capacity to adapt, i.e. a core skill, instead of the technical competence associated with a specific occupation.' (Rey, 1996, p. 51)

Apart from competence as defined by Chomsky in his study of language, it is as if every capacity to some extent remained a prisoner of the context in which it was acquired. Every time this competence is used in a new context, a relearning process appropriate to this situation is required. Cognitive sciences show that it would be possible to transfer the competence to situations related to the same domain, but that it is almost impossible to transfer it to other domains or disciplines, except by agreeing to very heavy training (Ropé & Tanguy, 1994, p. 238).

This being the case, would it not be possible to find situations in which competences could be acquired separately from any content? This means that the student must learn to learn. These endeavours have been brought together under the heading of 'cognitive educability', which uses content only to support competences development. The latter is brought about in situations whose level of abstraction is relatively high (logic cubes, etc.). However, the transferability of competences developed in this way has proved to be limited, thus demonstrating that no competence is an absolutely key/core competence. One never learns all the possible applications of a logic operation or a strategy. Their use is restricted to an established category of situation, which means that the competence is always specific even if the category of application is a broad one.

Every competence has its own broader or narrower field, and presupposes knowledge of the field's boundaries.

'[...] The competence level is characteristic not only of a person but also of a context. People do not have competences irrespective of a context [...] traditional concepts of competence and performance fail because they regard competence as an established characteristic of the child, by analogy with a bottle whose capacity is fixed. Performance factors are seen as something interfering with this capacity [...] Our research shows that children's competences levels are stable when the field and support level remain constant across evaluative contexts' (Fischer, Bullock, Rotenberg & Raya, 1993).

It is possible to increase a competence's transferability by expanding the content and contexts within which it is applied, and by ensuring that the individual has understood the characteristics of the family of situations in which he can utilise it. The establishment of an analogy between several situations is based on the meaning one gives to each of them and defines a competence's field of action. The individual must give the situation meaning by linking it to a category of situations and a specialised competence.

'Competence is more than occupational know-how (skill) in a domain. It must involve self-regulation, follow-up and initiative in the use and development of know-how. It must incorporate adjustment in line with both innovation and continuity. [...] It involves efficiency not only in performance, but also in interpreting context and meaning.' (Haste, 1999, pp. 5-6)

2.3. Competences and VET curricula

In Europe, various models have been proposed for adjusting the content and curricula of VET systems.

Two main strands can be identified:²⁴

- (a) the strand aimed at promoting the acquisition of (basic and) generic skills; and
- (b) the strand aimed at developing transferable (key/core) competences within an occupational group (the German concept of key qualifications represents a subcategory of this approach).

These two options are based on a shared postulate – the changes in the world of work call for more general competences, as opposed to the narrow know-how specific to each occupation.

²⁴ See also Tessaring (1998b, pp. 173 ff.) and Kämäräinen & Streumer (1998).

The two main strands presented in this chapter (basic and generic skills, key/core competences) aim at the acquisition of common skills/competences: communication, organisation, planning, problem solving, etc. However, the differences are as follows (we shall examine them in greater detail in the remainder of this chapter):

(a) *The concept of 'generic skills'* adds the acquisition of basic skills as an objective (reading, writing, arithmetic):

- it puts the individual at the centre of the process, with teaching support essentially aimed at developing skills inherent in him, hence at developing the individual's potential;
- thus development of learning skills (learning to learn) forms part of this trend;
- content and context are regarded as secondary – they are merely the support required to develop skills;
- it aims to develop individuals who are highly adaptable and flexible in different contexts in work (employability criteria) and everyday life.

(b) *The concept of 'transferable (key/core) competences'* is based on the idea that competences cannot be developed *in extenso*, that they are dependent on a context which is essential to their acquisition and activation:

- these competences are essentially linked to occupational practice, which defines the competences individuals must possess in order to act on their environment;
- they are developed thanks to the resolution of cross-disciplinary occupational problems arising in a community of practice;
- the occupational nature of the problems encountered ensures that the competences acquired relate to practice;
- the cross-disciplinary nature of the problems ensures that the training does not lead to vocational qualifications which are too specific and ultimately not very transferable, but leads to the development of a vocational competence enabling the novice to appropriate the occupation and become an expert;
- decontextualisation of competences at a later stage of learning also helps to make them transferable;
- these competences enable the individual to become a player in his environment, acknowledged to have the potential to modify it.

2.3.1. Basic and generic skills

This approach is characteristic of the debate in English-speaking countries, although it is also found in certain other countries, but to a less significant extent (DK, D, NL).

The skills whose acquisition is to be promoted are general elementary and/or cognitive skills required to fill certain jobs, even indeed all jobs: mathematics, reading, writing, problem solving, social, communication and interpersonal skills. These are, as it were, entry skills.

Thus the skills involved in this approach can be divided into two main categories:

- (a) basic skills required to function in modern society (reading, mathematics, quantitative literacy, etc.); and
- (b) generic skills, more elaborate but retaining a cross-disciplinary character, not dependent on context (communication, organisation, etc.).

Learning skills

This approach to education constitutes a particular subset of this definition of necessary skills. In many countries the need to equip young people with the capacity to learn to learn in the context of education and training is increasingly stressed. Young people must have the capacity and the will to learn required by today's work environment. This concept is often given expression in the precepts of lifelong learning.

2.3.2. Transferable (key/core) competences and broad occupational competences

This strand focuses on a set of competences that transcend traditional divisions of labour and traditional occupational profiles. These competences are related to new organisational and production concepts. The emphasis is on the interlocking of specific tasks and of jobs in the overall work process (Laur-Ernst, 1989), and on the social, organisational and strategic dimensions of occupational practices.

It is a matter of responding to the need to incorporate so-called general competences into the capacity to perform tasks.

The competences mentioned are social and communication performance and strategic efficiency, in particular problem solving, organisational skills and leadership. These competences are not fundamentally different from those set out by the supporters of development of generic skills. It is because they are regarded here as dependent on a context or a range of situations that the teaching designed to impart them will differ.

This approach led to definition of the concept of 'broad occupational competence' (*bredevakbekwaamheid*; Onstenk, 1997b).

Key/core competences display a certain level of transferability, but they are fundamentally dependent on the context and the occupational situations in which they are acquired and put into practice. They go beyond specific occupational know-how (skills), since they characterise a community of practice within which they are transferable.

An individual wholly competent to solve problems within his occupation will be able to transfer this competence to a family of related occupations, but will not be capable of solving all problems of whatever nature. This approach recognises the fundamentally contextual character of competence.

Box 2.10: Employability and skill/competence

Koch (1999) gives the following definitions of employability and skill/competence, which can be related to the two approaches just discussed:

'[...] employability [of the individual] relates to the world outside the enterprise, or at the very least to a job other than the one currently held, while skill/competence relates to the job held.' (p. 63) 'A trilingual secretary with a good grasp of office automation is employable, but in an aeroplane cockpit she will be completely incompetent [...] A skill/competence is closely associated with an activity and with the organisation which houses him. Employability is the capacity to be removed from one organisation and put into another, and to function efficiently there.' (p. 72)

See also the ILO definition (Box 2.1).

2.4. Occupational core problems

The new labour market requirements put the emphasis on the competences workers need in order to respond adequately to the various occupational problems. In Germany, this viewpoint is embodied in *Handlungskompetenz* (action competence), and in the UK to some extent in NVQs, albeit in a limited way. In the Netherlands, occu-

pational core problems (OCPs) are used to support the development of key/core competences, to identify and analyse the problems arising in occupational practice.

Workers are expected not only to be able to perform a set of tasks and solve routine problems, but also to be capable of managing and planning different tasks, and of handling problems and managing contingencies. This must be done within the context of the organisation as a whole, i.e. within the production process and the organisational and socio-communicative environment (Mansfield & Mitchell, 1996).

Box 2.11: Handling the unforeseen

Perrenoud (1999a) sees handling the unforeseen as a component of any high-level competence. He then distinguishes between two scenarios:

- (a) 'events whose occurrence is foreseeable, but not their timing [...] in these cases, competence consists of advance planning, then of implementing [the desirable response], adapting it to suit the appropriate time;
- (b) 'new events, in the face of which competence consists of improvising, remembering that improvisation does not come out of nowhere, but is based on experience, training, resources and capacities enabling it to be mobilised quickly and judiciously.' (p. 123)

Hence enhancing the value of learning by going back over the experience, reflecting on the event and the reactions it elicited, makes it possible to learn to anticipate, to look for and interpret advance signs, to identify significant events, to interpret the situation as a whole, to plan an appropriate response and to activate the reaction process. A professional needs all these competences, and can develop them only in meaningful contexts.

The problems of occupational practice do not occur separately, but in combinations specific to each group of occupations; they can be defined as occupational core problems (OCPs). When such problems arise, the worker must deliberately mobilise a set of knowledge and competences, in order to respond adequately and at the appropriate time. These problems are decisive for the work and efficiency of particular groups of practitioners. In order to become experienced practitioners, new entrants must prove their ability to deal with these problems effectively. OCPs are characteristic of an occupation or a group of occupations. The ability an individual shows to solve them determines his level of expertise.

During the learning process, learners can use OCPs to acquire the key elements of the competences and know-how involved in their occupation, but also to develop more general competences, namely problem solving and meta-cognitive competences. The student must face up to elements of complexity, contradiction and uncertainty, which help to develop transferable competences.

OCPs can be classified in terms of their extent, and their levels of difficulty and complexity. They do not appear the same to beginners and experts (Dreyfus & Dreyfus, 1996; Benner, 1994). When they are used as a teaching strategy, different levels of learning correspond to different levels of complexity. They offer an integrated approach to VET.

2.5. Innovative teaching practices

Updating of VET curricula is designed to fulfil two objectives:

- (a) to reduce the gulf between VET and the demands of occupational practice;
- (b) to create integrated learning paths, thanks to improved coordination of the times and places of learning (Chapter 3).

Many teaching and methodological innovations have been implemented in VET, characterised by a transition from instructionist education to a more constructivist paradigm (Solomon, 1998; Simons, 1998a&b).

Two main types of approach can be distinguished, reflecting the debate on the new skills/competences required by learners:

- (a) strengthening of basic and generic skills;
- (b) acquisition of widely applicable and transferable (key/core) competences, including OCPs in the curriculum.

The first approach puts the emphasis on autonomous learning and the second on problem-based learning.

It would seem that vocational training specialists are divided not so much on the question of the nature of the skills/competences that enable individuals to adapt, but on that of the methods of acquisition of these competences and on their application in suitable occupational situations.

Some researchers believe that basic skills (reading, writing, mathematics) and generic skills (problem solving, communication, learning to learn) need to be imparted. This trend is close to the theory of 'cognitive educability' as regards

the way in which it sees the mode of acquisition of generic skills. Other researchers (second strand), while acknowledging the value of these skills, believe that competence is dependent on a context and cannot be developed outside it.

2.5.1. Generic skills in VET

We shall briefly describe two examples, GNVQs in England and the 'General Qualifications' project in Denmark.²⁵

2.5.1.1. Learning and teaching GNVQs (England)

General National Vocational Qualifications (GNVQs) were set up as a 'middle way' between general education and VET in the English education system. They are designed to develop knowledge and skills in a broad area of work (e.g. manufacturing, business) and to improve ability to communicate, use information technology and work with numbers, while supporting the acquisition of skills in fields such as planning, information management, evaluating work and teamwork.

According to Green (1998), the English system concentrates on a limited number of generic skills (communication, ICT, the use of numbers), and he therefore concludes that this model is not able to produce the broadly skilled versatile workers the economy needs.

However, Brown (1998) concludes that depending on how they are implemented, GNVQs can become powerful vehicles for learning and personal development. It seems that to achieve narrow 'targets' defined in terms of generic skills, students and teachers must realise rich learning processes. In the GNVQs, only the ultimate objectives are specified, and not the way in which they are to be achieved. This last characteristic would make it possible to stimulate enthusiasm and the imagination, but at the same time it represents a very liberal approach to curricula.

2.5.1.2. General qualifications (Denmark)

In the Danish model, the student, who has to succeed in possessing and developing qualifications, is at the centre of the learning process.

'The qualifications usually referred to as general [...] will often be developed as an effect of the

²⁵ For a detailed presentation of the various examples of teaching innovations discussed, see Onstenk (op. cit.).

how of the education (e.g. the pedagogical form and didactic principles), rather than an effect of the what (e.g. the content of the education)' (Andersen et al., 1996).

Here, it is essential for the student to be intrinsically motivated, since learning includes a personal development dimension (communication, understanding of social conditions and of work, etc.). Thus all training must be preceded by a guidance and counselling stage, designed to evoke optimum motivation.

Courses should give priority to, and be designed to meet, participants' needs before those of the current labour market. They must also be sufficiently flexible to permit maximum adaptation of content and methods in line with the participants' various educational motivation. Alternative didactic approaches to traditional teaching are advocated (e.g. studies, projects).

2.5.2. Self-directed learning in VET

We have defined a subcategory of the 'generic skills' approach which concentrates on learning skills. Now we shall analyse its didactic and pedagogical impact.

Obviously learning skills are evoked in most innovative curricula; however, the curricula described below make these competences a key objective.

The conceptual framework of self-directed learning was developed by specialists in cognitive psychology and constructivism (Boekaerts, 1997), while the concept of autonomous learning comes from adult education (Tough, 1979; Brookfield, 1986).

Box 2.12: Self-directed learning

There is no one concerted understanding or acceptance of self-directed learning, but certain concepts can be clarified.

Most adults are involved in self-learning throughout their lives. Learning how to parent, taking up golf or skiing, getting better at surfing the net [...] are just a few examples of when adults might choose self-learning as their primary mode of learning new knowledge, skills or ways of living. (Caffarella, 2000, p. 45)

Interest in self-directed learning can be traced back to Greek philosophers such as Aristotle, Plato and Socrates. It was not until the 1960s that self-directed learning started to receive considerable attention in the field of adult and higher education. (Chee Tan & Jonassen, 2000, p. 196)

The concept of self-directed learning is attracting the attention of educators, particularly in the adult education sector in the United States. The idea is consistent with the predominating individualistic ideology and with the culture of the self-made man. (Brookfield, 2000, pp. 10-14). The concept is characterised by two elements: (a) the learner is responsible for defining the appropriate learning activities, and (b) self-direction inevitably necessitates the organisation of certain conditions for access to resources (thus modifying the resources available can be seen as a political action).

The first definition of self-directed learning was given by Knowles in 1975 (quoted in Straka, 2000, p. 172): 'in its broadest meaning [...], self-directed learning is a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material sources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.'

Implementation of a strategy of lifelong learning involves increased participation by the individual in organising his training, which becomes a condition for survival in the knowledge-based society. For the worker, this means having the will to learn, a proactive attitude to the development of knowledge and skills/competences, and a meta-cognitive capacity (Carré, 2000, pp. 50-57). Today, it is important that all students develop an interest in lifelong learning, become self-learners who find their way in the 'information jungle', can distinguish relevant from irrelevant information, and find their own questions and educational aims (Schröder-Naef, 2000, p. 148).

In self-directed learning, adult learners assume the main responsibility for planning, implementing and evaluating their own learning. Hence most of the activities performed are informal in nature (although some formal activities may be organised), such as reading, consulting an expert, or exchanging ideas with colleagues. However, the self-learning process is affected by contextual factors: the living environment (rural or urban) determines access to the resources directly available (except in the case of new media, such as the Internet); socio-cultural factors, such as social or ethnic origin, influence the extent to which individuals are prepared to undertake this form of learning.

Chee Tan & Jonassen (2000, p. 197) specify three interdependent dimensions: self-management, self-monitoring and motivation. They stress that not all individuals wish to take responsibility for organising their training, or are in a position to do so. Furthermore, the extent to which an individual is involved in self-directed learning in his workplace (training options, guidance, personal investment) is strongly influenced by his overall social relations with his colleagues at work (Brown, 2000, p. 34). (For application in working situations, see Box 2.17 – Self-organised learning.)

Source: Straka, ed., 2000.

General teaching methods are primarily used, even when they are developed specifically for VET. They are characterised by their emphasis on the learning process, its orientation, guidance and analysis. Hiemstra (2000, p. 99) believes that the transfer to learners of some of the responsibility for their own training fulfils a function that is at least as important as the actual content of the learning.

Learning material is made available to students working individually or in small groups. The teacher must play the part of a guide in the learning process, rather than that of a subject expert.

The *Interactive Learning Group* method (NL) puts the emphasis on cooperation among students, in-groups and in self-regulated learning. The main objectives are improvement of learning styles, social development, motivation and self-confidence.

2.5.3. Learning of transferable (key/core) occupational competences

More and more schools are putting innovations in place in their courses, in terms of both content (in response to the new qualifications structure on the labour market) and method (in response to the need for broadly applicable occupational competences), and are thus preparing students to adapt to the rapid changes and for lifelong learning.

2.5.3.1. Occupational core problems in VET

This approach is based on the principle that training contents should be structured more in terms of generic problems originating in occupational practice. Since OCPs can be handled better if the professional has broad competences, the main aim is to acquire these. Students, learners and people starting out in an occupation acquire these competences more easily and successfully by seeking to resolve complex and realistic occupational problems. Hence the preference should be for didactic innovations aiming at self-directed learning, and formulation, diagnosis and resolution of problems. Incorporation of occupational problems into VET is facilitated by exposure to authentic work contexts.

Savoyant (1999) emphasises the need to take into account the specific content of the activity. He cites a typical example: the act of setting the parameters differs completely depending on whether a blast furnace or a fertiliser production unit is involved, and it is based on very different reference know-how, while the competences

required in the two contexts are identical (obtaining information, diagnosis, adjustment, etc.).

According to Brown (1998), a didactic approach of this kind must highlight an introspective and collaborative learning environment utilising the solution of real (complex) problems in authentic contexts. This approach must enable learners to develop shared understanding and a sense of belonging to a community of practice, which each member is helping to shape and change.

Reference know-how cannot be reduced to disciplinary know-how, and much of it constitutes representations and concepts closely associated with the work activity (Savoyant, 1996). Analysis of genuine work activities is favoured, in order to enable external know-how and competences to be objectified, a necessary precondition for their acquisition.

When faced with OCPs, students themselves decide on the questions that need to be resolved, which facilitates their active involvement. OCPs, focusing on issues considered by practitioners to be crucial, promote highly appropriate learning of competences such as creativity, conceptualised critical learning, or reflection on the learning process itself and its results.

2.5.3.2. Problem-based learning

Hence it seems appropriate to construct curricula around tasks and problems associated with occupational practice. In the context of this teaching method, learning takes place in authentic contexts. Group work is preferred, since cooperation is an important aspect of new types of work organisation. However, teaching of this kind is very demanding in relation to curricular content, and learning is often organised around thematic projects and problems. Examples of education of this kind can be found in the Netherlands, in the so-called Maastricht model, or in the so-called block book course for building engineers.

2.5.3.3. Learning work tasks in 'Schwarze Pumpe' (D)

In Germany, new teaching methods often have recourse to project-based teaching. The *Schwarze Pumpe* [black pump] is a characteristic example (Heidegger, 1997b). The objective of this training programme is to provide a dual qualification permitting access both to a skilled occupation and to higher education (see Chapter 3 of Part 1). Hence this represents both a response to new labour market requirements and modernisation of VET

systems oriented towards integration of general and vocational education. This course is designed to 'improve vocational learning by developing a central didactic principle aimed at integrating numerous competences (relating to the subject, methods, learning and social skills) through real work tasks and processes' (Höpfner, 1995). The aim is to bridge the gap between learning in a work situation and theoretical learning, using integrated teaching methods – theoretical competences (scientific, communication and organisation skills) are developed through, and used in, the work process.

The learning takes the form of alternance training in enterprises and specialised upper secondary schools (*Fachoberschulen*).

Not all teachers are happy with these innovations, since they cease to be the main player in training. The number and type of interventions made by the teacher are determined by students' questions, in terms of the needs experienced in the course of problem solving. This determination by the students of the manner and moments of interaction helps to ensure the link between the school-based and work-based situations, enabling the same thing to be learned by different but complementary routes (instead of learning different things in the two places) (Savoyant, 1996).

Analysis of this pilot project has shown, in particular, the difficulties faced by the teaching approaches discussed in this chapter as regards evaluation, which has to take account of both the work experience and the learning process.

2.5.3.4. Educational action (*Lernhandeln*) in a virtual enterprise (D, A)

Although it does not have the benefit of direct contact with the workplace, this method offers learners an opportunity to experience relatively complex facts and problems which can be related to reality. While making it possible to resolve specific problems, the education can concentrate on introducing and expanding terms and concepts.

In Germany, the method utilises a CD-ROM presenting a virtual enterprise based on a real enterprise. Relations with the real enterprise exist. In Austria, students create their own (virtual) enterprise and manage it in its entirety. This micro-enterprise is twinned with a real enterprise in the same sector. Exchanges take place between the two 'worlds' (see also Chapter 4.5. in Part 3 of this report).

2.6. Conclusions

Within their field of expertise, workers must be capable of selecting and interpreting knowledge and information, solving problems, planning and cooperating. In short, they must possess broadly applicable occupational competences, transferable to a range of situations.

Students seek a more differentiated educational approach, taking greater account of their characteristics, interests and learning styles.

These two demands can be met by means of didactic approaches focusing on autonomous learning and the development of problem-solving competences, and giving preference to more individualised education, guidance and orientation rather than classic teaching methods (traditional teaching at the front of a classroom or simple reproduction of workplace behaviour). Thus more constructivist education is required.

In many European countries, schools and enterprises are experimenting with new educative models and objectives, with varying degrees of success. However, these experiments vary in terms of the amount of steering and stimulation provided by government or the social partners.

The educational choices offered will depend on the answers to the following questions:

- How do students learn and what are the most effective forms of learning?
- What is expected of practitioners and how can they best be prepared?
- What is the best way to organise the educative process, in order to make it flexible and individualised?

The attempts to answer these questions reveal certain dilemmas:

(a) *Learning to learn or emphasis on content?*

The debates on employability, lifelong learning and generic skills encourage support for emphasis on general education, providing skills/competences which appear to have lifelong value. However, learning theories stipulate that content is essential to learning, even leaving aside specific skills/competences. Hence learning to learn will be assimilated better within a framework of specific, interesting and suitable content. Experiments conducted in the context of the cognitive educability channel have also shown that education based on maximum abstraction does not enable core skills to be

acquired. It is the expansion of the range of content within which one applies a competence that makes possible to transfer it between fields related to this content.

(b) *Teacher and trainer: experts or guides?* If preference is given to learning skills, the teacher as source of knowledge and expert disappears and is replaced by the guide whose didactic and pedagogical skills enable him to guide students in their autonomous learning. This choice amounts to denying the fundamental role teachers and trainers must continue to play as sources of knowledge and as models to follow in the community of practice.

(c) *Broad or in-depth and selective content?* The temptation to expand the range of knowledge included in curricula must be resisted, this being an impossible aim given the increasing amount of knowledge required and the increasing rate of technological change. Greater importance must be attached to the acquisition of in-depth knowledge of specific subjects (rather than superficial knowledge of many subjects), in combination with the acquisition of transferable competences.

(d) *Thematically structured content or logically and analytically structured content?* Learning theory prefers the first option – thematic education opens the way to the complex and integrated reality of occupational practice.

(e) *Students as novice practitioners or learners?* Education containing too much occupational practice may neglect certain fundamental elements of any initial education (e.g. personal development, education in citizenship). Furthermore, professionals do not always work in teams or on a project basis. Here, the old dilemma of teaching or training resurfaces, a dilemma to which there is no definitive answer – the choice is determined by each specific situation or time point.

Despite the distinction drawn between autonomous learning and problem-based learning, new forms of education increase the active participation of students and orient the teacher/trainer more towards serving as a guide in the learning process.

It is easy to justify assignment to the student of a more active role. If knowledge is acquired only through listening and memorising, the only activity in which it can be mobilised is that of enunciation and reproduction of this knowl-

edge. Learning by ‘copying/reproduction’ in the workplace also has its limits, since knowledge, skills/competences and the learning process require an externalising and analytical stage.

Perrenoud (1999b, p. 24) states:

‘There are two basic principles for education in autonomy from compulsory school onwards:

(a) As one learns to walk by walking, so one learns to build one’s autonomy by exercising it. Instead of just organising practical work for students from 2 to 4 p.m. on Fridays, it would obviously be better if the entire education system (formal schooling, adult education, and work, too) constituted a curriculum for building the competences linked with autonomy.

(b) Each competence necessitates an overall development of critical thinking and reflective practice which has to bear on the sum of formal and informal knowledge and experiences in life.’

Teachers and trainers are often reluctant to become learning guides. However, in exercising this role, they have to transmit their expertise in the course of three stages of acquisition of skills/competences (Savoyant, 1996):

(a) *Guidance*: participating in categorisation of situations, prompting comparison of situations already encountered and promoting generalisation of activity.

(b) *Execution*: demonstration of and support for application of the sequence of operations.

(c) *Monitoring*: continuous follow-up and feedback on realisation of activities and the learning process.

Despite the innovations and reforms presented in this chapter, most schools and enterprises prefer traditional forms of education, based on instruction and the direct transmission of knowledge (the reform of apprenticeship training in Germany is one of the exceptions to this).

We shall end with a final comment inspired by Goody (1999, pp. 12-13):

‘The problem with laying down core skills is that you are bound to be left with some individuals who for one reason or another cannot attain them. So you have to encourage alternative skills for them. Take literacy and numeracy, which are obviously core skills for many people’s future in developed societies. But [...] some people have severe problems with learning to read, either for

physical, psychological or social reasons. The same is true for numeracy. In these cases one obviously needs to try and develop non-core skills, to encourage diversity rather than estab-

lishing uniformity. [...] Treating these [generic] skills as necessary underprivileges the non-achievers who may make important contributions in other areas of social life.'

Box 2.13: Innovation in the new fields of environmental protection and the corresponding technology sectors				
This sector harbours a potential for new jobs and for retraining in existing jobs to incorporate specific environmental skills. Innovative practices in 5 European countries (Denmark, Greece, Luxembourg, Austria, Sweden) are summarised here in tabular form (for more information, see Loos, 2000).				
<i>Innovative practices in the training of skilled workers in the fields of solar and geothermal energy (EL, A, DK, L)</i>				
Creation of specific courses in environmental fields experiencing economic growth (DK, A).	Alternative learning concepts and teaching methods (DK, A).	Involvement of the social partners: DK (compulsory quality criteria for training); A (legal implementation and content).	Training in practical skills (EL, A).	Interdisciplinary curriculum (EL, A, L).
<i>Labour market integration of young people and women through environmentally oriented continuing vocational training (S, DK) – innovative teaching practices</i>				
DK: training is organised on the basis of participants' needs.		S: high level of harmonisation of content with the demands of the local and regional construction sector (in direct collaboration with enterprises). Project-based teaching based on participants' interests and proposals. Development of key competences.		
<i>Training initiatives in environmental fields instigated by the social partners (A, S)</i>				
A: inclusion of specific compulsory skills/competences in learning/training in the metal, electricity and energy sectors.		S: alternative approaches to learning (research and study circles).		

Source: Loos, 2000.

Box 2.14: TSER projects relevant to research on competences, learning and didactic innovations for the new professional profiles
'Delilah: Designing and evaluating learning innovations and learning applications'
This research project aims at understanding educational innovations, gathering empirical evidence on innovative education and learning arrangements and developing specific methodologies and guidelines for learning.
This broad aim is put into operation through the following objectives:
<ul style="list-style-type: none"> • to synthesise the existing research on major cross-cultural, socio-economic and pedagogic factors in education and learning, and establish the consonance or match between major educational and learning innovations and the different learning patrimonies or traditions as defined by the aforementioned factors; • to assess the contribution of different organisational settings of learning and accessibility of learning opportunities for less favoured groups; • to contribute to the development of appropriate policies in the area of education and learning; • to develop methodologies and guidelines for the evaluation of new educational and training arrangements and processes; • to provide methodologies and tools for more effective mixes of new training products, in particular those involving multimedia.

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Final Report: SOE1-CT95-2009 – J. Cullen: Looking at innovations in education and training, framework, results, and policy implications of the Delilah project, 1998, TSER011.

'New assessment tools for cross-curricular competences in the domain of problem solving'

One of the biggest challenges to educational research and policy is providing relevant information regarding the education system's outcome at different levels.

In comparison with the classic contents of school subjects, Cross-curricular competences (CCC) gain specific attention in a rapidly changing information society. In the field of CCC special emphasis has been given to 'Problem solving' (PS).

A Thematic Network on CCC/PS is being created, directed to:

- connect policy needs with expertise and experience. This requires close cooperation between policy-makers and scientific experts;
- bring together experts from different disciplines who are working with different conceptual frameworks. By finding commonalities and enhancing synergy, new concepts and new assessment tools may be developed;
- stimulate and integrate more participation on both the political and scientific levels, with a special focus on South European countries. Ultimately this shall result in the outline of a larger project on CCC/PS.

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'Work experience as an education and training strategy: new approaches for the 21st century'

The research analyses European education and training strategy appropriate to the changing economic and social conditions of the 21st century. Its context is the future and changing nature of work. Overarching questions concern the extent to which work experience can enable young people to understand and prepare for working life and the ways in which educational institutions and companies can work together creatively to deliver relevant learning outcomes.

The research work will focus on the 14-19 age group and will examine the aims, processes and outcomes of work experience in the light of changes in the labour market and trends in workplace requirements and organisation.

The aim is to analyse and test innovative approaches (including use of information and communication technology) to both domestic and European work experience. There will be a particular concern with core and transferable skills and attitudes towards lifelong learning.

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3. Individualisation and differentiation of VET pathways²⁶

To ensure that learning is varied and of high quality, and to ensure the implementation of a strategy of lifelong learning, VET must, among

other things, adopt new forms of flexibility and facilitate increased individualisation.

3.1. Modalities

Several routes are being explored in Europe for achieving the objective of flexibility and individualisation:

- closer dovetailing of initial and continuing training;
- increased modularisation of training paths (facilitating a more flexible approach to competences);

²⁶ This chapter is largely inspired by the paper of P. Dehn-bostel & G. Dybowski, 2000: 'Company-based learning in the context of new forms of learning and differentiated training paths'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 1 (published 2001).

- creation of programmes combining vocational and general qualifications (in particular, dual qualifications – see Chapter 3 in Part 1 of this report);
- expansion of the range of training options available (facilitating the development of individual routes and vocational development).

These reforms are seen as increasing the flexibility and differentiation of VET; they are also designed to improve its image and raise its status in relation to general education.

Box 2.15: Individualisation and differentiation

Individualisation is a response to the various capacities, inclinations and interests of individuals (in comparison with traditional streams with limited options). In a context where individuals are responsible for their own career plans, VET must be in a position to respond to the individual's particular needs and objectives. Individualisation means recognising the differing training and skills development of every individual and increasing the number of options and combinations available.

Individualisation means that education and training systems must be characterised by differentiation and flexibility.

Differentiation may be internal or external. When it is internal, it relates to the teaching process and working methods. When it is external, it means the creation of new training programmes or institutional settings.

Flexibility relates to the creation of structures and processes which make it possible for individuals and systems to react rapidly to unforeseeable developments, changes and requirements.

Increased external differentiation may be regarded as leading to greater flexibility.

3.2. National examples

The reforms implemented in some countries (UK, NL, F, D, DK) to increase individualisation and differentiation represent a wish to make initial vocational training (IVT) more flexible in order to:

- facilitate transitions to employment, general education and continuing vocational training (CVT);
- standardise processes to facilitate more transparent access to the entire range of training options (see Table 2.8).

Table 2.8: Tools and approaches used to individualise and differentiate VET streams (examples)

Tools/approaches	Country				
	UK	NL	F	D	DK
Modules	++	++			+
Dual qualifications			+	+	+
Supplementary qualifications/ interweaving of IVT and CVT			+	++	+
Interchangeability with courses of general education	+	++	+	+	

Source: Dehnbostel & Dybowski, 2000.

3.2.1. United Kingdom

In the United Kingdom, individualised lifelong learning is seen as necessitating progressive implementation of a completely modular system. The various levels of vocational qualifications are defined on the basis of standards, and can be obtained within the framework of both initial and continuing training.

In 1996, a national framework establishing links between general and vocational streams was established. Training streams permit both vertical mobility (allowing entry at different levels) and horizontal mobility (enabling elements of general qualifications to be obtained in individual subjects, common to both streams). Credit and examination units are designed to be major instruments of flexibility, differentiation, and interchangeability with general education.

In practice, however, qualifications are fragmented, and it is still difficult today to learn by participating in different educational streams (helping to guarantee the links between general and vocational education). For example, in theory there is open access to NVQs (SNVQs in Scotland) at any level, but the specific opportunities for mobility are limited because these streams are highly specialised and do not offer any common platform of vocational knowledge. The actual scope for combining examination units is also limited.

3.2.2. The Netherlands

In the Netherlands also, lifelong learning is seen as necessitating the implementation of a modular system. Moreover, modularisation facilitates

increased responsiveness to rapid industrial change and the creation of links between school-based and alternance VET. Access to the various modules is effected on the basis of skills.

Four training levels are offered, defined according to the levels of responsibility, complexity and transferability of skills to other situations in the occupations to which they lead. It is hoped that this will make occupational structures more transparent. Each vocational qualification comprises a certain number of part qualifications.

This system has the dual advantage of recognising completed units in the event that individuals break off training or change streams, and of extending the range of qualifications offered (thanks to an increase in the number of combinations possible), thus promoting an increase in the range of qualifications available on the labour market. However, in reality the possibilities for combination are limited.

A regional network has also been created, with responsibility for coordinating (a) IVT and CVT, and (b) VET with the labour market. Hence the Netherlands has chosen to increase flexibility through external differentiation.

3.2.3. France

In France, interchangeability between general and vocational education has been formally made possible. In practice, however, mobility remains limited, since every candidate has to participate in 'bridging' classes (*premières d'adaptation*), in which virtually no account is taken of previously acquired knowledge (Chalendar, 1998, p. 148).

The vocational baccalaureate, a stream offering a dual qualification, does not appear to fulfil expectations as regards equal opportunities in higher education: holders of this diploma compete with holders of diplomas from general and technological streams. The forms of alternance training which have been developed, which in theory permit access to the same qualifications as school-based forms, do not appear to be achieving the desired quality.

Individualisation has also been promoted through modularisation of programmes and the introduction of teaching software for individual self-learning and of intensive guidance and counselling services. Flexibility has been increased through validation of knowledge and occupational experience, enabling credits to be accumulated. Despite the fact that responsibility has been transferred to regional and local bodies (with the aim of making training provision more responsive to labour mar-

ket trends and promoting cooperation with enterprises), in France VET has yet to overcome a major problem, namely its lack of prestige in comparison with general streams.

3.2.4. Germany

Germany has chosen to institute a policy of internal differentiation (see Box 2.15), in order to promote dynamism and flexibility within programmes. This strategy was adopted in the wake of the success of the dual system, which now has to cope with an increasingly heterogeneous public (ranging from young people with problems, leaving school at lower secondary level, to those leaving general education with a qualification entitling them to enter higher education – the *Abitur*) and demands by enterprises for an increase in the level of qualification (enterprises are tending to investigate other training routes when recruiting workers, thus reducing the number of places available for alternance training).

The reform put in place makes it possible to acquire general competences in the first 18 months of training, accompanied by the development of key (compulsory) qualifications in combination with optional qualifications, and the creation of new training profiles in innovative fields of employment.

A second axis of reform is aimed at increased individualisation of vocational qualifications and at facilitating transition between IVT and CVT. The intention is to develop autonomous, standardised modules, which build on one another and can be completed by supplementary qualifications. Furthermore, greater external differentiation will have to be established by increasing the number of links between general and vocational streams. Formulas for recognising skills acquired on the job will also have to be investigated.

3.2.5. Denmark

In Denmark, all young people, including those participating in VET, are given a basis of general education, which subsequently permits improved mobility between streams.

Reforms are aimed at creating a modular system (composed of basic courses supplemented by main courses – where specialisation takes place), combining compulsory blocks and optional modules. This system will enable, on the one hand, the creation of closer links between IVT, CVT and training for the unemployed, and, on the other, recognition of qualifications and coordination of content.

Modularisation also supports adaptation in line with the needs of certain target groups, thanks to the individualised combination of learning units. The success experienced by this mode of organisation in CVT has served as a starting point for reforming IVT. The autonomy of training providers is also to be increased.

3.3. Attractiveness of VET systems

The attractiveness of VET systems is increasingly measured in terms of transparency and the numbers of streams, opportunities for vocational and personal development, and career prospects. The introduction of units of general education into the VET curriculum has permitted a partial opening up of the borders between VET and general education. However:

- the career prospects opened up by VET streams are less good than those offered by school/university systems;
- qualifications acquired in CVT and through occupational experience are still inadequately recognised and certified, and rarely pave the way to new training prospects;
- moreover, access to continuing training is still unequal, with the most highly qualified workers participating more intensively;
- university qualifications have higher status than qualifications acquired in VET, as regards formal access to employment and career advancement.

VET is still chosen 'by default', even when it is of high quality. More convincing reforms need to be implemented if VET is to achieve equal status with general education (see Chapter 3 of Part 1 of this report) and thus to be attractive.

3.4. Conclusions

Dehnbostel & Dybowski (2000) advance the hypothesis that the status of VET can be improved only if a plural system is created, linking IVT, CVT and higher education. The implementation of lifelong learning involves developing interchangeable (part or overall) qualifications enabling individuals' mobility between general education, IVT, CVT and tertiary education, within a system which will no longer be linear (with one stage succeeding

another), but will encourage shuttling between different times and places of skills acquisition, from a perspective that supports skills acquisition rather than the accumulation of qualifications.

With regard to the reforms currently being implemented, formal systems appear to be embarking on this path (at least in some countries). Links are progressively being established between general and vocational streams, between IVT and higher education (for an in-depth analysis of these reforms, see Chapter 3 of Part 1 of this report).

Thought needs to be given to the links to be created between initial and continuing education and training. Examination of the reforms implemented in some Member States shows that modularisation of systems looks promising. However, the results obtained to date need to be analysed.

VET will also become more attractive if it opens up prospects of career advancement through CVT. Hence obtaining recognised CVT qualifications is a crucial element.

Provision of tertiary-level continuing training for holders of a VET qualification must be developed. Higher education institutions must develop university-level training courses in the workplace for individuals already in employment. The duration of these courses should be adjusted in accordance with qualifications already obtained either formally or through experience. Utilisation of multimedia tools will facilitate workers' access to training.

The new forms of training discussed above, in combination with improved quality and increased interchangeability of qualifications within the formal system, are essential, but they alone are not sufficient to ensure the development of lifelong learning. There is a need for consistent expansion of CVT options in the workplace, facilitating the acquisition of additional skills/competences and updating of qualifications throughout working life.

In this context, it is clear that the new forms of work organisation offer increased opportunities for learning in comparison with traditional forms of division of labour.

This chapter has stressed the need to develop a systemic approach to education and training, which promotes horizontal mobility (between general and vocational education), but above all

vertical mobility (between initial and continuing stages, between CVT and higher education). Hence there is a need to develop a system of evaluation and recognition of skills/competences which covers both initial and continuing education and training, to support transfer and interchangeability between these different times of acquisition of skills/competences.

4. Learning in enterprise²⁷

'...a modern enterprise [must] be continually open to its environment so as to import (learn) new knowledge and [...] to transform this knowledge and create new knowledge, making it part of the company's unique "know-how".' (Nyhan, 1999, p. 16)

The work and organisational concepts currently being proposed involve new social links and improve the possibilities for dynamic professionalisation and for learning. However, learning integrated into the modern work process is radically different from pedagogically organised training. In the boldest scenarios, new forms of work are equivalent to new forms of learning.

4.1. Basic models of learning in the workplace

'Work-related learning' describes learning processes within and outside enterprises whose subject is the content and structures of work and work processes. On the basis of experience in Germany, work-related learning can be broken down into three types:

- (a) it may be *tied to work*, when learning venue and work site are identical (on-the-job training, group learning or learning islands);
- (b) it may be *connected with work*, when work and learning are organised separately but share certain common spaces and/or organisation models (quality circles, workshops, technology centres);
- (c) it may be *work-oriented*, when learning takes place in centralised venues (schools, training centres or workshops).

Table 2.9 relates this classification to the forms of work-related learning in existence in Europe, and gives some examples.

²⁷ This chapter is largely inspired by the reference contribution by Dehnbostel & Dybowski (op. cit.).

Box 2.16: Some learning models in modern forms of work organisation²⁸

Instruction and coaching

This is one of the most widespread methods. It is implemented either individually or in groups. Instruction is seen as a means of imparting skills in accordance with work and production processes. Coaching is a subcategory of this.

Quality circles

In its most primitive form, this is a method designed to involve employees in problem-solving processes. Today, this role is played by forms of work organisation such as teamwork and project work, which enable the same objectives to be fulfilled.

Learning workshops

These workshops are aimed at resolving the enterprise's internal problems connected with production and cooperation, and at acquiring specialised knowledge and increasing productivity. Learning is primarily geared to skills directly required in the work process.

Decentralised learning and learning islands

These models are aimed at making structures more flexible and open, by establishing a link between learning and work (as opposed to formal centralised learning).

Order-based learning

This form of learning was developed in the craft trade and in SMEs, in which there were virtually no organised forms of training. Orders are planned, implemented and evaluated in coherent fashion. They are didactically and methodically processed, with the emphasis on customer orientation.

Interactive learning

This form of learning may take place on either an individual or group basis. Organising and controlling the learning processes are elements of major importance. Individualised and autonomous software learning materials are used.

These six forms of organisation, characterised by systematic learning and work education, are characteristic of current models of work organisation.

²⁸ The analyses and conclusions set out in this section are based on research carried out by the BIBB between 1996 and 1998 (Dehnbostel & Dybowski, 1998; Dybowski *et al.*, 1999). Pilot studies and case studies were carried out in ten medium-sized and large enterprises undergoing restructuring.

Table 2.9: Work-related learning models

Basic work-related learning methods	Description	Examples of concepts, systems and forms of learning
(1) <i>Learning by working</i> within the actual production process (tied to work)	This is the oldest and commonest form of vocational skills training. The workplace is the learning venue. In continuing training, it corresponds to the traditional concept of training, namely adapting skills within the enterprise. Learning in modern forms of work organisation comes into this category.	Craft training, traditional on-the-job training, group learning, some training programmes and the dual system.
(2) <i>Learning through systematic instruction</i> in the workplace (tied to work)	This is systematic instruction taking place in the context of initial training, starting a job, or changing jobs within the enterprise. The person responsible for the instruction is responsible for the entire process.	In-company training, four-stage method (preparation, demonstration, imitation and practice), some training programmes and the dual system.
(3) <i>Learning through informal or deliberate integration</i> (tied to or connected with work)	This is a combination of learning by experience and more deliberate forms. It results from the fact that restructuring processes necessitate integrated forms of work and learning.	Quality circles, learning islands, order-based learning, apprenticeship, coaching, interactive learning.
(4) <i>Learning through exploration and practical training</i> (tied to or connected with work)	A concept in which in-company practice is integrated into initial or continuing training wholly based in schools or training centres, and in institutions of higher education. The main objective is to provide an insight into the reality of work and life in the enterprise and to increase the motivation to learn by means of contact with this reality. In many countries, periods of practical training are currently being added to traditionally school-based VET courses.	Supplementing school-based training, skills training in training centres, courses, school-based preparation for an occupation.
(5) <i>Learning in simulated work or production processes</i> (work-oriented)	The aim is to create a learning situation approximating as closely as possible to reality and facilitating the acquisition of complex skills and a degree of experience.	Schools of production, training centres.

Source: Dehnbostel & Dybowski, 2000, adapted by the authors.

4.2. Integration of informal and deliberate learning

Dehnbostel & Dybowski (2000) classify as experiential learning types of learning leading to practical knowledge (Table 2.10).

Informal learning results from chance events in everyday or working life, independent of any organised learning activity. It is the basic method used by individuals, natural self-teaching. Dohmen (1999) sees it as having the following characteristics:

- it does not take place in educational establishments;
- it is not based on any planned curriculum and is not professionally organised (but tends to be triggered by events or to arise by chance and sporadically from situations of changing practical requirements);
- it is not arranged in a pedagogically aware way, but constitutes a holistic response to a problem;

Table 2.10: Types of experiential learning

Experiential learning	
<i>Informal learning:</i> involves no organisation or formal framework. Its result becomes apparent without being sought.	<i>Deliberate learning:</i> is learning intended to achieve specific results.
<i>Experience-based learning</i> (involves a process of reflection)	<i>Learning by implication</i> (takes place without reflection or unconsciously)

Source: Dehnbostel & Dybowski, 2000, adapted by the authors.

- it is directly experienced in its natural function of supporting life and survival.

Informal learning brings together experience-based learning (characterised by a process of reflecting on events) and learning by implication (which tends to occur without reflection or awareness – for example, learning to ride a bicycle without knowing the underlying rules and laws).

Deliberate learning is aimed at achieving specific results, unlike informal learning (where the result becomes apparent without having been sought).

Thus experiential learning takes place through experience and implication and by deliberate choice.

While all these categories of learning have in common the fact that the knowledge is practical and the individual plays an active part as a driving force in the learning, their specificity makes it possible to understand that training tied to work is not limited to experimentation or on-the-job training. Forms of deliberate learning need to be added; this makes it possible to go beyond the level of purely technical or financial objectives and to promote reflection by the learner. A vocational skill cannot be wholly acquired solely through informal learning, which constitutes a limited situation from the cognitive point of view.

4.3. Innovative forms of learning in enterprise

Forms of organisation and learning characteristic of modern industrial work processes can be classified under two main categories:

(a) ‘learning-organisation’-type forms, in which deliberate and informal learning are systematically combined, and which go beyond the immediate needs of the job;

(b) forms of work organisation in which skills are acquired informally and through experience, and are limited to the demands of the work situation.

Forms of learning in the workplace which can be seen as innovative go beyond informal learning in that they systematically combine learning and work.

Learning-intensive work (Ellström, 1999) – or the learning organisation – is seen as an alternative to the traditional Taylorist model, better able to cope with new production contingencies ensuing from an intensification of competitive pressure. These are forms of work organisation in which learning has become an integral part of the work process and it is no longer possible to distinguish between the two processes in terms of time spent on working and learning. These systems are designed for both purposes (Stern, 1992).

Nyhan (1999, p. 17) defines the learning organisation as a company which involves all its members in increasing organisational and individual effectiveness, through continuously reflecting on how strategic and everyday tasks are handled. The work content therefore becomes the learning content. Work and learning become part of a spiral of continuous improvement.

This author (*ibid.*) suggests key elements for determining whether an enterprise is a learning organisation:

- line production employees must have a high level of autonomy and control over the execution of their work tasks;
- they are supported in using these work tasks as opportunities for continuous learning and competence development;
- the manner in which work is organised ensures that all individuals are learning about their roles and responsibilities and how these relate to other roles within the overall system.

Koch (1999) makes a distinction between qualifying enterprise and learning enterprise, based on the way in which these enterprises interpret the concepts of autonomy and skills/competences.

(a) *Autonomy*

The qualifying enterprise allows the employee to acquire a qualification which goes beyond the

requirements of the current job and may help the individual to move on to a new job, within or outside the enterprise. This *individual autonomy* geared to the outside world is known as employability.

The learning enterprise develops *group autonomy* which go beyond individual autonomy, by proceduralising knowledge. Work teams are expected to have a good understanding of problems, to know how to tackle them and, above all, to know how to suggest solutions, take decisions and take direct action. The aim is to combine individual competence with the competence of collective autonomy.

(b) *Skills/competences*

The qualifying enterprise develops *individual skills/competences*.

The learning enterprise develops *collective skills/competences* (complex combinations of individual skills/competences). These enable the structure to react appropriately and to adjust itself.

'[...] The theory of the learning enterprise implicitly defines competence as a capacity to react to a collection of stimuli [...] This definition applies both to an individual and to an organisation. Thus the enterprise is understood as a system of groups, each of which develops competences, which are in turn systems of individual competences. The competence of an individual is linked to his environment and is partially made up of interactions with members of the group. Employability, for its part, has been posited as being the capacity for an individual to be removed from one organisation and to adapt to another organisation. [...] The learning enterprise (where competences are formed) and the qualifying enterprise (where employability develops) are two typical ideals which are present in any organisation.' (Koch, 1999)

Box 2.17: Self-organised learning

Self-learning and forms of trial and error on the job are the main modes of acquisition of supplementary vocational skills/competences (Grünwald, 1997). However, purely informal acquisition of these skills/competences could lead to a kind of 'privatisation', disadvantageous for individuals in difficulty. Moreover, if no stage of reflection and experimentation is organised, and no specific advice or guidance is offered by experts within or outside the enterprise, this form of self-organised learning is reduced to forms of learning by doing or by watching.

People do not learn by applying rules and procedures, but by solving problems, individually or in groups, and learn in this way to react to the uncertainties of social life.

Self-organisation is an integral part of modern work processes and generates learning. Regular team meetings, coordination and internal rotation, representation of groups of workers, a high level of autonomy, decision-making and responsibilities are all situations promoting social and methodological learning, which are not present in traditional forms of work organisation.

The concept of self-organised learning comes close to that of self-directed learning (see Box 2.12).

Source: Dehnbostel & Dybowski, 2000.

4.4. Stages of development of the learning organisation

Nyhan (1999, p. 19) distinguishes three levels of progression in the adoption of competence-based strategies:

(a) *Bottom level – problem solving*

Competence development is seen as a means of introducing new problem-solving processes to enable the enterprise to meet its own needs. There is no evaluation or radical overhaul of existing management and organisational strategies. The impact of competence development is mainly confined to the worker/shopfloor level. Innovations are incorporated without radically transforming structure and management.

(b) *Middle level – organisational model*

The adoption of organisational models or management strategies such as TQM demands competence development on an organisational level, involving all managers and employees. The central feature of this change is the adoption of an external organisational model. The change occurs at the level of the structures and the organisation.

(c) *Top level – visionary perspective*

This perspective entails a radical shift in the company's values concerning the roles and responsibilities of all employees in the achievement of the company's business goals. The implementation of the new company vision is based on the competence of the workforce. The chief executive of the company plays the key role in articulating and gaining company-wide acceptance of the new vision.

The TSER project DELOS (*Developing learning organisation models in SME clusters*, Sarcina *et al.*, 1999; see Box 3.12 in Part 3 of this report) identifies three main levels of organisational learning:

(a) information gathering – monitoring, acquisition and management of data enabling the enterprise to keep itself informed of changes and developments in the market in which it operates;

(b) knowledge acquisition – the process through which the enterprise defines and acquires the competences, know-how and strategic intelligence necessary for day-to-day activities;

(c) competence consolidation and development – the process through which existing information and knowledge are transformed into learning.

On the basis of a survey of 300 SMEs in 5 countries (I, F, UK, A, E), the DELOS project draws up a typology of organisational learning based on:

- the relationship between information gathering, knowledge acquisition and competence development;

- the relationship between the SME and its institutional environment and other structural characteristics (such as its size, its age and its type of decision-making).

This typology is shown in Table 2.11. It covers 5 types of enterprise. The first type is described as crisis-driven, reacting to challenges and events instead of pursuing an active policy of HRD and strategic management. The second type is 'endogenous', since learning is concentrated on the processes and procedures of knowledge acquisition within the enterprise. Next comes the 'exogenous' enterprise, which seeks external sources of expertise. The last two types are described as 'embedded' in the industrial environment, since they use the SME network to acquire and consolidate competences. However, in the first subtype (information-centred), organisational learning is limited, while in the second the emphasis is on developing competences (see also Chapter 3.5 of Part 3 of this report).

Type of enterprise	Information gathering	Knowledge acquisition	Competence development	Structural characteristics of the enterprise
Crisis-driven	Not systematic	Reactive	Not a priority	Micro-enterprises New enterprises Entrepreneur cut off from the business environment
Endogenous	Not systematic	Mentorship On-the-job experience Employment of new workers	Not a priority	Larger enterprises, cut off from the business environment
Exogenous	Not systematic	Externalised/mainly training courses	High level of formal learning/continuing training	Opportunist utilisation of the local network
Embedded (1) information-centred	Strategic: • exhibition • links with R&D centres	Not systematic	High level of informal learning: family mentorship Links with local enterprises	Closer links with the local network: strong integration with the business environment
Embedded (2) competence-centred	Informal: • chamber of commerce • other enterprises	Not systematic	More formalised competence development	Strongly integrated Recent creation

Source: Sarcina *et al.*, 1999 (DELOS), adapted by the authors.

4.5. Reorientation of learning and the changing tasks and role of training staff

A series of factors may justify the intensification of the demands made on training staff: an increasing rate of technological progress, new modes of work organisation, the introduction of ICTs, the increased importance of the tertiary sector, changes in initial training and in learners' interests, etc.

The proportion of skilled workers providing training is set to increase in relation to that of full-time trainers. In Germany, for example, the ratio is currently 70,000 full-time trainers to 3.5 to 4 million skilled workers (i.e. more than 10% of the labour force) involved in training activities in the workplace (Schmidt–Hackenberg *et al.*, 1999). Care needs to be taken to ensure that the latter category possesses the competences and qualifications required to perform this task.²⁹

Learning within the modern work process offers a number of advantages in terms of orientation and motivation; it also ensures a direct link between the knowledge and its concrete implementation. However, this form of organisation has not inconsiderable implications for the role and tasks of those responsible for training and HRD and of any worker who acts as a trainer at some point. Related aspects are also discussed in Chapter 5 of Part 1 and in Chapter 5 of Part 3 of this report.

The role of human resources management (HRM) in learning organisations has been analysed on the basis of case studies in seven European countries (B, FIN, F, D, UK, I, NL; ter Horst & Tjepkema, 1999). Today, those responsible for HRM have not only to offer training courses but also to identify opportunities for (informal) learning for employees. Strategies must link training and production, help employees to analyse their needs as regards competences and, finally, set up learning activities. Despite everything, training is still an important strategy, but it is supplemented by other types of learning and by strengthening of the links between training and organisational strategy.

²⁹ In Germany, a training programme has been established for trainers of this type, working in SMEs. It consists of the following modules:

- conditions and structures of action-oriented learning, role of the enterprise and of part-time trainers in IVT and CVT;
- analysis of jobs and activities, tools and processes, and their application in the seminar;
- methodological procedures for coaching in work-oriented learning;
- analysis of cases in the enterprise, structuring of education settings in the workplace.

Recognition of the constructive nature of learning and strengthening of its links with the work process change training conditions and the trainer's methods of intervention. The trainer's function becomes geared to coordination within the learning organisation, where workplace and learning venue merge. Within this framework, the trainer's traditional functions are combined with those of team leader, spokesperson, project manager, quality assessor, etc.

4.6. Conclusions

In modern work processes, action, previously determined by planning and preparation of work in narrowly defined tasks, is being replaced by reflective, open action. In this context, learning geared to action and the acquisition of exhaustive occupational skills/competences are the key basic principles of vocational training.

Hence preference must be given to forms of learning associated with reflective action, geared to products and results, and equipped with room for manoeuvre and responsibility.

Implementation of forms of learning incorporated into the work process and organised by workers themselves fulfils commercial objectives; it is linked to restructuring of the organisation of enterprises. Nevertheless, these initiatives lead to the creation of new training perspectives and thus fulfil both economic and pedagogic objectives by contributing to:

- the relevance of content;
- an increase in prospective personal development and individual autonomy;
- optimisation of productivity and performance;
- an understanding of organisational reforms;
- the development of skills/competences appropriate to future labour market requirements.

The setting up of learning organisations is delayed by, among other things:

- an underdeveloped learning culture;
- a lack of clarity in the definition of the roles of human resources managers;

- a lack of motivation on the part of managers and employees as regards committing themselves to new learning tasks and processes.

Workers' motivation to learn is a crucial factor. This means that they must recognise the value of informal modes of learning and development, and must accept responsibility for their own learning (ter Horst & Tjepkema, 1999).

In this context, the explicit integration of skills/competences acquired in enterprise in a framework of lifelong learning, by identifying, evaluating and recognising them, may help to motivate the worker.

Managers must also involve themselves more in HRD and change their attitude to learning. HR managers should adapt to their new professional profile (consultants rather than trainers). They must establish links between their activity and corporate strategy. To facilitate this work, their professionalisation needs to be encouraged (ter Horst & Tjepkema, 1999).

Reorganisation and restructuring of work processes offer VET an opportunity to get in tune with organisational trends. Education and training systems must be adjusted in order to incorporate this development into the strategy of lifelong learning.

Box 2.18: TSER projects on models and forms of learning in enterprise

'Work process knowledge in technological and organisational development'

This thematic network is concerned with the impact on the knowledge required of the workforce from the changes that occur when organisations acquire greater flexibility and introduce new technologies in response to the pressures of competition.

Its main objectives are:

- to identify new working practices associated with these changes;
- to integrate European traditions for conceptualising the ways of knowing needed in the workplace to adapt to these changes - 'work process knowledge';
- to generate and analyse policy options for facilitating the development of this knowledge, including new approaches to learning in the workplace, the design of new technology and organisational development within enterprises.

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'LATIO: In-company training and learning in organisations'

The aim of the project is to develop strategies for enhanced competence development in companies in the EU. The research objectives are the follows:

- to describe and compare learning environments in companies active in the EU arena, within a number of sector and branches;
- to describe and analyse current strategies for in-company training, organisational learning, development of core skills and competences within these companies;
- to find and lift forward positive examples of conditions that create successful learning in organisations;
- to distinguish what are critical factors for developing new and successful strategies for in-company training, competence development and learning in organisations.

The practical contribution of the project is to propose structures and strategies that enhance and facilitate the creation of learning environments, and best practice for in-company training and learning organisations.

Coordinator: L. Svensson & Y. Kjellberg, Lund University, Sweden. E-mail: ylva.kjellberg@pedagog.lu.se

Final Report: SOE2-CT96-2013 – , L. Svensson, Y. Kjellberg: LATIO – In-company training and learning in organisation.

'The role of human resource development within organisations in creating opportunities for lifelong learning - concepts and practices in seven European countries'

The objectives of the study are:

- to clarify the specific European outlook on the role which human resource development (HRD) in learning oriented organisations can fulfil in lifelong learning, and thus contribute to the discussion on a 'European model of lifelong learning';
- to provide a basis for further research on the changing role of HRD in work organisations;
- to provide practical guidelines for HRD practitioners throughout Europe on how to facilitate employee learning and thus assist their organisations in securing their competitiveness in a continuously changing environment.

The research looks at HRD departments in learning oriented organisations throughout Europe and how they view their own role in stimulating and supporting employees to learn continuously as a part of everyday work.

Coordinator: S. Tjepkema, University of Twente, The Netherlands. E-mail: tjepkema@edte.utwente.nl

Final Report: SOE2-CT97-2026 – S. Tjepkema: The role of HRD within organisations in creating opportunities for lifelong learning : concepts and practices in seven European countries.

Box 2.19: LDV project 'Training processes in lean learning enterprises with particular emphasis on lifelong learning'

In this study three companies were examined: a distribution company in the UK, a large drug store in Germany and a private bank in Austria. The study examined the operational leanness of the three companies and the development of their business organisation in terms of organisational culture and lifelong learning.

The study began by examining quantitative factors and was completed by a qualitative examination based on structured and open-ended interviews. This qualitative analysis related to the company's development phases, the respondent's concept of learning, the learning activities in which staff engaged, the place of learning processes within the fabric of the company and the instruction methods used on the training courses. A 'training questionnaire' was used to obtain various assessments of training needs and the value of in-house training. Experts from the project team used the collected data to evaluate the extent to which the principles of 'be lean and learn' were in balance within the analysed companies.

The study has produced a number of suggestions as to the learning and training implications of a business strategy that is primarily driven by economic goals.

Coordination: H.G. Bauer, Society for Training Research and Occupational Development (Gesellschaft für Ausbildungsforschung und Berufsentwicklung), Munich, Germany. E-mail: gabvab@aol.com

Final Report: H. G. Bauer, U. Büchele (eds.): Um schlank zu sein, muss man lernen. Logos GAB, Trigon, Rubicon.

Part three

Training and employment in a company perspective

This Part three of the report addresses the role of companies in training and employment. Globalisation and induced changes in the division of labour within companies are expected to bring about new skill requirements and, in consequence, challenges to VET programmes. However, not all of these new tendencies are proved empirically. Since companies have a broad range of organisational choice, critical questions concern the pace of evolution of a new work organisation and a general upskilling or 'rehabilitation' of work. Debate on the role of training within production growth and labour markets also touches upon questions linked to the structure, mode of functioning and mobility in internal, external and occupational labour markets and their implications for skill acquisition and utilisation.

Small and medium sized enterprises (SMEs) are regarded as the main drivers of a dynamic economic development. The decline of mass production, decentralisation and tertiarisation of the economies put to the fore the flexibility of small structures in order to improve innovation, competitiveness and employment. However, the specificity and diversity of SMEs impedes a typology and coherent consideration of the role of SMEs in training and employment creation.

Promoting entrepreneurship is one of the main objectives of European employment strategies to foster employment and innovation and to reduce unemployment. The conditions of enterprise start-up are discussed along with success, self-employment and the role of social enterprises. A review of initiatives at national and European level demonstrates that training for independence, starting at schools and continuing during later training phases, is increasingly seen as a key qualification for self-responsible work – as entrepreneurs and as employees in modern work organisations.

'Human resource development' (HRD) refers to the activation and development of educational training activities in companies. The 'European working life and VET culture' is increasingly challenged by a competing utilitarian and instrumental model of 'human resource management', inspired by neo-Tayloristic work organisation principles and neo-liberal economics. A subsequent section discusses new emerging approaches to reporting on human capital which is about measuring values and processes related to the acquisition, development and dissemination of knowledge. These approaches combine the reporting on, and management of, enterprises' human capital.

Actors and researchers in the labour market are increasingly interested in solid information on the development of skill requirements at the enterprise level. However, this information is still insufficient, due to a lack of appropriate data. A review of empirical studies at enterprise level demonstrates the potential of such surveys for VET research and policy. This concerns aspects of the flexibility of firms, and the resulting skill requirements, as well as issues of enterprise training, retention of training leavers and continuing training. Also discussed are the design of enterprise surveys – in particular longitudinal and panel surveys - and the value of matched employer-employee datasets.

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1. Skill needs in a global economy¹

There is no clear or simple relationship between globalisation, division of labour and company training needs. Many researchers attribute changes in the division of labour to the process of globalisation which is expected to bring about new requirements for skills, competences and work attitudes from employees. On the one hand, this imposes major challenges to the reshaping of VET programmes. On the other hand, the competences acquired in a renewed VET-philosophy may subsequently influence the process of globalisation and the division of labour.

However, not all of these new tendencies concerning globalisation, new organisation of work and division of labour discussed in research and policy are based on empirical evidence. A number of companies choose production and organisation concepts which can be characterised as 'neo-Tayloristic'. In this context of organisational choice, critical questions concern the pace of evolution of a new work organisation and a general upskilling or 'rehabilitation' of work.

1.1. Globalisation of companies

The most important aspect of globalisation is the *spatial disconnection* between different functions of production and between production and consumption in a global, rather than a national or regional perspective (Box 3.2). Economic goods are no longer produced where they are consumed, but where they can be created most efficiently.

The application of new communication techniques and the implementation of advanced logistical systems undermine the site-specificity of economic transactions further (Van Hootegeem, 1999). Furthermore, and supported by ICTs, restrictions in time are decisively reduced. Due to the increasing informatisation of work and digitalisation of information, the site-specificity tends to decrease in the services sector, too (Schienstock *et al.*, 1999).

In an extreme case, a company may even become a 'virtual enterprise' which undertakes business only electronically. This is the case, for example, when a firm or a pool of independent firms operates only via Internet or Extranet.

¹ This chapter is in major parts based on the paper of J. Dejonckheere & G. van Hootegeem, 2000: 'Globalisation, division of labour and training needs from a company view'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

Box 3.1: LDV project 'Virtual enterprises in initial vocational training (ISIS – OSIRIS)'

'Virtual enterprises' are business structures that have been created as a response to new competitive demands. They are companies which conduct their business through the Internet or loose associations of independent companies which trade publicly under a common name but whose organisational links are administered exclusively by means of information and communication technology. The characteristics of virtual enterprises are an extremely customer-centred approach, temporary forms of work organisation, decentralised organisation of the problem-solving team and the exclusive use of the Internet/Intranet or Extranet instead of a fixed place of business.

The project examined skill requirements for staff of virtual enterprises (technical and key skills), the organisation of vocational training in virtual enterprises, and media-based learning.

The ISIS project was developed in partnership with eight European institutions. The aim of the project is to establish virtual enterprises in the domain of education and training. OSIRIS made an evaluation of the ISIS project.

Coordination:

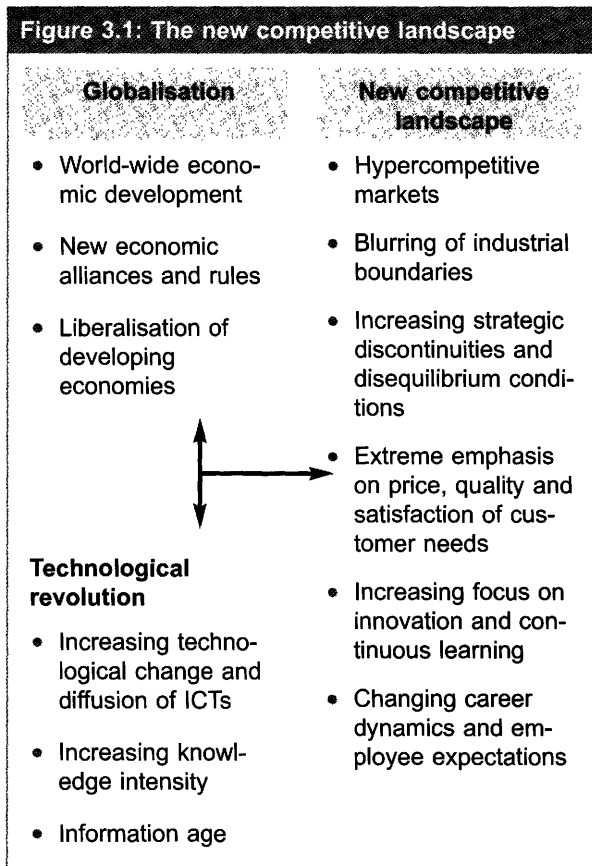
- ISIS project: Wiesbaden Institute of Education (Pädagogisches Institut Wiesbaden) in the Hessian Regional Institute of Education (Hessisches Landesinstitut für Pädagogik).
- OSIRIS project: H. Martin, Institute of Labour Studies (Institut für Arbeitswissenschaft), University of Kassel

Publication: S. Kreher, Institute of Labour Studies, University of Kassel: *Virtuelle Unternehmen in der beruflichen Erstausbildung* [Virtual enterprises in initial vocational training] (ISIS-OSIRIS). Gesamthochschule Kassel, 1999.

Thus, ICTs and globalisation become increasingly interwoven (Figure 3.1). It is the *dynamic interaction* between technological revolution and globalisation that is expected to cause changes in the competitive landscape and, in consequence, in skill and training needs, too.

1.1.1. Strategic options

To gain cost leadership combined with high quality, quick delivery and product differentiation, companies break down their divisions into discrete functions and locate them where they can be performed most efficiently, also taking advantage of the local environment (Ernst & Lundvall, 1997). Labour cost-sensitive production is transferred to low wage regions whereas knowledge-intensive production and services will be located in regions with highly qualified labour and a well-developed information infrastructure.



Source: Dejonckheere & van Hootegem, 2000, based on Hitt et al., 1998, p. 24.

tional and national companies. The international approach calls for a more horizontal organisational structure and establishes strategic linkages between countries in which a firm operates. One of the keys to success in this approach lies in an enterprise's ability to transfer knowledge to overseas units (Boudreau et al., 1998).

- A *multinational company* operates in many different countries but retains a clear home base in one particular country.

In a *multinational strategy*, national or regional operations are relatively autonomous and decentralised in order to increase sensitivity to differences among the individual countries in which it operates. The key competitive issue is responsiveness to local markets.

- *Transnational companies* 'no longer have a national home base but source, produce and market on a global scale, as indicated by their business strategy' (Lane, 1995, p. 83).

According to Bartlett & Ghosdal (1989), organisations will be most competitive if they simultaneously meet the challenges of global efficiency, local responsiveness and learning. This requires a *transnational strategy* in which each organisational activity is performed in a location where it can be best accomplished. According to Boudreau et al. (1998), an effective transnational strategy depends to a great extent on the effective utilisation of advanced ICTs.

Source: Dejonckheere & van Hootegem, 2000.

Box 3.2: Globalisation and internationalisation of companies – some definitions

- *Globalisation* is a 'process through which an increasing proportion of economic, social and cultural transactions takes place directly or indirectly between parties in different countries' (Radice, 1999, p. 3). However, there are almost as many conceptualisations of globalisation as there are disciplines (Parker, 1996).

In a *global strategy* an enterprise locates its headquarters in one country while its operations are performed in one or more other countries. Under this approach, an organisation operates in a centralised manner. Efficiency, obtained through economies of scale, is the key criterion of effectiveness sought by the global company.

- *Internationalisation* refers to an increasing spread of a company's activities (export, direct investment) across national borders (Lane, 1995). In this case, production remains in the home country but distribution networks may be built up in foreign countries.

Under an *international strategy*, enterprises compete on a worldwide basis against other interna-

Globalisation results in the establishment of *new competition criteria* to meet the challenges of global efficiency, local responsiveness and learning. Innovativeness, flexibility and customisation are the key criteria for economic success. Combining productivity and flexibility is an important survival strategy for remaining competitive in the global market (Huys et al., 1995).

The device 'act global, think local' places huge demands for coordination and communication on a company. The utilisation of ICTs is essential for survival and success. In turn, ICTs – in particular the Internet and the new services ('e-commerce') it brings about – will influence many 'traditional' companies substantially.

Innovativeness, customisation and flexibility are considered to be the decisive competitive criteria in a global context. *Customisation and flexibility* are related to local responsiveness and can have serious implications for the division of labour when conducting business on a global scale (Bartlett & Ghosdal,

1989). *Innovativeness* refers above all to learning and knowledge and to the research, creativity and development that are important and necessary inputs to the innovation process (Lundvall & Johnson, 1993; Dybowski, 1998).

1.1.2. Globalisation of services

ICTs increasingly affect the service sectors, too. 'Information and communication technologies, almost by definition, allow for the *increased tradability of service activities* [...]. By bringing in a space or time/storage dimension, information technology will make possible the separation of production from consumption of such activities' (Soete, 1996, p. 48).

The issue of a 'globalising service economy' is increasingly discussed in research and policy. The growing importance of services is seen as a 'megatrend' of sectoral structural change. Some authors take this as a confirmation of Fourastié's 'three-sector-hypothesis' (e.g. Grömling *et al.*, 1998), complemented even by a fourth sector 'information' (Dostal, 2000).

However, Giarini (1999/2000), based on an analysis of services within contemporary economies, goes further. He claims that 'services are no longer a sector but a *function* dominating – in terms of resource utilisation – all the productive activities in the economy and, in particular, in the so-called manufacturing sector. [...] the production of value is essentially based on services everywhere' (p. 1; italics by authors).

According to Giarini, there is no material product that does not require any service. Services are spread throughout all sectors. However, quantitative figures on service functions are scarce in official statistics. But even in the traditional demarcation by industrial sectors, services have reached a share of two thirds or more of total employment in mature western economies (Table 3.1). Therefore, the traditional notion of the three separate sectors increasingly becomes obsolete.

More and more business (the major part of it consisting in services nowadays) 'is not done where the manufacturing takes place but where products and systems are utilised' (Giarini, 1999/2000, p. 8), resulting in a displacement of business to where the clients are. This changing nature of services will have (and has already) impact on the activities of international institutions such as the World Trade Organisation (WTO), and its predecessor, the GATT.

Table 3.1: Employment by industrial sectors, 1995, %

Sector	EU-15	US ^(a)	Japan
Agriculture	5.5	2.8	7.3
Energy	1.2	1.1	0.6
Construction	5.7	5.3	10.5
Manufacturing	21.5	15.6	22.6
Services	66.2	75.3	58.8
Market services ^(b)	45.3	52.2	50.1
Non-market services ^(c)	20.8	23.2	8.7
Total	100.0	100.0	100.0

(a) 1994;

(b) distributive trades, hotels/restaurants/catering, transport, communication, financial services, other market services;

(c) public administration, education, health, other community, social and personal services.

Source: European Commission, 1999d.

1.2. Globalisation thesis

Today, it has become almost axiomatic that business success depends on expanding the global reach of a company, accelerated by innovations in the field of ICTs. Some statements:

- 'There is little doubt that the competitive landscape has changed dramatically over the past dozen years. [...] Organisations have extended their activities around the world' (Boudreau *et al.*, 1998, p. 120).
- 'Organisations and their executives are deeply involved in one of the greatest transformations of all time. The geographic boundaries, psychic distances, and politically imposed national borders that have defined our concepts of space and time have been substantially altered' (Zahra, 1998, p. 10).
- 'The market has become the credo and globalisation has become the master concept of our time. [...] No country today appears to be immune to the pressures emanating from the globalisation trend' (Lee, 1999, p. 23).

1.2.1. Weightless economy?

If we believe the globalisation protagonists we have entered a new phase in world history in which cross-border flows of goods and services, investment, finance and technology are creating a world market where the law of one price prevails. 'Globalists assume that the world economy is now so

integrated that the constraints of location and of institutional frameworks are increasingly irrelevant; that corporations can simply take a “random walk” in the world market, escaping the confines of any nation-state’ (Weiss, 1998, p. 185).

Some researchers, however, question this ‘globalisation thesis’ (e.g. Wade, 1996). In their view, globalisation is a ‘vogue word of modern marketing literature’ (Vandenbroucke, 1996, p. 8), that entered the popular lexicon as ‘the new buzzword for the 1990s’ (Weiss, 1998, p. 167).

‘Perhaps one of the most dangerous illusions is the notion that the information technologies mean that anything can now be done by anyone, anywhere and that the entire population of the globe has become a potential workforce. [...] Although it is full of euphemistic descriptions of the “death of distance” or the “end of geography”, the literature on globalisation is surprisingly short on empirical evidence’ (Huws, 1999, p. 47).

Not all human activities can be displaced: the majority of jobs are still firmly anchored to a given location (e.g. extraction and processing of raw materials, construction of buildings, streets and plant, manufacturing of material commodities, transport, delivery of physical services, etc.). The so-called ‘dematerialisation thesis’ or ‘myth of the weightless economy’ (Huws, 1999) does not apply for a whole range of activities.

This applies particularly to the majority of SMEs which employ around two thirds of the European workforce.² Most of these serve local markets and are exposed to globalisation to a minor degree only. Therefore ‘globalisation’ applies above all to large enterprises and a minority of small high-tech or ‘high flying’ companies.

It is often argued that high labour costs and regulations (e.g. in some European countries) push enterprises to relocate their production in other countries. Empirical studies have shown, however, that these are not the main reasons. The share of labour costs is relatively low in automated plants such as the automotive industry or mass production. Many of these relocations aim to capture new additional markets (e.g. eastern Europe) more than to replace existing production in the ‘old’ markets.

² Including agriculture and household services; see Chapter 3.1.

• Empirical work done by Hirst & Thompson (1996) shows that multinational companies remain predominantly grounded in the national economies from which they originate, conducting most of their activities there and repatriating profits.

• Similar conclusions are drawn from an investigation of the hundred largest companies in the world (Ruigrok & Van Tulder, 1995a, b).

• Furthermore, trade and investment is geographically concentrated in intra-regional patterns: Intra-European trade for example accounts for some 62% of Europe’s total export trade (Weiss, 1998).

However, the situation is rapidly changing – more so than is represented by available representative and update statistical data.

Concluding, the competitive landscape has changed dramatically in recent years. Geographic and temporal boundaries, as well as psychological distances have disappeared; economic activities have become dematerialised and business success depends on expanding the global reach of the organisation. However, those who criticise the increasing emphasis on this aspect point to the lack of empirical evidence, the enduring importance of site specificity, increasing regionalisation rather than globalisation and the relatively small quantitative importance of transnational trade.

Box 3.3: TSER project ‘Globalisation and social exclusion’

The principal objective of this project is to determine the role played by international trade in influencing the employment and relative wages of unskilled workers in Europe. A combination of data analysis, econometrics, case studies and simulation modelling is carried out and takes account of differences in industrial structures, social policies and technological change, and labour markets and labour market policies in individual EU Member States.

The project investigates how firms and industries in Europe have responded and adjusted to increased international competition from low wage economies.

A key element of the project is the collection of the most suitable data on trade, industrial characteristics (output, prices, investment, employment, wages), technology, labour market structures and national tax and social policies. These data are collected and made available as a single database.

Coordinator: J. Whalley, University of Warwick, UK.
E-mail: j.whalley@csv.warwick.ac.uk

1.2.2. New division of labour

There is widespread agreement that the emerging global economy, new challenges for flexibility, innovation and reorganisation of the whole business process, supported by modern ICTs, call for new ways of organising a company's production and work. Studies arguing in this way proclaim the end of Taylorism and Fordism and 'a new organisation logic' based upon less division of labour and a new employment relationship (Table 3.2).³

The Fordist key words are gradually being replaced by their 'post-Fordist' counterparts: standardisation by customisation, differentiation or individualisation; cost efficiency by innovativeness and creativity; simplicity by complexity; stability by flexibility; etc.

To meet the new competitive criteria and priorities, companies are restructuring themselves in order to survive. The 'management of non-routine processes' (Staudt, 1994) covers organisational and personnel development in addition to corporate and technological development (Dybowski, 1998).

This restructuring is an essential feature of the *new production concept* with a shift from centralised planning and support towards deconcentration and decentralisation. This is expected to benefit a company's sensory capacity, the capacity for the selection of adequate actions and the innovative capacity (Sels & Van Hootegem, 1998).

³ For a more detailed outline of the Fordist and Taylorist approaches see Dejonckheere & Van Hootegem, 2000, Chapter 2.

Moreover, this concept offers more room for integrated production jobs where all operations and tools required for the production of a single product can be brought together. This 'process-oriented' structure can pave the way for job enlargement and enrichment by regrouping operations and tasks (Huys *et al.*, 1999). Human intervention remains essential to secure the continuity of technical processes and the effective use of capital-intensive production technology.

The 'rehabilitation' of human work requires a *new employment relationship*, where vertical mobility is replaced by horizontal mobility, stability by flexibility, low and specific skill requirements by process-oriented and broader skills and acting competence. Attention is being given to a 'learning organisation' and the potential for the development of intensive and continuous learning activities in a company (see also Part 2, Chapter 4).

1.2.3. Rhetoric versus reality?

It is surprising that empirical research on organisational restructuring has not (yet?) been able to prove the broad introduction of new production concepts and the end of the traditional division of labour.

- Several sector-wide studies in Belgium (chemical, automobile, machine tool and clothing industry) have investigated the transformation from a traditional Tayloristic to a new socio-technical division of labour (Huys *et al.*, 1995). Although some changes in the organisational structure are

Table 3.2: Traditional versus new employment relationship

	Traditional employment relationship	New employment relationship
Contractual flexibility	Stability	Core-periphery
Temporal flexibility	Traditional (e.g. overtime)	New forms of temporal flexibility
Vertical mobility	High	Low
Horizontal mobility	Low	High (e.g. polyvalence)
Remuneration	Determined, based on hierarchy of functions	Flexible
Educational/training profile	Low profile, job-specific	Intensive and continuous learning organisation
Recruitment	Low profile	Strong profile, focus on potential development

Source: Dejonckheere & van Hootegem, 2000, based on Huys *et al.*, 1999, p. 742.

taking place, the effects on the work content of production workers remain limited, with a continuing domination of merely implementational and narrow jobs. 'The changes taking place have in common the fact that they do not change the fundamental nature of the Fordist-Taylorist production system' (Huys *et al.*, 1999, p. 86).

- Van Hootegem (1999) further extended the empirical basis of this so-called Belgian 'Trend-study' on the basis of twenty longitudinal in-depth case studies on changing patterns in the division of labour. He concludes that contemporary organisations are changing their division of labour, but that one rarely can speak of a drastic or fundamental organisational renewal or restructuring: 'In general, the basic Tayloristic idea is still predominant' (Van Hootegem, 1999).

- For Germany, SOFI⁴ executed a similar 'Trend report' in the automotive, machine tool and chemical industry at the beginning of the 1990s. Schumann *et al.* (1994) concluded: 'These new types of organisation are spreading in manufacturing sectors, too, and are gaining ground against the "old fashioned" ones. Nevertheless, due to missed opportunities in the 1980s, the dynamic development in the past decade can be characterised more as "pilgrim steps": two forward, one back, than a purposeful modernisation. These deficits are becoming very visible in the current structural crisis' (p. 648).

- According to the IAO⁵ (cit. in *Forskningsministeriet*, 1999, p. 100), Tayloristic work organisation in German firms increased in the period 1993 to 1998 to almost 40%, whereas participative work decreased in tendency. A slight increase only (to 25%) was found for post-Tayloristic work organisations characterised by semi-independent team or individual work.

- A survey in the US (Applebaum & Batt, 1994) reported that only one quarter of larger firms had realised significant changes of the organisation and management of work and of human resource practices. But even in these firms, the changes usually affected not more than 20% of employees. 'This has led some observers to conclude that between 5 and 10% of the work force in large firms is affected by major organisational changes' (p. 61).

- Based on surveys of the American Society for Training and Development (ASTD), Carnevale (1992, p. 53) estimates that 'only 13 percent of American employers have organised employees in high performance work systems that de-emphasise hierarchy and emphasise collaboration and teamwork. Those systems encompass a meagre 2 percent of US workers.'

The research findings quoted above do not say that nothing is changing at all, but empirically assessed changes do not allow (yet?) for a general breakthrough of new production concepts (similarly: Dybowski, 1998, p. 148).

There are two explanations for this discrepancy between the expectations attached to the new production concept and empirical observations (Fruytier, 1994):

(a) first, changes, which are assumed to replace gradually the Taylorist production concept, are undertaken only hesitantly (Huys *et al.*, 1999). New performance criteria - such as innovativeness, creativity, customisation, extreme quality-orientation, flexibility, etc. - which are given a determining role in the necessity of organisational change - very rarely take place together (Van Hootegem, 1999);

(b) second, there may exist alternative possibilities, compatible with Tayloristic and Fordist methods. Traditional organisation principles, supported by modern ICTs, may be much more adaptable to current developments than expected (Huys *et al.*, 1999, p. 87).

We should add again that new work organisation concepts apply more to large companies with a distinct division of labour than to SMEs, which represent the majority of jobs (see Chapter 3 in this part).

Based on empirical research, Van Hootegem (1999) concludes that we cannot speak of a general 'de-Taylorisation'. Companies tend to stick to traditional structures of execution, being flow- or operation-oriented, rather than introduce process-oriented ones. Simultaneously, companies try to integrate some ingredients of the new production concept (e.g. decentralisation of maintenance tasks, reduction of hierarchical levels, etc.). In fact, some of the dysfunctions of Taylorism are tackled and refined, leading to an optimisation of the classic model. These tendencies, however, do not alter the width and composition of enterprise functions

⁴ *Soziologisches Forschungsinstitut* [Institute for Sociological Research], University Göttingen, Germany (<http://wiabt1.wiso.uni-goettingen.de/~>).

⁵ *Fraunhofer-Institut für Arbeitswirtschaft und Organisation* [Fraunhofer-Institute for Industrial Engineering], Mannheim (www.iao.fhg.de).

drastically. Therefore, the author prefers the prefix 'neo'- rather than 'post'-Taylorism or -Fordism.

Concerning downsizing and outsourcing, several critical remarks can be addressed to the so-called 'small is beautiful' hypothesis. Empirical data indicate an 'organisational choice approach', which gives a degree of freedom to cope with (changing) challenges in the company environment (Van Hootegeem, 1999). Furthermore, companies not only engage in outsourcing, but also in 'insourcing' of activities, e.g. by taking over companies of strategic importance within their value-added chain. Therefore, business process outsourcing does not necessarily lead to scaling down or to 'small and beautiful' companies.

This is also the conclusion when we look at what happens with the activities being sourced out. Outsourced companies often increase, rather than decrease, their scale. Furthermore, outsourced activities of different, sometimes competing, companies become integrated in one company leading to increasing scales, too. Sometimes we even observe a reintegration of formerly outsourced units. Furthermore, companies may try to attain financial control of the outsourced units

and then act as 'shareholders' with a somewhat different philosophy, also in terms of employment and human resource development (see Chapter 5.1 in this part). A marked feature of this has been the growth of holding companies with a wide range of activities (European Commission, 1998b, p. 88).

Table 3.3 summarises the arguments raised in this chapter.

Concluding, globalisation has imposed new performance criteria on companies, which try to reduce the division of labour to take optimal advantage of human capital. However, these often-proclaimed tendencies are not always based on empirical evidence. Some basic principles of Fordism and Taylorism survive or are adapted. Empirical data – although limited – rather suggest a transition to 'neo'- rather than 'post'-Taylorism or -Fordism and reject the idea of a *general* paradigm shift towards a new organisational logic, new production concepts and a new division of labour.

Table 3.3: The impact of globalisation on the traditional organisation model

Level of analysis	The traditional model	The impact of globalisation	
		Mainstream literature	Empirical research
1. Macro level	Standardisation: mass production and consumption	Differentiation, customisation, individualisation	Nuances the assessment of changing performance criteria in the global market
	Stability and simplicity	Flexibility and complexity	
2. Inter-organisational division of labour	Vertical integration	Vertical de-integration: downsizing and outsourcing	<ul style="list-style-type: none"> Indicates slowness of outsourcing process Allows for scaling-up as an alternative to scaling down
	'The bigger, the better'	'Small is beautiful'	'Organisational choice'
3. Intra-organisational division of labour	Tayloristic production concept	New production concept	Supports the idea of 'neo'- rather than 'post'-Taylorism
	Maximal division of labour	Minimal division of labour	'Organisational choice'
4. Personnel strategy and implications for VET	Fordist employment relationship	New employment relationship	Supports the idea of 'neo'- rather than 'post'-Fordism
	Low level of required qualifications and little attention to VET	High level of required qualifications and major challenges for VET	?

Source: Dejonckheere & Van Hootegeem, 2000.

There is a certain degree of *organisational choice*, in that organisations are seen as non-determined productive systems, where the same challenge can give rise to different answers or equivalent solution strategies. Thus, the transition to new production concepts and a significant reduction in the division of labour is an option, rather than an inevitable process of reaction to globalisation pressures.

1.3. Impact of globalisation on skills

Jobs, and their requirements for skills and training, are influenced by the kind of division of labour implemented in the organisation. The integration of previously separated operations in one job, the transformation of work to a problem-solving process, the increased importance of information work, etc. seriously influence the skills required and hence the company's need for learning and training.

Learning within an organisation is seen as an important means towards the transformation and successful adaptation of enterprises in a global context (Zahra & O'Neill, 1998). Roberts *et al.* (1998) view knowledge as the cornerstone of competitive superiority in global markets. According to these authors, 'the major challenges to managing a global workforce are:

- *skill deployment*: getting the right skills to where they are needed in the organisation regardless of geographical location;
- *knowledge and innovation dissemination*: spreading knowledge and practices throughout the organisation, regardless of where they originate;
- *identifying and developing talent on a global basis*: identifying who has the ability to function effectively in a global organisation and developing those abilities' (p. 94).

1.3.1. Knowledge and production intelligence

The implementation of new work organisations supports the idea of a general 'rehabilitation of human capital' and upskilling of the workforce in the global context. Since globalisation is considered to be a major reason behind organisational restructuring and the changing nature of work, it is expected to impose major changes on required skills and training needs:⁶

- workers are confronted with new and unfamiliar tasks for which no solutions are yet available;
- globalisation requires more rapid innovation and increasing competition calls for taking customer preferences more into account;
- an increasing number of activities are becoming automated, with the paradoxical consequence of a greater dependency on human intervention in order to prevent or overcome malfunctions of technical systems (Huys *et al.*, 1995).

In such situations, workers also need *theoretical or abstract knowledge* (in addition to practical and experiential knowledge): 'They must be able to conceptualise new problems in such a way that they can search for solutions by proceeding in the appropriate systemic and methodological way' (Schienstock *et al.*, 1999, p. 76).

The advanced use of modern ICTs in the global economy is fundamentally influencing the demand for new qualifications. It is expected that, due to the easy access to technological databases, expanded connectivity and a sharp rise in communication bandwidth, modern ICTs will speed up innovation processes within and/or between firms significantly. Those advantages, however, can only be realised if employees know how to use modern ICTs. *ICT or digital knowledge*, therefore, is becoming a key qualification (Schienstock *et al.* 1999).⁷

Similarly, Autor, Katz & Krueger (1998) reported that 47% of workers in the US use a computer in their jobs, up from 25% in 1984. In Germany (1991), 21% of workers used a computer occasionally; another 15% used it as a main tool and 1% of employees claimed an occupational qualification in the ICT field (Dostal, 2000, p. 122).⁸

These developments imply that 'organisations that make extensive use of computers search for

⁶ Several aspects of this issue were already addressed in Cedefop's first research report/background report (Cedefop, 1998a): Dybowski investigated the impacts of new technologies and work organisation on VET. Tessaring discussed the future of skills and competences in general, and made an explicit link with the changing nature of work. Straka & Stöckl studied the impact of ICTs - closely linked to the process of globalisation - on VET. The following arguments follow Schienstock *et al.* (1999, pp. 72-84).

⁷ This is one of the reasons why the European Commission has taken the initiative to foster 'e-learning'.

⁸ These findings result from the BIBB/IAB survey in 1991-92. The survey was repeated in 1998-99, and results will be available in summer 2000 (for more information contact the BIBB (www.bibb.de) or the IAB (www.iab.de)).

workers with both mastery of cognitive skills and “soft skills” [...]. The logic is that computers handle routine tasks effectively, leaving to humans the solving of exceptional problems. Doing this effectively requires not only problem-solving skills, but often the ability to successfully obtain information and help from others.’ (Levy & Murnane, 1999, with reference to Bresnehan 1997)

However, some critics dare to question the popular view that ‘almost every job involves regular contact with modern ICTs’. Many companies, particularly small ones, still operate with low technology and, if ICTs are used in a company, the share of the total work force actually involved varies considerably; the level of IT skills needed there is still fairly low (Dench *et al.*, 1998).

A third trend is emerging relating to the knowledge aspect. In order to be able to handle complex technical systems, not only abstract and technical, but also *practical and experiential knowledge* is expected to grow in importance.⁹ The company’s dependence on problem-solving qualifications for (exceptional) circumstances, for which no solutions are (yet) available, might even increase (see also Part 2, Chapter 2).

In such situations, problems cannot be solved by theoretical knowledge and a systematic way of thinking alone; a kind of knowledge is needed that enables people to react immediately in new and uncertain situations.

This requires *work process knowledge*, i.e. the understanding of the overall production and work process, which is much broader than understanding the worker’s individual task (Lammont, 1999). Acquiring work process knowledge means ‘breaking out of the narrow experience of the worker’s own task and appreciating that there is a variety of alternative work processes, that work processes are rooted in historical processes and that the current work process in the organisation is not fixed and may change’ (Kruse, 1996).

Theoretical, digital and work process knowledge together can be called ‘*production intelligence*’ which is the combination of knowledge acquired through education and training, supported by ICTs and complemented by work experience and non-formal learning.

1.3.2. Skills, competences and work orientation

Organising a business globally calls for a range of new skills, which can be classified as ‘*international skills*’ (Dertouzos *et al.*, 1989). Today, an increasing number of companies deal with foreign clients, suppliers, subsidiaries, ‘sister companies’, etc. ‘The globalization of trade and international spread of technology are strong forces pushing toward a global set of key competencies. [...] At the same time, cultural differences among countries undoubtedly play a role in defining the meaning of certain competencies’ (Levy & Murnane, 1999, p. 19). For these international relationships, it is crucial to possess – besides foreign language skills – communicative skills or *intercultural competences* in the culture, tastes, customs, institutions, etc. of the partner’s country (see also Kristensen, 1998; Tessaring, 1998b, p. 212 f.).

If an organisation engages in decentralisation of decision-making or if its activities are crossing national borders, workers should be able to plan, organise and also control their work autonomously or together with colleagues in a team¹⁰ and be able to manage information flows. These tasks are close to *managerial competences*.

Increasing team and group working requires *social skills and competences* related to the ability to cooperate in such a way that the outcome of the group work will be seen as a collective achievement. Another reason for the importance of social competences is that, together with higher levels of autonomy, workers have more often direct contacts to suppliers and customers (Schienstock *et al.*, 1999).

Since price, quality and time can be seen as entrance barriers to the global market, *work orientations* such as quality consciousness, reliability, precision, accuracy, immediacy etc. have not lost their importance.

Moreover, according to the device ‘innovate or die’ (Hitt *et al.*, 1998, p. 36), *creativity and entrepreneurial spirit* are considered to become important virtues for workers, too. The transformation of such abstract concepts as ‘continuous improvement’ or ‘constantly learning organisations’ into reality depends on a creative work force. A ‘new way of thinking’, i.e. commitment and trust of all members of the

⁹ See also Dehnbostel & Dybowski (2000), and Part 2, Chapter 4 of this report.

¹⁰ This, for example, was one of the major objectives for the reform of training occupations in Germany since the mid-1980s.

company is needed in order to develop an innovative and constantly learning organisation. It is essential for them to understand that only joint efforts of management and workers to improve innovativeness can lead to success in global competition.

Table 3.4 summarises the arguments on the knowledge and skills needed in the global economy. The arguments obviously support the ‘upskilling thesis’, the idea of a general shift towards higher skill needs.

1.3.3. Globalisation and skills: some controversial arguments

At first sight, globalisation is expected to require a highly competent and skilled workforce. Everybody should simultaneously possess the knowledge, skills and work orientations needed and should have the ability and willingness to learn continuously for the rest of his/her life. However, it is hard to believe that this is a representative picture of today’s reality. ICTs can reduce the demand for particular qualifications, but it is an illusion that ‘every job involves a lot of information work’. Few companies are yet truly global; not all employees within global companies need international and overarching skills.

Henwood (1998) criticises the upskilling thesis and a general upgrading of workers in the global economy of the US. He investigates the wide-spread idea that ‘the most rapidly growing job categories in the global economy are knowledge-intensive - so-called ‘symbolic analysts’ - and that the problem is that many people don’t have the right skills’ (p. 17). Based on projections of the US Bureau of Labour Studies of the fastest growing occupations between 1996 and 2006 he concludes: ‘Of the top 30, those that look like symbolic analysts account for only 9% of employment now and 16% of projected growth. Most look quite mundane. It’s hard to see from this how “the problem is that many people don’t have the right skills”. It is, however, easy to see the polarising tendencies in today’s labour market [...]’ (ibid., p. 18).

Schienstock *et al.* (1999) also warn not to conflate the increasing transmission of data between remote people with the acquisition of knowledge and a general upskilling. For example, a number of recent studies on *call-centres* suggest that these and similar new forms of work, enhanced by the process of globalisation, exhibit an extreme case of repetitive, tightly controlled, machine-paced,

Table 3.4: Knowledge and skills needed in the global economy	
Knowledge and skills	Underlying cause
Knowledge	
Theoretical knowledge	Work as a process of problem-solving
Technical (digital) knowledge	Introduction of modern ICTs
Practical, work process knowledge	Increased uncertainty, risk situations caused by technical integration
Skills and competences	
Professional skills, multiskilling	Integration of tasks, de-specialisation, group work
International skills	Globalisation of markets and production
Social skills	Direct interaction within and between work groups, customisation, direct interaction with suppliers
Management skills	Flat hierarchies, decentralisation, increased information exchange
Work orientations	
Quality consciousness, reliability	Quality and time as key aspects of global competition
Creativity, entrepreneurship	Innovativeness as key element of global competition
Leadership	Coordination of autonomous work groups
New work virtues	Commitment, trust, industrial citizenship

Source: Schienstock *et al.*, 1999, p. 83.

and less knowledge-intensive work (Ferne & Metcalfe, 1987; Reardon, 1996; O'Siochru & Jordan, 1999). They even talk about 'the new sweatshops of the millennium', with Taylorised, deskilled descendants of earlier forms of office worker, even though the work may be taking place at different locations and under different conditions of employment (Huws, 1999, pp. 39-40). These are typical examples of low skilled jobs as discussed in Part 5, Chapter 3.3.

Despite the widely proven trend of higher qualification needs or reskilling, it is important to bear in mind that globalisation does not always require higher qualifications from the entire workforce. In fact, globalisation sometimes even results in new kinds of work reducing the skill requirements to a minimum: 'routine work will survive' (Schienstock *et al.*, 1999, p. 49).

The examples above made clear that globalisation *can*, but does not necessarily, yield more knowledge, higher skill requirements and renewed work orientations. How can we reconcile this insight with the enumeration of new skills in Table 3.4? Some of these skills were a direct consequence of the globalisation process (e.g. the need for international skills or intercultural competences). Others were indirectly influenced by globalisation, such as the increased use of modern ICTs (e.g. digital knowledge), handling technologies (e.g. practical knowledge), organisational restructuring (e.g. multiskilling), decentralisation of decision-making (e.g. managerial skills), etc.

The elaboration of many newly-required skills is based upon the premise of globalisation resulting in less division of labour and a new organisation logic. Considering the above mentioned criticisms of the concept of globalisation, and the fact that the new logic is far from being widespread, upskilling should be considered as one option out of a whole range of possibilities.

The organisational choice of a company will determine the skill requirements and learning opportunities for workers including on-the-job learning (Lammont, 1999). The causality can also be reversed, however, in the sense that a VET-program can (should) anticipate and facilitate the process of organisational restructuring. In turn, this might influence the process of globalisation.

1.4. Conclusions

Decreasing site-specificity and temporal constraints of the production of goods and services establishes new competition criteria in globalised markets. In order to meet these criteria, firms reorganise their work and new skill requirements are put on workers. However, empirical evidence on new production concepts is not always clear but shows a broad range of organisational choice between more traditional and new organisational approaches.

'*Production intelligence*' – a combination of theoretical, experiential, systemic, digital and work process knowledge – as well as international, managerial and social competences clearly will gain in importance. However, it would be an illusion to believe that every job involves an equally high degree of these new competences. Globalisation sometimes even results in work that reduces skill requirements to a minimum. Furthermore, it would be an illusion to believe that every worker is able to meet these new and extended requirements.

'There is no general trend towards knowledge-based work. Instead, we can expect some kind of *polarisation* with increasingly knowledge-based jobs on the one hand and more repetitive and less information and knowledge-intensive work on the other' (Schienstock *et al.*, 1999, p. 50). Similarly, Henwood (1998) indicates the polarising trends in the labour market and fears that globalisation might even speed up the process of polarisation. This presents a major challenge for vocational and educational training systems. Training should be shaped to avoid the exclusion of those falling out of the upper as well as the intermediate segments of skilled personnel.

As lifelong employment and job security are gradually fading and more and more employees have to accept precarious jobs, *employability* in a working life perspective gains in importance. VET systems should be designed so that individuals and the local labour market are able to overcome possible shocks caused by globalisation and become less vulnerable.

Within the vocational training system, ICT-applications and the resulting qualification needs should receive major attention. Further, the ICT-sector itself faces quantitative as well as qualitative labour market shortages (see also Part 4, Chapter 4.3 in this report). Vocational training should contribute to reducing at least the qualitative ones.

The widespread use of modern ICTs not only creates additional competence and training

needs but also has impacts on the *delivery of training*, e.g. through the provision of open learning centres, computer packages, distance learning and the delivery of learning to people who are unable to attend classes regularly. It is hoped that the new media can give rise to new learning formats and venues in general and especially in vocational training. They might allow for a transition from instructionistic to constructivistic learning-teaching concepts as well as to self-directed learning (Straka & Stöckl, 1998; Straka, ed., 2000). However, most ICT-based learning tools are still rather instructive and sequential and do not leave much space for the learner's construct of knowledge.

2. Internal, external and occupational labour markets¹¹

Debates on the role of training within economic growth and labour markets touch upon public policies and the roles of enterprises and individuals concerning the formation and accumulation of human capital. This chapter discusses the main trends in current research devoted to an economic analysis of the wage-labour nexus. This refers to questions linked to the structure, mode of functioning and to mobility in internal, external and occupational labour markets and their implications for skill acquisition and utilisation.

2.1. Typology of labour markets

Training, employment and human resource development within an enterprise can only partly be explained by neoclassical theory. Rigidities and institutional regulations (e.g. concerning pay scale systems, promotion of internal mobility and career, access to further training, early retirement schemes, etc.) are, to a high degree, removed from the *direct* 'control' of the market. Against this background, the dual labour market theory and the segmentation theory try to explain the existence of different labour market 'qualities' within an economy or an enterprise (Box 3.4).¹²

¹¹ This section is based on the paper of S. Hanchane & P. Méhaut, 2000: 'Training, mobility and regulation of the wage relationship: specific and transversal forms'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

¹² For further details see Hanchane & Méhaut, 2000.

Box 3.4: Dual labour market and segmentation

The deficiencies of neoclassical economic theory, and in particular the failures and imbalances of the labour market which could not be regulated by market forces alone, led to the development of the segmentation theory (micro level) within the frame of the dual labour market theory (macro level; for details and references see Hanchane & Méhaut, 2000).

Dual labour market and segmentation theories look upon the influence of institutions, interest groups and non-competing groups in the labour market (e.g. 'insider' within a company), who seek to limit the access to the superior segment of the internal labour market.

The preferences and behaviour of individuals are determined by the labour market (and not by monetary returns as assumed in the neoclassical theory). The economy is, in principle, divided into two sectors (segments):

- a) a *primary labour market* with stable employment, secure income, and high or firm-specific skills;
- b) a *secondary labour market* with lower wages, high fluctuation, uncertain employment and low qualification requirements.

	primary labour market	secondary labour market
internal labour market	core staff, firm-internal labour market	marginal staff, 'everyone's jobs'
external labour market	entry jobs, occupational labour market	'everyone's jobs', marginal employment, unemployment

Both sectors are distinguished in terms of their allocation and remuneration systems. Skills in the primary labour market are acquired at the workplace; the wage structure is fixed and follows internal mobility chains, e.g. by tenure. Competition exists only for entry jobs.

Productivity is a character of the job, not of the worker. Thus, workers have to adapt to technology. Individuals who do not manage to enter the primary segment are threatened by long-term unemployment because of obsolescence of their skills.

Institutions, coalitions and State interventions interfere with the two principal agents in the labour market – workers and employers – and lead to a functioning of labour markets corresponding to their preferences and interests. This could result in restricted competition in labour markets and in changed patterns of educational returns which do not or only partially correspond to the classical rule of 'marginal productivity of qualifications'.

At most, neoclassical theory is able to describe processes in the *external labour market*, e.g. a firm's hiring behaviour and wage variation (external flexibility) for workers recruited from outside.

The *internal labour market* is an 'administrative unit' within which the allocation of work and the determination of prices (wages) are based on regulations and administrative procedures. This internal 'wage-labour nexus' refers to work contracts that are always incomplete in terms of internal (written or unwritten) collective rules (e.g. concerning promotion by tenure, access to further training, working conditions etc.). However, because of asymmetric information in favour of the employer – who is supposed to have full information about the job and the enterprise – and his power to 'hire' workers and to deploy or dismiss them, the (internal) labour market has to be regulated by labour law and institutional regulations in order to also consider the interests of workers (Cahuc & Zylberberg, 1996; Boyer & Caroli, 1993; Caroli, 1998; Tessaring, 1998b, pp. 58 f.).

Internal labour markets can be subdivided in a superior and an inferior segment, similar to the dual labour market theory (Box 3.4).¹³ The superior (primary) segment is characterised by more unstructured, i.e. undetermined work, high responsibility and qualification of workers. Promotion within the firm widely follows tenure, and employment conditions are, in principle, stable ones. Work and earnings in the inferior (secondary) segment are more rigid, work tasks and the respective skill requirements are low.

Occupational labour markets overlap external and internal labour markets; they can be accessed only by workers who are qualified for this occupation (by completed training and/or work experience).

Occupational labour markets thus are characterised by skills that are necessary to perform an occupational task. For a given occupation, job requirements do not differ substantially from one firm to another. This results in a high transferability of occupational qualifications across firms and in a lower degree of asymmetric information: employers know, when recruiting, about the qualification pro-

file of a job applicant.¹⁴ Because of the higher transferability of occupational qualifications to different firms workers have fair chances of finding a job in their occupation in the external labour market.

Thus occupational labour markets comprise both internal and external labour markets. Although there are still obstacles, standardised qualifications lead to an improved distribution of (fixed) costs connected with the regulation of the wage-labour nexus. Box 3.5 and Table 3.5 compile the main characteristics of occupational and internal labour markets.

Box 3.5: Features of labour markets

- *External labour market:* price (earnings) setting follows supply and demand; mostly external and numerical flexibility in terms of recruitment of workers and wage variation; investment in more general/transferable education and training.

- *Internal labour market:* access and career are highly dependent on the recruitment and promotion behaviour of the firm; mostly numerical (in terms of working time adjustments) and functional (in terms of work contents) flexibility; mostly investment in specific training; career/earnings increase according to tenure; promotion is regulated by internal rules and procedures.

In a wider definition, internal labour markets are not restricted to one firm but refer to an occupational field or sector: workers may move from one occupation or sector to the other without leaving their occupational pathway and competence. This case is similar to occupational labour markets.

- *Competitive labour market:* interest groups do not exist; competition concerns skills and experience which are assumed to signal productivity; in principle full mobility, transparency and immediate adaptation (in the neoclassical view); investments are made in ET as long as their returns are higher than alternative investments in physical capital; wage determination and allocation of labour by supply and demand. Competitive labour markets are close to external labour markets.

- *Occupational labour market:* access is based on occupational/training certificates and/or experience; mobility within an occupational field; investment in ET (after initial occupational training) mainly for adaptation and updating of occupational skills. Occupational labour markets are located both within and outside an enterprise.

¹³ For more details see Hanchane & Méhaut (2000) and their discussion of the links between segmentation theory and the theory of institutions.

¹⁴ In a corporatistic regulated apprenticeship training system, employers or their respective associations, together with trade unions and government are involved in the design of this qualification profile (in terms of curricula, contents, examination procedures etc.).

Function	Occupational labour market	Internal labour market
Training	apprenticeship	experience acquired within the enterprise
Nature of training in the course of working life	standardised according to the principles of the occupation	not standardised, specific to the enterprise concerned
Transferability of qualification	within the scale of the occupation	within the enterprise
Tenure	no recognised role in terms of acquisition of skills or of earnings	strong influence of skill acquisition and earnings
Level of qualification when changing the enterprise	maintenance of the qualification level	downgrading
Control of the work content	based on the defence of the occupation	based on a system of rules which apply to all workers in the enterprise (e.g. classification systems)
Organisation of workers	based on occupational affiliation	based on the enterprise or sector
Principle object of flexibility negotiations	demarcation rules between jobs	general rules applying to the whole workforce

Sources: Eyraud, Marsden & Silvestre, 1990; Hanchane & Méhaut, 2000.

Research has emphasised the importance of institutions and functional rules of labour markets in different countries. These are decisive in explaining mobility mechanisms at the beginning of working life as well as career patterns throughout working life. International comparisons show, however, that the wage-labour nexus across countries is organised differently.

In France, the *insertion* of young people and the existence of internal labour markets is of high importance. In the UK, the emphasis is on the qualification model and the external labour market. In Germany, the occupational labour market dominates, based on standardised occupational training in the dual system. Japan follows a model based on competences acquired in the firm (Marsden, 1998). However, even if a certain type of labour market is dominant in a country, this does not rule out the fact that different labour market types coexist in the respective country or even within one firm.

A consistent typology of labour markets is difficult not only because of different tensions between the market on the one hand and the particularity of transactions of labour on the other. In addition, the diversity of regulatory systems of training, continuing training and employment across countries, specific rules in different enterprises and the transformation of the wage-labour nexus over time impedes the approaching to 'general' solutions for one or a cluster of different countries.

2.2. Entry into the internal labour market

At the beginning of his or her work career, the human capital of an individual – being in the external labour market¹⁵ – is more or less unknown to the employer. Previous investments in (school-based) education and training are, in principal, not firm-specific ones.

In most European countries a considerable number of young people leaving education and training (ET) face obstacles to entering the internal labour market. Jobs there – and in particular at superior levels – are limited. Young people have to line up a job queue and many of them have to switch to the secondary labour market characterised by unstable employment, unfavourable working conditions, low earnings and lack of promotion and career.¹⁶

According to the segmentation theory, workers in the secondary segment will do hard to catch up with the earnings, skills and careers of workers in the primary sector. In consequence, it depends on

¹⁵ This does less apply to occupational labour markets and in particular to in-company apprenticeship training. One of the advantages seen in this type of training is that young people are in the internal labour market during their whole training phase and thus have particular advantages compared to young people trained outside firms.

¹⁶ See also Chapter 2 in Part 5 of this report and especially Box 5.10 ('Models of young people's integration').

this positioning and on the work career pattern (work experience, promotion etc.) whether initial training will be improved, enriched or complemented and valued in later working life.

Public programmes to integrate young people may be ambiguous. In analogy to the widespread conviction that an increase in economic growth alone will not result in an automatic reintegration of marginalised people or those in precarious jobs (e.g. because of the obsolescence of their skills),¹⁷ programmes to integrate young people in the labour market may not be successful either. Young people may shift between a number of intermediate positions in the labour market and will – because of an increased competition with higher or equally qualified job applicants in the course of educational expansion – face the risk of a ‘degradation’ in the recruitment process as well as in future earnings and career prospects.

These ‘*negative feedback effects*’ set up considerable barriers for entry into the superior segments of the internal labour market. Those barriers may reinforce in the course of time and result in increasing instability of jobs and long-term unemployment (see also Part 4, Chapter 3.2 of this report).

A future-oriented system of training in the framework of lifelong learning – as an alternative to more curative measures – considering both the short and medium term needs of jobs and the longer term needs of individuals, may overcome the segmentation of labour markets. Occupational labour markets may arrive at similar results.

Longitudinal data (as discussed by Pfeiffer, 2000, and Hannan & Werquin, 2000)¹⁸ are necessary to prove the thesis of state dependence. To what extent are people who were disadvantaged in youth (e.g. by lacking or ‘wrong’ training) or who have started their work career in unstable and precarious jobs in the secondary labour market able to compensate for these deficiencies in their later working life, e.g. by continuing training or retraining programmes? Or will the thesis of individual heterogeneity be proved

which says that all people are different and that it depends on themselves, their individual performance and the value attached to their acquired skills whether these barriers can be surmounted or not?

2.3. Promotion and external mobility

Internal labour markets exist because of mutual advantages for both employers and workers. In particular, specific skills, acquired by work-based training, are a certain guarantee for stable employment. Workers with specific skills are discouraged from (or have little opportunity for) changing the enterprise; this is compensated by promotion by tenure. In turn, the employer may pay lower wages as well as avoid the costs of fluctuation and loss of enterprise-specific human capital.

However, stability of employment within a firm, coupled with a gradual advancement by seniority/age only, may also be a negative signal to employers in the external labour market. They might assume that the worker is not able to sufficiently valorise his human capital in his firm. This can become an obstacle to external mobility of workers. In consequence, if seniority reduces job opportunities in the external labour market, firms may reduce promotions other than by seniority in order to discourage workers from leaving the firm.

This behaviour tends to lead to an underutilisation of skills and to a vicious circle: if the chance to leave the enterprise decreases further, promotion will slacken even more. These internal and external forms and conditions of mobility are much more complex than a mere differentiation of workers by their human capital. Stable employment and long tenure in a firm may signal a weak valorisation of human capital to the outside world and may increase the risk of unemployment in case of an involuntary move to the external labour market.

This means also that returns in internal labour markets are not linked to ET investments, as is the case in external labour markets. Specific skills together with lower earnings and inter-firm mobility, lower fluctuation and transaction costs result in a ‘causality chain’: specific technologies → specific job → on-the-job training → specific skills → internal mobility depending on internal labour market → decreasing external mobility opportunities → reduction of internal promotion (based on Marsden, 1989).

¹⁷ However, economic growth facilitates substantially those efforts as compared with economic stagnation.

¹⁸ See also Part 4, Chapter 4.1 and Part 5, Chapter 2.4 of this report.

However, the more technologies and work processes become flexible, the more obsolete this close link becomes between jobs and specific skills. There are findings that firms may also be interested in financing or valuing *general* vocational training even if they risk not fully capturing its returns (Katz & Ziderman, 1990; Stankiewicz, 1995; Ballot, 1996; Acemoglu & Pischke, 1999a, b).

One argument is that enterprises in western countries are seeking creativity and innovations to gain leadership in their market. These innovations are expected to yield an economic rent.¹⁹ General training is expected to favour innovation and thus to yield rents for the company; this justifies its financing by the firm provided the fluctuation rate of these skilled workers is not too high.

2.4. Training and skills in internal and occupational labour markets

This chapter discusses the main features of internal and occupational labour markets in France, Germany and the United Kingdom.²⁰

France

According to Hanchane & Méhaut (2000) internal labour markets in France are in a crisis. Traditional gains linked to tenure in a company are on the decrease. Social partners tend to protect mainly the insiders in internal labour markets, including those with weak qualifications and thus deteriorate the employment prospects of young people. The State is mainly engaged with insertion programmes.

In France, internal labour markets are increasingly opening up for those with higher qualifications. External mobility and more general continuing training result in higher gains and even more favourable careers than internal mobility and specific further training (Beret, 1992; Balsane, Hanchane & Werquin, 1996). As a result, earnings related to tenure are dropping in favour of externally recruited experienced workers or of young people with higher qualifications.

The destabilisation of internal labour markets in France and the decreasing importance of tenure and specific skills could not be ruled out by the introduction of new training routes (e.g.: *baccalauréat professionnel*, *BTS*, *DUT*) which were seen as one step towards an occupational labour market. Critics argue that institutions and the State were not able, up to now, to transform internal labour markets into occupational labour markets (Verdier, 1996; Hanchane & Joutard, 1998; Möbus & Verdier, 1999).

The reorientation of training policy in the early 1980s led to an expansion of school-based and higher education routes. However, a multiplicity of qualifications for the same training route exposes leavers to competition with similar occupational qualifications at a higher level. This may lead to a depreciation of lower technical training courses. Lower levels in turn may become residuals and higher levels may tend to be structured by new hierarchies, with different combinations of general and vocational training.

Germany

The occupational labour market in Germany – represented by its most important training form, the dual system of initial training²¹ – is characterised by qualifications oriented towards occupational fields, i.e. clusters of similar occupational tasks.

¹⁹ In a market balance, the price of every production factor (e.g. labour, physical capital) is equal to its marginal value product and equal to its opportunity costs. If the factor price exceeds opportunity costs, a surplus income accrues which is called an 'economic rent'. This rent is an incentive for the owner of the production factor to look for new profitable use. Reasons for the emergence of a rent for capital owners may be shortages of resources or the introduction of technical progress, a monopoly, but also State intervention (protection, subventions, minimum prices). Similar is true for workers as owners of the factor 'labour'.

²⁰ For a detailed discussion on the design and steering of the training systems in these countries see also Koch & Reuling (1998) and Tessaring (1998b, Part one); see also Part 1, Chapter 1 of this report.

²¹ Although the majority of young people in Germany is trained in the 'dual system' - a combination of in-company apprenticeship training and part time vocational schools (*Berufsschulen*) - we should not forget that there are also other initial training courses at this level. Leaving aside higher education, more than one fourth of all young people are trained in vocational full-time schools (in particular in *Berufsfachschulen*). Some of them offer a complete occupational qualification, others a double qualification or are an intermediate stage on the way to higher training levels.

Training according to the 'occupational principle' (*Berufsprinzip*, see Box 3.6) ensures a high degree of homogeneity of skilled workers within an occupational field, and a polyvalence of these qualifications across a range of similar occupations. Moreover, training reforms, which started in the mid-1980s aimed not only to decrease the number of training occupations in favour of broader occupational fields but also to impart occupational key competences in order to prepare, perform and control better one's work. These competences are highly validated when entering the labour market.

Box 3.6: The German *Berufsprinzip*

The German notion of *Beruf* (occupation) entails a complex multidimensional set. It is seen as an instrument not only to earn one's living but also to construct personal identity and identification with work. *Beruf* comprises

- a bundle of *qualifications* with typical characteristics of knowledge and social competence to perform an occupation;
- *occupational tasks* assigned to these sets of qualifications which are shaped by a combination of working materials, objects and work environment;
- a *hierarchical space for action* which results from a linkage of individual qualifications with the functional design of work tasks (in a job).

A *Berufsbild* (occupational image) on which occupational training contents are based thus is determined by a series of traits as illustrated in Figure 3.2. *Beruf* is not only an individual characteristic but also a criterion to structure an enterprise's division of tasks and, moreover, a principle of the structuring of society.

Source: Stooß, 1984.

Occupational qualifications signal a high degree of efficiency and performance. Thus, vocationalism according to the *Berufsprinzip* and the deduced *Berufsbild* is a means of organising occupational labour markets based on highly transferable skills (Figure 3.2).

The occupational principle still ranks high for young adults in Germany. Schaeper *et al.* (2000), based on longitudinal data for the period 1989/90 to 1998, show that despite several occupational moves by individual skilled workers, paid work and occupational identity have not lost importance. Interrupted work careers cannot not *per se* be equated with instability or precarity (see Box 5.6 in Part 5 of this report).

Critics question the future-orientation of the *Berufsprinzip* and of occupational images. In times where requirements are changing rapidly and qualifications, once achieved, tend to become obsolete if not updated, where people cannot expect to keep their occupation and job during the whole working life, the *Berufsprinzip* has become anachronistic in their view. Moreover, flexibility of workers and ongoing restructuring of the work organisation will put the *Beruf* more and more under pressure.

Parallel to this discussion – but also as a consequence – there are fears that the dual system which provides the majority of young talents for occupational labour markets will lose its attractiveness, e.g. in terms of labour market success and career (Tessaring, 1993; for additional literature see Hanchane & Méhaut, 2000, and Lasonen & Manning, 2000).

These problems were also some of the reasons for substantial reforms of the dual system in Germany throughout the past recent years (for an overview see: Raddatz, 1995; BIBB, 2000).

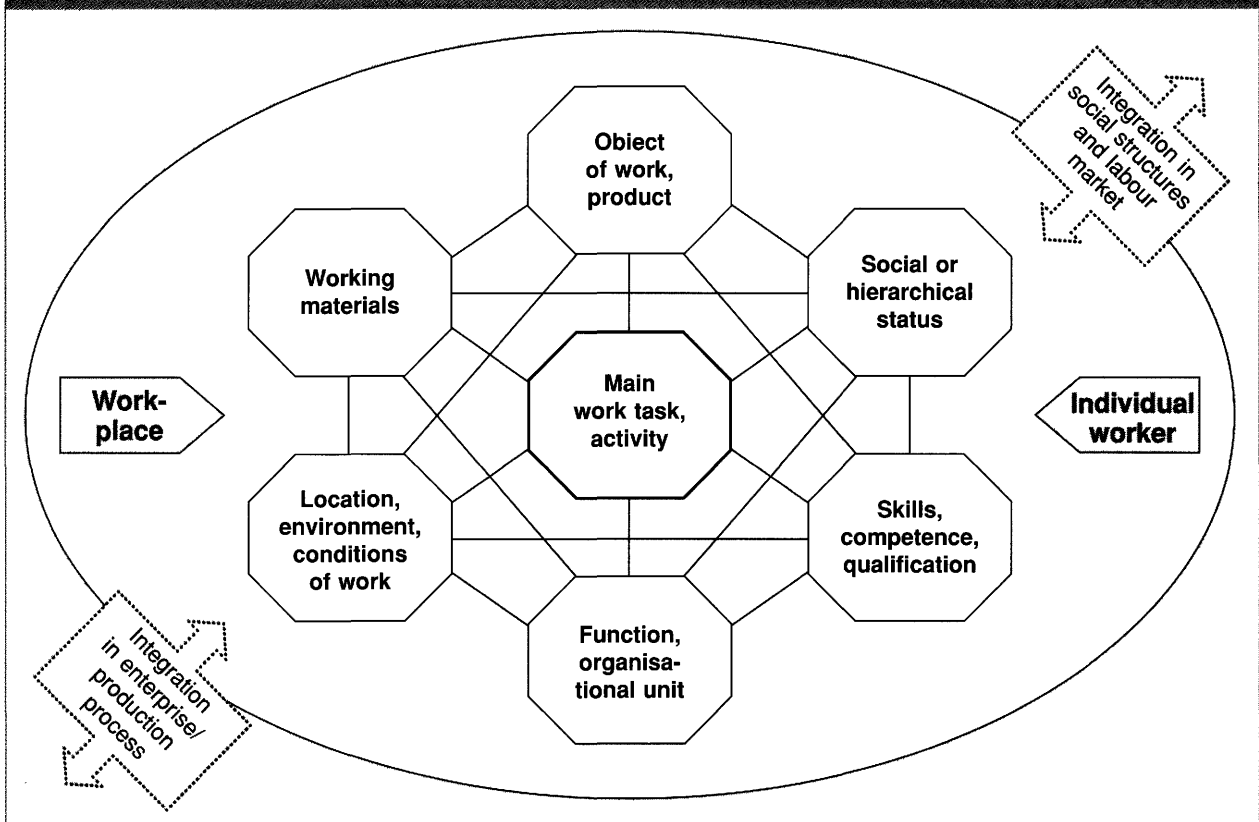
United Kingdom

Traditionally, in the United Kingdom qualifications have been acquired by apprenticeship training thus surmounting the dependence on one single enterprise (Marsden & Ryan, 1990; Lefresne, 1998; Moncel, 1998). Thus, for example, external recruitment of workers in manufacturing exceeded those in internal labour markets considerably. Moreover, apprenticeship training imparted a collective occupational identity.

Reforms of the training and qualification system starting in the 1980s and introduced short modular courses which gradually replaced the former qualifications acquired by apprenticeship training. However, these reforms were accompanied by fears that enterprises would follow a 'low skill equilibrium' when recruiting workers (Finegold & Soskice, 1988; Soskice, 1991). Short-term profitability orientation of firms favoured short training courses for young people who were recruited for low skilled jobs. Those enterprises that provide high quality training run the risk of poaching by others. This was also seen as a result of the decline of apprenticeship training, of the weakening of the influence of trade unions and of lacking coherence of employers associations.

National qualification standards (NVQ, GNVQ) introduced in 1986 and 1990-91 respectively are under reform currently aiming at a complete mod-

Figure 3.2: Characteristics of a *Berufsbild* (occupational image)



Source: Stooß, 1984, p. 579.

ularisation and unitisation.²² The Qualifications and Curriculum Authority (QCA, 1999) has set out following targets, among others, for the period 1999-2002:

- ‘develop the national curriculum as part of a broad and balanced curriculum for three- to 19-year-olds;
- create a clear, coherent and well regulated framework of national qualifications;
- support the development of national occupational standards as the basis for high quality vocational qualifications;
- secure a rigorous, consistent and fair system of assessment.’

However, acceptance of these qualifications by enterprises remains to be seen and discussions are going on whether these national qualifications are able to acquire the full range of occupational skills required at the intermediate level.

This chapter discussed briefly some societal models of the wage-labour nexus in three countries (for more details see Hanchane & Méhaut, 2000). There was not enough space to include northern or southern European countries; several aspects are covered by projects carried out in the framework of Leonardo da Vinci 1, for example the VTMLT project (VTMLT, 1998) and the CATEWE project ‘A Comparative Analysis of Transitions From Education To Work in Europe’.²³

²² For more information on the current state of reforms see The Qualification and Curriculum Authority (QCA), www.qca.org.uk.

²³ For more information and for publications see: <http://www.mzes.unimannheim.de/projekte/catewe/Homepage.html>.

See also Part 5, Chapter 2 of this report and the contributions of Hannan *et al.* (2000) and Hannan & Werquin (2000) to the background report.

2.5. Conclusions

The discussion on internal and occupational labour markets indicated that the choice of a societal model and the resulting wage-labour nexus is rather different across European countries. Research models based on neoclassical and human capital theory are disputed as well as those based on dual labour market and segmentation theories. All these models are only partly able to explain the wage-labour and, in consequence, the skill-labour nexus, i.e. the role of different actors (individuals, employers, social partners, training institutions, State) in linking the labour market and training system.

Decisions of the two main agents – individuals, employers – on external labour markets can be explained best by neoclassical and human capital theories, in terms of investments in (general) education and training or in terms of recruitment and preferences. The regulation of internal labour markets as well as of occupational labour markets is the domain of sociological and institutional/organisational approaches.

Until now, empirical evidence of the interplay between all types of labour markets and their links to education, training and skills have been rather scarce. Longitudinal analyses for internal and external labour markets combining both individuals and employers/firms are in the eve (cf. Bellmann, 2000; see also Chapter 6 below and Part 5 of this report). Those analyses should include institutional characteristics and the influence of other actors on the modalities of in-company training and deployment.

They should also be able to answer the question posed by segmentation theory whether, and by which means, disadvantages in education/training and early work career can be compensated in later working life, e.g. by continuing training or targeted programmes.

Societal models and approaches have, up to now, been too much focused on the links between training, occupational relations and personnel management. Most of them are content with a description of structural characteristics, assuming a stable world. ‘Shocks’ like the opening of Europe, globalisation, educational expansion, changing work organisations, etc., should encourage dynamisation of those models – thus changing the view from a mere description of societal spaces to an analysis of the modalities of transformation (or perseverance).

Furthermore, the relationships between training, mobility and wages/career are varying: they differ by type of labour market, by time and by country. So do policies concerning the competitiveness of firms, internal and external flexibility, the battle against social exclusion (Steedman, 1999; see also: Vranken, 2000; Brandsma, 2000; and Part 5, Chapter 3 of this report) and new combinations between training and work (Delcourt & Méhaut, 1995; Part 2, Chapter 1 of this report).

Comparative studies based on interdisciplinary approaches and using both quantitative and qualitative information – in particular at the enterprise level – are research topics which need to be intensified substantially.

3. Role of small and medium sized enterprises in training and employment²⁴

This chapter illustrates the main features of SME research in Europe, in particular the training and employment behaviour of SMEs. Today, SMEs are regarded as the main source of a dynamic economic development, innovation and creation of employment.

Although research on SMEs has a long history in some countries, it was in the 1980s that economists and sociologists rediscovered SMEs. The decline of mass production, decentralisation, tertiarisation of the economies and persistent unemployment put to the fore the flexibility of small structures in order to improve innovation and competitiveness. However, the specificity and, at the same time diversity, of SMEs – even more in a European context – impedes a typology and coherent consideration of the role of SMEs in training and employment creation.

3.1. Relevance of SMEs for European employment

Small and medium sized enterprises (SMEs) represent by far the majority (1996: 99.8%) of all enterprises in Europe. Including agriculture, two

²⁴ This section is based on the paper of P. Trouvé *et al.*, 2000. ‘The employment and training practices of SMEs. Examination of research in five EU Member States’. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

out of three workers in the European Union are employed by SMEs (for a categorisation see Box 3.7). Even without agriculture and household services, SMEs' employment share exceeds 50% of total employment (Table 3.6).

However, there are significant differences between European countries. In all southern European countries and in Luxembourg, Belgium and Denmark the share of employment in SMEs is above European average. The lowest SME share (<60%) is found in Ireland, Finland, Germany, Sweden, the UK and the Netherlands (Figure 3.3).

Box 3.7: Classification of enterprise size

According to Eurostat's classification of firm size within its enterprise statistics, the following size groups of enterprises are distinguished^(a):

Designation	Number of employees ^(b)
1. self employed without employees	0 ^(c)
2. micro-enterprises; very small enterprises (VSE)	1 – 9 ^(c)
3. small enterprises (SE)	10 – 49
4. medium enterprises (ME)	50 – 249
<hr/>	
1-4 small and medium sized enterprises (SME)	0 – 249
<hr/>	
5. large enterprises (LE)	250 +

a) Up to 1992 the enterprise size classes were broken down further (0, 1-9, 10-19, 20-49, 50-99, 100-199, 200-249, 250-499, 500+).

(b) Some Eurostat statistics (e.g. CVTS) differentiate further: 1-9, 10-49, 50-99, 100-249, 250-499, 500-999, 1000+.

(c) Sometimes enterprises without employees and enterprises with 1-9 employees are summarised to 'VSE'.

Source: European Commission, 1998c.

Additional criteria used by Eurostat are: annual turnover; annual balance-sheet total; no more than 25% of the capital of the enterprise should be controlled by one or more other enterprise. However, available national statistics cannot provide all this information. Thus, the employment criterion is the main one. Given these difficulties it is not possible to provide homogeneous and comparable statistical data for all EU countries (ENSR, 1997).

NB: Several EU Member States (as well as non-EU countries) use different size classes in their statistics. Note also that the OECD applies the following size classes (employed, incl. owner): 1, 1-19, 20-99, 100-499, 500+.

Table 3.6: Enterprises and employment^(a) in Europe 1994/96, EU-15, %

Size (number of employees)	Enterprises (1996)	Employment (1994)
0-9	93.0	27.5
10-49	5.9	15.3
50-249	0.9	11.1
0-249 (SMEs)	99.8	53.9
250+	0.2	46.1
Total	100.0	100.0

(a) Without agriculture (note: agriculture accounts for 5.4% of the total European labour force).

Sources: enterprises: Trouvé *et al.*, (2000), based on ENSR (1997, p. 326, without agriculture and non-market sectors); employment: European Commission (1998b, figure 117), based on 'Enterprises in Europe' and on the Community Labour Force Survey; without agriculture and household services, incl. energy for details cf. European Commission (1998b, p. 82).

Table 3.7 illustrates the weight of SMEs in different sectors in the European Union. The highest share of SMEs is found in construction, catering (hotels, restaurants), personal services, distribution and business services. SMEs in these sectors employ almost one third of the total European labour force.²⁵

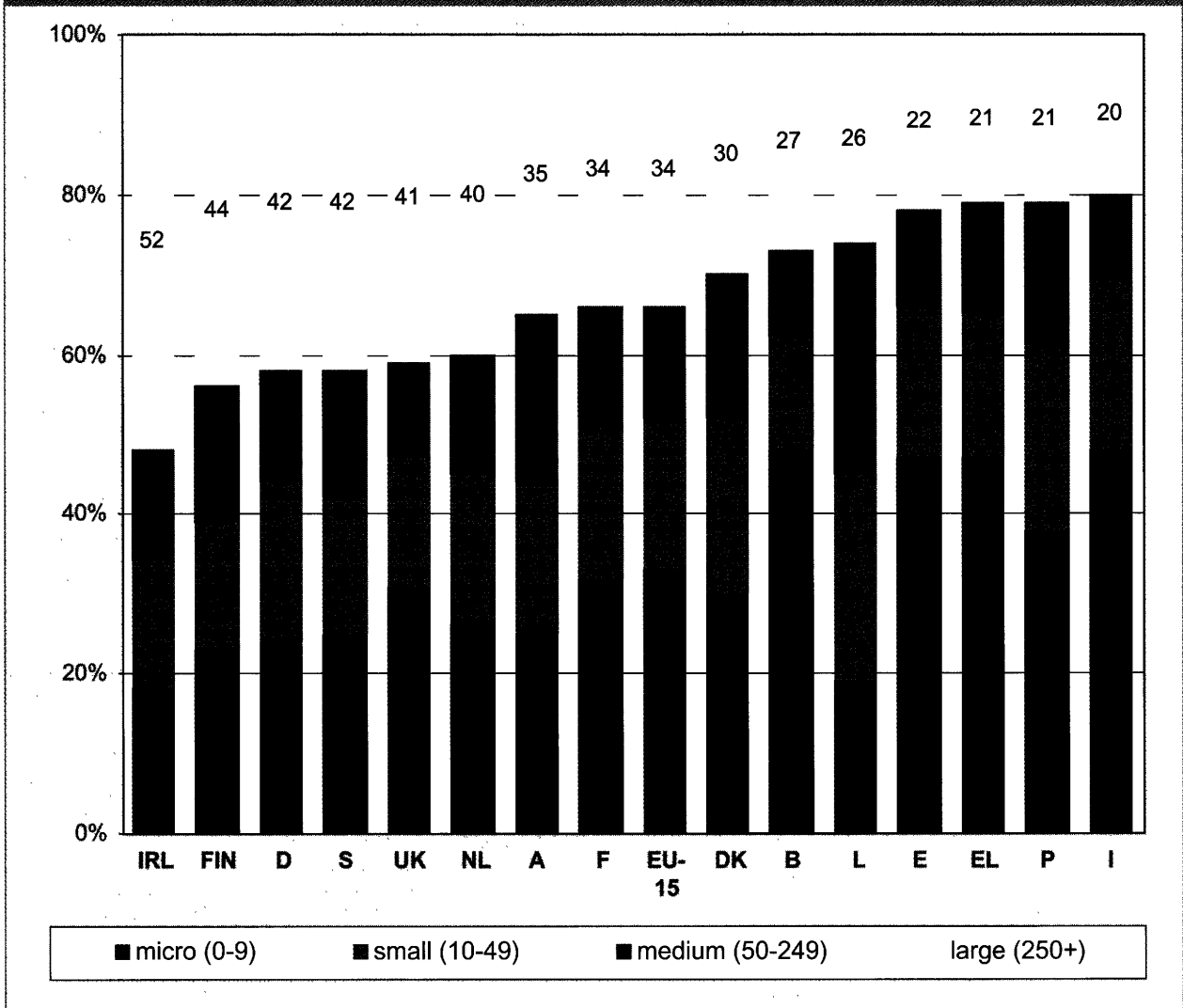
3.2. Development of SME research in selected European countries

This chapter presents a brief overview of the development of SME research in the past 2-3 decades. Some examples given for France, Germany, Spain, Italy and the United Kingdom from the immeasurable European research literature on SMEs illustrate the specific role of SMEs in these countries and the 'change of paradigm' that occurred in the past decade. In the subsequent chapters, current research topics will be presented in more details.

3.2.1. SME research in France

In France, whose share of SMEs in employment is close to the EU average (see Figure 3.3), public policy for a long time experienced aversion to

²⁵ Excluding agriculture and household services. For additional empirical information and methodological aspects on SMEs see: European Commission (1998b), pp. 81 ff.; European Commission (1998c); OECD (2000a).

Figure 3.3: Employment in EU member states by size of enterprise ^(a), 1996, EU-15, %

(a) Number of employees; without agriculture, household services and public administration.

NB: Data are not fully comparable with tables 3.6 and 3.7 because of different years and definition of data.

Source: Trouvé *et al.*, 2000; countries ranked by share of total employment in SMEs (0-249 employees).

SMEs. 'Public institutions perceived SMEs as an archaic sector populated by wild and unscrupulous capitalists disrespecting social and fiscal obligations' (Saglio, 1995, p. 22). The negative image of SMEs concerned their rudimentary division of work, simple functioning and reactionary policies. By the same token, SMEs were suspicious of the State and implied that large enterprises colluded with the State – sometimes not without reason.

After a long period of indifference, by the end of 1980s, SMEs increasingly became models of social experimentation and alternatives to industrial concentration. The starting point of their

rehabilitation was the crisis of mass production and the restructuring of large enterprises as well as the rise in unemployment and the tertiarisation of economies. Up to today, however, the call for modernisation of SMEs is oriented towards the model of large enterprises. Research, too, could not exonerate from this image.

Starting in the mid-1980s with the development of technological innovations as an instrument for modernisation of SMEs and improving their competitiveness – still taking large enterprises and mass production as the point of reference – research was gradually shifting towards management, training and organisational issues. Empiri-

Table 3.7: Employment by NACE sector^(a) and size of enterprise 1994, EU-15, %

Size of enterprise	Manufacturing, energy	Construction	Distribution	Catering	Transport	Banking, insurance	Business services	Public administration	Education	Health	Personal services etc.	Total
0-9	14.0	46.2	48.6	55.3	22.5	12.8	38.4	0.0	3.6	19.5	64.2	27.5
10-49	16.4	27.8	20.0	21.8	14.1	6.0	17.6	0.0	2.9	8.7	13.4	15.3
50-249	19.4	13.6	9.4	8.5	10.0	9.4	13.8	0.0	1.8	9.0	8.0	11.1
0-249	52.8	87.6	78.0	85.6	46.6	28.1	69.7	0.0	8.2	37.3	85.5	53.9
250+	47.2	12.4	22.0	14.4	53.4	71.9	30.3	100.0	91.8	62.7	14.5	46.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Without agriculture and household services.

Source: European Commission, 1998b, Figure 117.

cal data reveal that the main determinants of training provision are enterprise size – small enterprises train much less than medium or large ones – and the age of the entrepreneur/management which is above average in very small sized enterprises (VSE; cf. Bucaille & Costa de Beauregard, 1989; Debrinay, 1990).

Research on the contribution of SMEs to employment is relatively new in France, compared with the UK, Germany or Italy. Despite numerous studies on the role of SMEs in the transformation of production systems, their impact on the volume, structure and content of employment is still in its prime (Coral & Trouvé, 1999). The same is true for vocational training and the construction of competences (see Part 2, Chapter 2 of this report).

In summary, one can identify a marked indifference of the French scientific community on SME issues. Some researchers even doubt that SMEs are an autonomous object of research (Grasser *et al.*, 1999). And there is a clear divide between economic and sociological research on the one hand, and management research on the other (for an overview cf. Trouvé *et al.*, 2000).

Statistical data and surveys on SMEs do exist, but have limitations²⁶; similar restrictions apply to surveys conducted by INSEE (www.insee.fr) or for Dares²⁷ programmes.

3.2.2. SME research in the United Kingdom

In the 1980s up to the early 1990s four major questions were treated by SME research in the UK (Atkinson & Storey, 1994):

- quantification of employment creation;
- quality of employment;
- self-employment (see also Chapter 4.3 in this part);
- interactions between small enterprises and the labour market.

Research on *employment creation* by SMEs was heavily influenced by the basic work of Birch (1979) for the US. He showed that, in the 1970s, two thirds of the total net employment increase was due to small enterprises (< 20 employees) and around 80% to all SMEs < 100. A follow-up study for the period 1992-96 even showed an increase of net job creation for all SMEs < 100 to nearly 85% (Birch *et al.*, 1997). Similar research for the UK (for an overview see Trouvé *et al.*, 2000) seemed to confirm this: between 1987 and 1989, 500 000 jobs were created in very small enterprises (< 10 employees), mostly in the serv-

²⁶ For example, statistics of the Ministry of Industry contain data only for enterprises with more than 20 employees.

²⁷ *Direction de l'Animation de la Recherche, des Études et des Statistiques*, Ministry for Employment and Solidarity (www.travail.gouv.fr).

ice sector; this was half the total net employment increase in the UK.

However, there were severe critics of Birch's approach, which, in their view, overestimated the contribution of SMEs to employment creation, mainly due to insufficient data. Johnson (1989, 1991) and others found that 'the increase in importance of small establishments may [...] reflect the decline in large firms, rather than the growth of small firms' (Atkinson & Storey, 1994, p. 6).

These criticisms led to the idea of considering not only employment creation but also closures and job losses in new SMEs and emphasising more the sustainable character, or otherwise, of SMEs' job creation. Research found that employment performance depends on a very small number of 'fast growers' or 'high flying' SMEs which influence overall SME figures. For example, Gallagher & Miller (1991) found that 18% of SMEs in their sample contributed to 92% of the total employment creation by SMEs.

These results passed into SME policies in the Thatcher era. Undifferentiated policy approaches consisted of a reduction of financial burden, of administrative constraints or of trade union pressures. The aim was to create an 'entrepreneurial culture', thereby to increase employment and to reduce unemployment. However there were doubts as to whether these policies realised these goals: in other countries with opposite policies, newly created enterprises increased to a similar extent as in the UK.

Research on the *quality of employment*, e.g. concerning the nature of industrial relations in SMEs, availability of training, wage aspects and stability of employment, was induced, at that time, by public policy aiming to 'protect' SMEs from trade union influence.

Research undertaken in the 1980s and early 1990s cast doubts on the 'idyllic vision of employment quality' in SMEs. Scott *et al.*, 1989, found that workers in small enterprises have less favourable working conditions in comparison with large enterprises, in terms of work satisfaction, wages and revenues, work security and stability, protection by trade unions, access to training and working time. Other researchers, however, could not confirm all of these aspects with their data (e.g. North *et al.*, 1994). Here again, a deterioration of the quality of work was observed only for a minority of SMEs.

Research at the end of the 1980s shifted from employment issues to the interactions between small enterprises and the labour market. Questions concerned the procurement of workers, the development of managerial competences, the overcoming of labour market constraints and how all these influence the performance of a small firm.

Atkinson & Meager (1994) observed a discontinuity of SMEs' relations with the external labour market. SMEs may face difficulties in recruiting qualified workers, in particular when they increase their size. In this case they are exposed to competition and have to organise their internal labour market and increasingly to build on formal recruitment procedures, communication and selection. On the other hand, small and very small enterprises are often not very concerned about problems of occupational labour markets and of qualifications: they mostly mobilise workers in the neighbourhood or family context. As a consequence, the needs of adaptation to the labour market are higher for fast growing small firms.

3.2.3. SME research in Italy

As early as in the 1970s, regional economic development programmes in Italy were based on research on non-traditional SME models. The main characteristic of this alternative approach was the concentration of particular SMEs with high productivity and performance²⁸ in 'industrial districts' at the periphery of medium sized or larger cities. Numerous authors laid the research foundations in the period 1975-85 (for an overview and references see Trouvé *et al.*, 2000).

This research work was, to a high degree, inspired by A. Marshall's notion of 'particular markets' (1919): economic prosperity cannot only be achieved by competition but also by cooperation and solidarity of SMEs. Social and political conditions are based on written and unwritten norms, values and rules shared by the members of an industrial district.

Industrial districts in Italy developed in regions with a long tradition in trade and craftsmanship. Another source of development was 'productive decentralisation' by Italian employers in the 1970s affected by the crisis of Tayloristic work organisation. Large firms externalised parts of their production and encouraged skilled workers and technicians to become independent.

²⁸ E.g. textile, ceramics, mechanics, leather and clothing.

The success of the industrial district model is rooted in the mobilisation and the competences through the 'qualities of the artisan entrepreneur' and in the high flexibility of workers. Networks of firms are paralleled by social networks of workers able to change quickly between jobs, to become independent and to employ other workers.

The economic regulation of those systems depends on the functioning of local labour markets and on social and political structures in the region (Trigilia, 1986, 1998). However, training aspects in SMEs scarcely evolved in this context of territorial, diffuse industrialisation and local development and employment.

According to Courault & Trouvé (1999) three major research waves occurred in the past three decades:

- (a) theoretical foundations were laid down in particular in the 1970s;
- (b) in the 1980s, a multitude of monographs appeared on local aspects (for details see Trouvé *et al.*, 2000) and on models of 'flexible specialisation' (Piore & Sabel, 1984) with international reference;
- (c) from the early 1990s, research work focused on possible alternative evolutions of the 'district model'. Reasons were the great macroeconomic transformations or questions on the internal regulatory capacities of the district model (e.g. Varaldo & Ferrucci, 1997; Bologna & Fumagalli, 1997; Rullani & Romano, 1998). The latter authors discuss the internationalisation of industrial districts in a post-Fordist era, in particular the increasing opening of the districts, relocation of production and the policies of multinational enterprises to take control of SMEs.

Other recent research discusses further the role of artisanal and entrepreneurial dynamics (Bologna & Fumagalli, 1997), but also training issues relating to SMEs – a field still underdeveloped in Italian research which focuses much more on productive socialisation and mobility. Capecchi (1995) discusses the relationships of training, entrepreneurial dynamics and local development. He demystifies in particular the widespread belief of a non-correspondence between vocational training and the needs of SMEs: in most regions, VET leavers have been absorbed without major problems and, moreover, have proven their capacity to become an entrepreneur. Capecchi underpins the positive effects of flexible specialisation on entrepreneurial training.

Due to the success of the 'district or territorial model' discussions continue on whether, and under which conditions, this model could be transferred to other countries (for a compilation see Benko *et al.*, 1998). In this respect, there are sceptics as well as supporters. Within the European employment strategy territorial pacts have received special attention. They emphasise the embeddedness in a local and social community as well as the opening of the district model for new forms of organisation, for inter-firm relations and for networks and internationalisation (Ganne, 1999; Rullani & Romano, 1998).

3.2.4. SME research in Germany

The role of SMEs and corresponding research in Germany has its roots in the 'social order' (*Sozialordnung*) which explains the historical importance of the 'Mittelstand' (roughly: middle stratum)²⁹. Historically, coming from the medieval estates (*Stände*) and the emerging bourgeoisie, the *Mittelstand* was seen as a pillar of macropolitical regulation, which functions besides or below the market forces. The importance of the *Mittelstand* became decisive in the 1930s-40s (Scheuch, 1976) and continued after World War II – also visible in the creation of numerous research institutes in this field.

Marbach (1942), in view of the predictions by Marx and Schumpeter on the disappearance of small structures and the emergence of large enterprises and monopolies, suggested a social development and balance assured by intermediate strata (*Mittellagen*). Scheuch (1976) predicted the decrease of uniformity of tastes and thus a new parallel evolution of mass demand combined with differentiation. Despite these thoughts, large enterprises dominated in German economic and sociological research (except research in the handicraft sector) until the 1980s. SMEs were often seen as residuals and backwarded.

Beginning in the mid-1980s, efforts to overcome the economic and labour market crisis and to meet the challenges of structural change transformed SMEs to 'carriers of hope' and of structural change (Büchter, 1998). The 'new prosperity

²⁹ In German economy and policy the self-employed (except owners of large enterprises) are denoted as *Mittelstand*; they are the target groups of the *Mittelstandspolitik*. Sociology is more precise and distinguishes since long between the 'old *Mittelstand*' of entrepreneurs, artisans, merchants and farmers, and the 'new *Mittelstand*' of well earning self-employed, employees and officials (Geißler, 1992, pp. 97 f.).

of SMEs' was explained by their role of 'market specialists' and 'market localists' (Leicht, 1995) able to capture markets difficult to access by (or not of interest to) large firms.

The reemergence of small-scale manufacturing, of new services, the end of Tayloristic labour division and the proximity of SMEs to the market reinforced the hope that SMEs become main job creators, develop a strong qualification demand and foster continuing training. Equally, there were hopes to contribute to the regeneration of weak structural regions and even to develop new concepts of human capital investments (Büchter, 1998). SMEs were seen as an 'alternative social world' (Kotthoff & Reindl, 1990) as compared with large enterprises.

However, within the following years these hopes gave way to more realistic concepts relating to the factual contribution of SMEs to modern economies. The success of SMEs depends above all on the personality of the proprietor/manager and his/her strategic orientation, i.e. on their entrepreneurial mentality. Are these focused on innovation of products or on increased productivity? Does he/she preserve the proximity to the customer and autonomy or prefer subcontracts? Does he/she concentrate on niche markets or on mass markets (Kotthoff, 1993)? Although empirical work reveals a potential of SMEs in realising technological and organisational innovations, many of them struggle to respond to these new needs of modernisation (Manz, 1993). Pre-industrial structures (patriarchate, authoritarianism) are still dominant in SMEs and may neutralise their competitive advantages.

Research increasingly recognised the multitude and complexity of SME strategies ranging between Taylorised jobs and new forms of group working which correspond to the requalification thesis of Kern & Schumann (1984). Many SMEs have not (yet) established sufficient conditions for social, organisational and technological innovations, in particular the use of ICTs.

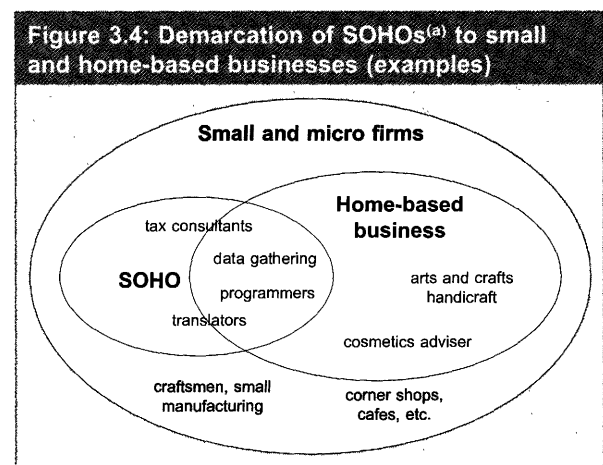
This disillusion or 'new realism' is found in a series of research works in the 1990s. By no means do all SMEs offer alternatives to mass production (which in turn becomes increasingly flexible due to new technologies). In industry, SMEs are becoming more and more dependent on large enterprises and on sales centres. In some segments (e.g. textile-clothing) they are exposed to strong competition from low wage countries (e.g. in eastern Europe and Asia).

However, these deficiencies of SMEs differ significantly from sector to sector (Kotthoff, 1993). Moreover, Leicht (1995) shows that the success of SMEs varies considerably even within the same sectoral environment depending on whether they have occupied a market or are exposed to competition with larger enterprises.

Of essential importance is the regional environment: SMEs located in more industrialised regions show the highest survival rates (see Fieten, 1995; and Koch & Strutyński, 1996, for automotive subcontractors). These SMEs also have the advantage of building on local and regional technological advisers (Modrow-Thiel *et al.*, 1993; Hilbert & Sperling, 1995).

On the other hand, new types of micro and small enterprises are emerging which provide information-intensive services by using network ICT technologies. Most of these firms operate as small offices or home offices (SOHO). Their activities range from translation services, preparation of construction plans, computer advice and programming or text recording services (Reichwald *et al.*, 1999). Figure 3.4 illustrates the demarcation of SOHOs to small firms or to home-based businesses.

After German unification, SME research increasingly focused on the transformation process of the new *Länder*. The dissolution of the industrial collective combines of the former GDR has led to the creation of a multitude of SMEs. Whereas in the GDR 90% of the labour force worked in 270 combines, in 1995 there were 460,000 SMEs with 3.1 million employees (Semlinger, 1995).



(a) SOHOS: small offices or home offices.

Source: Reichwald *et al.*, 1999, p. 463.

There were two parallel processes in the new *Länder*: first, privatisation and the fragmentation of former large conglomerates; second, massive public support of enterprise start-ups. As far as is known today, the first programme shows higher rates of survival and job creation than the latter. On the other hand, however, research work shows that closures are no more frequent in East than in West Germany (Hinz & Wilsdorf, 1998; Brixy & Kohaut, 1998). What is relevant, and counts more for tailor-made support programmes, are sectoral effects and regional differences (Baunach & Schmude, 1998) – and the level of qualification and professional experience of the owners/managers.

3.2.5. SME research in Spain

Spain belongs to those European countries with the highest density of SMEs (*las Pymes*): SMEs employ almost 80% of the total non-agricultural workforce (see Figure 3.3 above and European Commission, 1998b). Compared to their quantitative importance, however, the research body devoted to SMEs is relatively small, in comparison with the other countries referred to in this chapter. In particular, research on employment creation and training in SMEs is not yet very advanced. Available research shows several characteristics.

- A large research body exists on the *economic role* of SMEs, on aspects of the integration into the European Community and on globalisation issues (e.g. Pérez González, 1997). However, this research deals almost exclusively with the micro-economic performance of SMEs and with the discussion of strategic issues (e.g. Camisón Zornoza, 1996a, b; Fernández *et al.*, 1996; Montoya Sánchez, 1997). It is doubted whether the positive results obtained at the micro level in terms of cost-efficiency, degree of utilisation, etc. are also true for the competitive position at the national level (e.g. Camisón Zornoza, 1996b).
- Several empirical studies seem to confirm considerable variations of firms' *competitiveness*; these variations are larger within one sector than between sectors (Fernández, 1993). It is seen as a substantial progress that the strategic behaviour of SMEs and human resource development issues have been included in major statistical surveys (Impi, 1995; see also the ESEE³⁰ annual surveys since 1990).

³⁰ *Encuesta Sobre Estrategías Empresariales* (Survey on entrepreneurial strategies); more info: www.esade.es.

- Another research field is the contribution of SMEs to *employment*. Most of the studies, however, deal with the nature of employment (e.g. work contracts), reflecting the strong Spanish discussion on flexibility and precariousness of jobs and with the characteristics of workers (tenure, level of qualification).

- Some recent work has been carried out on *human resource management* issues and on training as important factors of SME competitiveness (Aragón & Sanz, 1997; Ferrer Ortega, 1999). These studies face some problems in developing approaches different from analytical models of large enterprises. In this context, a number of interesting regional studies (e.g. García Ordóñez, 1997, for Andalusia) deserves to be compared with regional approaches done in Anglo-Saxon and Scandinavian countries.

- Finally, there are numerous 'administrative' studies on national and regional SME *policies* (in particular by Autonomous Communities; e.g. Impi, 1995; Ice, 1998) and dossiers on the dispositions, financial instruments and advisory support of SMEs.

In general, however, it is correct to say that there is a shortage of basic scientific studies in Spain on SMEs, and notably on medium sized enterprises (Trouvé *et al.*, 2000).

3.3. Status of SMEs

3.3.1. Heterogeneity and approaches

There is no standard definition of SMEs, neither scientifically founded nor universally accepted. The criterion 'number of employed' is insufficient also because size varies over time and by country. Moreover, SMEs are heterogeneous in terms of sectors, status, autonomy, etc. What does a small handicraft enterprise have in common with a medium sized industrial company; a small family restaurant with a franchising firm; a medium sized industrial company (with say 200 employees) with a management consultancy of say 40 employees which counts as one of the biggest ones but is defined as a 'small enterprise'?

In view of the multiplicity of criteria 'the notion that the small firm sector was a homogeneous entity, suffering similar problems and experiencing similar opportunities, is fundamentally misguided' (Atkinson & Storey, 1994, p. 4).

SMEs are societal institutions, embedded in national historical and social developments. As discussed above, the notion of SMEs in Anglo-Saxon countries is linked with the market and with an entrepreneurial success-failure ideology. SMEs in France and other countries are strongly based on a family and anthropological concept (Torrès, 1997, 1998). SMEs in Italy are related to the concept of territories and in Germany to social continuity by forming a counterweight to large industrial structures. This is why, up to now, a general theory of *the* SME, comparable to *the* large enterprise, is missing.

Trouvé *et al.*, (2000) distinguish several approaches to analyse the position of SMEs within economy and society and to reduce their heterogeneity (Box 3.8).³¹

Box 3.8: Approaches for SME analyses

- *Macrostatistical approaches* deal with structures and developments at the national or transnational level (e.g. Eurostat, OECD). They contain mostly larger aggregates which allow for analyses e.g. of size effects or sectoral effects. However, since they are 'successive pictures' only, they do not represent processes and dynamics.
- *Longitudinal approaches* (enterprise panels or demographies) investigate the evolution of individual enterprises over time, including set up and closure. Information may be provided for quantitative (e.g. employment, training, investments) and qualitative processes (e.g. work organisation, human resource development, management strategies); cf. also Bellmann, 2000 and Chapter 6 in this part.
- *'Linear' approaches* refer to the position of a firm within the value-added chain, for example, whether they are located in a market niche or in a production line with large enterprises (e.g. as subcontractors). This position is of influence on management strategies concerning production, distribution, personnel management etc.
- *Territorial approaches* deduced from the 'industrial district' model in Italy, view SMEs as integrated in a social and local context. Spatial proximity, membership in the local community and in networks and the social construction are the most prominent features of SMEs.
- *Typologies* of the owner-manager-entrepreneur refer to their sociocultural background, values and personality, which affect their behaviour in terms of strategies, management and organisation and thus shape the character of the SME.

- *Ethnographical approaches* study the 'real life' of the organisation of production by means of accompanying observation or qualitative intensive studies. They try to find out the difference between formal and informal, visible and invisible, implicit and explicit behaviour.
- *Comparative approaches* are transversal to those mentioned above, depending on their objectives.

Source: Trouvé *et al.*, 2000.

3.3.2. Performance and development

Changes of work organisation and production process of large enterprises, and SME strategies to improve flexibility and to capture specific markets, may reconcile large size with small-scale production (Davis, Haltiwanger & Schuh, 1996). Research tries to understand the links between large and small enterprises, in particular the effects of rationalisation and concentration of large firms on their core business. Some keywords of this research are subcontracting, outsourcing, decentralisation, externalisation, branch establishments of large companies, cooperation (e.g. franchising), multiple partnerships or endogenous development of SMEs.

Research has shown, for example, that those SMEs that keep their autonomy and market power are, at the same time, those with the highest performance in terms of employment (Trouvé *et al.*, 2000). However, these are rather few ones and some authors even expect a decline of the 'pure' SME model.

Research is on the way to explore the essential question of how to detect creative and highly performing SMEs and the reasons and conditions for their success. These questions cannot be answered by macrostatistics alone – although they border the quantitative structural framework – but call for combined quantitative and qualitative approaches, e.g. longitudinal surveys.

Based on a large sample of small and medium industrial enterprises in France and Germany, Moati, Pouquet & Leborgne (1997) distinguish several SME categories in terms of their 'productive logic': openness to their environment; internal organisation; technological development; specialisation; utilisation of human resources, etc. The authors conclude (p. 166) that:

³¹ For more details cf. Trouvé *et al.*, (2000, Chapter 3.2); cf. also Courault & Trouvé (1999).

(a) the sector is not predictive for the productive logic of SMEs: different strategies may coexist within the same sector; the strategic choice is a response to a specific environment. Thus, traditional SMEs and those which occupy a technological niche may be found in the same sector;

(b) the patterns of public support are different for 'Tayloristic' SMEs (support of production) and for 'cognitive' SMEs (support of innovations). However, in France and Germany those SMEs that profit most from public promotion are at the edge of evolution – e.g. concerning their work organisation – and have a low economic performance. Thus, public support measures should be tailor-made and consider the type and development of SMEs much more than up to now.

Analysing the changes of an enterprise over time is the domain of longitudinal studies or enterprise demographics (see also Chapter 6 in this part). Questions treated here are start-ups (e.g. *ex nihilo* or transfer of inter-firm activity) and closures of firms (e.g. end of activity or change in legal status) and the quantitative and qualitative developments of the survivors (e.g. in terms of employment creation, use of technology, work organisation, etc.).

North, Smallbone & Leigh (1994) worked on a longitudinal panel of 293 SMEs in manufacturing in the UK which existed in 1979; 58% survived until 1990. They analysed changes in the labour process³² (of the surviving SMEs in their panel) and the impacts on jobs in this decade. Some results:

- surviving firms have created a net job growth of 18%; however, 52% of survivors increased jobs and 36% reduced jobs;
- non-survivors are mostly smaller by size than surviving firms. Among the survivors, mostly the larger ones (>50 employed) have lost jobs;
- SMEs in rural areas have a better employment performance than in urban areas, in particular in large cities (in the UK);
- adjustments of the labour process in terms of numerical and functional flexibility reveal a dependence on the strategies of larger firms;
- there was a substantial increase of part time or peripheral work;
- the increase of the number of highly skilled workers was relatively small; in general, competence needs remained rather stable (except in some technologically advanced SMEs);

- firms in electronic production tend to upskill or reskill their workers instead of deskilling them.

North *et al.* (1994) conclude that only marginal adjustments and changes of the labour process have been made in the past decade. It is difficult to find SMEs with a clear strategy of human resource management: most adjustments concerned other aspects, such as products, markets, and organisational structure (p. 253). 'From a policy point of view, it suggests that focusing on job creation *per se* may be less successful in generating employment in the longer term than focusing on those firms which have the greatest growth potential' (p. 222).

Size and sector, although the most explanatory variables, are not sufficient for understanding the complexity and different behaviour of SMEs within a given sector. Management strategies depend to a great extent also on the position of the SME within the value-added chain (Porter, 1980; Chevalier, 1997). Its position influences the production, distribution and the internal organisation of an SME, in terms of technology, mobilisation of capital and human resources and inter-firm relationships (networks, partnerships, domination by larger firms, etc.).

Increasingly, efforts are being made to restructure the value-added chain along the line of a product. Examples are links and cooperation between enterprises in agriculture and food/beverage manufacturing, between manufacturing and transport/logistics, between manufacture of textiles and wearers (Lamanthe, 1998). This restructuring may influence the traditional sectors and

domains as well as territorial clusters and may lead to a repositioning of creation and innovation, e.g. by creating new circuits of distribution, new networks and new services – but it may also affect the traditional positions of SMEs.

Furthermore, existing chains may experience a gradual hierarchisation of subcontracting, organised by large firms. Another recent development – supported by ICTs and in particular by Internet or Extranet – is the establishment of platforms and open worldwide calls for subcontracting tenders, mostly launched by multinational enterprises in cooperation with software firms. This may increase the competition between SMEs of different countries and can be seen as a step to their 'globalisation'.

³² Status, structure, skills, qualifications of workers etc.

Box 3.9: TSER project 'Small and medium enterprises in Europe and East Asia: competition, collaboration and lessons for policy support'

This two year study evaluates the competitiveness of European SMEs vis-à-vis their counterparts in East Asia (Japan, Korea and Taiwan), using enterprise benchmarking to identify the nature of their technological differences in selected low, medium and high technology manufacturing activities.

The detailed firm-level analysis and benchmarking allows the identification of 'best practice' models of SME technology development; it also provides data that can be used in statistical analysis to identify rigorously the extent and causes of deviation from the technological frontier.

The project creates a data bank of micro-level technological activities studied; this database can be expanded later to other activities to provide input into science and technology policy analysis in the EU.

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Final Report: M. Fransman: Small and medium enterprises in Europe and East Asia: competition, collaboration and lessons for policy support, 2000.

3.4. SMEs and the labour market

3.4.1. Job creation and destruction

The relation of SMEs to employment and the labour market is one of the most discussed topics in policy and research today. What is the contribution of SMEs to employment growth? What are the characteristics of SMEs with highest job creation? Do SMEs provide a space for the integration of young and older people in the labour market?

The employment performance of SMEs is influenced by a number of variables (see Trouvé *et al.*, 2000, and Chapter 4.2 in this part):

- the *characteristics of the firm*, e.g. size and internal organisation, sector and position in the value added chain, age of the firm, status (independent, integrated, family business), modality of production, kind of products (usual or innovative), innovative capacity;
- the profile, social trajectory and professional career of the *entrepreneur* (for a typology cf. Ivanaj & Géhin, 1997);
- *environment variables* such as pressures of supply and demand on external labour markets, occupational mobility, flexibility of workers, relationship with the regional or local community,

characteristics of competitors, decentralisation of larger firms, political and institutional regime (favourable or not), support by EU programmes (in particular by the social funds, cf. European Commission, 1998b), physical condition of the region.

Figure 3.5 illustrates the main variables of employment behaviour.

There is a close relationship between the creation, growth and closure of enterprises on the one hand and the creation, growth and destruction of jobs on the other. However, this relationship varies across countries. In Spain, for example, in the period 1991-95, 38,5% of (gross) job growth was attributed to SMEs (< 200 employees) and 13% to larger enterprises (≥ 200). On the other hand, 23% of jobs were lost in SMEs compared to 16% in larger firms. In recent years, gross job creation by new firms increased significantly (Ruano, 1997).

In other countries, however, an increase of the number of SMEs did not necessarily increase the number of jobs. In the UK and in Germany, this was only the case for very small enterprises.

Equally, the OECD (2000a) reports that only a subset of high-growth small firms are important for employment growth (in France, Italy and the Netherlands). 'These fast growers are dominated by young entrants who are also exceptional performers with regard to innovation and job creation. [...] High-growth firms will be found most frequently in knowledge-intensive service sectors and in regions characterised by intensive economic activity and clustering' (p. 11).

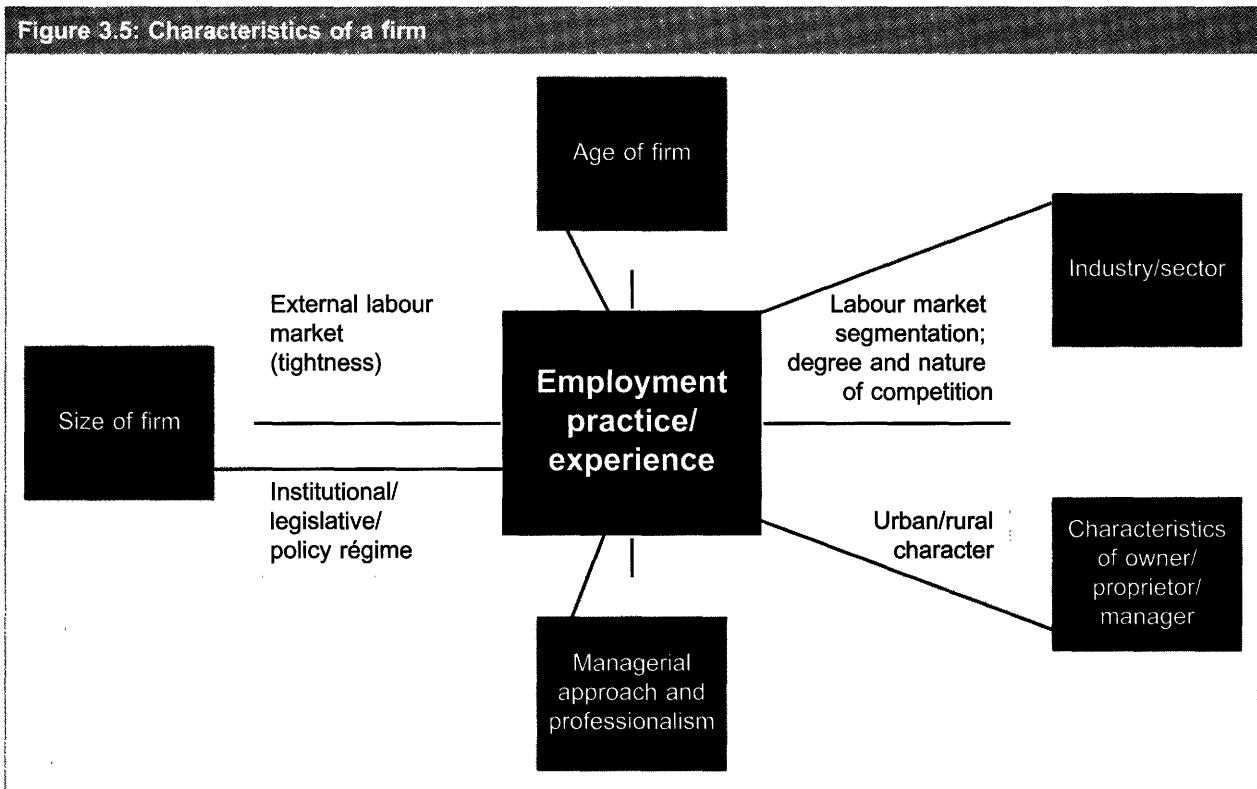
Some enterprises create many new jobs whereas others destroy many, too. Creation and destruction of jobs may even occur at the same time in a company, as, for example, the regular surveys DMMO/EMMO³³ of the French Ministry for Employment illustrate.

This is why it is essential to distinguish between gross and net job growth, as illustrated in Figure 3.6.³⁴ A positive or negative net job change is the balance between gross job gains and losses in one (or a group) of enterprises.

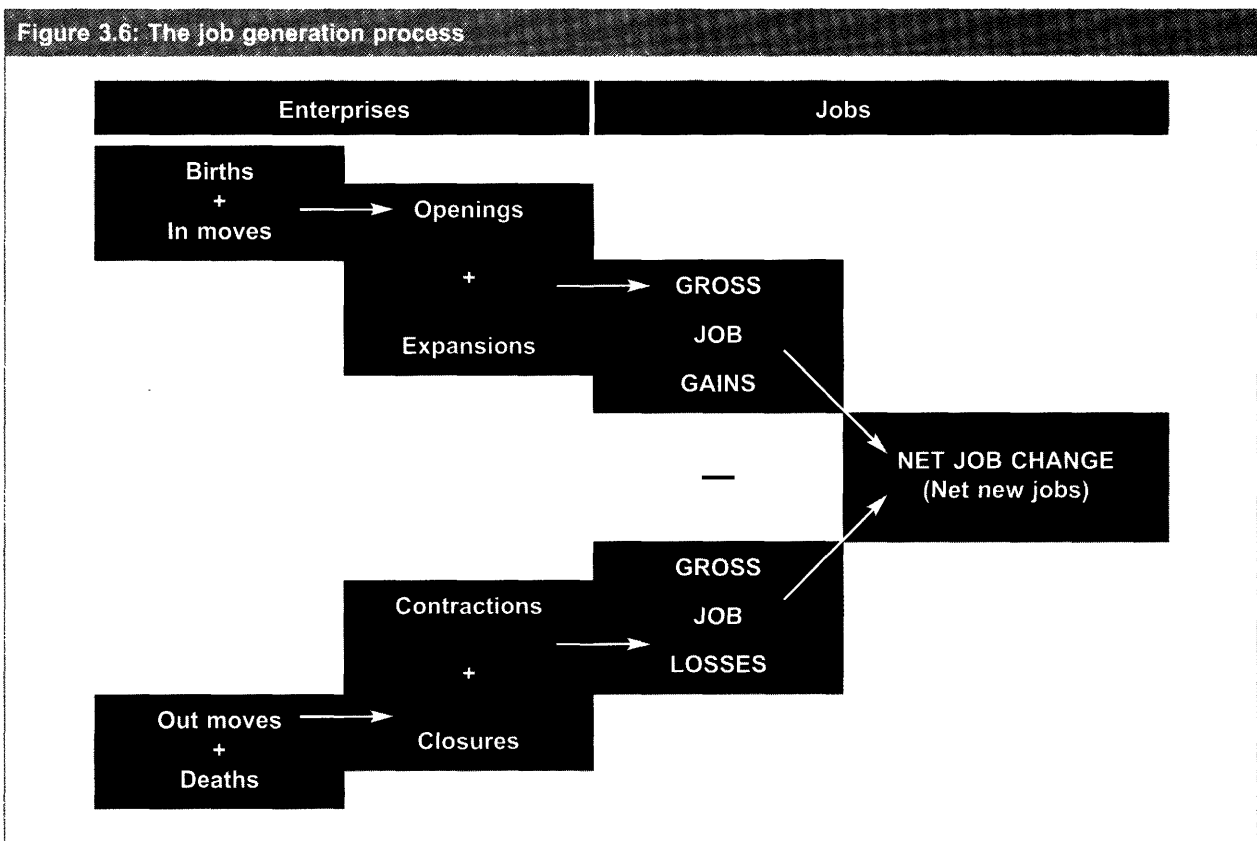
One of the founders of empirical research on the contribution of SMEs to employment was Birch (1979; Birch *et al.*, 1997).

³³ *Déclarations Mensuelles des Mouvements de Main-d'oeuvre; Enquêtes Mensuelles sur les Mouvements de Main-d'oeuvre* [Monthly statements of labour force mobility; Monthly surveys on labour force mobility].

³⁴ For a more detailed methodological discussion cf. OECD, 1996a, 1998a, p. 48.



Source: Atkinson & Meager, 1994, p. 37.



Source: Trouvé et al., 2000, based on Storey & Johnson, 1987.

Numerous research studies – many of them based on longitudinal enterprise data - carried out thereafter, for European countries, too, more or less confirmed Birch's findings despite some doubts concerning the methodology he applied. They equally found that net job growth was more important for SMEs than for larger firms (for an overview see Trouvé *et al.*, 2000).

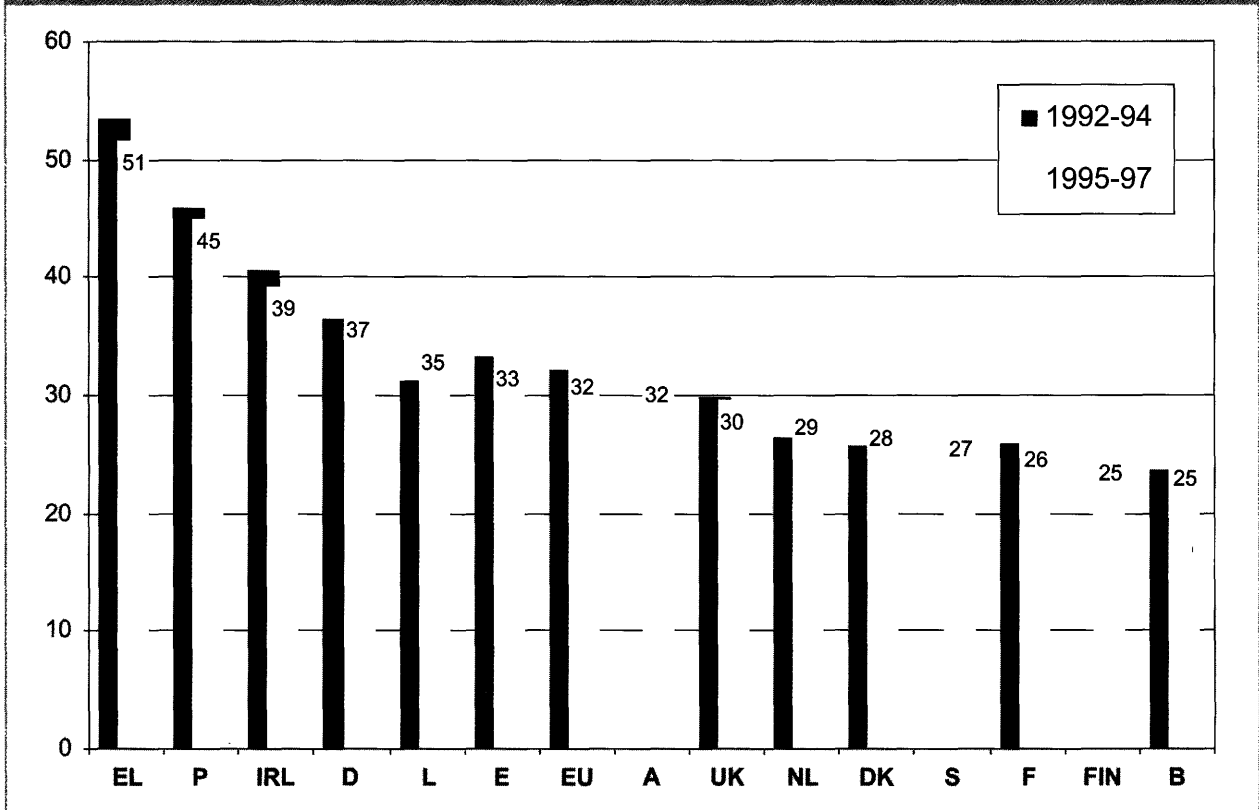
The European Commission (1998b), based on results of the Community labour force surveys, estimates an increase of around 1.5 million employed in SMEs in the service sector for the period 1992-97 (p. 89 f.), compared with a total employment increase in service sectors of 3.5 million. This resulted in a widespread increase of SMEs' share in total employment in services across the Union. Those countries with a decrease-

ing SME share are, at the same time, those where the share of SMEs is clearly above EU average (Greece, Ireland and Portugal) thus showing some convergent tendency (Figure 3.7). Similarly, the employment share of small firms in industry rose while the number employed in the sector as a whole declined.

Although it cannot be denied that SMEs are the main job providers in the EU (more than 50% of non-agricultural jobs; out of these, one third of all jobs are provided by very small enterprises, < 10) several problems of the empirical recording of job creation remain. These are due to insufficient data and methods and, in particular, to the proper distinction between gross and net creation of jobs.

Moreover there are several selection biases when using macrostatistical data only, such as the 'size distribution fallacy' (Baldwin & Picot, 1995) and the 'regression-to-the-mean fallacy' (Hughes, 1997).

Figure 3.7: Employment share of small firms ^(a) in the service sector 1992-94 and 1995-97. EU ^(b), % of total employment



(a) Firms with less than 50 employees.

(b) 1992-94: no data available for Austria, Finland, Sweden and Italy; 1995-97: no data available for Italy.

NB: Data sorted by employment share in 1995-97.

Source: European Commission, 1998b, graph 121 (estimated from CLFS data).

Selection biases

In general, there are two arguments and two caveats that have to do with the selection bias of the reference samples (Baldwin & Picot, 1995, p. 319):

First, there is the '*size distribution fallacy*', which fails to distinguish between stocks and flows of jobs (Maurin, 1995) and overlooks the threshold-crossing phenomena between surveys (Storey, 1994). A positive employment balance in one size category (say S2) is just as likely to be the result of an increase in that particular category as of a reduction or increase in size categories immediately above (S3) or below (S1): the decreased or increased firms of S3 or S1 are now allocated in S2.

It is, in fact, difficult for successive interval panel studies to take account of such job movements. Longitudinal data would therefore be needed, allowing individual establishments and their change of size classes to be identified.

Then there is the '*regression-to-the-mean*' fallacy caused by temporary deviations between employment and the optimum size of enterprises in the long term. The ones that regress are those that have just grown in size, and those that increase have had to cut back their workforce temporarily (Hughes, 1997).

Another serious problem is the question of the extent to which it is a matter of endogenous or exogenous job creation by SMEs, i.e. by own growth of SMEs respectively by 'pure' enterprise start-ups; or by external influences, e.g. induced by strategic policies of large enterprises. Schmidt (1996) shows that a considerable part of job creation by SMEs is due to reorganisations of larger firms that try to refocus their business by downsizing, outsourcing or subcontracting. Another reason is the establishment of branch or franchise units.

These are crucial questions for public policy, too. If research cannot fall back on adequate statistical data, the policy-maker lacks the empirical base for his decisions (Schmidt, 1996, p. 551). The lack of suitable data could be one reason why the impact of public policies on employment creation and reduction of unemployment remains uncertain.

3.4.2. Employment behaviour of SMEs

According to Leicht (1995) and to Leicht & Stockmann (1993) there are several reasons for a higher employment performance among small firms:

- individualised adaptation to each single case ('market specialists');
- localised work which is bound to a certain locality or market area, e.g. craft business ('market localists');
- repair work which does not really appeal to large firms.

These specific markets are not easily accessible for large firms or are not of great interest to them. The best performing small enterprises occupy market segments with a close proximity to the customer, and they produce goods and services with fluctuating or low demand volume.

In addition, large firms tend to decentralise or outcontract those activities that require a high professionalism and are less suited for rationalisation, internationalisation or standardisation. All these require a capacity for solving individual problems.

Examples are construction, craft, material services, planning, installation, repair and maintenance. But there are also more 'modern' activities related to new technologies, such as precision mechanics, optics, computer assembly, biotechnology, professional services for enterprises like management consultancy and accountancy, special services in the social or health sector (Leicht & Strohmeyer, 1998).

The recruitment decisions and personnel policy of SMEs differ substantially from larger firms. The absence of longer term personnel planning, short term recruitment decisions reflecting temporary demand and often informal selection procedures by proximity (family, neighbourhood, region) are characteristic for small and very small firms.

Are SMEs a space for labour market integration of young people or for reintegration of older ones? How far can they function as 'transitional labour markets' (Schmid, 1998; Gazier, 1998), as 'intermediate positions' between secondary and primary segments in the dual labour market (Lefresne, 1998)? What is their role for lifelong mobility?

Some indicators are given below (for details see Trouvé *et al.*, 2000; European Commission, 1998c):

- integration of *young and older people*. The share of young workers (aged 15-24 years) in small enterprises (< 50 employees) in EU countries (except Ireland for female workers) tends to

be higher than in larger enterprises (European Commission, 1998c). This applies particularly, with several exceptions, to commerce, hotels and restaurants and to business service firms;

- SMEs train more apprentices and employ more former unemployed (mostly older people) and more family members than large firms. Thus they function as 'transitional labour markets' between training, employment, unemployment and housework;

- Bentabet, Michun & Trouvé (1999) show for France that even in very small enterprises there exists a *primary sector* with stable employment and longer tenure, with higher qualified and better paid core workers on the one hand, and a *secondary segment* of – mostly younger – workers on the other;

- the *level of education* in the EU increases in general with firm size (Table 3.8). This applies in particular to higher educational levels (ISCED 5-7) and is true for all non-agricultural sectors except services. Workers with medium levels are more represented in small firms (11-49) than in micro firms or larger ones. Services differ from this pattern in several respects: they employ significantly more highly educated workers than other sectors. This is – with some variations – true for all size classes and for males and females (see also Part 4

in this report). At the medium level, employment of male workers is below average;

- *job stability* in very small firms is lower than in small or large firms: limited working contracts are more frequent in very small firms (1-10). This applies to men and women and to all sectors (Figure 3.8) although variations by country – due to different legislative and administrative regulations – are considerable. It should be added, however, that the figures include limited training contracts (e.g. apprenticeship training) and probationary periods;

- *quality of work*. In general, available data confirm lower wages, longer working time and a lower degree of skill utilisation in SMEs. Some authors assume that the growth in small firms has even been the result of wage flexibility and deregulation. To clarify these issues, the European Foundation for the Improvement of Living and Working Conditions (Dublin)³⁵ set up in 1998 a research programme on job quality in SMEs focusing on work contracts, employment and job creation, international comparisons and indicators. Two seminars were held in 1998 and 1999 and a research study elaborated several indicators (Cowling & Storey, 1998).

³⁵ For more information see the website of the Dublin Foundation: <http://www.eurofound.eu.int>

Education level (ISCED) ^(b)	Firm size (number of employees)					
	All sectors			Services		
	1-10	11-49	50+	1-10	11-49	50+
<i>Males</i>						
High	18.1	21.4	27.9	34.5	37.3	39.9
Medium	42.3	47.5	45.2	39.6	38.9	37.7
Low	39.6	31.1	26.9	25.9	23.8	22.4
All levels	100.0	100.0	100.0	100.0	100.0	100.0
<i>Females</i>						
High	17.2	24.3	24.9	28.0	35.5	35.0
Medium	44.5	44.8	45.1	46.5	39.8	42.1
Low	38.3	30.8	30.0	25.5	24.7	22.9
All levels	100.0	100.0	100.0	100.0	100.0	100.0

(a) Without agriculture.

(b) High: ISCED 5-7; Medium: ISCED 3; Low: ISCED 0-2.

Source: Eurostat (European Commission, 1998c, p. 105).



(a) Without agriculture.

Source: Eurostat: CLFS (European Commission, 1998c, p. 111).

The relationship of SMEs with the external labour market is different from large firms in that they are more irregular, less predictable and less capable of systematisation (Atkinson & Meager, 1994). Recruitment problems and procedures increase with the growth of a small enterprise.

These problems usually start when the firm size transgresses the threshold of around 10 employees: recruitment decisions are delegated and become more formalised. In parallel, work organisation has to be structured and made hierarchical, internal and external labour market relations have to be formalised. This threshold is the second challenge to an SME after its creation, and explains why so many of them are closed after a successful start in the first few years.

3.5. Role of SMEs in training and acquisition of competences

SMEs do not only play a role in job creation but also in the integration of young people in the labour market, including apprenticeship train-

ing.³⁶ However, SMEs face difficulties in retaining higher skilled young workers and also in completing their initial VET by succeeding training. Concerning the role of school based initial training, in particular in southern European countries (e.g. Spain, Italy, Greece, but also France), there is a considerable gap between SMEs' needs of specific competences and the more general qualifications produced by formal training systems.

Box 3.10: TSER project 'Small business training and competitiveness: Building case studies in different European cultural contexts'

The objective of this research is to identify learning processes that lead to increased competitiveness in small and medium sized enterprises, and to describe how these learning processes are shaped in different European cultural contexts. The analysis will be done by selecting and monitoring projects that companies undertake, such as project development, technology innovation and environment adaptation, which aim at maintaining or developing sustainable competitiveness.

³⁶ For a further discussion of training within SMEs cf. also Ní Cheallaigh, 2000.

A comparative analysis of the learning processes in different countries building on case studies will be undertaken to identify best practice at both the national and European level.

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3.5.1. Initial training in SMEs

Two aspects of training and recruitment of skilled workers play an important role which favours SMEs: the flexibilisation of employment standards and new relations between training and enterprise.

(a) The *liberalisation of employment standards* in several countries encouraged small firms to recruit young people in particular and thus support their integration in work. This has been the case, for example, in Spain with an increase of temporary work contracts; in the UK with a lowering of labour costs; in Italy with the introduction of an 'insertion salary' below normal tariff wages; and in Germany with increasing use of limited and part-time work contracts for young people after initial training.

(b) Closer *links between work and training* have been established in most countries, in particular by alternance or apprenticeship training programmes. Whereas several countries (e.g. Germany, Austria, Denmark, and the Netherlands) have a long tradition in apprenticeship training, others introduced alternance training only in the past two decades. Thus, for example, the 'training-employment contract' (CFL)³⁷ in Italy is a training measure at regional level for first-job seekers.³⁸ Vocational training takes place in the workplace and has a duration of up to two years. Their importance, however, is declining. Similar measures are the Youth Training scheme in the UK, practicals in Sweden, *contrats de stage* and apprenticeship in Spain.

However, in countries without a long tradition in apprenticeship training, these training forms are not yet fully accepted by individuals nor by enterprises and often have the image of a 'storage room' for lower skilled people or for those with

previous school failure. In Italy, for example, formal initial training often is offered for those who could not continue in general education routes. The alternate system of apprenticeship training is almost exclusively dedicated to the training of manual workers in small enterprises of the manufacturing sector (Margirier, 1999). The CFL contracts offer qualification mostly for young people with school failure. Similar attributes are observed in France and Greece.

This could become a vicious circle for those SMEs which prefer to recruit lower-skilled workers and do not offer adequate further training: higher skilled or motivated young people will move to larger firms or to growing and high-tech SMEs (Mansuy *et al.*, 1999). Thus a dual labour market for SMEs may emerge: traditional SMEs with low skill needs on the one side, innovative and growing SMEs with high skill needs, in particular in the intellectual sophisticated service sectors on the other (Campinos-Dubernet, 1999; see also Table 3.8 above).

Germany is one of those countries with a long tradition in apprenticeship training. The training intensity of smaller enterprises is remarkably high, although the share of firms offering training increases with size (Table 3.9). However, in Germany, too, a considerable number of young people continue higher training courses after apprenticeship training.³⁹ Training in manufacturing is declining in favour of service sectors and liberal professions (Möbus & Verdier, 1999).

Concluding, SMEs are confronted with several difficulties regarding training and skill needs:

- the general rising qualification level of young generations, as well as their changing aspirations towards future work and career, prompt them to continue training in higher and more prestigious programmes and to look for a job in larger enterprises;
- the crisis of apprenticeship or alternance training in traditional occupations is mainly due to the structural changes in economies and labour markets. Young people who stay in these sectors

³⁷ *Contratto di Formazione-Lavoro*.

³⁸ In 1995-96, around 14% of all VET participants were covered by this measure in addition to 14.5% in the 'Apprendistato' training programme for the acquisition of technical skills as a skilled worker (European Commission, Eurostat, Cedefop, 1999, pp. 54 f.).

³⁹ These are partly young people with grammar school certificates (*Abitur*) who intend to acquire a double qualification (occupational qualification and university or *Fachhochschul*-degree).

Table 3.9: Engagement in training by size of enterprise, Germany, 1994/95, %

A. enterprises providing training^(a) 1995					
	Size				
	1-4	5-49	50-499	500+	total
According to Vocational Training Act	15	37	60	82	30
According to other regulations ^(b)	1	6	10	15	5
No training	79	54	34	12	63
Not stated	5	3	2	0	4

B. training intensity^(a) 1994					
	Size				
	1-9	10-49	50-499	500+	total
	7.9	6.6	4.6	4.5	5.6

- (a) Percentage of all enterprises of same size;
- (b) e.g. health, social occupations, civil service candidates
- (c) apprentices as % of all employees in the respective size categories.

Sources: A: BMBF 1996, p. 39; B: BIBB 1996
(NB: size classes are different in both publications).

and firms are in danger of being labelled and getting into a precarious position. The better performing ones may be poached by larger firms or by growing and innovative SMEs;

- high-tech SMEs or those working on new emerging fields recruit more higher skilled young people, mostly from the external labour market. In addition, formal training schemes do not yet exist for many of their activities which reinforces the recruitment of higher qualifications and poaching.

Box 3.11: LDV project 'Training processes in small and medium-sized companies'

The general aim of this project is to analyse the reasons for the limited access for European SMEs to continuing vocational training (CVT) activities, and to identify effective policy lines for improvement in training strategies and for the development of programmes directed towards European SMEs.

The study comprises five sub goals, as follows:

- (a) investigation of the training practices of SMEs;
- (b) identification of the problems and the difficulties that SMEs encounter in their training processes;

- (c) elaboration of a qualitative analysis of the characteristics of the training offer and of the programmes of support put into practice;
- (d) comparative analysis of the situation in different countries;
- (e) recommendations regarding the strategies of support and encouragement, which are most appropriate to the process of training in SMEs.

The research is based on the survey of 75 manufacturing SMEs per each selected region, and a qualitative analysis of the training supplies available to the same enterprises. Results concern the training processes in SMEs, analysis of the existing regional continuous vocational training systems in Europe, assessment of CVT systems and barriers to training.

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Final report: Training processes in SMEs: practices, problems and requirements. European Report, 1997.

3.5.2. Continuing vocational training in SMEs

Continuing vocational training (CVT) is less marked in SMEs compared with larger firms. At the European level, according to the Continuing vocational training survey (CVTS; Eurostat, 1994a, 1997 [reference year: 1993]) more than 50% of all enterprises (≥ 10 employees) offer continuing training. Here again we find a strong correlation with enterprise size. In particular (larger) firms which experience major technological and organisational changes increased their participation rate substantially (e.g. energy, post, telecom, banks and insurance). On the contrary, hotels/restaurants, construction, retail trade and repair – dominated by SMEs – display participation rates of 25% and less (European Commission, 1999a).

Thus young people – mostly with lower skills, in particular in smaller firms – may have difficulty in improving their skills and employability in the longer run (Matlay, 1997). However, CVT activities differ substantially across countries, not at least depending on the nature and weight attached to initial training in the respective country.

Different training patterns across countries reflect not only different complementarities between initial and continuing training but also different roles of employers in VET (Figure 3.9).

In a transnational comparison, four clusters take shape:

- (a) strong investment in CVT but poor or medium engagement in initial training: this is the

Figure 3.9: The role of employers in initial and continuing vocational training

Role of the → employer		in continuing vocational training		
		poor	medium	strong
↓ in initial vocational training	poor weight	Spain	Belgium	Finland, Sweden
	little formalised	Italy, Greece, Portugal		United Kingdom
	minority and institutionalised		Ireland, Luxembourg, Netherlands	France
	dominant and institutionalised		Germany, Austria	Denmark

Source: Aventur, Campo & Möbus, 1999.

case in Finland, Sweden and the UK where initial apprenticeship training is underdeveloped;

(b) high engagement in initial training and – complementarily – a medium degree of CVT investments is found in Germany and Austria;

(c) little formalised initial training and poor engagement in CVT is found in Spain, Portugal and Greece. However, these countries are establishing a progressive complementarity between efforts to restructure initial training and to introduce organisational regulations for CVT;

(d) out of the comparator countries, only Denmark possesses a strong complementarity between initial and continuing training on an equal basis.

In general, SMEs provide less formal training but experiential learning. This has already been discussed in Part 2, Chapter 1.5.2.3.

SMEs in general utilise CVT less and in a different way for the development and updating of their workers competences. While large firms favour organised training, SMEs prefer training on the job and recruitment of young workers instead of formal training (Aventur *et al.*, 1998).

In most cases, CVT activities consist of courses and workshops (Table 3.10). Training in the workplace, however, is not negligible: all enterprises, including smaller enterprises, view learning-by-doing not as a substitute but as complement to more formal learning

activities. However, the organisation and learning tools are not always clear. In particular small establishments make use to a lesser extent of specialised teaching staff or training plans than larger firms (European Commission, 1999a). Those small firms, however, that do have a training plan, display participation rates almost equal to large firms (*ibid.*).⁴⁰

Two major reasons for the lack of formalised continuing training in SMEs should be mentioned:

(a) *failure of the institutional training system* because of excessive formalism of training regulations. In France, for example, research suggests an undesirable disconnection between production and work on the one hand and the specific characteristics and training needs of SMEs on the other (Verdier, 1999; Santelmann, 1999).

(b) *SMEs train differently* from large enterprises. Their preferences (and maybe opportunities) lie with learning at the workplace. One example is Italy, with its pronounced local milieu and a long tradition in (non-formal) training and a general mistrust of State-run training institutions. In Germany, too – and contradictory to official statements – Büchter (1998) points out that very few SMEs (except those in high-tech sectors) complain about qualification problems. They display a remarkable adaptability and can count on their workers if adaptation (by learning on the job) is needed.

Table 3.10: Enterprises offering different types of continuing training by size of enterprise, EU-15, 1993, %

Size	Courses	Training in work situation	Conferences, workshops, seminars	Job rotation etc.	Self-training
10-49	36	34	29	10	10
50-99	63	50	49	21	21
100-249	76	58	63	30	28
250-499	85	69	71	38	38
500-999	93	74	76	47	43
1000+	92	85	80	50	52
Total	43	38	34	14	13

Source: European Commission, 1999a.

⁴⁰ For a discussion of SMEs as learning organisations see the TSER project DELOS described briefly in Box 3.12 below; see also Chapter 4.4 of Part 2 of this report and the description of TSER projects in the background report.

3.5.3. Determinants of SME's training behaviour⁴¹

3.5.3.1. Obstacles

Most determinants of training behaviour of SMEs are similar to their employment behaviour discussed above.⁴² However, there are several obstacles to training provision in SMEs compared with large businesses (Gil *et al.*, 1993; Grasser *et al.*, 1999):

- *demand factors*, such as lack of infrastructure for training, mistrust in traditional (formal) training;
- *supply factors* concerning training costs and insufficient means, inappropriate training methods, missing analyses of qualification needs, lack of pedagogical competences of internal trainers, lack of SME-knowledge of external trainers;
- *environmental factors* such as bureaucracy, lack of cooperation between SMEs and large firms;
- *internal factors*, e.g. disinterest or demotivation of workers, limited time horizon for an adequate training policy, difficulty in replacing workers during their training phase, inability to offer internal career and promotion perspectives after further training, fears that trained workers may leave the firm.

SMEs rarely consider qualifications as essential factors of performance (Höfkes & Beyer, 1995). Training decisions are often based on simple cost-benefit calculations and on *ad hoc* adjustments to short term needs – in particular in countries without a legal framework for CVT (e.g. in Germany). Numerous 'needs analyses' for sectors and occupations provide only vague and general information. Most of them are not operable and merely applicable to the specific needs of SMEs.

3.5.3.2. Formal and non-formal training

A puzzling result was brought forward by Baldwin *et al.* (1994) and by Baldwin (1998). According to their research, the most successful smaller businesses tend to train fewer workers than less successful SMEs. The authors solve this puzzle through fur-

ther specification: the more successful SMEs rely on formal training and less undertake own non-formal training. This leads us to the question of the relationship between formal and non-formal training within SMEs (for a typology see Figure 3.10).

Skills created (and needed) by SMEs are different from formal training. For many small firms, the transmission of elementary and practice-oriented knowledge and know-how is much more suitable. For other SMEs, e.g. the craft sector with defined occupational profiles, a combination of general (formal) training and specific training in proximity to professional practice – and incorporated in productive work – is more appropriate (Kucera, 1997).

Thus, the realisation of different concepts of (continuing) training depends on the character and type of the small enterprise. These practices may change over time or according to the cycle of the firm. Some features are:

- in traditional family or independent firms under the major influence of the owner, the construction of competences is less based on formal training or certificates. Non-formal training on-the-job dominates here;
- manager-run firms (including franchise or branch establishments) have a high sensibility to the market and are often involved in inter-firm networks. Human resource management is more formalised, and CVT measures are more intensive, both formal and external ones;
- in between these two extremes are entrepreneurial SMEs with differentiated and specialised products and services. Work relations tend to be formalised (depending on the growth of the firm). CVT, however, has a hybrid character: it is formal and external but also combined with on-the-job training and multiplier effects.

A special case are innovative small firms in non-traditional activities. In general, training is not planned but reflects internal factors as well as external objectives. These firms recognise that training on-the-job limits the capacity to master new and complex situations. Thus they tend to recur more on off-the-job formal training and rely on external consulting, training institutions or networks.

However, the main policy of the majority of SMEs is the acquisition of competences by non-formal training activities. Some critics state that the increasing importance of 'competences' runs parallel to a decrease in the 'qualification paradigm' (Rainbird, 1995; see also Part 4, Chapter 3) which was based on occupational relations (such

⁴¹ In the following sub-sections we concentrate on continuing training in SMEs.

⁴² E.g. size, sector and position in the value-added chain, market conditions, legal status, institutional framework, personality and strategy of the owner-manager, regional embeddedness, etc.

Figure 3.10: Typology of formal and non formal training on- or off-the-job

	Formal training	Non-formal training
Off-the-job	All forms of instruction outside the workplace (e.g. in further training institutions) aiming to increase knowledge and know-how related to work. The training may or may not lead to a recognised qualification.	Activities outside the workplace to develop individual know-how. They are intermittent or of limited duration and not closely linked to well defined qualifications. Examples: participation in seminars, visits to other firms, study of documentation, etc.
On-the-job	Training directed to acquire the skills necessary for the work performed, but distinctive from productive work (examples: training organised by equipment suppliers for workers of their customers; training organised by an automotive firm for their branch establishments when introducing a new model, etc.).	Activities which enlarge the knowledge and know-how of workers in relation to their work tasks. Training requires no or little time outside productive work. Example: mentoring of new or lower skilled workers by experienced colleagues.
<ul style="list-style-type: none"> • All forms of training can take place within <i>initial or continuing vocational training</i>. • The training process comprises three dimensions: <i>duration</i> (period, intervals); <i>intensity</i> (depending on the degree of formalisation, complexity, stratification); <i>scope</i> (depending on the importance and impacts of training for work). 		

Source: Trouvé *et al.*, 2000 based on Curran *et al.*, 1996, pp. 2-3.

as previously in the UK, or in France and Germany). The notion of 'competence' appeared at a time when collective regulations and also the influence of social partners were in a crisis and where the SME model was seen as an alternative to rigid professional regulations of a Fordist era.

These tendencies lead to fragility in the wage-labour nexus as well as individualisation of training. Individualisation, however, may result in desocialisation when collective contexts are not taken into account. This may result in the exclusion of some groups of individuals as well as in a reinforced separation between SMEs and large enterprises.

3.5.3.3. Recognition and validation of non-formal vocational learning

The current state of activities is discussed by Bjørnåvold (2000a; cf. also Bjørnåvold, 1997a, b, and Part 1 Chapter 4 of this report). Several aspects of this discussion have specific implications for SMEs, too, in particular considering their specific needs and their strategic behaviour concerning recruitment in the external labour market. Bjørnåvold (1997a) identifies four conditions for the validation of non-formal learning:

(a) consideration of the social and occupational value of skills in rapid changing production systems;

- (b) emergence of new organisational practices which require more diversified approaches of learning and training;
- (c) development of lifelong learning and transformation of labour markets, in particular the decline of internal recruitment;
- (d) increasing importance of recruitment in external labour markets which requires the identification of formal as well as non-formal skills of candidates.

The first and fourth condition are crucial for SMEs since most of them (respectively their owners/managers) doubt the value of skills acquired in formal school systems and their external recruitment is more intensive than that of large firms.

Although some initiatives for the identification and validation of non-formal skills at national, sectoral and firm level have started in Europe, their recognition and, above all, acceptance by enterprises and society is not yet ensured (Bjørnåvold, 1997b). This reveals the dilemma for the strategy of recognition of non-formal skills. A centralised approach, which guarantees the homogeneity and credibility of recognition systems, places the problem too far away from concrete practices and needs of SMEs. On the other hand, a decentralised, bottom-up strategy which offers pragmatic solutions and flexibility risks its legitimacy and may result in 'patchwork' knowledge elements.

3.5.3.4. Application of new technologies in training

The main objective of pedagogical innovations in training is an improved adaptation of continuing training to the needs and capabilities of SMEs, by means of increased utilisation of ICTs, distance learning, networks, enterprise clubs, territorial plans or sectoral organisations. A large research body exists on the application of new technologies in learning, in terms of modular and individualised approaches, self-directed learning, open and distance learning, etc. (see also Straka & Stöckl, 1998; Straka, ed., 2000). It is expected that these training forms improve the flexibility of and accessibility to learning and thus may be better suited for SMEs.

However, it may be difficult to combine traditional training methods and concepts of SMEs which require proximity between trainer and learner and to work with, for example, distance training concepts. Moreover, the use of new technologies in training reflects also new management practices and innovations which, as we have seen, exist only in a minority of small firms (Fournet & Bedin, 1998).

Most uncertain are research findings on the effects of inter-firm cooperations, e.g. between small and large firms or between clients and suppliers. Such cooperation forms may reduce the constraints of access to training and lead to a widening of the temporal horizon of SMEs concerning their investment in human resources. Those partnerships, networks, clubs and associations are, to a considerable extent, also supported by public policy.

Examples are the Italian industrial districts or local productive systems in France and the UK. Whereas in these countries most cooperation forms have grown over the years, public support of 'artificial cooperation', e.g. based on a contract⁴³, reveal several problems in terms of improving access to continuing training or acceptance by the small enterprise.

⁴³ Example: the contract 'Engagements de Développement de la Formation Professionnelle' in France, specifically oriented towards SMEs. This initiative, however, has not yet led to a removal of inequalities of access to training (for more details see Trouvé *et al.*, 2000).

Box 3.12: TSER project 'DELOS - developing learning organisation models in SME clusters'

SME clusters may act as learning organisations. The path followed by 'organisational learning' is complete in the SME cluster circuit, but instead of taking place within one large company, it takes place in a number of enterprises and also involves a number of different bodies.

The project objectives therefore are:

- verify the modalities through which the SME clusters intervene as learning organisations;
- investigate the organisational learning processes that arise through clustering;
- identify operative models of competence development and transfer within and between SMEs;
- give 'working' indications capable of supporting training and occupational policies in favour of SME methodology.

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3.6. Conclusions

Research and policy confirm the decisive role of SMEs in growth and employment: 99.8% of all enterprises in Europe have less than 250 employees and employ the majority of the European workforce.

Research has developed a multiplicity of approaches reflecting the different definitions, economic weight and historical development of SMEs in European countries. However, up to the recent past, and except in Italy and Germany, SMEs have not become an autonomous object of research. On the other hand, SMEs are of increasing interest to national and transnational policies, in terms of modernisation, innovation and development of human resources. The reasons are obvious: growth of services (mostly small structures); business restructuring in large firms which affects SMEs substantially; crisis of large concentrations and advantages of small flexible units; and, above all, SMEs as carriers of hope of overcoming unemployment.

The access of research to SMEs is difficult, however, due to their marked heterogeneity. Although independent and family businesses are still the majority of small firms (in particular in southern Europe), there is a trend towards more dependence or to interdependencies with

other SMEs or large firms. This change accompanies a shift from the owner-entrepreneur to the manager of a small firm with their different strategies, which also has an impact on their employment and training behaviour.

Employment performance

The relation between enterprise creation and employment creation is not evident in view of the fact that survival rates of newly created firms is between 50% and 60%. Moreover, rapid employment growth of SMEs is a relatively marginal phenomenon depending on a number of specific conditions.

SMEs create employment but they also destroy jobs. With reference to Schumpeter's 'creative destruction', fluctuation of firms and workers is an essential element of economic dynamism, of contribution to structural change and to the reactivation of labour markets. But fluctuation also reinforces job precariousness and may prevent workers and firms from an optimal investment in human resources.

Political support of enterprise creation faces the dilemma of undifferentiated measures for all start-ups, e.g. by removing bureaucratic obstacles and by creating an 'entrepreneurial culture' or by targeted measures. How is it possible to identify early those SMEs which create most jobs? Should policy focus on job numbers or on job quality, too? Numerous difficulties arise when trying to measure the specific contribution of SMEs to employment growth – not only because of ongoing economic transformations but also because the terms 'creation' and 'employment' themselves are blurred.

These problems also concern the appropriate method of analysis, e.g. the distinction between stocks and flows, gross and net job creation, and the use of static or longitudinal data. The principal question to be answered is to what extent job growth is endogenous or exogenous, i.e. induced by the creation of enterprises and their subsequent internal development, or to what extent it is the result of the restructuring of large firms, e.g. outsourcing?

Trouvé *et al.*, (2000) reach a number of conclusions, based on a large body of research concerning the relationship between enterprise size and employment:

- There is an obvious contradiction between sophisticated evaluation measures (Kirchhoff & Greene, 1998) and results that are not always

convincing (Cowling & Storey, 1998). Considerable research gaps or even contradictory findings exist in terms of the quality, nature and size of enterprises, and concerning variations by time, country, sector and business cycle.

- Much research work has been devoted to manufacturing sectors, but too little to services and international comparisons (European Commission, 1998b). Much more research is needed on the key sectors of employment creation, e.g. business and personal services, recreation/tourism, hotels and restaurants, health, education, etc.

- Another, still underdeveloped, research field concerns the impact of public policy, e.g. targeted measures versus a widespread (undifferentiated) reduction of administrative and fiscal barriers. Targeted measures face the difficulty of finding appropriate criteria whereas general SME policies might result in an imbalanced development within the SME sector, supporting more the high performing SMEs, and face the problem of dead-weight effects.

- The principal interest of public policy should not only be to increase the volume of work but also its quality in terms of stability, durability of jobs and working conditions. SME research only recently started to address these questions.

- Causal analyses are necessary to understand the factors influencing job growth as well as those that impede growth. 'Job generation studies in terms of numbers of jobs created by size class [...] tell us nothing about the direction of causation' (Hughes, 1997, p. 8). Those analyses may explain the problems policy-makers face when trying to influence sustainable growth of production and employment.

Training behaviour

In view of the diversity of SMEs and their anchorage in specific environments, and also of the complexity of recent economic transformations, research concentrated on the evaluation of the impact of changing training practices of SMEs.

Two major approaches become visible. On the one hand there is the establishment of statistics and empirical data for the structure, development and the determinants, as well as for international comparisons, of SMEs' training engagement. On the other hand, there are SME monographs with quantitative and qualitative data which reveal a deep insight into the mechanisms of training behaviour, but whose results

can hardly be generalised. Research has highlighted a number of aspects:

- As far as *initial training* is concerned, SMEs absorb the majority of young people in Europe, in particular by apprenticeship training (European Commission, 1998c). Although some small firms, particularly in the service sector, recruit higher skilled young people, the majority still offers low-skilled and precarious jobs. This is one reason why a substantial number of young people leave small enterprises after a relatively short period.

- The engagement of SMEs in *continuing vocational training* lags considerably behind that of large firms. CVT provision depends less on enterprise size or sector, but much more on production modes and the strategic orientation and profile of the owner-manager. In most cases, CVT serves the adaptation of skills to short-term demand, and is primarily done on-the-job and informally. However, high-tech or manager-run small firms in particular increasingly rely on formal CVT measures or on cooperation, networks, external training institutions or on new forms of training supported by ICTs.

- With political measures to support CVT in small firms, European countries pursue different approaches, ranging from legal obligations placed on firms (e.g. in France) to a *laissez-faire* of employers (e.g. in the UK, but also in Germany, Austria, Sweden and Portugal). Other countries (e.g. Italy, the Netherlands, Denmark) have established a series of intermediary regulations within collective agreements or in cooperation with the social partners (e.g. Spain).

However, these measures are not sufficient to resolve all problems concerned with continuing training in SMEs: which are those firms that have the greatest need for support and which factors determine their training investment? More research efforts are needed, taking into account regional aspects and the diversification of SMEs which should be reflected by appropriate policy measures.

Training in SMEs is increasingly seen under individual aspects, in particular concerning individual employability in the longer run. This concerns the multiple interfaces between training, employment and mobility as well as between individuals, enterprises and the State, embedded in the whole framework of lifelong learning.

Box 3.13: TSER project 'SME policy and the regional dimension of innovation'

The project evaluates almost 40 existing policy instruments for promoting innovation activity in SMEs in 11 regions in eight European countries in order to identify 'good practice' policy.

SME innovation support policies in the EU regions could be substantially improved by three key principles:

- (a) matching the context and SME needs with the policy tools in each region;
- (b) confronting the policy tools with the lessons, theory and practice;
- (c) comparing results achieved with a range of policy instruments in different environments.

One salient element of the conclusion is, therefore, the need for more 'policy intelligence' in this complex field.

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Final Report: A. Isaksen: SME policy and the regional dimension of innovation, 2000.

4. Entrepreneurship and the European employment strategy⁴⁴

Promoting entrepreneurship is one of the main objectives of the European employment strategy, both at national and EU level. The aim is to foster employment, innovation and growth and thereby also to reduce unemployment. This chapter deals with various aspects of entrepreneurship, such as the conditions of enterprise start-up and success, self-employment and the role of social enterprises.

It becomes clear that the removal of fiscal and administrative barriers and the access to capital are important means of promoting entrepreneurship – but are not sufficient. Training for independence, starting at schools and continuing during later training phases, is increasingly seen as an important strategy for promoting independence – as entrepreneurs and as employees in modern work organisations. This is demonstrated by a review of some initiatives undertaken at national and European level.

⁴⁴ This section is partly based on own research, partly on the contribution of P. Trouvé *et al.*, (2000; op. cit.) to the second research report.

4.1. Definition and profiles of entrepreneurs

The definition of entrepreneurship, independent work and self-employment is not unambiguous. What is the distinction between owner-managers, professionals, freelancers, independent contractors, self-employed and 'quasi self-employed', executive directors or management board members of a large company who are not in dependent employment?

Furthermore, does 'entrepreneurship' and independent work in a broader sense not also apply to employees, e.g. in restructured firms, in decentralised units or franchise establishments who are expected independently to plan, perform and control their work? New work organisations, but also the changing expectations and objectives of individuals concerning their work, career and life biography characterise them as 'entrepreneurs of their own work capacity' as Lutz & Voss (1992) detailed. This may refer to John Locke ('everyone is the architect of his own future') or even to Aristotle who was convinced with other Greek philosophers that man himself is responsible for whether he becomes happy and has 'a good life' or not.

Returning to the more pragmatic notion of entrepreneurship and its definition in theory and practice, the 'ideal entrepreneur' is characterised by the OECD (1998a, p. 11) as follows: 'Entrepreneurs are agents of change and growth [...]. They not only seek out and identify potentially profitable economic opportunities but are also willing to take risks [...]. Entrepreneurial activities are not confined to new, high-tech industries, but are spread across a wide range of activities and involve innovative approaches to all major business functions [...]. We should add that an appropriate staff policy, management and human resource development are essential characteristics of the 'ideal entrepreneur'.

It is difficult to measure entrepreneurship because there is no consensus about reliable and practical indicators. 'Some emphasise the number of new firms starting up, while others consider turnover [...] to be more important. Some would focus on SMEs, [...] others concentrate on the performance of fast-growing firms, whether new or well-established. [...] Nonetheless, while many large and well-established firms can be very entrepreneurial, measures of small and, especially, new firm development are more often used as indicators of entrepreneurial activity' (OECD, 1998a, p. 11 f.).

These views refer to Birch's (1979, 1987; see also Chapter 3.4 in this part) findings for the US that large firms try to realise saving potential by innovation and by a reinforced assignment of new technologies in order to acquire cost leadership in their market segment. In Birch's view, this will result, in the short and medium term, in a massive reduction of jobs. SMEs, however, are less able to invest in modern and cost-intensive production processes and thus are more labour-intensive. Therefore, employment growth in small firms (< 100) in the US compensated to a considerable extent for job losses in large firms.

Literature defines a number of features that distinguish entrepreneurs from employees. These are, for example (OECD, 1998a, p. 41 f.):

- *characteristics* – to take risks, to be innovative, to take initiatives to exploit business opportunities, to create jobs;
- *attributes* – foresight, imagination, intelligence, decisiveness, alertness, aptitude for organisation;
- *behaviour* – to raise profits and monetary rewards, personal achievement, independence, self realisation, creative activity.

However, if we assign the antonyms of these characteristics to dependent employees, it becomes obvious that many of them also apply respectively cannot be denied to the latter: risk-taking, initiatives, creativeness, achievement, intelligence, alertness, etc. are traits that cannot only be attributed to entrepreneurs.

A typology of entrepreneurship – in small and medium firms as the main domain of entrepreneurs – has to take into account the sociological and personality profile of the owner-manager. These do not only act economically, but also in political and familial contexts.

The entrepreneur is the key figure of the small enterprise and gives it – even if it is not a family business – a family character (Bentabet, Michun & Trouvé, 1999). His behaviour and values mould the character of the enterprise (Box 3.14).

A new form of entrepreneurship refers to 'social enterprises' within the non-profit sector of the economy (see Chapter 4.4 in this part). They require an entrepreneurial spirit in identifying a collective need, e.g. expressed by social or professional groups, ethnic or territorial communities, and in organising their production of goods and services in an effective way. They also must be willing and have the capacity to fulfil a social task, e.g. integration of people at risk into work.

Box 3.14: Typologies of entrepreneurs and SMEs

- Julien (1997) proposes a 'complex global typology of SMEs' which integrates several characteristics: quantitative profiles (business figures, employment); sector or trade; type of market; centralisation and control of the work organisation; level of independence; type of strategy; use of technology; innovativeness.
- Bauer (1990, 1993) combines sociological profiles of the entrepreneur with the firm profile. An entrepreneur not only acts as a 'homo oeconomicus' (sell), but also as a 'homo politicus' (preserve) and a 'homo familias' (share). Combined with two dimensions of the character of the firm (entrepreneurial – patrimonial) a number of modalities for SME management can be derived.
- Kotthoff (1993) identifies different forms of social order within SMEs: origin and role of the entrepreneur; type of hierarchy; working conditions; qualification; modes of remuneration; relation between workers; enterprise culture; social embeddedness. Based hereupon, he distinguishes several types of SMEs: small family business, principal enterprise, dynamic-charismatic 'empire', degenerated family enterprise in the 3rd or later generation, medium class (*mittelständisch*) manager business, technocratic manager firm.
- Ivanaj & Géhin (1997) explore the relationship between entrepreneurial values and strategic behaviour, based on different sociocultural backgrounds (religion, policy orientation, family, personality, work, etc.) and resulting entrepreneurial values (risk acceptance, concept of growth, profit orientation, security, etc.)
- Concerning market strategies, management practice and training of very small enterprises, Bentabet, Michun & Trouvé (1999) identify six factors of influence on their behaviour: position in the sector and the value added chain; legal status; territorial embeddedness; structure of occupations performed; strategy orientation; profile of the entrepreneur.

Source: Trouvé, et al., 2000.

4.2. Business start-up and survival

Questions mostly discussed to date deal with business start-ups, survival and closures and their effects on employment. What are the characteristics of enterprise creation and closure and thus of a successful or luckless entrepreneur? What are the conditions for 'continued entrepreneurship' (OECD, 1998a) in terms of growth, employment creation, sustainability and performance? This refers to Schumpeter's (1926) 'creative destruction' and also to his distinction between the pioneer entrepreneur who creates an enterprise by taking advantage of market niches, or by realising new combinations of production factors, and the manager who keeps an enterprise running.

4.2.1. Conditions of business start-ups

A large research body exists on the mechanisms of business start-up and the links to the labour market. Thus, for example, Audretsch (1993) analyses the push and pull factors for the US. Increasing unemployment may 'push' people to start a business. A new demand for goods and services, i.e. economic reasons, may 'pull' the creation of new firms. However, concerning the push factor, he has not found any significant correlation between start-ups and regional levels of unemployment in the US. He even observed an inverse relation: start-ups were lower in regions with high unemployment.

This is confirmed by a positive relationship between the business cycle and number of start-ups in other countries, too, and seems to confirm the importance of pull driven business creation.

Public support today not only includes financial aids and the imparting of human capital, but also stimulation of a spirit of enterprise or an 'entrepreneurial culture' by lowering labour costs and charges, by removing administrative and tax barriers. However, these voluntaristic concepts ignore the fact that business start-ups mainly occur in low unemployment regions. Undifferentiated support measures, therefore, may not solve unequal developments and imbalances in social and geographic terms and thus may not lead to major job creation.

However, there are large variations in start-up activities in different countries and sectors. In analysing business start-ups in Europe, two zones are distinguished (European Commission, 1998c):

- (a) southern Europe (Portugal, Spain, Italy, Greece) and France with little start-ups in services (1/3 of all start-ups) but more start-ups in trade, hotels/restaurants/cafes (more than 40%);
- (b) northern Europe (Denmark, the Netherlands, Finland, Sweden, and the UK) where most start-ups are in the service sector (around 50%). For hotels and restaurants, closures exceed start-ups, the reverse is true for services (except Sweden).

In the neoclassical view, the entrepreneur is an actor of his own, not determined, spontaneous and endowed with exceptional individual capacities. However, most research today emphasises his 'social capital', which enables him to act as an entrepreneur (Boutillier & Uzunidis, 1999).

We may distinguish the three following categories (Bonnet, 1998):

- (a) descendants of entrepreneurial milieu;
- (b) entrepreneurs by compulsion or adaptation (e.g. because of unemployment or precarious employment);
- (c) entrepreneurs by seizing an opportunity.

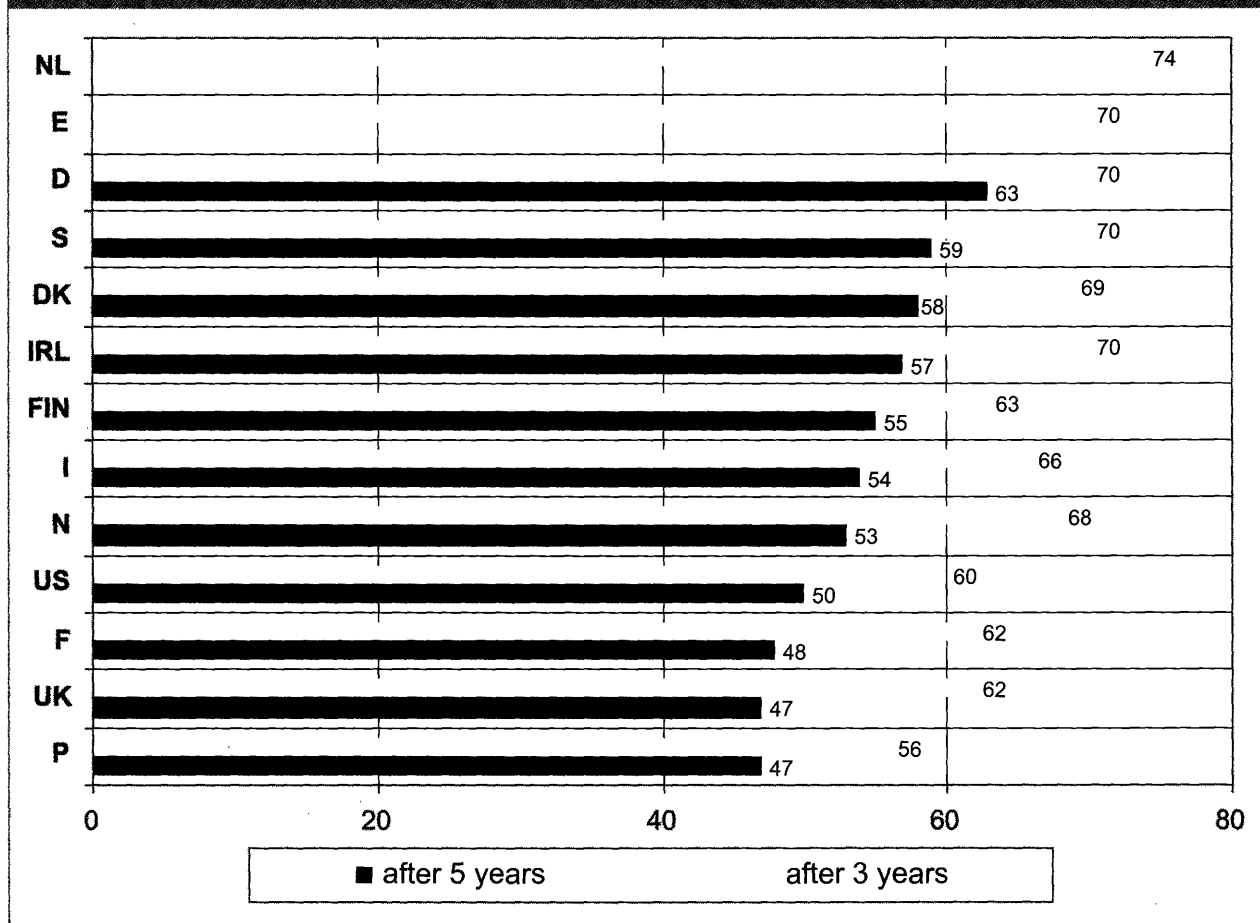
4.2.2. Success and failure

Research has elaborated a complex vision of enterprise survival and the related employment effects (Saporta, 1994). In general, the survival rate five years after business start-up in Europe is between 50% and 60%, with variations by sectors, regions and countries (Figure 3.11; NB: no data for survival after 5 years are available for NL and E). The survival rate in the US is at the lower end of the scale. Rapid growth of a newly created enterprise is rather an exception.

Francoz & Bonneau (1994) have calculated survival rates in France by sector. Their figures refer to SMEs created in 1987 and their survival 5 years after (Table 3.11). The highest survival rates are found in household services and agriculture/food (more than 60%). Hotels, restaurants and trade (44%) display the lowest survival rates.

In Germany, according to Brüderl (1998) almost one third of firms disappeared within five years after start-up. Of the survivors, only every fourth experienced a significant employment growth. Moreover, the speed of firm creations in Germany in the 1990s was slower than in the 1980s (Nerlinger, 1998). However, positive effects in the macroeconomic perspective should not be neglected. Those 4% of start-ups with a strong employment dynamic are the carriers of structural change confirming Schumpeter's thesis of the phenomenon of 'creative destruction and demographic turbulence'.

Figure 3.11: Survival rates of firms in Europe and the United States of America, 3 and 5 years after start-up, %



Source: OECD, 1998a, p. 44, based on European Observatory, 1995, and Dennis, 1995.

Sector	Survival rate
Hotels, restaurants, cafes	44
Trade	44
Construction, public works	49
Manufacturing	53
Transport, telecommunication	53
Enterprise related services	54
Agriculture, food	62
Household services	66

Source: Francoz & Bonneau, 1994.

Another recent analysis of enterprise start-ups in Germany⁴⁵ shows that the level of aspiration of the entrepreneur-founder is decisive (Hinz & Ziegler, 1999). Founders who aim for a sufficient income may be more sustainable than those who want to make profit – but the former are less oriented towards business growth. Moreover, they contribute less to the creation of additional jobs. Those founders who created a firm because of previous unemployment still have lower growth prospects.

The results indicate further (Hinz & Ziegler, 1999):

- that larger sized start-ups have higher growth prospects;
- that sectoral experience influences growth decisively.

The survival process is, however, more complex than often assumed. Closures are not always a sign of 'failure': around 50% of closures in this panel occurred because of more favourable alternatives for the founder, and around 40% of closures were made without financial loss. Consequently, the equation of 'closure' and 'failure' is not always meaningful.

4.2.3. Enterprise demographics

Observing the 'demography' of an enterprise – creation, development and possible closure – requires longitudinal studies or panel surveys. However, there are several methodological and practical problems concerning the definition of

entries, growth and exits of enterprises, also in a cross-country comparison (ENSR, 1996):

- business *start-ups* may be a 'pure' new creation,⁴⁶ reactivation, take-over, acquisition of an enterprise, franchise firms. In some cases, a firm is established (by another one) only to receive public financial support devoted to the creation of a firm. Start-ups are defined differently in various countries: some use a more narrow, others an extended definition;
- the growth or development of a newly created firm in the course of time may refer to internal (e.g. numbers of employees) or external growth (e.g. production, market share) or to contractual changes (e.g. cooperation, alliances);
- the closure of an enterprise may be due to 'pure' closure (complete disappearance from the market) or to changes of activity (e.g. sector) or of the legal structure; closures may be voluntary or involuntary ones.

Four great questions arise when investigating the creation and follow-up of enterprises (Trouvé *et al.*, 2000):

- (a) which are the new enterprises and which processes support their emergence?
- (b) what are the principal determinants of their entry?
- (c) what are the factors of influence on their volatility, i.e. their development and, perhaps, closure?
- (d) what is the contribution of new enterprises in the entire economy, e.g. in terms of production and employment?

Based on enterprise demographics, Eurostat calculated job gains and losses due to enterprise creations and cessations in 6 European countries (European Commission, 1998c). The results are illustrated in Table 3.12. They show that, in some countries, net job gains caused by enterprise creation and closure are significant whereas, in others, job losses extend gains. These data are not representative, however, and the definitions and demarcations vary across countries.

The European Commission (1998c, p. 81) concludes:

- 'The creation of new firms cannot alone guarantee employment growth. During a given year, the positive and negative effects of enterprise creation and closure can compensate each other [...];

⁴⁵ The data are based on the '*Leipziger Gründerstudie*' which accompanied a cohort of founders from 1991 to 1995.

⁴⁶ For example, 'pure' start-ups accounted for 57% of all start-ups in France (Trouvé, *et al.*, 2000).

Country	Enterprise creations (1000)	Employment in creations (1000)	Average number of jobs created	Enterprise cessations (1000)	Employment in cessations (1000)	Average number of jobs lost	Balance of jobs created (+) or lost (-) (1000)
France ^(a)	274.5	517.2	1.9	306.0	808.5	2.6	- 291.3
Netherlands ^(b)	24.0	39.9	1.7	16.3	26.5	1.6	+ 13.4
Austria ^(c)	0.7	15.3	23.2	0.8	12.4	15.8	+ 2.8
Portugal	90.7	183.5	2.2	44.7	81.9	1.8	+ 101.6
Finland	18.6	71.3	3.8	46.7	82.9	1.8	- 11.6
Sweden ^(a)	45.4	145.4	3.2	43.6	194.4	4.5	- 49.0
Total	453.8	972.6	2.1	458.2	1203.7	2.6	- 231.1

(a) Employment in enterprise creations and cessations with 0 employees has been estimated by Eurostat.

(b) Only enterprise creations and cessations with less than 10 employees.

(c) Enterprises with less than 20 employees only partially covered; only industry and construction.

Source: European Commission, 1998c, p. 85, based on Eurostat data; own calculations.

- but the employment changes affecting the surviving firms – expansions and contractions – are as important for growth as demographic events. In fact, each economy needs a “pool” of newcomers whose survival may be uncertain but, once achieved, it is the economic performance of the surviving firm which seems to be critical for employment growth or decline’.

Moreover, these figures say nothing about the employment growth of those firms that survive. The European Commission (1998b), based on enterprise data and the Community Labour Force Survey, states:

‘Whether [...] employment stands to increase by more in particular activities in different Member States the higher the share of employment in SMEs is an open question. What is clear from the limited data available on changes in employment by size of enterprise over time is that the employment growth which results from the creation of new enterprises, almost all of which tend to be small, is as important as that which results from the expansion of existing firms. [...] While technical advances, particularly in information technology, are tending to reduce the advantages of large-scale production in most sectors, it remains the case in a number of areas that small firm size is a formidable barrier to being able to compete effectively’ (p. 88).

Although the database at European level still appears to be insufficient, and partly not comparable, it becomes obvious that SMEs create a considerable number of jobs but also destroy many of them – they participate in the restructuring of labour markets and in the distribution of employment. Maurin (1995) estimated that every percentage point of additional *net* job growth per year implies job gains and losses which are 10-15 times higher in the course of the respective year. The smaller the size of enterprises, the more they participate in the movements of the labour market.

This confirms Schumpeter’s thesis of a ‘creative destruction’ with new innovative firms entering and unsuccessful ones leaving the economy. This underlines the need for SMEs not only to survive but also to renew themselves continuously.

However, only a smaller section of SMEs – the ‘fast growers’ – contribute to the employment performance of the total aggregate of SMEs. What characteristics distinguish this minority, and what are the constraints that impede job growth of the majority of SMEs? These aspects will be discussed in the sub-section below.

4.2.3.1. Determinants of enterprise demography

Moati, Loire & Médan (1997) published an exhaustive theoretical and empirical review of international and multidisciplinary aspects of enterprise demography, including microeconomic and sectoral aspects. Their main findings were as follows.

- Concerning *creations ex nihilo*, the personality of the entrepreneur is decisive, in particular his/her previous career and professional experience, his/her capacity to seize opportunities and to mobilise resources. This is the main focus of research on 'entrepreneurship'. Research has shown that the age and cultural capital of the entrepreneur improves the probability of survival. This is particularly true if the entrepreneur is a former executive manager, engineer etc. (Brüderl *et al.*, 1992, for Germany; Storey, 1994, and Cressy, 1996, for the UK; Bonneau & Francoz, 1995, for France).
- Concerning *closures*, the probability of survival increases with size (Bonneau & Thirion, 1997, for France; similar results were found for the US and Germany, *cf.* Trouvé *et al.*, 2000). The close correlation between size and closure can be demonstrated by the fact that 90% of closed firms in France (1996) employed less than 10 employees. Other patterns related to closure are: the mortality of 'purely' new created firms is lower than for take-overs; the probability of survival increases with the facility to access external funding, and with the establishment of networks for advice, training and information.

4.2.3.2. Technological intensity and innovations

Technologies and innovations are seen as the main vectors for the creation, growth and survival of enterprises. However, both concepts are ambiguous. Technological intensity alone does not guarantee the success of SMEs or job growth. Equally important are immaterial investments in training, organisation, management and mobilisation of resources (De Banville & Vennin, 1999; Ganne, 1999).

Although it is true that large firms conduct more R&D, and that research efforts grow proportionally with firm size, some 30% to 60% of SMEs in OECD countries can be characterised as innovative (OECD, 2000a, pp. 11 f.).

The notion of innovation is even more unclear. SMEs in general are no more innovative than large enterprises; even for fast growing SMEs, only some possess superior productivity or realise innovative activities (Geroski, 1995). There is no technological determinism, although in some cases (i.e. during a certain period after start-up) a positive relation between innovation and survival can be found (Cosh, Hughes & Wood, 1996).

In many cases neither technology nor innovations constitute a distinctive advantage. Much more important determinants are the position in the market and the value added chain, territorial anchorage, innovative milieus (Julien & Marchesnay, 1996) and contacts with universities or research institutes in this region. If new enterprises enter into established markets, their survival is difficult and their independence will be threatened.

4.3. Self-employment

Research and policy is increasingly interested in self-employment as a source of job creation and an alternative to dependent work or unemployment.

To become self-employed may be the result of restrictive job security legislation and high employers' social security contributions, which leads them to subcontract several of their activities to the self-employed, even to encourage their employees to work on their own account. This is particularly the case in Italy (see Chapter 3.2 in this part), but also in other countries.

However, legal and fiscal arrangements and definitions of self-employment differ across countries. Thus, for example, in some cases the self-employed with employees are counted as self-employed, in other cases as employees of the enterprise they own (European Commission, 1998b). Liberal and academic professions (like doctors, lawyers, solicitors, barristers, architects, writers, etc.)⁴⁷ certainly differ from owner-managers of firms in terms of risk taking, innovativeness, etc. since access to these professions is more restricted (e.g. by certificates) and they do not operate, to an extent, in competitive markets.

⁴⁷ Distinguish the English term 'professions' from definitions in other countries. In German, for example, these are 'Freie Berufe', which increasingly include also those occupations which, at least partly, require a scientific-theoretical training (e.g. nursing).

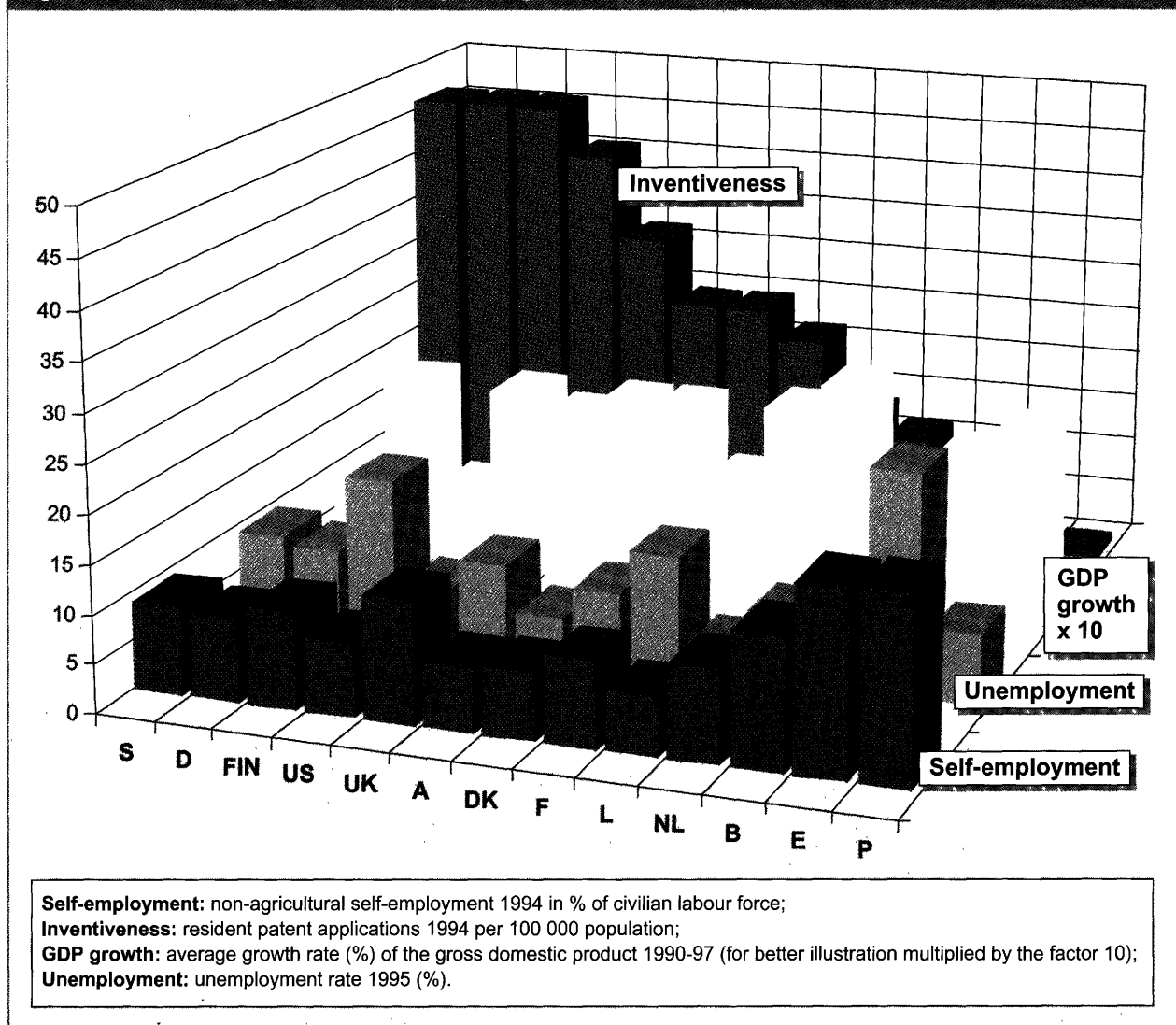
Becoming independent has been encouraged and promoted by public support measures (financial support, advice) for the unemployed, people at risk and women. The intentions were to foster innovation, to create jobs and to reduce unemployment. However, taking a global view, and according to Eurostat and OECD data, a close relationship between these factors cannot be found for most countries at the macro level (Figure 3.12).

International comparisons reveal a rather different scope of self-employment – also due to different national definitions. Whereas northern European

countries show a rather modest share of non-agricultural self-employment (in most cases around or less than 10%), self-employment in southern European countries exceeds 20%, in Greece even 30%. In these countries, around half of all the self-employed are found in trade, restaurants and hotels; in the Netherlands, UK and US only one quarter; and in Germany one fifth (Luber, Gangl & Leicht, 1997). Around 60% of the self-employed in non-agricultural sectors in Europe do not employ anyone else but themselves (European Commission, 1998b).

Table 3.13, based on the Community labour force survey 1998, provides a breakdown of self-

Figure 3.12: Self-employment, unemployment, growth and inventiveness in selected countries



NB: Countries sorted by inventiveness coefficient.

Sources: European Commission, 1998b; OECD, 1998a.

Table 3.13: Self-employed by sectors and gender, 1998, EU-15, %

Sector	Men and women	Men	Women
Agriculture	16.7	16.9	16.0
Industry	22.5	27.4	9.3
Mining and quarrying	0.1	0.1	0.1
Manufacturing	10.6	11.7	7.8
Electricity, gaz, water supply	0.1	0.1	.
Construction	11.7	15.5	1.4
Services	60.3	55.4	73.8
Wholesale and retail, repair	22.4	15.3	25.2
Hotels and restaurants	5.9	5.0	8.3
Transports, communication	4.5	5.6	1.5
Financial intermediation	1.6	1.7	1.3
Real estate, business activit.	11.7	12.0	10.8
Public administration	0.1	0.1	0.2
Other services	14.2	9.7	26.5
Non responses	0.4	0.3	0.8
All in self-employment	100.0	100.0	100.0
(Total, in 1000)	22423	16428	5995

Source: Eurostat 2000: Community labour force survey 1998.

employed by industrial sectors and gender in the EU. The figures display the above average importance of services for self-employment as well as the relatively high proportion of self-employed women in the services sectors.

In most European and OECD countries the share of self-employment decreased or remained more or less constant over the period 1975 to 1998 (Table 3.14, incl. agriculture). Exceptions showing increasing shares – most of which are slight – are Germany, the Netherlands and Sweden.

The different weight of agriculture in European countries and of the self-employed people in this sector, however, biases this pattern. If agricultural self-employment is excluded (OECD, 1998a, p. 45; figures were available until 1994-95 only), the pattern, and in particular the relative importance, of self-employment over time changes significantly. In most countries, over the period 1980 to 1994/95, non-agricultural self-employment shows a more or less marked increase (in particular in B, D, E, NL, P, FIN, S, UK, CZ, CA) or remains unchanged. The only exceptions, where rates tend to fall, are France and Luxembourg. It is interesting to note that in Japan, too, the rather low non-agricultural self-employment rates tend to decrease.

What is less obvious and well documented is that self-employment is positively correlated with the

Table 3.14: Self-employment in Europe, 1975-98, EU-15, %^(a)

Country	1975	1985	1990	1998
EU-15 ^(b)	15.8	15.2	15.4	14.7
Belgium	14.8	15.9	16.1	15.4
Denmark	13.9	9.9	9.5	8.4
Germany ^(b)	9.4	9.2	8.9	10.0
Greece	37.7	36.0	34.8	32.5
Spain	21.0	22.6	20.9	20.2
France	14.4	12.6	12.9	10.9
Ireland	24.4	21.5	22.6	19.5 ^(c)
Italy	29.5	24.1	24.3	24.4
Luxembourg	15.8	9.4	9.5	8.8
Netherlands	10.3	9.1	10.0	10.8
Austria	13.7	11.3	11.3	11.0
Portugal	27.7	26.2	25.8	26.4
Finland	–	14.7	14.1	14.0
Sweden	7.2	9.5	9.3	10.9
United Kingdom	8.1	11.4	13.4	12.1

(a) % of total employment, incl. agriculture;

(b) 1998 incl. the new German *Länder*;

(c) 1997.

Source: European Commission, 1999c.

level of skills. Thus, for example, in 1995 the self-employed without employees (together 11.5% in the EU) had the following educational levels:

ISCED 0, 1, 2	7%
ISCED 3	28%
ISCED 5, 6, 7	65%

This positive correlation is even more pronounced for the self-employed with employees (source: Pfeiffer & Falk, 1999, based on Eurostat data).

Apart from these quantitative developments, the internal structure of self-employment is changing. In Germany and other countries there is a growth of self-employment in modern, knowledge-intensive services and liberal professions (Luber, Gangl & Leicht, 1997; Granato & Leicht, 1996). Another changing pattern refers to the increasing share of self-employed university graduates, women and foreigners.

Does this upward tendency reflect a new 'spirit of enterprise' or 'entrepreneurial culture'? Trouvé *et*

al., (2000) doubt this, referring to policies of large firms to downsize their activities and to pressures on unemployed and former employees to become self-employed ('forced independence'; Granato & Leicht, 1996). These activities do not always create new jobs.

Investigations in Spain (Carrasco, 1997) reveal that the situation in the labour market, and in particular job rationing, and the characteristics of individuals, in particular their former position, are most influential in the decision to become self-employed. An unfavourable labour market situation may increase the probability – in particular for unemployed and lower skilled people – to become independent. However, the enterprises created by these people experience more difficulties than enterprises created by former employed persons.

This is particularly true in the absence of public support measures. Several countries have reinforced these measures in the past decade and were rather successful (Bögenhold & Schmidt, 1999).

Most industrial countries have established programmes for business start-ups by the unemployed, especially the long-term unemployed. However, their intensity and success varies. The relatively small participation in these measures – on average around 5% of the unemployed – may be due to the fact that the psychosocial effects of long-term unemployment tend to weaken the willingness to become independent (for the aspects of psychological and cultural exclusion see also Vranken & Frans, 2000, and Part 4, Section 4.1.3.2 in this report). Moreover, most participants intended to set up their own business anyway, even if not to that extent or at a later date.

This dead-weight effect is shown by evaluations of the German 'bridging allowance' programme (*Überbrückungsgeld*). However, apart from this, the cost-efficiency is relatively high because most of the participants – if they do not remain self-employed – found long-term employment afterwards. Tailor-made support, advice and training will increase the survival rate significantly. Thus, for example in Germany, 70% of formerly unemployed participants remained self-employed after three years. Furthermore, around half of these employ at least one additional employee (Wießner, 1998a, b). Similarly successful are the respective programmes in the UK and US. In France, a former

programme of capitalising unemployment benefits proved to be too expensive and was replaced by a more comprehensive programme.

Finally, research shows that the borders between dependent and independent work become more and more fluid. Marchand (1998) points to examples in the UK and Sweden where, due to externalisation of activities and subcontracting, a new category of people emerges. These are former employees who were encouraged (or forced) by their employer to become independent, but continue working exclusively for the former enterprise. Although formally 'self-employed', they are at the margin of employed persons with different patterns of risk and chances.

In Germany, the debate on these 'quasi self-employed' had started already in the early 1990s; one of the most comprehensive empirical studies was carried out by IAB (Dietrich, 1996, 1998). A number of criteria have been used to define 'quasi self-employment'. Three criteria appear as the most important ones:

- (a) *personal dependence*, i.e. being subject to directions in terms of place, time or contents;
- (b) *integration into the organisation of the orderer*, e.g. in terms of cooperation with staff or use of working materials of the orderer;
- (c) *entrepreneurial risk*, e.g. no firm organisation, only one orderer, no appropriate distribution of opportunities and risks (no entrepreneurial freedom to act locally, to organise time, to find own customers, to set prices, etc.).

Dependent on these criteria and additional indicators, the share of 'quasi self-employed' in Germany is located in an area up to 3.2% of the total labour force. Within this grey area, 0.6% to 1.4% can unambiguously be defined as 'quasi self-employed' (Dietrich, 1996). The discussion on this issue in 1999 has led to a law concerning 'quasi self-employment' which, however, was subject to strong dispute.

4.4. Social enterprises

4.4.1. Non-profit organisations

The OECD (1998a, 1999d) identifies new forms of entrepreneurship within the 'new social economy', i.e. the non-profit sector (or the 'third' sector) between the State and the market. Non-profit organisations (NPO) are characterised by a mix of commercial and non-commercial activities and by close interaction with public policy. They meet

needs that are not, or only partly, met by the public sector or the market. Most of these organisations have a social objective, e.g. to help low skilled or unemployed people back into work, to become self-employed or, more generally, to foster local and regional development through networks including public authorities and private firms.

However, the definition and demarcation of NPOs and social enterprises varies across countries. And there is little information on their economic and employment patterns. Based on an analysis of the John Hopkins University for several countries, Archambault (1996) shows that NPOs contribute between 1% and 7% to total employment; equally, their share of public funding differs considerably across countries (Table 3.15).

Some features of NPOs are described in Box 3.15.

Country	Employment ^(a)	Public funding ^(b)
Hungary	0.8	21
Italy	1.8	42
Japan	2.5	38
Sweden	3.0	—
United Kingdom	3.5	40
Germany	3.7	68
France	4.2	59
United States	6.8	29

(a) Percent of total employment;

(b) Percent of total funding sources.

Source: OECD, 1998a, based on Archambault, 1996.

Box 3.15: Non-profit organisations (NPOs) in the ‘new social economy’

Companies in the non-profit sector are the result of individual or collective initiatives to introduce new practices or break through bottlenecks for which traditional systems and established norms have no satisfactory solution (Lorthiois, 1996). In particular, social enterprises within this sector generate new skills and new jobs, aiming to integrate people at risk (low skilled, long-term unemployed, ethnic minorities) into the local and regional labour market.

They create new services, most of them of public interest, such as social action, coaching for school children, care for the elderly, environmental protection, cultural development. Others are development agencies supporting new business start-ups or helping the unemployed to become self-employed, thereby involving banks, investors, authorities and national and international organisations. The ‘entrepreneurs’ of social enterprises are similar to traditional entrepreneurs, except for their capacity to earn or distribute financial profits.

In summary, NPOs are seen as new fields of ideas, experiments and innovations. ‘Entrepreneurship in the social economy adds extra value for the production of goods and services by its ethical approach and its contribution to social cohesion and sustainable development’ (OECD, 1998a, p. 123).

Source: OECD, 1998a; see also: OECD, 1999d.

- service to the members or to the community rather than profit;
- autonomous management;
- democratic structure;
- priority of labour and people over capital in the sharing of profits’ (Defourny, 1997, p. 51).

The definition of ‘new social economy’ is a combination of criteria from the classical definition and of new elements. The latter can largely be inferred from historical developments, and more particularly from the renewed interest in the 1970s (see for the following discourse Vranken & Frans, 2000, Chapter 1.2.1).

These organisations are involved in economic activity but should neither belong to the public nor to the private sector. This positioning of the social economy remains one of the most important identifications of the third sector.

Complementary to their economic objectives, these organisations wish to accomplish social objectives which cannot be solved by the public sector. The ‘old social economy’ attempted to meet needs such as: savings and credit; social housing; consumer goods; social and medical care; culture, information and press; mutual and cooperative insurance; and employment. Organisations of the ‘new social economy’ are found in different sectors: ethical savings and investments; renovation; recycling; new care needs; and employment (for a review of case studies in European regions, see Westerdahl and Westlund, 1998).

4.4.2. The ‘new social economy’

The classical definition of the social economy is that it ‘brings together the economic activities generated by cooperatives, mutual insurance organisations and associations with the following ethical principles:

Present initiatives focus most of their attention on the unemployment problem by creating employment, providing training and taking special care of people at risk. In industrialised countries a growing number of cooperatives, associations and consumer organisations are being established with the aim of social integration through labour and at local levels, often also linked with environmental objectives. In this way, social enterprises have absorbed a number of functions from the public sector, which is increasingly withdrawing from certain areas of social life.

- provision of services that respond to a pressing individual or collective need, neglected by the public sector;
- labour takes priority over capital;
- autonomy of the management;
- establishment of a democratic structure;
- bottom-up foundation of the organisation;
- legal form typical for the social economy: cooperative society, mutual insurance organisation, non-profit organisation, registered charity.

Box 3.16: TSER project 'New employment opportunities in the third sector. An evaluation of innovative policies for social integration in Europe (NETS)'

The aim of this project is to identify the contribution to social integration and employment creation in Europe which may come from what is called 'third sector' (non-profit, socially useful activities also known as 'third system', 'social economy'). Their job creation potential and their ability to address new needs will be assessed, and alternative policy actions will be evaluated, considering their economic efficiency and effectiveness, and the impact on social integration.

The survey is carried out in three European countries – Germany, Italy and Spain.

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Most important are the first two criteria. An initiative that is not engaged in an economic activity *and* does not pursue social objective does not belong to the 'new social economy'.

4.5. Training for independence

A number of research studies⁴⁸ investigate the links between management training and the performance of SMEs/self-employed, e.g. in terms of survival, profitability, growth and employment creation (for an overview see Trouvé *et al.*, 2000).

The results are not always convincing, however. Thus, for example, Cosh *et al.* (1998), based on a survey of 1,640 SMEs < 500 employees in the UK (1987-90, 1990-95) correlate the formal training of SME managers with growth and employment indicators. They found that the formal training of managers influences survival and performance in some groups of SMEs and in some periods only, but not in other groups or periods.

Although some authors found only weak links between manager training and economic performance (e.g. Westhead & Storey, 1996) most studies indicate that technological know-how, high qualifications and specific knowledge in the business segment is a condition *sine qua non* for success. Success or failure are less dependent on financing and access to capital than on human resources. This includes the knowledge of local markets and the integration in networks with other firms and/or with universities and research institutes.

In addition, the new social economy has kept a number of criteria of the classical definition. First of all, service to the members or the community is still taking precedence over profit making. The pursuit of a democratic structure is considered equally important. Because most of the organisations are created from the bottom, it can also be assumed that the principle of management autonomy is preserved, even though it will appear that contemporary forms of social economy often do not match this criterion.

On the basis of the above definitions, a number of criteria can be formulated to distinguish social-economic organisations from other organisations (Vranken & Frans, 2000):

- engagement in economic activity;
- social objectives, such as integration of the socially excluded, the unemployed and the poor;
- ecological objectives;

⁴⁸ See for empirical evidence of training of self-employed (based on CLFS data) also: European Commission, Eurostat & Cedefop, 1997.

This calls for a targeted supportive policy which attaches an equal importance to information, advice, training and mentoring as to financial aspects and the removal of legal and administrative barriers. Targeted support means considering the field of business activity, the region, sector, kind of business, integration in incubator or business parks as well as age, sex, qualification and work experience of the applicant. Tailor-made advice and training programmes are nowadays an integrated element in almost all European programmes for business start-ups.

From an education and training point of view, however, it should be considered whether entrepreneurship and self-employment should be imparted much earlier, in compulsory schools and initial training. As mentioned above, 'to act independently' is a key competence which plays an increasing role not only for entrepreneurs but in all spheres of working life and beyond.

The following sections present less sound research results but some examples and ideas of how to impart an 'entrepreneurial spirit' in education and training. We will concentrate on schools and initial and continuing training, although most start-up initiatives are found at universities and business academies.

4.5.1. Compulsory schools

The basis for independence should already be systematically imparted in compulsory schools. Planning and performing of small projects, in teams and with changing roles, the takeover of different functions at school and a joint evaluation of the reasons for greater or lesser success could be the first steps. A less successful outcome should be seen as a learning experience. Besides independence, the objective would be to further motivation and self-confidence, especially for those boys and girls who are more reticent or struggle to integrate into the class community (e.g. children of immigrants).

Similar activities are being initiated in several countries, although with different intensity. An exchange of experience at the European level would be very useful. This type of project pedagogy is also one of the most appropriate for the acquisition of key qualifications and social competences.

As children get older, but while they are still of compulsory school age and before the entry into vocational training, contacts with the world of work could be established, intensified and systematically carried out. 'Snoop visits' to local firms could be a first step, but should be followed by more continuity of contact. Active observation of a team in a workshop or department of a firm, insight into the duties of managers as well as in their biographies and conceptions could help to reduce the distance between school and work, as could holiday work and subsequent assessment at school.

4.5.2. Secondary level and initial training

At secondary education level or in initial training, entrepreneurial independence could be developed further. Up to this stage, the aims were to learn to act independently, to gain self-confidence and social competences, as well as to gather first impressions of the world of work.

At the age of around 15–20 years, the *option* 'entrepreneurship' would become an occupational goal in its own right. General or vocational schools, or even enterprises – as far as training takes place there – could make substantial contributions towards achieving this goal. Thus, for example, a considerable number of training enterprises in Germany prepare apprentices for self-employment, although this is not explicitly provided for by training regulations.

At secondary level, small business projects could be carried out at schools, such as printing of T-shirts, making of toys, organisation of parties, computer advice or delivery services.⁴⁹ An overview of some recent good practices in Europe and the US is provided by BMBF (2000). Examples for these types of project training follow.

- In the 'Junior' project of the *German Working Group School-Economy (Arbeitskreis Schule-Wirtschaft)* young people aged between 15 and 20 years create a small business of their own for a limited period. Attended by the Institute of German Employers (IW), teachers, local authorities and associations, students sell share certificates (e.g. to relatives and friends) and deposit them at a bank. They have their 'firm' registered and come to know their success after termination of the project. (more information: <http://www.iw.junior.de>)

⁴⁹ In most countries, arrangements have to be made with trade and tax offices or other authorities; this is sometimes a serious obstacle for such initiatives.

- In *Austria*, there are two types of training entrepreneurship for young people aged between 15 and 19 years. One is the 'training firm' at secondary commercial schools. A training firm is a simulation model and pupils have to deal with real life business scenarios. The second model, 'Junior Enterprises', is implemented at general secondary schools and deals with real money and goods for services (school newspapers, etc.), including some financial risk. Both projects are implemented in cooperation with industry partners who share their business experience and sponsor office technology (Altrichter, 2000).

- In *Scotland*, various programmes aim to prepare young people for becoming self-employed (e.g. 'Young Enterprise', 'Achievers International', 'Go for Enterprise!', 'Enterprise Infants'). The 'Industry and Enterprise Awareness for Teachers and Schools' is a programme where 3,600 teachers over three years will undertake a ten-day placement in business, learning about enterprise and industry (for an overview see McVie, 2000).

- Other countries have initiated similar models; in most cases simulations of a business, team work projects, mapping exercises or role games, learning offices, model projects and the like. It is seen as important that these activities largely take place outside the classroom, in a real business environment and with concrete learning experience. At this age, the 'internal aspects' of entrepreneurship should be furthered by constructive – not by instructive – learning and by experiential learning in order to develop creativity, motivation, initiative, self-confidence, risk-taking and cooperation.⁵⁰

However, as underlined by the Finnish initiative to integrate entrepreneurship in school development plans (Ojala & Pihkala, 1994, pp. 10 ff.), the didactic objectives should be more far-reaching. The learner should be made aware of the importance and purpose of entrepreneurial independence as a part of society's welfare and he/she should perceive the potential conflict between nature and material prosperity. He or she should know about the importance of sustainable development, and about the significance of uncertainty in entrepreneurship as well as in society. Together with useful information on the 'occupation: entrepreneur' ('external entrepreneurship') he/she acquires the basic knowledge and competences relevant for the creation and success of a firm.

⁵⁰ For a more general discussion on the development of (key/core) competences for new types of jobs, see Part 2, Chapter 2 in this report and Onstenk, 2000.

4.5.3. Training for business start-ups: national and EU programmes

In most countries, the concrete advice, support and training of the potential business starter is primarily done within higher education or continuing training measures. The latter provide specific seminars and courses organised by the State or regional authorities, federations and professional associations, etc. Many of these measures are supported by the European Commission, in particular in the framework of the European social and regional funds (for an overview on European activities see Foden & Magnusson, eds., 1999a, b; Tessaring, 2000; for an overview of activities in the past see Letowski *et al.*, 1994).

4.5.3.1. Design of programmes

A basic precondition is the existence of a business idea and a business plan. A business plan describes the idea, contains a market analysis and indications of expected costs, turnover, revenues and financing as well as the legal, fiscal and other conditions and future perspectives. In most countries which provide financial support for start-ups, the evaluation of a business plan is delegated to external competent bodies. These could be chambers, tax or management consultants, banks, etc., but also a jury expressly established for that purpose.

Numerous programmes exist in EU countries that cannot be described here in total. In general, the objectives of these programmes are changing from more general and unspecific to targeted measures. The following aims – which are partly overlapping – can be distinguished:

- promotion of entrepreneurship in innovative and high-tech areas, particularly in the services sector;
- promotion of young adults, of women, of the long-term unemployed;
- promotion of the disadvantaged, including immigrants existing in the shadow economy;
- promotion of the environment for start-ups, for example by science parks, technology centres, mentoring, business angels, incubators, one- and first stop shops, etc.

'Business incubators aim to assist entrepreneurs with enterprise start-ups and development. Incubators typically seek to provide workspace, often on preferential and flexible terms, for a specific industry or type of firm, while concentrating spatially the supply of utilities, services, facilities and equipment. In

addition to workspace, the services provided by incubators can include various forms of business planning and managerial advice, office facilities, finance and accounting, access to business networks, and legal services' (OECD, 1999b, p.7; this publication also gives an overview of business incubation practices in Australia, Germany, Italy, the United Kingdom and the United States).

In general, these programmes are local or regional initiatives with a number of local stakeholders cooperating. Many programmes are supported by the European structural funds.

The success of those programmes depends on several conditions that are, at the same time, challenges for a future tailor-made policy:

- at regional and local level, monitoring is necessary to identify skill deficits and training needs as well as the requirements of the local market;
- training should be targeted in terms of the sectors and markets where start-ups are located, as well as in terms of the skills and professional experience of the entrepreneur;
- measures should, as far as possible, take place outside the classroom; they should provide practical experience and should be of a short-term as well as a longer-term nature;
- training should not be finished after start-up but continuing training should be provided. In many cases, the enlargement phase of a successfully established firm is more crucial than the start-up itself;
- practitioners, in particular successful entrepreneurs in the region, technical experts or retired managers, should be convinced to act as mentors;
- networks, cooperations and partnerships with larger firms, with other entrepreneurs and with universities and research centres should be established and developed; science parcs, incubator models, technology centres, etc. are suited to exchange of experience, to cost saving costs and to creation of synergy effects.

Box 3.17: Promotion of women entrepreneurs

Increasing attention is paid to the promotion of female entrepreneurs or women-owned SMEs. They are reported to be growing at a faster rate than total economies in several OECD countries.

However, it is difficult to determine the number of women entrepreneurs from official statistics. Avail-

able data for EU countries (1996) show that the share of women employers and female self-employed ranges between 20% (Greece) and roughly 30% (UK). These shares tended, since 1990, to significantly increase in Germany, Norway, Italy, Spain and the UK. The other countries display a more or less constant or even decreasing trend (in Finland and Sweden).

The great majority of women-run businesses are in the service sectors, in particular in retail, beauty and skin-care business and professional services.

There are several obstacles to women starting an enterprise, which are, at the same time, starting points for targeted policy measures. In particular, those measures should facilitate women's access to capital and foster the motivation of women to participate more in technology, natural science, engineering and computer programming studies (in particular in higher education).

Source: OECD, 1998e, 2000a.

Box 3.18: TSER project 'Self-employment activities concerning women and minorities: their success or failure in relation to social citizenship policies'

The project focuses on the evaluation of social citizenship policies in relation to self-employment activities implemented by Member States of the European Union.

The research is based upon the explicit hypothesis that active social integration policies, aiming at the promotion of self-employment of unemployed women and migrant minority members, can only be successful if their specific socialisation under unstable biographical and work conditions is recognised and compensation is provided for their discontinuous working careers. The empirical methodology of this project will challenge this hypothesis through the systematic collection of life histories and work histories from samples of women and migrants who participated in programmes geared to active social integration.

The project intends to establish a Europe-wide research infrastructure with the instruments of a common database and software training in qualitative data analysis.

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4.5.3.2. Activities of the European Commission

For some time, national and local initiatives to foster entrepreneurship have been supported by the European Commission, in particular by its structural funds and by the social and regional funds. In addition, concerning general and voca-

tional training and research, the Leonardo da Vinci, Socrates programmes and their predecessors, and the TSER programme, launched several projects in this respect.

After the Luxembourg summit, based on the Amsterdam Treaty, and subsequently in the G8-conference in London, entrepreneurship was identified as one of the four pillars of the European employment strategy and of employment guidelines; the national action plans elaborated on these. Particular issues are the removal of legal and administrative barriers, access to capital, creation of a conducive environment for entrepreneurship and of networking, and – somewhat general – the ‘reform of education and training systems’ in the framework of Leonardo and Socrates programmes. Foden & Magnusson (1999a, b) provide an overview of the European strategy.

The European Commission developed a number of activities that cannot be described here in detail, though examples are given.

The task force BEST (Business environment simplification) recommended a number of measures to support firms and in particular SMEs. For initial and continuing training, these are:

- the restructuring of training systems for better adaptation to local needs and skills;
- the establishment of a Business education network (BENE) for mutual exchange between training organisations and firms and to identify best practices;
- training incentives for SMEs;
- the identification of training needs of potential entrepreneurs and of SMEs;
- the redrafting of the Leonardo II programme in terms of more participation by enterprises and to foster flexible training forms.

The European Commission adopted these recommendations and started the action plan NOW which includes the promotion of entrepreneurship and the improvement of competitiveness. In addition, and in parallel to the ‘dialogue with citizens’, the Commission also implemented a ‘dialogue with the economy’.

The Joint Research Centre of the Commission launched a programme of seminars which lead to a ‘certificate in entrepreneurship’.

Additional up-to-date information on numerous related programmes and initiatives can be obtained through the EU server <http://www.europa.eu.int>.

4.5.3.3. Good practices at national level

At national level, an immeasurable number of initiatives has been set up in recent years. A good overview is presented by investigating the annual national action programmes which also are available at the EU server (www.europa.eu.int). The contributions to Foden & Magnusson, eds. (1999a) provide an overview of related activities in the UK (Winterton & Summers, 1999), Italy (Palmieri & Ricciardelli, 1999), the Netherlands (Hemerijk & Kuin, 1999), Germany (Bögenhold, 1999) and Denmark (Schmid, 1999). For an overview of best practice policies for SMEs see also OECD, 1998b.

Some examples are:

- the ‘adoption model’ in *Greece*, where local intermediary large enterprises are encouraged to provide training for women and to instruct them for the start-up of a small enterprise. The new firm is ‘adopted’ by the large enterprise, providing capital and support by the management;
- support models are launched in *Greece* and *Italy* to promote self-employment of immigrants and workers in the shadow economy;
- the successful implementation of ‘Law 44’ in *Italy* to support young entrepreneurs. The Italian model received the price for ‘best practice in Europe’ (Box 3.19);

Box 3.19: Legge 44 in Italy

The *Legge sull'Imprenditorialità Giovanile* (Law on junior entrepreneurship) was established in 1986 and is seen as the most important initiative for young business starters in Italy. It is carried out by an agency (IG Spa.) owned in its majority by the State and provides a broad scale of services for the specific needs and problems of young entrepreneurs aged between 18 and 35 years. This starts with the support of entrepreneurial culture and ends with the cooperation with local authorities and the transfer of information to schools and universities. The IG Spa. provides favourable financial means; training is done by a qualified management and vocational training institutions.

In addition, the IG Spa. organises the mentoring of entrepreneurs based on the understanding that entrepreneurship can best be imparted by experienced entrepreneurs. A mentor is an established company which provides support at first free of costs, later on a commercial basis and takes over advice for the whole period of credit repayment. Moreover, the mentor offers help for business plans and for the assessment of business ideas by a jury.

Since its introduction in 1986, around 5,000 business plans have been evaluated, resulting in the creation of

1,000 new firms and of 25,000 new jobs. The survival rate after 3 years is 81%, above the national as well as the European average. Legge 44 has been enlarged in the course of time and today also contains promotion for women. New initiatives are envisaged for the takeover of risk companies by employees.

Source: OECD, 1998a; for more information see: www.oppportunitalia.it.

- in *Italy*, several model projects have been started in the frame of territorial employment pacts. They include exchange with other European regions on experiments for new occupations and for the promotion of self-employment, as, for example, the '*Patto Territoriale del Miglio d'Oro*';
- technology parks in *Italy* and in the *Basque* province (Spain) support SMEs in implementing new technologies and work organisation;
- in *Portugal*, a network of local partners aims to set up service firms in the neighbourhood of 'run-down' quarters of large cities;
- in *Sweden*, cooperatives have been created for unemployed or excluded people who work in 'work centres' as employees or as self-employed. They meet local needs that are not yet covered by established firms. The centres also provide ICT training and advice;
- programmes in *Germany* launched by the Federal Employment Service aim to foster self-employment of the (long-term) unemployed; these measures were rather successful (Wießner, 1998a, b). A comprehensive overview on other activities concerning entrepreneurial training in Germany is given by INMIT & IFM Bonn (1997);
- the 'New Enterprise Strategy' in the *United Kingdom* is a partnership between public and private organisations in particular for the support of target groups;
- in *Belgium* (Wallonia), the project 'Business Angels in Wallonia' (WABA - www.waban.be) supports young entrepreneurs in terms of training, access to capital and management;
- 'Plato 100' in *Belgium* is a consultancy initiative where the managers of large local firms give advice and support smaller enterprises in their enlargement process (www.honet.be);
- sectoral projects (e.g. in logistics in the *Netherlands* and in furniture design in *Finland*) aim to support start-ups and training, plus the establishment of cooperation networks;

- in *France*, the Non-Governmental Organisation 'Ouest 12' provides advice and support to SMEs and craft enterprises and equally accompanies new business projects.

4.6. Conclusions

Business creation and subsequent success or not are highly dependent on the personality of the entrepreneur. However, most characteristics that are seen as distinctive for an 'ideal' entrepreneur are also required from a 'modern' worker: to be innovative and creative, to take initiatives, foresight, aptitude for organisation, independence and personal achievement. What distinguishes an entrepreneur from an employee, is the creation of jobs, profits and economic growth.

The creation and closure of firms ('creative destruction') is seen as a major impetus for economic development and restructuring. It is not surprising that many countries hope to reduce unemployment by promoting business start-up and job creation.

However, the conditions for entrepreneurial success are not always evident. Which factors favour start-ups and contribute to innovation and employment? Which measures are able to promote independence and sustainable development. And, on the reverse side, which are the barriers? Answers to these questions are difficult not only because of the heterogeneity of firms and entrepreneurs, but also because of very different traditions and environments between countries, and, what is more, between regions.

Start-ups in agriculture, trade and hotels/restaurants, for example, differ substantially from those in the 'new economy', in particular in services related to ICTs, biotechnology and other modern technologies. Furthermore, conditions for a 'pure' start-up are significantly different from other 'creations', such as take-overs, franchise firms, or firms that are outsourced/outcontracted from large companies. The position in the market and in the value-added chain, territorial anchorage and innovative milieus are some of the most important features for business success.

Empirical findings for several countries indicate that only a relatively small number of 'high flying' new firms are responsible for employment growth among SMEs. Moreover, only 50-60% of all newly created firms survive the first five years (the US comes bottom among western industrial countries). However, the data situa-

tion is still insufficient. Most of the questions raised above can be answered only by longitudinal data, e.g. enterprise panels (see also Section 6 in this part). Such data exist in a few countries only, and EU initiatives to build up 'enterprise demographics' are still in their prime. Moreover, most of the existing data do not include information on skills and other characteristics of workers and entrepreneurs.

Promoting entrepreneurial culture, access to risk capital and the removal of fiscal and administrative barriers are seen as the most important issues today. Although these measures certainly are of great importance, research points out that it is the personality of the entrepreneur, and in particular his/her knowledge of specific markets, skills and strategies which are equally important and should be taken into account by appropriate measures and training. Capital and technological intensity alone do not guarantee success and job growth.

Several countries have started to promote startups of the (long-term) unemployed. Success here is, however, uncertain, if not backed by specific support and advice. A particular role in this context is attached to social enterprises within the non-profit sector of the economy. These enterprises are located between the State and the economy and have the capacity to fulfil social tasks (e.g. reintegration of people at risk) as well as to raise economic gains. There are various forms of social enterprise in the 'new social economy', but there is still scarce empirical information on their employment volume, structure and development.

Research has underlined that training and guidance for (potential) entrepreneurs is of equal importance to deregulation and access to capital. However, specific training for entrepreneurs is not sufficient. 'Training for independence' should start much earlier at compulsory school age. Projects carried out by young people, contacts with the world of work and, later on, experience in running a business, e.g. by simulation, are measures taken by some countries. With increasing age, the option 'entrepreneur' as an occupational goal in its own right may take shape, supported by tailor-made training and advice. However, training for entrepreneurship should not only impart relevant knowledge for the creation and success of an own enterprise but should equally encompass the importance and purpose of entrepreneurship as a part of society's welfare, in terms of sustainable development, social embeddedness and the significance of uncertainty.

Innumerable initiatives at national, as well as EU, levels are being taken to promote entrepreneurship, such as mentoring, incubation, access to risk capital, creation of conducive environments, networks and partnerships, etc. Those measures should be targeted in terms of specific markets and skills as well as in terms of the target groups, such as women, the unemployed or immigrants. Furthermore, training and advice should not be terminated after start-up but should be continued to provide support for the critical phase when the firm is growing and problems of employment and professional organisation occur.

5. Developing and measuring human resources

The term 'human resource development' (HRD) refers to the activation and development of educational training activities in companies. The first part of this chapter examines the values and policies underlying what can be loosely called a European working life and vocational education and training culture. Then the effects are examined of a competing utilitarian and instrumental model of 'human resource management', inspired by neo-Tayloristic work organisation principles and neo-liberal economics, which is radically challenging the one above.

The second part of this chapter discusses reporting on human capital associated with enterprise approaches to measure human capital, i.e. the knowledge, skills, competences and other attributes embodied in individuals or groups of individuals. Human capital reporting is about measuring values and processes related to the acquisition, development and dissemination of knowledge. New approaches combining reporting on, and management of, enterprises' human capital are emerging. They focus either on specific elements or on the totality of elements constituting human capital and its utilisation.

5.1. Human resource development⁵¹

Over the last fifteen or so years, European companies radically revised their attitudes to work organisation and 'human resource management'

⁵¹ This section builds mainly on the paper of B. Nyhan, 2000: 'Human resource development in a European context.' Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

in view of the dramatic changes taking place in business environments.

In response to these challenges, many companies adopted new types of work organisation, which are reflected in new forms of workforce management strategy. They became known as ‘human resource management’ (HRM) strategies (Sparrow & Hiltrop, 1994; Miles & Snow, 1984). These strategies entailed the implementation of new workforce models which devolve wider responsibilities (both vertically and horizontally) to employees. This puts a heavy emphasis on human resource development (HRD) practices such as team-building, multi-skilling and work-based learning in order to promote greater degrees of functional flexibility (OECD, 1999a, p. 183).

5.1.1. Human resource management

One of the most influential models of HRM which has had a major impact both on European and broader international business and research (Hollinshead & Leat, 1995) is the ‘humanistic-developmental’ model devised by Beer *et al.* (1984, 1985) at the Harvard Business School. The strength of this model is that it attempts to align the goals of a company’s effectiveness with those of individual well-being and positive benefits for society.

The Harvard model introduced the notion of stakeholder interests (Box 3.20): all of those with a stake in the company have a role in influencing company policy. This includes employees, trade unions, the community, government, as well as the traditional company controlling groups of shareholders and management.

Three approaches⁵² can be identified:⁵³

- (a) the shareholder approach;
- (b) the enlightened shareholder approach;
- (c) the stakeholder approach.

Up to now it is not certain which of these approaches will dominate. On the one hand, and supported by the globalisation of financial capital flows, shareholder interests and their economic power (e.g. via stockholdings) are increasing, as are cases of large multinational enterprises taking control of smaller ones in recent years. On the other hand, the enlightened

shareholder approach and the stakeholder approach are growing in importance. This is reflected in many analyses of the enterprises’ role in society as well as in enterprise and government initiatives that focus on the roles of the enterprises outside those of money generation and job providers (Westphalen, 2000).

Box 3.20: Management perceptions

The shareholder approach

The traditional identification of a company by its shareholders follows the logic of enterprises being established and managed for the benefit of shareholders and for the benefit of actual and potential creditors.

Given that the shareholders are those having an actual or potential economic interest in the enterprise, disclosures and accounting are primarily, if not entirely, related to the – short- or medium-term – economic performance of the enterprise reported by means of figures.

Shareholder values thus reflect that it is the owners (and to a certain degree also the creditors) of an enterprise that exclusively define the objectives of the enterprise within the limits of public regulations and that the ultimate objective is to secure the maximum value for shareholders.

The enlightened shareholder approach

The enlightened shareholder approach also recognises that the ultimate objective of an enterprise is to secure the maximum value for shareholders; however, the means of achieving this differ. This approach emphasises that an exclusive focus on the short-term financial bottom line may result in sub-optimum gains for shareholders in the longer term.

This approach emphasises long-term enterprise strategies, including relationships with employees, sub-contractors, customers and others. It responds pro-actively to trends and developments in society and to public regulations. Still, it is the shareholders that decide on the objectives of the enterprise.

The stakeholder approach

The stakeholder approach is based on the argument that the ultimate objective of maximising shareholder value will not achieve maximum prosperity and welfare in the longer term, neither for the shareholders nor for other stakeholders or society as a whole.

This approach overrides the notion of shareholders. Rather, the interests of other stakeholders such as employees, sub-contractors and customers should equally be reflected in the enterprise’s objectives and its management. Enterprises are identified as entities embedded in society, which the management of the enterprise must comply with.

Source: Westphalen, 2000.

⁵² For other approaches (concerning the owner-managers of SMEs) see Trouvé *et al.*, 2000, and Chapter 3 in this part.

⁵³ The following part is primarily based on a consultation document from the Company Law Review Steering Group under the British Department for Trade and Industry, 1999.

From an employee work-relations perspective, the HRM model represents a radical departure from the 'Tayloristic' scientific management (instrumental) view based on tight *control* of employees towards one based on winning their *commitment* in a context of mutuality of purpose. It also lays great emphasis on HRD in generating high levels of employee competence. The other expected outcomes of this philosophy are:

- greater loyalty to one's organisation;
- cost-effectiveness in relation to turnover of staff; low rates of absenteeism as well as societal and individual costs;
- greater congruence between management and employees, between different groups of employees, and between employees and society as a whole (Beer *et al.*, 1984).

One of the main implications of adopting this HRM model is that human resource policies are integrated within all activities of the company. This entails a shift from a compartmentalised view of the management of 'people-related issues', under the responsibility of a specialised 'personnel department', to an integrated notion. The overall change has been described in terms of a movement from a 'personnel management' to a 'human resource management' perspective that is embedded in a systemic manner throughout the organisation.

This model has given a great impetus to HRD activities as one of the key objectives to be addressed in an integrated policy closely linked to the issues of recruitment, career management, organisational development, work design, pay and benefits and industrial relations (Sparrow & Hiltrop, 1994; McLagan, 1999). Regarding the boundaries between HRM and HRD in reality, some authors such as McLagan argue for more integration, seeing the distinction between them as too fine.

Box 3.21: LDV project 'MOSAIC: Managing diversity - innovative research towards mainstreaming equality'

The aim of the project Mosaic is to help companies in Europe to become more economically competitive by enhancing their use of human resources. The approach is to learn from case studies employers using or introducing a human resource management approach known as 'managing diversity'. This is a

model that has been largely developed and implemented in the United States. It has some characteristics in common with the European equal opportunities approach known as 'mainstreaming equality', but there are important differences, too, which the project has analysed. A core research team from five Member States was created.

Most of the case studies are from the private sector and include examples where diversity has been embedded into the organisation and culture. One clear finding is that those employers where diversity was embedded at the inception of the organisation appeared to be particularly successful in establishing a diversity culture.

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Final Report: Project Mosaic: Innovative research towards mainstreaming equality, 1999.

5.1.2. HRD and competence development

In line with the discussion above, 'human resource development' objectives are also focused on developing the 'competence' of employees, including intermediate and front-line workers as well as management.

The contextual/situated and 'high-transfer value' notion of 'competence' (see also Part 2, Chapter 2 and Part 4, Chapter 3 in this report and Tessaring, 1998b) has generated theories and promoted 'social innovations' related to the integration of individual learning and working with organisational learning agendas. Senge (1990, 1997) who is one of the exponents of the concept of a learning organisation, asks why is it not possible for people to attain company goals 'in a work environment that is close to the things that workers really value in life'⁵⁴ (Senge, 1997, p. 144).

For Senge, all learning for action is social and collective by nature. A prerequisite for learning is the development of 'a sense of connectedness, a sense of working together in a system and an understanding of how each part of the system is affected or being affected by other parts and where the whole is greater than the sum of the parts' (Senge, 1997, p. 129).

⁵⁴ According to Senge (1997), the term 'core competence' means the 'collective competence' or 'collective learning' of an organisation, in particular referring to the ability to coordinate and to integrate different skills and technologies.

A learning organisation thus can be described as an institution which involves all its members in increasing organisational and individual competence, through continuously reflecting on how strategic and everyday tasks are handled (Nyhan, 1999). The work content becomes the learning content, as work and learning become part of a constant improvement spiral having an impact on the competence level of individual workers, the collective learning of work groups and the total organisation (Nyhan, 1999; Stahl *et al.*, 1993).⁵⁵

5.1.3. Empirical evidence

Somewhere between 25 and 50 percent of companies have adopted these ‘human resource development’ or competence development measures, at least to some degree (Ellström, 1999). Cressey & Kelleher (1999) found a great degree of consensus among employer and employee representatives in large companies in the car manufacturing, telecommunications and banking sectors in the UK, Germany and Sweden on the need to adopt these new ‘human resource development’ models.

A rather sceptical view of the impact of these new models, however, is that the interest of the management and academic communities in these concepts is perhaps more due to their attractive presentation by management gurus rather than solid research evidence (OECD, 1999a). Méhaut & Delcourt (1997, p. 30) argue that neither on the European nor global stages do we see convergence towards a uniform model of new forms of work and learning organisations away from the ‘old’ Tayloristic control model (see also Chapter 1 in this part and Dejonckheere & van Hootehem, 2000).

An intensive case study for eleven European companies that claimed to have introduced radical learning organisation principles found that many of the changes had an impact only in introducing new learning methodologies at the front-line (shop floor) or at management level. But no major transformations in a company’s values, vision and culture could be identified (Doherty & Nyhan, 1997; Nyhan, 1999). A genuine transformative level of change, internally driven and built on radical new insights about the contribution which employees can make to the company, was achieved by only five of the eleven companies examined.

⁵⁵ See also Chapter 2 in Part 2 of this report which discusses the concept of competence in a pedagogical perspective. Learning organisations are also discussed in Chapter 4 of Part 2.

5.1.4. HRD in Europe

Despite the American origin of the Harvard human resources model described earlier, it can be argued that its ‘humanistic-developmental’ perspective, and in particular its effort to align company objectives with those of the needs of the individual and society as a whole, represents mainstream European industrial and working life traditions (Box 3.22).

Box 3.22: National corporate cultures

- *‘Power-oriented’ corporate culture*: A leader in this hierarchical but person-oriented culture can be seen as a caring ‘patron’. This form of leadership can be referred to as ‘management by subjectives’. The ways of thinking and learning in such cultures tend to be intuitive, holistic, lateral and error-correcting, and according to Trompenaar are typical of Spain and to a lesser degree of France and Belgium.
- The *‘role-oriented’ corporate culture* is based on a bureaucratic division of labour with various rules and functions prescribed in advance. When each role is performed in accordance with the overall system, tasks are effectively completed. The approach to thinking and learning in this culture, which is typical of Germany and to a lesser extent Denmark and the Netherlands, is logical, analytical, vertical and rational.
- The *‘project-oriented’ corporate culture* differs from the power and role oriented cultures in being egalitarian. Even though it resembles the role-oriented model in being impersonal and task-oriented, it differs from it in that the jobs people do are not fixed in advance. The UK (and the US) is seen as having many examples of these kinds of companies where thinking and learning patterns are problem-centred, practical and cross-disciplinary.
- The *‘fulfilment-oriented’ corporate culture* is based on the notion that organisations are secondary to the fulfilment of individuals. These kinds of organisation operate in an environment of intense emotional commitment and are typical of Sweden. The approaches to thinking and learning in these organisations are creative, ad-hoc and inspirational.

Source: Trompenaar, 1993.

The adoption, or at least the application, by many large European countries in the late 1980s and 1990s of its underlying principle of embedding ‘open’ and developmental ‘people management’ and learning activities in all aspects of a company’s activities, had a positive impact in revitalising practices that were often being implemented in a rather regimental fashion.

The humanistic-developmental ‘human resource management’ model can also be seen to share

some common underlying principles with European originated innovation movements. The 'socio-technical' systems thinking tradition is one of them. The original work in this area was undertaken by the Tavistock Institute in the UK in the 1950s and implemented in particular in the Nordic countries (e.g. the Norwegian 'Work Democracy Programme' in the 1960s) and also in the Netherlands.

The work organisation design, put forward by the 'socio-technical' school, centring on the notion of 'semi-autonomous groups', stressed the benefits to be derived from workers having control over and shaping their work and technological environment. The introduction of the latest technology is designed in such a way as to fully harness workers' skills and motivation. The benefits to be derived from such a 'socio-technical' tradition are seen to be superior productivity and work performance as well as a more challenging work environment that also offers opportunities for learning and development.

In the German tradition, the relationship between the 'humanistic' human resource management and the concept of 'social shaping of technology and work' (see Rauner *et al.*, 1988; Heidegger, 1997) is characterised by a high degree of 'shaping' (*Gestaltung*) by workers of their work environment. This is essential to ensure productivity and create an environment in which people learn continuously.

This concept has similarities with 'socio-technical' thinking but differs from it in that it is derived from the discipline of vocational education and training rather than a top-down 'systems design' approach. It is based on the notion that the cornerstone of effective production systems is the expertise or 'work process knowledge' of the individual and not the technology. According to a related concept of 'anthropocentric technology' (or 'human centred technology') 'it is only when technologies allow the development of human capabilities and skills that they become optimally productive' (Wobbe, 1990, p. 11).

This emphasis on the centrality of the skilled worker (intermediate-level profession or craft/trade level) who has a high degree of discretion, authority and responsibility – issues which are also the objectives of the reform of the dual system starting mid 1980s – can be seen as one of the hallmarks of the more highly developed indigenous

human resource policies in Europe. This gives them a clear stakeholder role within the company – also reflected in the wages offered. This role is strengthened by an occupational identity through membership of a professional group and in the extended society by what has been termed an 'industrial citizenship'.

A recent study of 'human resource development' trends within seven European countries (Ter Horst *et al.*, 1999) concluded that in the face of globalisation, there appears to be a tendency towards convergence in the human resource policies of Europe, the United States and Japan. The common aspects of human resource policies between large companies in the three most powerful global trading blocks are seen to be more significant than the differences. This conclusion gives rise to a contingent and situational view of human resources along the lines of Trompenaar's 'project-based' corporate business culture outlined above (see Box 3.22 above).

Box 3.23: TSER project 'The role of human resource development within organisations in creating opportunities for lifelong learning - concepts and practices in seven European countries'

The objectives of the study are:

- to clarify the specific European outlook on the role that human resource development (HRD) in learning-oriented organisations can fulfil in lifelong learning, and thus contribute to the discussion on a 'European model of lifelong learning';
- to provide a basis for further research on the changing role of HRD in work organisations;
- to provide practical guidelines for HRD practitioners throughout Europe on how to facilitate employee learning and thus assist their organisations in securing their competitiveness in a continuously changing environment.

The research looks at HRD departments in learning-oriented organisations throughout Europe and how they view their own role in stimulating and supporting employees to learn continuously as a part of everyday work.

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Final Report: S. Tjepkema: The Role of HRD within organisations in creating opportunities for life-long learning: Concepts and practices in seven European countries, 1997.

Accordingly 'human resource development' as a distinct activity may or may not be a part of the 'human resource management' policy.

The 'hard' HRD model is based on the principle of 'external flexibility'; human resource stocks can be renewed more effectively through a process of short-term 'project-based' recruitment, outsourcing products and services, downsizing staff etc. This model is contrasted with the 'soft' humanistic model that attempts to match company needs with individual career development and wider societal effects.

The difference between these two strategies is that one entails a 'redundancy of parts (people)' approach in which people are constantly replaced in accordance with the tasks that need to be undertaken. The other implies a 'redundancy of function' approach (Morgan, 1986) according to which, even though jobs may change, the company sees it in its long term interests to retain people, within the firm, sufficiently well skilled (or capable of being retrained) to take over new tasks. This is one of the main characteristics of internal labour markets (see also Chapter 2 in this part).

The dominance of neo-liberal policies and the decline of internal labour markets in a number of countries is strengthening the position of those putting forward this 'redundancy of parts' view and strongly challenging the 'humanistic-developmental' model of human resources.

In an earlier publication Handy (1989) portrayed the arrival of a flexible labour market with its flexible companies ('shamrock companies') as offering people (with their portfolio of skills) liberation from rigid employment patterns and providing them with opportunities for choice and personal fulfilment. He changed his mind later on, saying that although this situation may be in the interests of the elite highly skilled professionals - the 'symbolic analysts' who comprise a small percentage of the workforce - it was not really enhancing the quality of working life for the average person (Handy, 1994).

Adler & Cole (1993) attempt to resolve the polarisation of the 'instrumental' with the 'humanistic' type of work organisation.⁵⁶ The result is the concept of 'democratic Taylorism' that seeks to integrate the characteristics of efficient bureaucracy along neo-Tayloristic lines with a genuine humanising environment (characterised by good working conditions and

training opportunities). They see this as an 'enabling' system of formalisation rather than a 'coercive' one.

They argue that it is romantic nonsense to talk about the notion of a workplace characterised by autonomous workgroups. They see, for example, the 'humanised lean production' plant of NUMMI – a joint venture between Toyota and General motors in the US – as offering a model that can be implemented in practice (see Cressey & Kelleher, 1999; Ellström, 1999).

5.1.5. Conclusions

This raises the question about the future role of the 'human resource development' policies in a European context.

In discussing the challenge of globalisation from a European point of view, Lundvall & Borrás (1997; Box 3.24)⁵⁷ argue for wide, transformative social innovations, laying an emphasis on building societal frameworks focusing on new forms of inter-organisational cooperation and alliances between enterprises and knowledge producers.

Box 3.24: TSER project 'Technology, economic integration and social cohesion'

The project aims to provide insight into the impact of several important and interrelated developments on social cohesion and exclusion in the European Union. The issues analysed are:

- Technological change as the single most important factor shaping the quantitative and qualitative dimensions of the fundamental economic factors influencing social cohesion, such as employment and economic growth;
- Globalisation, broadly driven by technology (e.g. telematics) and by the liberalisation and deregulation of trade and capital flows. This globalisation trend leads to qualitative changes in the form and effects of the exposure of countries to foreign competition, not only in the form of trade, but also through increased foreign direct investment flows.

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Final Report: B. Verspagen: Technology, economic integration and social cohesion, 2000. SOE-CT95-1005.

⁵⁶ This is a kind of 'third way' work organisation version of Giddens' societal 'third way' concept that attempts to go beyond the two dominant political philosophies – social democracy (which is rooted in Keynesian demand-management, interventionist government, the welfare state and egalitarianism) and neo-liberalism/market fundamentalism (Giddens, 1998).

⁵⁷ Their publication is an analysis and synthesis of the findings of 7 major European socio-economic research projects supported by the European Commission's TSER Programme. Lundvall & Borrás intended to inform policy makers on the implications of these studies for innovation policies and identify the direction of further research.

Study: B.-A. Lundvall, S. Borrás: The globalising learning economy: Implications for Innovation Policy, 1997. Luxembourg: EUR-OP.

For Lundvall and Borrás the neo-liberal solution and the neo-protectionist solution must give way to the 'new-new deal' which focuses in particular on the learning capability of the weak learners, people and regions (*ibid.* p. 38). In this regard the regional territorial dimension becomes important because 'territory and proximity play a central role in the genesis of tacit knowledge and the capacity to exploit it. The region is increasingly the level at which innovation is produced through regional networks of innovators, local clusters and the cross-fertilising effects of research institutes' (p. 39).

The central message of Lundvall and Borrás is very relevant to the debate about the future direction of HRD policies within industries for the reason that companies cannot survive without learning from and contributing to their environment.

Returning to the question of 'humanistic' versus 'instrumental' models, the need to have a more business-led focus of HRD is contrasted by a 'mechanistic, more authoritarian worldview' in which people are seen as 'resources in the sense of being optimised and even exploited'. This points to the 'dichotomy between the utilitarian view based on behaviourism with the generative view which is based on humanistic philosophy' (McLagan, 1999, p. 17).

5.2. Reporting on human capital⁵⁸

Reporting on human capital is primarily associated with the enterprise's approach of measuring human capital as the knowledge, skills, competences and other attributes embodied in individuals or groups of individuals acquired during their life and used to produce goods, services or ideas in market circumstances (OECD, 1998d).⁵⁹

⁵⁸ This section is based on the paper of S.-Å. Westphalen, 2000: 'Reporting on human capital: objectives and trends'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

⁵⁹ For the discussion of the definition see Chapter 3.1 of Part 4 on theoretical and methodological considerations.

5.2.1. Approach to measuring inputs and outputs of human capital investments

Calculating private returns to education and training – as discussed in Part 5, Chapter 1 of this report and in the first research report (Tessaring, 1998b, Part 2) – appears to be inadequate where the uncertainties concerning returns on investments are still greater. Whereas the direct and indirect costs (input side) or the investment in maintaining or upgrading human capital in enterprises is fairly easy to identify, little is known about the output side and especially the returns on such investments (see Barrett *et al.*, 1998). Human resource accounting could be a response to this 'black spot', but is still in its prime.

More limited approaches such as utility analyses of the costs and benefits of employment strategies and of health and security policies have become standard practise in many enterprises (example: European Agency for Safety and Health at Work, 1998) and play a certain role in current reporting or accounting of human capital. However, these approaches do not really measure the stock of human capital but provide an input-output relationship in specific areas related to human capital. Examples are the costs and benefits of environmental protection and of enterprise strategies aiming at a high staff turnover. This information is a relatively simple method of evaluation.

The increasing use of benchmarking is symptomatic of the lack of information on the return side. Benchmarking is a tool for providing information on the correlation between training investments and net profits by indirectly measuring the returns on investments. Benchmarking does not, however, provide a method for measuring directly the returns to training investments in enterprises.

Evaluating the increased investments in continuing or lifelong learning is, therefore, subject to uncertainty. The lack of reliable and precise information on the return side of enterprise investments in human capital formation is one of the basic reasons why indicators other than financial ones are being used for the measurement of returns. This is also the reason why non-financial reporting methods and benchmarking are utilised as proxy measures.

The sophistication of evaluation methods may overcome some of the weaknesses in using proxy indicators. However, in order to take fully into account the notion of human capital, a more

coherent theoretical and methodological framework must be established. At the enterprise level in particular, standard methods for reporting on human capital should be developed both for the input and the output side.

5.2.2. Framework for human capital reporting

At the enterprise level, economic theory on human capital is relatively underdeveloped while, at the same time, the emphasis on reporting on human capital is growing. It seems necessary to go beyond economic theories and to consider more deeply the managers' perception of enterprises' relationships with the surrounding world.

Which approach will be pursued and whether or not non-statutory reports and accounts will be developed depends on the management and stakeholders' objectives (see above, Chapter 5.1) concerning the interests of the company as well as on the means of achieving these objectives.

Reporting on a company's human capital is one of the means to consider the aims of traditional shareholders as well as the interests of stakeholders.

Following different perceptions of enterprise management, reporting on human capital is gradually changing its focus. Newly devel-

oped approaches link human capital reporting to broader issues, such as internal management or external information provision, rather than focus on accounting frameworks. This shift illustrates that reporting is now becoming the means rather than the objective. This also implies that the notion 'reporting' must be interpreted in its widest meaning, i.e. a systematised disclosure of information rather than being associated with financial statements only.

Clear cut demarcations between different approaches cannot be made, since most approaches tend to be overlapping. Nevertheless, even a primitive division of main approaches, as illustrated in Table 3.16 provides an indication of the gradual shift of orientation.

Originally, the ambition was to validate human capital within an accounting framework, i.e. to put a value on human capital and include it as an asset in financial statements (European Commission, 1995a). Although still debated, this approach appears to be unrealistic in view of the necessary measurement problems and because of the fact that human capital does not generally qualify as an asset within accountancy standards (International Accounting Standards Committee, 1998).

Table 3.16: Main approaches to reporting on human capital

Approach	Calculating costs of personnel policies	Human capital accounting	Human capital management	Strategic management
<i>Period of origin</i>	mid 1960s	early 1960s	late 1970s	early 1990s
<i>Characteristic</i>	Financial utility of personnel selection	Financial value of enterprises' human capital	Learning and dissemination of knowledge as internal management strategy	Combination of financial indicators, human capital, internal business processes, customer relations and innovation
<i>Methods applied</i>	Utility analysis	<ul style="list-style-type: none"> • Human resource accounting • Human resource costing and accounting 	<ul style="list-style-type: none"> • Learning organisation • Knowledge management 	The balanced scorecard
<i>Reporting framework</i>	Cost and benefit calculations	Financial statements	Non-financial statements (if any)	General performance measurements

NB: The period of origin indicates when the approach was introduced. The methods indicated may, therefore, be much younger.

Source: Westphalen, 2000.

As indicated above, reporting at enterprise level is gradually moving from accounting principles to management principles and beyond. Table 3.17 indicates four stages of this process.

The first stage is predominantly based on accounting principles and several utility analyses. The second stage is initiated from a knowledge management perspective that focuses on the optimised use of human capital as a means to gain a competitive edge. The third stage has a global perspective with enterprises and, consequently, their human capital interacting with the surrounding world. Human capital is a dominant element upon which strategies are formulated and implemented and thus forms a major input to the assessment of enterprises' total value, e.g. in form of balanced scorecards.

The fourth stage combines basic information on investments in human capital with human capital strategies and evaluation of returns. Although rather pragmatic and less ambitious than, for instance, the balanced scorecard and other advanced management approaches, this audit system approach to human capital seems to gain more momentum as a useful internal instrument. It can also be used to benchmark enterprises within and across sectors as well as across countries.

Audit systems seem to be more feasible than other methods and show parallels to quality management systems and other alternative reporting mechanisms. However, they do not provide a solution to all information needs related to the growing dominance of intangible inputs to production. Nonetheless the growing utilisation of audit systems and benchmarking programmes by enterprises indicate their practical usability which overrides theoretical and methodological concerns.

5.2.3. Measuring human capital

Many weaknesses in reporting methods originate from the lack of adequate measuring techniques. This relates primarily to the identification of human capital.

Three elements are necessary to identify human capital at the company level:

- (a) to establish a consistent framework for the definition of human capital;
- (b) to identify the processes related to the acquisition, maintenance and development of formal and non-formal competences at the individual level (Bjørnåvold & Sellin, 1998; Frederiksen & Westphalen, 1998);
- (c) to distinguish between individual and collective human capital. Collective human capital encompasses work organisation, work processes, information networks and other forms of intangible, non-visible knowledge embedded in a group of persons rather than in individuals.

The identification of human capital and the forms of its acquisition, maintenance and development were the subject of considerable research in recent years. Although some theoretical and methodological difficulties are still present⁶⁰, it is justifiable to conclude with Hartog (1999) that the

⁶⁰ See also Bjørnåvold (1997a, b, 2000a, b), European Commission (1997a); Bjørnåvold & Sellin (1998); Frederiksen & Westphalen (1998). It should be noted that – when reporting issues at the enterprise and societal level – non-formal learning should not be overemphasised given that the dominant feature on the labour market still is the level of skills acquired through formal learning.

Stage	Characteristics	Start	Methods
Stage 1	human capital within accounting frameworks	early 1960s	<ul style="list-style-type: none"> • human resource accounting • utility analyses
Stage 2	human capital within internally oriented management frameworks	late 1970s	<ul style="list-style-type: none"> • learning organisation • knowledge management
Stage 3	human capital within globally oriented management frameworks	early 1990s	The Balanced Scorecard
Stage 4	human capital as audit systems	early/mid 1990s	Investors In People, benchmarking measures

NB: Each of the stages still exists, although stage 1 in its purest form is declining, stage 4 is just becoming visible.

Source: Westphalen, 2000.

problem is not the definition but the measurement of human capital.

The intangible nature of human capital and difficulties in establishing reliable techniques for its measurement resulted in using crude proxy indicators such as market value instead of booked value (see Ernst & Young, 1997) or costs of input instead of output activities at enterprise level (see above).

Economic measurement methods⁶¹ relate to the costs and benefits of acquiring, maintaining and developing human capital at the individual, societal and enterprise level. Included are direct and indirect education and training costs, and alternative costs, as well as the monetary and non-monetary returns on a given investment. Furthermore, it also includes the returns on the existing stock of human capital and its depreciation. Establishing reliable, coherent and verifiable measurement systems is the biggest challenge for reporting on human capital.

The identification of the stock of human capital may, therefore, to some degree be sufficient to meet future needs and demands. However, this neglects the economic dimension and hampers the detection of over- and under-investments in human capital as well as the choice of alternative strategies related to human capital and, not least, the distribution of costs between different stakeholders.

5.2.4. Interests of stakeholders

In this process, the interests of the main stakeholders in human capital reporting become vital (see also Box 3.20 above). Stakeholders are individuals, private organisations or public bodies having a direct interest in, or being able to influence the use as well as the spread of, human capital reporting.

(a) *Inter- or supranational State organisations* are fairly active in promoting the need for investment in human resources. Thus, the European Commission (1995a, p. 70-72) advocates treating and measuring capital investments and investments in training on an equal basis. However, up to now, the Commission has refrained from influencing development through the provision for or support

⁶¹ Non economic measurement (e.g. educational attainment, years of schooling etc.) are mostly linked to the individual or societal level.

of specific frameworks for human capital reporting. Similarly the OECD (1996f, 1998d, Education at a glance [annually]) has not yet elaborated clear recommendations or specific frameworks.

(b) *Governments'* interests are directed towards efficiency and equity of educational provision, and towards cost sharing on the development of human capital – and of their own personnel, too. Consequently, governments have self-interest as well as a societal concern for establishing reporting mechanisms on human capital. They may, therefore, become a driving force for popularising human capital reports or for regulating compulsory reporting at enterprise level.

Until now, however, it is primarily the Scandinavian and Dutch governments, which have supported pilot studies on human capital reporting, both in private enterprises and public organisations.⁶²

(c) In most cases, *trade unions* are not deeply involved in human capital reporting because of their concern with human relations at the enterprise level. For instance, the ILO stated that 'the inherent risk is one of focusing attention on a purely economic – even econometric – approach to human relations.' (ILO, 1997, p. 222)

Exceptions are, again, found in Nordic countries where trade unions (for example LO, the Danish Confederation of Trade Unions⁶³) have developed human capital reporting policies. These are seen as a means not only to fulfil economic requirements but also to meet social and ethical objectives and, furthermore, to realise lifelong learning and the learning organisation as means to improve the workplace. In the LO approach, outcomes are work efficiency, creativity, staff turnover and absenteeism, which reflect both the enterprises' need for profitability and the employees' interest in an appropriate working environment.

(d) The *investors'* perspective has been the focal point for most of the work initiated by the OECD in this area. The reason for this is the focus on measuring the real value of enterprises given that financial statements do not fully reflect intangible assets, notably the knowledge of employees in high-tech sectors. However, up to now investors

⁶² For information on the Danish government's project see for example: www.efs.dk. See also Dutch Ministry of Economic Affairs, 1999.

⁶³ Cf. foreword to LO, 1998. The 'knowledge account' referred to in this document is the name of a human resource accounting system developed by J. Mouritsen for the Agency for the Promotion of Trade and Industry under the Danish Ministry of Commerce.

themselves seem to have only a little interest in such information.

(e) The reasons for *enterprises* to report on human capital generally reflect the management objective to improve performance. External pressures exerted by investors, trade unions or governments, or internal pressures exerted by work councils or individuals may also influence the decision.

In most cases, enterprises establish human capital reporting in order to obtain:

- external information systems to attract investors;
- internal information systems on human resource issues;
- cost-benefit analysis of investments in human resources;
- improvement in HRM.

However, many pilot projects indicate that other objectives besides those officially stated play an increasing role (Frederiksen & Westphalen, 1998, p. 30). Such objectives are:

- to maintain or improve the enterprise's image in society;
- to indicate social responsibility and ethical values to the outside world;
- to improve marketing concerning present and potential customers;
- to benchmark human resource management and development;
- to attract and retain a qualified labour force.

The use of human capital accounting or reporting is already widespread in some countries. In a survey of human resource managers in companies with more than 200 employees located in Stockholm, 70% of the respondents stated that they are applying reporting systems in some way. Most of them had started to do so in the early 1990s. An investigation conducted by the Swedish Association of Local Authorities found that 22% of the 276 respondents had decided to use human capital accounting. The personnel, accounting, and financial managers showing no interest in human capital accounting was as low as 5% to 15% (Gröjer & Johansson, 1996).

(f) *Employees* are at the heart of any reporting mechanism. Reporting on human capital can be viewed as an instrument 'to create a new contract between company and employee. The individual takes responsibility for his/her own training. [...] The employee undertakes to seek knowledge and

education, while the company undertakes to make the employee suitable for employment.'⁶⁴

However, employees in general do not particularly express an interest until after it has been introduced by management.

In general one can conclude that stakeholders do not formulate policies or strategies concerning reporting on enterprise human capital. Exceptions are a few and isolated pilot projects initiated by dedicated management and, notably, from the Scandinavian countries where both social partners and governments are actively involved in the area. However, even these countries or international organisations have not yet formulated clear policies and most of the work is still dedicated to testing and/or theorising rather than to an active promotion of reporting frameworks.

5.2.5. Market incentives or public regulation?

Despite the clear interest in reporting on enterprises' human capital, a strategy for implementing reporting systems on a large scale has not yet emerged. Although the relevance is not disputed, the question is whether applicable reporting tools can be established and, if so, what information should be revealed: financial or non-financial indicators, or both? Little progress has been made so far in terms of its practical implementation (Schuller, 1997) and wider dissemination. Reasons for this are that the framework has been too limited in scope, deemed unreliable for external use or because it did not sufficiently lead to a value-added as compared with other reporting tools.

For wider dissemination it seems necessary to establish a reporting framework, which is both relevant, relatively easy to apply and can be subject to external audit (for more details see Box 3.25). Furthermore, reporting must be promoted and become available as well as attractive to a wider range of enterprises.

There are several ways to promote such a reporting framework (for details see Westphalen, 2000). The unstructured, voluntary market-based method should be replaced by systematic approaches, either market-based or publicly rewarded, which fulfils ISO 9000 standards and can also be used for benchmarking programmes.

⁶⁴ Jan Mouritsen, Department of Informatics and Financial Management at *Handelshøjskolen København*, from LO, 1998.

Signals of market preferences for specific methods are emerging and a market standard within human capital reporting may be on its way. On the other hand there is little willingness among public authorities to commit themselves to promotion activities by establishing the voluntary rewarding mechanisms seen within other spheres of enterprise issues (with the notable exception of the 'Investors in People' award in the UK; see Box 3.25).

Following from the above, it seems unlikely that public authorities in the near future will issue any form of regulation. Consequently, it must be concluded that, if a standardised framework for reporting on human capital is to emerge on a similar scale to ISO standards or TQM within quality management, it must be market initiated.

Box 3.25: Current reporting frameworks in Denmark, Finland, France, and the United Kingdom

Current reporting frameworks concentrate on elements of the stock of human capital in enterprises, be it the depreciation, the formation or the utilisation of human capital. The majority of these frameworks are viewed as management tools, cost and benefit analyses or quality training standards. Some of the examples presented below are limited in scope and may not qualify as a full human capital accounting instrument (for details see Westphalen, 2000).

Intellectual capital accounts, Denmark

The Danish Ministry for Business and Industry is testing a framework model for human capital accounts ('intellectual accounts'). The project started in 1997 and should be finalised in 2000. The project should 'give an overview of the factors that create development within the company: the people working for it, their qualifications and the way in which they carry out their work...' (Danish Ministry of Business and Industry, 1998, p. 3).

The Danish ministry provides some figures which could be included in an intellectual capital account: Costs of training; IT skills; seniority value of each employee; running-in time for new organisational units; employee satisfaction; costs per process; customer satisfaction. In 1999, the first report on the mid-term experiences of the survey was published (Danish Ministry of Business and Industry, 1999; see also www.efs.dk). Each participating enterprise is developing a highly individualised human capital account and, consequently, the experiences are individualised. Based on this survey, it becomes clear that the presentation of the company as a knowledge intensive enterprise in order to attract employees and customers and as a support for overall business strategies are of overall importance. This indicates that human capital reports are as much external reporting tools as they are used for internal management purposes.

Human resource accounting, Finland

The Finnish Ministry of Finance established a project on a system of human resource accounting in 1995 in the public sector but attributable to private enterprises as well. The following main categories were tested (Rouhesmaa & Bjurström, 1996): current personnel resources (amount, structure, working time, labour costs); future need for personnel resources (demand and supply); development and support of human resources (motivation and ability to work, personnel investments); human resource output and productivity (financial indicators, customer satisfaction, job requirements, performance, merit pay); financial HCA information; cost and income calculation (balance sheet calculation).

According to a survey in 1998, HRA is implemented by 28% of the respondents in the public sector (Eronen & Aho-nen, 1999). The Finnish model reveals the trend towards a broader intellectual capital accounting. Both private and public organisations are searching for alternatives to the HRA and purely financial metrics and indicators (*ibid.*).

Social accounts, France

Since 1977, the law in France has required social accounts for enterprises with more than 300 employees. They are entirely for internal reasons and primarily aimed at providing information for the benefit of employees' bargaining position towards management.

These social accounts provide a richness of detailed information on education, training, etc. Indicators are specified by hundreds of specific descriptions and definitions. This indicates the administrative and organisational burden on enterprises and, consequently, the problems in viewing social accounts as useful for management purposes. Presently, discussions are continuing in France on how to improve social accounts for management purpose use (Fruleux, 1999).

Investors in People, UK

Investors in People (IIP) is a standard on training investments, in operation since 1991. In 1999 more than 33,000 organisations (enterprises, schools, public and private organisations, etc.) covering 33% of the total UK workforce were committed to the standard. The standard does not refer to financial statements but is a relatively simple training needs analysis oriented towards implementing structured training methods (see Hillage & Moralee, 1996). It includes four principles (commitment, planning, action and evaluation) and 24 indicators within an action line (review → action → assessment → achievement → continuous improvement).

The standard is based on a common framework but with a high degree of flexibility. Each IIP plan is highly individualised according to the needs of the individual organisation. From a standardisation point of view this is a weakness but from a usability point of view it is a strength. Once an organisation has been rewarded the Investors award, it has to be renewed on a yearly basis.

Source: Westphalen, 2000.

5.2.6. Human capital reporting standards

Human capital reports have been developed over the past 10 to 15 years. However, reports combining the measurement and management of human capital for both external and internal reasons are a recent phenomenon.

Even more recent are attempts to systematise the development of standardised human capital report frameworks. Such approaches exist in Denmark, in the Netherlands and in the international MERITUM project under the European Union's TSER programme (Box 3.26). To be added are numerous methods developed by consultant companies, most of which, however, focus on internal management objectives. Finally, individual enterprise approaches suffer from their individual styles and their lack of generalisation.

Box 3.26: TSER project 'Measuring intangibles to understand and improve innovation management (MERITUM)'

The aim of the project is to improve the policy-making capabilities of the European Union in the realm of science and technology policy, and particularly innovation policy, by providing a consistent basis for the reliable measurement of intangible investments.

The objectives are the following:

- produce a classification of intangibles;
- analyse management control systems for measuring the outcomes from investments and in using these measurements for management decision making;
- access the relevance of intangibles for the purpose of equity valuation in capital markets;
- produce a set of guidelines to measure and disclose information on intangibles;
- test the validity of guidelines developed.

Four activities are foreseen:

- (a) classification of intangibles;
- (b) management control study;
- (c) capital market study;
- (d) drafting and testing the guidelines.

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E-mail: canibano.sanchez@mad.servicom.es

Most existing standard reporting approaches are at a low abstraction level and thus barely qualify as a human capital reporting tool. How can standards be developed and made operational?

One way is to establish a minimum set of standard indicators, meeting the need for reliability and comparability while still leaving room for individual requirements and perspectives. This is the approach guiding the Danish project, although the framework is not yet developed.

Another question is whether reporting on human capital should be compulsory or voluntary. As mentioned above, public authorities are reluctant to impose a reporting method on enterprises. Also, the French experience does not support regulation in the area since it was intended to strengthen employees' bargaining power against management. Steering by incentives – within a standard framework – rather than by law may establish one or the other variation of human capital reporting, as the UK approach of Investors in People shows.

The ISO 10015 on quality management of training (see below) as well as the Investors in People programme, are examples of a minimalist approach, although training and related areas constitute a major element. On the other hand, Business Excellence, the Balanced Scorecard and other generic management approaches are limited because they operate on a high abstraction level and do not provide operational tools or indicators at the enterprise level.

In between the minimalist and the general approach, specific tools should be developed which address the specific needs of a company concerning internal information and external reporting. Frameworks that will not satisfy the full range of needs and demands expressed by all relevant stakeholders will fail to become more than a short-lived fad.

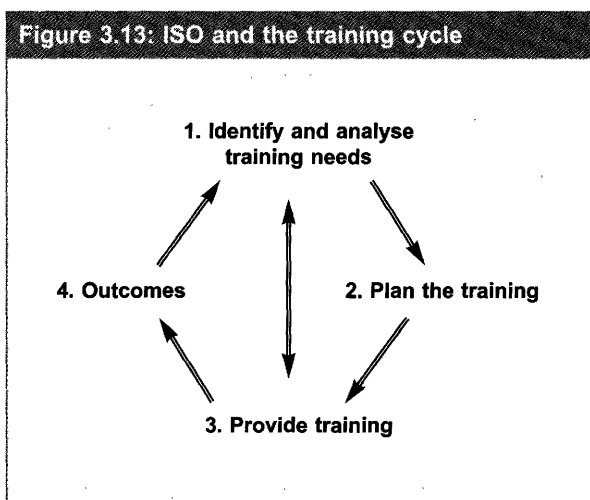
5.2.7. ISO Quality management – Guidelines for training; ISO/DIS 10015

The ISO standard on training was planned to come into force in late 1999 (but has not done so) and is part of the standards on quality assurance and quality management. The standard, as such, is not markedly different from other methods within the area of training needs' analyses but has the advantage of being an international standard. More importantly, it gradually builds up a database of the competences of employees in the enterprise, having chosen the ISO standard which – eventually – can be easily adopted as a means to report on human capital.

Consequently, the interesting aspect of the ISO model, as presented in Figure 3.13, is not the model as such but the perspectives for enterprises over time while using the standard. The standard will gradually build up a comprehensive databank and provide a detailed overview of the competences and qualifications of the enterprise's human capital. Furthermore, if used properly, the standard will also provide information on the flow of human capital, both present and required stock, over time.

This will systematically, and in a standardised form, identify the competences needed compared with the existing competence of its personnel. 'The organisation should identify the competence needed for each task that affects the quality of products, assess the competence of the employees to perform the task, and develop plans to close any gaps' (ISO, 1998, p. 7). This provides an important tool for mapping the present stock of human capital at enterprise level and for constantly upgrading this information.

From this perspective, the ISO standard has the potential of paving the way for reporting on human capital.



Source: Westphalen, 2000.

5.2.8. Conclusions

Human capital reporting is about measuring values and processes related to the acquisition, development and dissemination of knowledge. New approaches combining reporting on and management of enterprises' human capital are emerging. They focus either on specific elements or on the totality of elements constituting human capital and its utilisation.

With the increasing importance of knowledge as an intangible asset, reporting on human capital is seen as a method for estimating enterprises' performance as well as future strategies. This is an advantage compared to other reporting methods, notably financial statements, and is the constituent factor in most strategic management tools developed in recent years.

Potentially, human capital reports are a complex form of measuring, reporting and acting at the same time (Larsen, Bukh & Mouritsen, 1999) which may overcome the barriers between static measuring and active managing. However, there are substantial problems to be solved before the potential will be realised.

Reporting on human capital is still surrounded by a high degree of indecisiveness regarding its direction. Although human capital is highly valued by economic research as well as by policy, it still falls short of being used in a coherent manner. This is primarily due to the intangible nature of human capital, complicating direct measurement. Instead, proxy indicators for human capital will prevail, e.g. used in benchmarking or statistical analyses of the correlation between input investments in human capital and output performance at micro or macro level.

For a number of reasons enterprises show a growing interest in reporting on human capital. Although still primarily occupied with the input side, some programmes and various benchmarking programmes evaluate the return side based on a standardised framework.

Ambitious frameworks for human capital reporting (e.g. in Denmark) try to meet both internal management as well as external reporting needs. Gradually, financial indicators are losing momentum while indicators on human resource management, work environment and development and dissemination of knowledge are gaining.⁶⁵

The future development of a standard reporting framework will depend on whether the stakeholders will formulate clear policies on human capital issues. Leaving this field to consultants only may carry the risk that the focus will be on short-term and internal management needs, thus

⁶⁵ For more details refer to the papers presented at the OECD international symposium in Amsterdam, from 9 to 11 June 1999 'Measuring and reporting intellectual capital: experience, issues, and prospects'. Most papers presented there can be downloaded: <http://www.oecd.org/dsti/sti/industry/indcomp/act/Ams-conf/symposium.htm>.

reflecting the traditional shareholder perspective.

International organisations and most national governments have not yet expressed a clear standpoint on a standardisation and dissemination of reporting tools, although they have expressed general support. Scandinavian governments and social partners and the Dutch government have begun to position themselves, generally along a stakeholder approach. It seems likely that human capital reporting frameworks with a minimum of standardised indicators will emerge. They will not become compulsory, at least in the short term, but will be promoted through financial, consultative and/or political incentives.

Enterprises themselves are increasingly operating with alternative internal and external reporting systems – from financial statements on green accounts to ethical accounts with human capital reporting being only one (sub)system. A common human capital reporting method, however, has so far not emerged. Instead, management approaches, such as the balanced scorecard, the learning organisation and business excellence prevail and are often, misleadingly, believed to encompass human capital reporting.

Unless general approaches are developed, supported by governments and/or international organisations, human capital reporting is likely to focus on the management perspective, thereby neglecting other benefits of human capital reporting, such as attracting qualified employees. On the other hand, if a set of minimum indicators is established, the potential of human capital reporting is likely to be a benefit not only for management but also for other stakeholders (Westphalen, 2000).

6. Exploring skills and training needs by enterprise surveys⁶⁶

Actors and researchers in the labour market are dependent on solid information on the development of labour demand and skill requirements at the

enterprise level. However, this information is still insufficient, due to a lack of appropriate data. The review of empirical studies at enterprise and establishment level demonstrates the potential of those surveys for VET research, too.

This chapter deals with aspects of the flexibility of firms, and the resulting skill requirements, as well as with issues of enterprise training, retention of training leavers and continuing training. Also discussed are the design of enterprise surveys – in particular longitudinal and panel surveys as compared to cross sectional ones – and the value of matched employer-employee datasets.

Decision makers in policy and enterprises, as well as researchers, require reliable information on the development of enterprises' labour demand and skill requirements. Some main reasons are the underutilisation of human resources caused by unemployment and inadequate employment and the need to reinforce competitiveness by human capital investments.

However, available data on the demand side are scarce compared with those on the supply side (workers). Although a large number of enterprise data are being collected systematically they do not focus on – or even neglect – aspects of training and skills and their factors of influence – these are considered to be the most important themes to be addressed by enterprise data (Lynch, 1998).

Moreover, many questions can be answered appropriately only by combining employee and enterprise data. These are, for example, the development of skills and skills requirements, replacement demand and recruitment behaviour, skill shortages or overqualification, earnings and – increasingly important – questions concerning the evaluation of publicly funded training measures.

This chapter focuses on some of these aspects: on training and qualification requirements due to an increased flexibility of firms, on in-company training and retention of training leavers, and on trends concerning continuing vocational training. These fields are most suited to demonstrating the potential of enterprise surveys.

6.1. Methodological aspects

There are basically two approaches concerning data collection at the enterprise level: cross section and longitudinal surveys. Although longitudi-

⁶⁶ This section draws in major parts on the paper of L. Bellmann, 2000: 'Vocational training research on the basis on enterprise surveys: An international perspective'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP. Vol. 2 (published 2001).

nal surveys – e.g. panels on identical enterprises over a time period – are much more time consuming and expensive,⁶⁷ they have decisive advantages concerning their completeness, consistency and plausibility.

Furthermore, collecting data by repeated cross section surveys will not be significantly cheaper since large sized enterprises have to be considered overproportionally in the sample. Longitudinal surveys may – as with repeated cross-section surveys, too – use a modular questionnaire with core items included in every survey and variable items (e.g. those which are not due to rapid changes) over longer time spans.

Concerning data processing, the most important advantages of longitudinal (panel) surveys are the consideration of heterogeneity of enterprises, of cause-impact relationships and of the adaptation behaviour of an enterprise.

A disadvantage of longitudinal surveys is selectivity problems caused, among others, by panel mortality. In general, the probability of survival of a newly established firm is significantly lower than of firms that exist longer. For this reason, the panel should be regularly complemented by new firms which should be presented above average in the longitudinal sample ('oversampling').⁶⁸

There are a number of important aspects that even require panel data. These are, for example:

- the costs of adaptation of staff to changed requirements: these costs normally accrue in a longer time period;
- the question of why an enterprise does not provide training at all or only during a certain period;
- developments over time can be better analysed by repeated enquiries of identical units; this allows the distinction between changes in behaviour of a single firm and changes in the composition of an aggregate of firms;
- questions concerning past periods (as used in cross-section surveys) are subject to mistaken recall; this is not the case for panel data collected over a longer time period.

For additional requirements of longitudinal surveys concerning fieldwork, questionnaires and data processing, see Bellmann, 2000.

Another important question to be answered when conducting enterprise surveys concerns the adequate survey unit: the establishment as a local unit or the enterprise that may be a conglomeration of several establishments?

Experience from enterprise surveys has shown a clear preference for the establishment/unit level since decisions on training and recruitment are increasingly devolved to lower levels in the course of reorganisation of enterprises. Furthermore, important economic indicators like production and turnover, working time, wages, etc. are more likely to be available at the establishment/unit level. Concerning training activities, the Continuing vocational training survey (CVTS: European Commission, 1998a) have revealed that information on continuing training very often even was not available at the enterprise level.

6.2. Selected enterprise surveys

Enterprise surveys – cross sectional or longitudinal ones – which contain information on training and qualifications are carried out by several national and supra-national organisations (Table 3.18).

The largest European survey in the area of VET is the Continuing vocational training survey (CVTS) by Eurostat, carried out in 1993 with the support of national statistical offices (Eurostat, 1997; European Commission, 1998a). The CVTS is repeated in the year 2000. One strength of this database is its potential for international comparisons. Necessary improvements that have been put in place for the CVTS 2000 concern the coordination of national questionnaires and the determinants of continuing training decisions.

Furthermore, Eurostat carries out enterprise demographics (a subproject within the framework of Eurostat's SME Project). The data are provided by national statistical institutes and in most cases based on business registers or administrative registrations of firms. They contain mainly employment figures (by sector and region) but no breakdown by training or skills.⁶⁹

In 1990, Eurostat and the national institutes started a pilot study concerning longitudinal enterprise data ('cohort study'). Small and medium sized enterprises or units have been followed through

⁶⁷ In addition, results will be available only after a longer time period.

⁶⁸ In a cross-section sample this would be not necessary.

⁶⁹ Participating countries are F, NL, A, P, FIN, S, UK. For further information see: European Commission, 1998c, Part 2. For a discussion on methodologies of enterprise panels cf. also Eurostat, 1994b.

Table 3.18: Selected enterprise and establishment surveys with indications of vocational training

Region	Designation of survey	Themes	Organisation	Year	Selected publications
EU	Continuing vocational training survey (CVTS)	continuing training	Eurostat	1993	Eurostat, 1997; European Commission, 1998a; European Commission, Eurostat, Cedefop, 1997, 1999
	Price Waterhouse Cranfield study	management practice			Brewster <i>et al.</i> , 1994
D	IAB-Betriebspanel [IAB establishment panel]	personnel and employment policy (employment, qualifications, training provisions, retention, continuing training, etc.)	<i>Institut für Arbeitsmarkt- und Berufsforschung (IAB) der Bundesanstalt für Arbeit</i>	since 1993	Bellmann <i>et al.</i> , 1996, 1999
	Hannoveraner Firmenpanel [Hannover establishment panel]	personnel and employment policy	University of Hannover	1993-95	Brand & Carstensen, 1995
	Früherkennungssystem Qualifikationsentwicklung [early recognition system of qualification development]	vocational training	9 institutes	since 1998	Alex & Bau, 1998, 1999
	Kosten und Nutzen betrieblicher Berufsausbildung [costs and benefits of in-company apprenticeship training]	vocational training (costs, benefits of initial training)	<i>Bundesinstitut für Berufsbildung (BIBB)</i>	since 1994	Bardeleben <i>et al.</i> , 1995, 1997
	Weiterbildungserhebungen [continuing training surveys]	continuing training (duration, participants, costs)	<i>Institut der Deutschen Wirtschaft (IW)</i>	1987, 1992, 1996	Weiß, 1997
US	National employer survey (NES)		National Center on the Educational Quality		Lynch & Black, 1995
	Longitudinal research database		US-Bureau of Census		Troske, 1999
	BLS survey of employer provided training	continuing training	US-Bureau of Labor Statistics (BLS)		Frazis <i>et al.</i> , 1995
	ASTD state of the industry report	continuing training, management practice	American Society for Training and Development	since 1997	Bassi & McMurrer, 1998, 1999; Troske, 1999

Source: Bellmann, 2000.

time (until 1994); the data contain, among others, production and employment figures by sector, but no information on training and skills.⁷⁰

⁷⁰ See European Commission, 1998c. Results are available for DK, F, P, FIN, S, and the German *Land* of Lower Saxony.

An additional source for 'enterprise surveys' is the Community labour force survey (CLFS) which contains a question on the number of persons working in a unit in the reference period of the sample. However, the CLFS refers to structural data only (characteristics of workers and jobs) and provides no informa-

tion on individual changes over time or on key enterprise data (e.g. turnover, employment strategy etc.).

National enterprise surveys in the field of VET are, for example, the survey by the American Society for Training and Development (ASTD; www.astd.org), surveys by the Institute of German employers (IW; www.iw-koeln.de), by BIBB (www.bibb.de) and the German establishment panel carried out by IAB (www.iab.de).

6.3. Selected subjects covered by enterprise surveys

A number of subjects in the area of vocational training research – being closely connected with the labour market and with firms – can adequately be treated only by surveys on people and enterprises (supply and demand side).

In the following we concentrate on three subjects covered by diverse enterprise surveys: flexibility of firms; training behaviour and retention of apprentices; and continuing training. These show the potential of enterprise surveys for a deeper analysis of the underlying causes and consequences.

6.3.1. Flexibility of firms

Firms' measures to increase flexibility are closely connected with an increase in skill requirements. Changes in the organisational structure of an enterprise, like teamworking, devolution of responsibilities by flattening hierarchies, amalgamation of units and establishment of profit centres, the introduction of just-in-time production, etc. tend to increase both the demand for skilled workers and the necessity of continuing training. Subcontracting and outsourcing result in the emergence of new service enterprises close to production. A central determinant for these is not solely the utilisation and deployment of workers, but also the entire structure of the enterprise, its human resources and strategies.

There are close links between internal and external flexibility on the one hand and growth, competitiveness and employment on the other (European Commission, 1993; OECD, 1996g). To react to these external challenges, enterprises seek to restructure their organisation of work and production. The awareness has grown that flexibility of workers is the key for success, in particular arising from the acquisition of new skills and competences.

Business process reengineering which covers the whole value added chain of an enterprise including subcontractors and purchasers aims to utilise better the qualification and motivation potentials of employees. To this end, competences and responsibilities are being decentralised in a consequent way.

The creation of autonomous centres, replacement of improvement processes from central to operational units (continuous improvement process), intensified team and group working and total quality control are some aspects which might be covered by enterprise surveys in order to gain insight into the degree to which enterprises are on the way to increasing internal or functional flexibility.

Brewster, Hegewisch & Mayne (1994) emphasise that enterprise flexibility often not only refers to internal flexibility but much more to external and numerical flexibility.⁷¹ In- and outflows of personnel, atypical work contracts, adaptation of working time or duration of contracts and the emergence of core and marginal workers within an enterprise are key variables which should also be part of enterprise surveys.

There are close links between internal and external flexibility. A high external flexibility may affect work productivity, the commitment of staff, recruitment and internal mobility. Training for auxiliaries, seasonal and temporary workers or for peripheral workers is dropped since it does not pay.

Thus functional flexibility in an enterprise will be decisive for a long-term oriented enterprise policy concerning adaptation to external requirements. Enterprise surveys should provide information on the strategies followed by firms of different sizes to adapt to the needs of the market, of customers and of production, and to balance these with working time, internal skilling and participation of workers.

The practice of human resource management was subject of diverse European case studies, e.g. the Price Waterhouse Cranfield Study (see Brewster *et al.*, 1994), studies by Hutchinson & Brewster (1994) and by Doherty & Nyhan (1997). Also of interest are comparisons between European and US firms which indicate an approximation of the different 'philosophies' (Nyhan, 1999).

It is not surprising that the emphasis on labour market flexibility tends to be too narrow and should be replaced by a broader perspective of

⁷¹ For a definition of external, internal, numerical and functional flexibility see Tessaring (1998b, p. 55).

organisation theory. The Swedish NUTEK study (1996) defines flexible organisations by four characteristics: organised improvement of knowledge and skills; devolution of responsibilities; flat hierarchies; and individualised wage systems. According to this perspective, the entire structure of the organisation, its human resources and strategies are to the fore, and not only the deployment of workers.

As in the NUTEK study, the spread of flexible organisations is one of the main themes of the analysis by Bellmann *et al.* (1996) based on the establishment panel of the German Institute for Employment Research (IAB). The study discusses flexible enterprises and working time, wage flexibility, innovations of products and processes, research and development and the state of initial and continuing training. Furthermore the employment impact on workers with different qualifications of the introduction and extension of flexible forms of organisation and of innovation is of great interest (Box 3.27).

Box 3.27: IAB establishment panel

The IAB establishment panel started in 1993 (in West Germany; since 1996 also in the new German *Länder*) and is a survey of around 10,000 establishments/units (1998) which are interviewed annually. In order to analyse start-ups and closures, every year newly established firms are integrated into the panel. The questionnaire contains a standard part and a variable part.

Themes addressed are, among others: stock and changes of personnel, structure of qualification and other characteristics of workers, enterprise planning and investments, provision of apprenticeship training places, internal continuing and further training, wages, working time.

For more details see Bellmann, 1997, 2000; Bellmann & Lahner, 1998; Bellmann *et al.*, 1999; for additional information see: www.iab.de.

Some highlights of the IAB panel results are (Bellmann, 2000):

- reduction in low skilled workers and increase in skilled and higher skilled workers (in particular higher education graduates);
- firms carrying out process innovation in manufacturing and services feature high employment gains;
- organisational changes (e.g. group working, retrenchment of hierarchies, devolution of responsibilities to lower levels, amalgamation of units, establishment of profit centres, introduction of

just-in-time production) tend to reduce the number of workers in a firm, at least in the shorter term;

- in the longer term, organisational restructuring will lead to employment increase for skilled and highly skilled workers;
- small and medium sized enterprises in particular have a high potential for organisational change.

6.3.2. Training and retention of workers

Enterprise surveys permit the analysis of the intensity and behaviour of training activities of companies, as in their reasons for not training due to specific enterprise structures (e.g. size or sector). Furthermore, by observing the training behaviour of companies over time, the changes and reasons behind them can be analysed. The results presented below refer to German surveys (see Box 3.18).

(a) Some results of IAB's *establishment panel* (Dietrich & Bellmann, 1998; Bellmann & Neubäumer, 1999a, b) are:

- SMEs provide (apprenticeship) training above average in relation to the number of their employees (training intensity see also Table 3.9 above); more than 50% of all apprentices are trained in SMEs;
- there is a general trend of reduction of training enterprises; the training behaviour of firms is dependent on the sector, firm size, on turnover perspectives, the qualification structure of workers and on the type of region (large city, periphery, country);
- the provision of training is above average in most sectors in manufacturing whereas sectors of production-related services train below average;
- the training commitment of firms may be hampered by lack of training eligibility, high training costs, lack of ability to retain people after training and a shortage of suitable applicants;
- a comparison of employment change and provision of training places shows that firms reduced employment much more than training places;
- the results of analysis of varying influences on the retention of workers after training in the firm show that firms train young people beyond their own demand for skilled workers. They do not retain all those leaving training if returns are decreasing or the business situation deteriorates;
- it is also noteworthy to mention that a growing number of young people are offered a tempo-

rary or part time work contract after the completion of training.

(b) Enterprise surveys are also at the heart of the new system of 'early recognition of skills', supported by BMBF and carried out jointly – with different approaches – by nine German research institutes (Alex & Bau, 1998, 1999; Kloas, 1999; for more details cf. Part 4, Section 4.4.2 in this report; website: www.frequenz.net), including also enterprise surveys. The BIBB carries out surveys in around 1,900 'reference firms' willing to participate in this activity on a regular basis. Questions concern their training and continuing training commitment, changes in skill requirements in the course of product and process innovations and of organisational changes. The Infas institute analyses SMEs in particular in service sectors (case studies) and the ISW institute – based on interviews with 'trend-setter' companies – tries to identify 'trend qualifications', for example those emerging from the use of trend-setting new technologies.

(c) *Costs and benefits of training* analysis has been carried out by BIBB several times based on enterprise case studies (Bardeleben *et al.*, 1995, 1997; Kau, 1994)⁷². It became clear that the company's training costs can be recorded much easier than the respective benefits, in particular non-monetary and longer term benefits. Enterprises train in order to recruit skilled workers not available on the external labour market. Moreover, training allows identification of the most capable young talents, thus improving their commitment to the firm and reducing the fluctuation rate.

6.3.3. Continuing vocational training⁷³

Numerous analyses (mostly econometric ones) based on enterprise surveys discuss the returns to CVT and in particular the impacts of CVT on productivity (see also Part 5, Chapter 1).⁷⁴ Increasingly such studies are focusing on the evaluation of publicly funded CVT measures (e.g. for CVT controlling).

Enterprise surveys that deal with the provision of CVT by enterprises include:

- a panel survey by Gerlach & Jirjahn (1998) for several hundred manufacturing firms in

Lower Saxony (D), carried out in 1993-95. A great number of factors influencing firms' CVT activities have been identified. The authors conclude that firms invest in CVT only if positive returns are expected. Increased CVT offers for workers with skill deficits does not take place, thus an improvement in their employment situation cannot be expected from these measures. Moreover, to employ the long-term unemployed on probation and to train them further is not expected to be a successful strategy as long as there is a reservoir of skilled workers without the stigma of unemployment.

- A similar approach to the determinants of CVT offers by firms was used in IAB's establishment panel (special questionnaire in 1997). The results (Düll & Bellmann, 1998) reveal a heterogeneous pattern of CVT in Germany:

- (i) the willingness of firms to offer CVT increases with the size of the firms;
- (ii) CVT offers vary considerably and are most infrequent in agriculture, hotels, restaurants and cleaning;
- (iii) the qualification structure of workers, investments in modernisation and non-availability of skilled workers in the external labour market are the main factors influencing CVT activities;
- (iv) higher skilled workers have significantly better chances of participating in CVT measures than lower skilled;
- (v) CVT activities in companies are closely connected with framework conditions, in particular a targeted deployment and work organisation concept;
- (vi) larger sized enterprises regard CVT more as a complementary strategy to initial training whereas SMEs do not have a systematic CVT strategy.

- Enterprise surveys carried out by the Institute of German Employers (IW) in 1987, 1992 and 1996 with almost 1,400 firms participating (in 1996) show that firms prefer short term and internal CVT arrangements (Weiß, 1990, 1994, 1997). These measures are organised in a time economical way and just-in-time. New media in CVT have not yet got off the ground but the highest increase is in learning at the workplace and self-directed learning. Most firms intend to intensify the evaluation and efficiency of their CVT.

⁷² Cf. also the first research report (Tessaring, 1998b; Part 2, Chapter 3.3).

⁷³ Cf. also the discussion of CVT in the first research report (Tessaring, 1998b; Part 3, Chapter 4.4).

⁷⁴ Those studies are not included in this chapter, however.

• The CVTS carried out by Eurostat in 1994 (Eurostat, 1997; reference year: 1993)⁷⁵ within the framework of the FORCE programme consisted of interviews with 50,000 representatives of enterprises with more than 9 employees.⁷⁶ The European Commission, Eurostat & Cedefop (1997) and the European Commission (1998a) have published selected results.⁷⁷ It would be unhelpful to present the numerous results here because they differ substantially from country to country. The report of the European Commission (1998a) contains comparative results, among others, on:

- (i) enterprise activities, participation of workers in CVT and forms of CVT programmes, broken down by several characteristics;
- (ii) duration and intensity of CVT participation;
- (iii) future qualification requirements and an estimate of the further development of continuing training activities.

However, because the survey is restricted to CVT measures, important determinants of CVT intensity (e.g. investments, technological state of the firm, influence of the works council) cannot be analysed.

• In the US, too, several surveys address aspects of company CVT activities. Worthy of mention here is the benchmarking exercise of the American Society for Training and Development (ASTD, surveys since 1997 on a voluntary basis), special comparative surveys, e.g. for 'leading edge' companies, and a smaller enterprise panel in the steel industry. An interesting result is the positive relation between training and CVT on the one hand, and performance of the firm on the other.⁷⁸ More details can be found in OECD (1999a) and Bellmann (2000).

• The OECD (1998d), based on a review of research literature for different countries, concludes that training increases not only wages for individuals (see Part 5, Chapter 1 in this report), but also has a positive impact on productivity for those firms that train and innovate. The gains go equally to workers and firms. Productivity gaps between countries are attributed to different investments in human capital. Enterprise-based

training has the greatest impact on performance when undertaken in connection with changes in work organisation, job structure, and, sometimes, technological innovation.

• Barrett & O'Connell (1998), based on a panel survey of 260 Irish firms, even found that investment in general training had a positive and significant effect on firms' productivity. This positive effect also remains when controlling for changes in work organisation and corporate restructuring. No such effects were found for firm-specific training.

6.4. Merging employer-employee datasets

A deeper insight into training and CVT aspects, and a challenging perspective for VET research, is to be expected by merged datasets combining employer and employee data. This research field is emerging rapidly: Abowd & Kramarz (1999a, b) refer to around 100 studies from 15 countries which have been worked out in the past five years (many of them are still discussion papers).

There are important reasons for considering both sides' individual preferences and enterprise strategies concerning training. Neither is independent from the other: individual choice of training takes into account existing training offers and the perspectives within the firm or on the labour market linked to training. Enterprises take account of the available human resources in the internal and external labour market when deciding on training.

As far as we know, matched datasets do not yet exist for flexibility and training issues as discussed above. Most studies concern wage structures and labour demand.

Examples are (for more details see Bellmann, 2000):

- the merging of French labour force survey data 1987 with available enterprise data 1978-87 (Kramarz, 1994; Entorf & Kramarz, 1998);
- similarly, Goux & Maurin (1997) matched data from labour force surveys with enterprise surveys in France;
- Troske (1999) and Bayard & Troske (1999) use a similar dataset of the US Bureau of Census;
- Schone (1999) analyses the wage effect of CVT measures with matched data for Norway;

⁷⁵ The CVTS is being repeated in 2000.

⁷⁶ However, several sectors (e.g. agriculture, education and health, public services) were not included in the survey.

⁷⁷ See also the discussion of the CVTS in the first research report (Tessaring, 1998b; Part 3, Chapter 4.4).

⁷⁸ This finding, however, should not be interpreted as a causal relationship: better-performing firms possess more financial means to invest in training and CVT.

- Bellmann *et al.* (1999) merged the IAB enterprise panel with the employment statistics⁷⁹ of the Federal Employment Services in order to analyse the flexibility of qualifications;
- since 1993, OSA in the Netherlands has elaborated combined labour force supply and demand panels (Allaart, 1996);
- Frazis *et al.* (1998) for the US and Krebs *et al.* (1998) for Canada interviewed firms' representatives as well as selected employees in these firms.

6.5. Conclusions

The discussion in this chapter has shown that enterprise surveys are becoming an unrenounceable instrument for vocational training research. However, a number of questions remain concerning the design of enterprise surveys and the elaboration of merged datasets for employers and employees, in particular for international comparative surveys. Experience with existing national surveys indicates several issues, which should be included in such surveys.

A framework of information concerning the firm's personnel and employment policies, as well as its economic background, is necessary to evaluate important factors that influence training and skill needs:

- the survey should preferably be designed as a panel, thus incorporating significant advan-

tages concerning the techniques of data collection, survey and processing;

- furthermore, a survey of a representative group of employees within the enterprises is indispensable in order to construct merged employer-employee datasets and to compare different estimations and preferences of both sides.

- the greatest potential for analysing enterprise surveys – in particular longitudinal studies – is offered by econometric methods. Therefore, a number of additional items should be included in the survey in order to gain insight into the most important influences on enterprise training activities (and, by using merged datasets, also by consideration of factors induced by the demand and supply side);

- questions concerning enterprise activities in training and CVT should be complemented by future skill requirements;

- international comparisons – based on joint activity in several countries – are useful to qualify national observations concerning, for example, the commitment of enterprises to training, skill requirement, recruitment and deployment policies, etc. First steps in this direction have been undertaken by the CVTS, and further potential lies in Eurostat's enterprise demographics. Although – due to considerable national specifics – an international comparison of factors influencing in-company training using econometric methods appears to be difficult, a solid European enterprise register is a good basis for a projection of national samples.

⁷⁹ Statistics of employed persons covered by the social security system.

Part four

Employment, economic performance and skill mismatch

Despite the recovery of European labour markets in recent years, in terms of increasing employment and decreasing unemployment figures, structural imbalances are still evident. This is evident in the persistent high level of long-term unemployment, the relatively weak position of women and younger people and the increasing degree of 'hidden unemployment', i.e. people who have been sorted out of regular employment during the long preceding periods of unemployment. Considering the widely acknowledged economic and social benefits of knowledge and skills, and their contribution to economic performance and social cohesion, efforts should be continued to raise the skill level of the population by attaching greater importance to the education and training of the lower skilled and of other groups of disadvantaged people in contemporary European societies.

In this context, research increasingly widens the notion of skills which are 'traded' in the labour market. Taking into account the diachrony of time scales between the acquisition of skills and their productive use in the labour market, and in view of the limited explanatory power of formal qualifications, research and policy increasingly focus on competences which comprise both the skills acquired in institutionalised forms of education and training, and skills imparted by work experience and learning outside schools. This extension of the notion of competence has an important impact on the links between education, training and work, and also on the definition of imbalances between these systems.

In a dynamic perspective, imbalances in the labour market are discussed in several ways. Studies dealing with 'skill mismatch' attempt to explain the persistence of unemployment by heterogeneous skill profiles of the workforce and, in particular, by the poor employment prospects of lower skilled people who are increasingly affected by technological change and restructuring of economies. Another explanation of persistent long-term unemployment refers to 'state dependence', and in particular to the obsolescence or loss of skills during long periods of unemployment and the decreasing valuation of skills by employers.

In a more qualitative view, 'overqualification' denotes a situation where people are less and less able to make use of their skills at work. This phenomenon seems to be a growing problem in most European countries. However, its definitions, approaches and implications are not always clear-cut and call for more intensive research. Finally, and often simultaneous with the structural imbalances mentioned above, 'skill shortages' are gaining in importance in several European countries. Most of these shortages exist in the ICT sectors and are seen as major inhibitors to innovation and competitiveness if not resolved by appropriate measures in education, initial and continuing training of workers.

Measures to shape VET systems and to prevent these imbalances need, among other inputs, information on possible future developments of skill supply and demand. Although there is considerable scepticism as to the value of forecasts for individual and political decision-making, forecasting activities are intensified in many countries and at all levels – national, regional and enterprise level. A similar situation applies with more 'qualitative' approaches which try to transcend the restrictions imposed by available statistical data and the complexity of labour markets by including the expectations and strategies of stakeholders. These approaches appear to be adequate if the statistical infrastructure is not very well developed. In an ideal situation, however, quantitative and qualitative approaches should supplement each other and thus try to design a comprehensive picture of possible futures, considering quantitative indicators as well as policies and options of all actors concerned.

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1. Basic facts on employment in Europe

In recent years, employment has grown in Europe, and unemployment is on the decrease, though it still remains at a high level compared with the United States and Japan. Throughout this, structural change towards services (in particular business, health and social services) and towards high-skill occupations continues.

However, according to the Community labour force survey of 1999, there are still substantial differences between the sexes and between younger and older people in terms of employment rates, unemployment and other features of the labour market. In addition, hidden unemployment – also due to the persistent numbers of long-term unemployed who retired, discouraged from participating in the labour market – has reached a high level.

1.1. Employment situation¹

In 1997-98, the number of employed in the European Union increased by 1.8 million (+ 1.2%). This was the highest growth rate since 1990. Employment growth in the EU is still lower than in the US, but has exceeded that of Japan. Some features (European Commission, 1999c) are worthy of attention.

- Between 1991 and 1997 *total employment* grew in the US by almost 2% per year; in the EU it grew by 0.5% p.a. Low employment growth in the EU was mostly due to the low employment growth or even decrease in Germany.² The rest of the Member States increased employment by around 1% p.a.
- The US has surpassed the EU in terms of *employment rates*³. Whereas employment rates in 1975 were almost equal (EU: 64%, US: 63%), in 1998 the US rate stood at 75%, and the EU rate fell to 61%. The lead of the US rate is fully explained by higher employment in services.

- *Employment change* in the EU was marked by:
 - (i) job losses in agriculture and manufacturing (job losses of the latter were particularly high in Germany);
 - (ii) services growth particularly in health, social services and business services and in particular in Germany;
 - (iii) a shift towards higher skilled occupations (managers, professionals, technicians).
- Although the shift towards *service sectors* in the EU continued in 1998, for the first time for many years the number (not the proportion) employed in industry rose, too.
- For the first time in the EU since 1990, there was more than a marginal increase in the number of *full-time jobs* although part-time employment still rose considerably. Between 1994 and 1998, 78% of net additional jobs created were part-time. In addition, the number of people working in jobs with fixed-term contracts increased significantly.
- Whereas total EU employment increased significantly, in 1998 the number of *self-employed* remained the same as in 1997, and the share of self-employment thus fell to around 14.5%. One of the reasons was the decline in agricultural self-employment.
- The number of *occupations* demanding high skills continued to grow. Managers, professionals and technicians accounted for most of the overall job growth in the EU over the period 1994 to 1998, while the number employed in unskilled or low-skilled manual jobs declined. An exception, as found in every recovery period, is the job increase in low-skilled sales and service occupations. Altogether, however, the loss of jobs in almost all other occupational groups was particularly significant for unskilled manual workers, with an average job loss rate of almost 2% per year over this period. This occupational shift was common to most Member States. The only countries where the number of manual workers increased were Spain, Ireland and the Netherlands.

The US (25.3%) has a significantly higher share of high skill occupations (managers, professionals, technicians), than the EU-15 (21.1%; Table 4.1). However, in the US manual jobs did not decline, and job increases for sales and services workers were higher than in the EU. Moreover, the EU figure is pulled down by the four Southern Member States with shares of 16% or less. The three Nordic states, the Netherlands and the UK had higher shares than the US. The share of

¹ Current employment issues and further information on activities and publications are available on the websites of the European Commission and of Eurostat:
<http://europa.eu.int/comm.htm>;
<http://europa.eu.int/comm/dgs/eurostat.htm>.

² With regard to the relatively low employment performance in Germany over the period 1994 to 1998, the European Commission has excluded Germany in some figures (e.g. employment change in manufacturing) in order to explicitly suppress the 'German effect'.

³ Number of people in work as % of the working-age population.

Table 4.1: Employment by occupational groups relative to working age population 15-64, EU-15 and US, 1997, %

	Managers, professionals, technicians	Clerks and sales workers	Manual workers^(a)	Elementary occupations	Total (employment rate)^(c)
Netherlands	31.2	16.4	13.9	5.2	66.7
Denmark	28.4	21.5	18.0	9.6	77.5
Sweden	28.1	19.8	17.9	3.7	69.5
United Kingdom	27.5	22.1	15.6	5.7	70.8
Finland	26.6	13.8	18.7	4.8	63.9
Germany	23.6	14.9	17.8	5.4	61.8
Luxembourg	23.1	16.8	14.2	6.5	60.6
Belgium	22.5	15.1	14.3	5.4	57.3
Austria	21.5	19.1	23.0	6.3	69.9
France	21.2	15.9	18.3	4.8	60.1
Ireland	17.3	17.9	17.4	5.2	57.8
Portugal	16.4	16.9	27.1	7.2	67.5
Greece	15.8	12.8	24.9	3.3	56.7
Spain	13.9	11.5	16.4	6.8	48.6
Italy	13.3 ^(b)	16.1	16.9	5.0	51.3
EU-15	21.1	16.3	17.5	5.5	60.5
United States	25.3	26.3	17.7	4.7	74.0

(a) Skilled agricultural and fishery workers, craft and related trades workers, plant and machine operators;

(b) Eurostat noted that this rate seems implausibly low;

(c) % of working age population 15-64 years.

Source: European Commission, 1999c, Table 5 (EU-countries sorted by share of managers/professionals/technicians).

highly skilled workers in Austria, Germany, Luxembourg, France and Belgium was around EU average. Table 4.1 presents the employment figures by broad occupational groups 1997 in EU countries and the US.

* The OECD (2000b) published the structure of population and labour force by *educational attainment* for the first time according to the revised ISCED classification (see Box 4.1). The new ISCED 1997 introduces a multi-dimensional classification, allowing for the alignment of the

educational content of programmes and for information on whether a specific programme gives access to subsequent education or training routes or to the labour market. However, detailed data were not yet available for the majority of OECD countries.⁴ Table 4.2 illustrates the distribution of the labour force by the new ISCED levels of educational attainment.

⁴ For more information on the allocation of educational levels to ISCED see OECD (2000b, Annex 3).

Table 4.2: Labour force(*) by level of educational attainment in selected OECD countries, 1998, %

	Pre-primary and primary education	Lower secondary education	Upper secondary education			Post-second, non-tertiary education	Tertiary education		All levels
	ISCED 0/1	ISCED 2	ISCED 3A	ISCED 3C short	ISCED 3B/3C long	ISCED 4	ISCED 5B	ISCED 5A/6 (research)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Australia	x(2)	38	a	11	22	x(5)	10	19	100
Austria	x(2)	21	a	55	6	6	5	8	100
Belgium	11	21	a	7	28	x(4)	17	16	100
Canada	x(2)	16	x(5)	x(5)	28	14	22	21	100
Denmark	n	17	a	49	5	x(5)	22	6	100
Finland	x(2)	26	a	a	41	a	18	15	100
France	15	18	30	3	10	0.2	11	12	100
Germany	1	11	a	55	1	5	10	16	100
Greece	39	9	2	2	23	5	5	15	100
Ireland	16	25	m	m	32	x(5,7)	13	13	100
Italy	15	32	3	6	27	6	x(8)	12	100
Japan	x(2)	18	a	x(5)	50	m	11	20	100
Netherlands	8	20	a	x(5)	43	x(8)	x(8)	28	100
Norway	0.1	14	a	39	18	1	2	26	100
Portugal	66	13	x(5)	x(5)	11	x(5)	3	8	100
Spain	34	24	0.4	5	10	n	7	18	100
Sweden	9	12	x(5)	x(5)	49	x(7)	16	14	100
Switzerland	x(2)	16	a	52	7	x(4,5)	10	15	100
United Kingdom	x(2)	14	28	17	14	x(9)	9	17	100
United States	4	7	x(5)	x(5)	51	x(5)	9	29	100

(*) 25 to 64 years of age.

Legend:

a: data not applicable because the category does not apply;

m: data not available;

x: data included in another column [e.g. x(2) means that data are included in column 2].

NB: For notes on countries see OECD, 2000b, Annex 3.

Source: OECD, 2000b, Table A2.1b.

Box 4.1: Revision of ISCED

The new ISCED classification of education 1997 takes account of some complementary dimensions, compared with the previous ISCED (1976):

- the *type of subsequent education or destination* for which those completing education are eligible, or the type of labour market positions for which they prepare graduates;
- the *programme orientation*, in terms of the degree to which the programme is oriented towards a specific class of occupations or trades.

The following distinctions are made with reference to Table 4.2.

ISCED 0: pre-primary education;

ISCED 1: primary education or first stage of basic education;

ISCED 2*): lower secondary or second stage of basic education, giving direct access to ISCED 3A, 3B or 3C or entry into the labour market;

ISCED 3A: giving access to ISCED 5A;

ISCED 3B: giving access to ISCED 5B;

ISCED 3C: not giving access to level 5, but to labour market, level 4 or other level 3 programmes (further distinction by duration);

ISCED 4*): post-secondary non-tertiary level programmes that straddle the boundary between upper secondary and tertiary education. These may be more advanced programmes at upper secondary or post-secondary level, preparing either for entry to ISCED 5 or into the labour market;

ISCED 5A: theoretically based tertiary education, research preparatory or giving access to programmes for professions with high skill requirements;

ISCED 5B: practical, technical or occupationally specific programmes;

ISCED 6: tertiary education leading to an advanced research qualification.

*) Further differentiation is made for ISCED 2 and 4.

Source: Unesco (see also Tessaring, 1998b, Annex, pp. 290 ff.).

In some countries (Ireland, Italy and Greece) more than 40% of the labour force did not complete upper secondary education; this proportion increases to 58% in Spain and to 79% in Portugal. Around 50% or more of the labour forces in Denmark, Switzerland, Austria and Germany completed an upper secondary education programme at levels 3C long and 3B. Japan, Canada, Norway, the Netherlands and the US are those countries with the highest proportions of workers at research-oriented tertiary levels 5A and 6.

1.2. Employment patterns

Figure 4.1 and Figure 4.2 provide some basic information on the structure of employment in the EU-15 by gender and for young people, based on the Community Labour Force Survey (CLFS) 1999 (Eurostat & Franco, 2000). As in most European figures, there are large variations across countries. This report is, however, not the place to analyse in detail country-specific employment patterns. We refer to the publications by Eurostat, in particular to the results of the CLFS and to the comprehensive discussion in 'Employment in Europe' (several issues) by the European Commission.⁵

Two thirds of the total EU population (= 370 millions) is of working age, 17% are younger than 15 years, and 16% older than 64 years. More than 9% of the labour force⁶ (171.5 millions) is unemployed and 31% of the 15-64 year olds are non-active.

Figure 4.1 and Figure 4.2 display some more detailed features of the employment structure 1999 relating to males and females and to younger people.

- Employment rates⁷ differ substantially between men and women (Figure 4.1): whereas 72% of men at working age are in gainful employment, this is true for only 53% of women. Concerning sectoral employment, four out of five women are employed in the service sectors (men: 56%). However, every third woman works on the basis of a part-time contract (men: 6%).

- The distribution of the population by educational attainment (ISCED levels⁸) reveals a well-known picture. More than one third of the European population belongs to the lower skilled group, more than 40% have skills at the intermediate level, and 21% have a higher skill levels. Women are disproportionately represented in the low skill group, and, correspondingly, underrepresented in the higher levels.

- Men are employed in full-time jobs (more than 93% of all employees) to a significantly higher degree than women (66%). In addition, women are somewhat more frequently employed in temporary jobs than men.

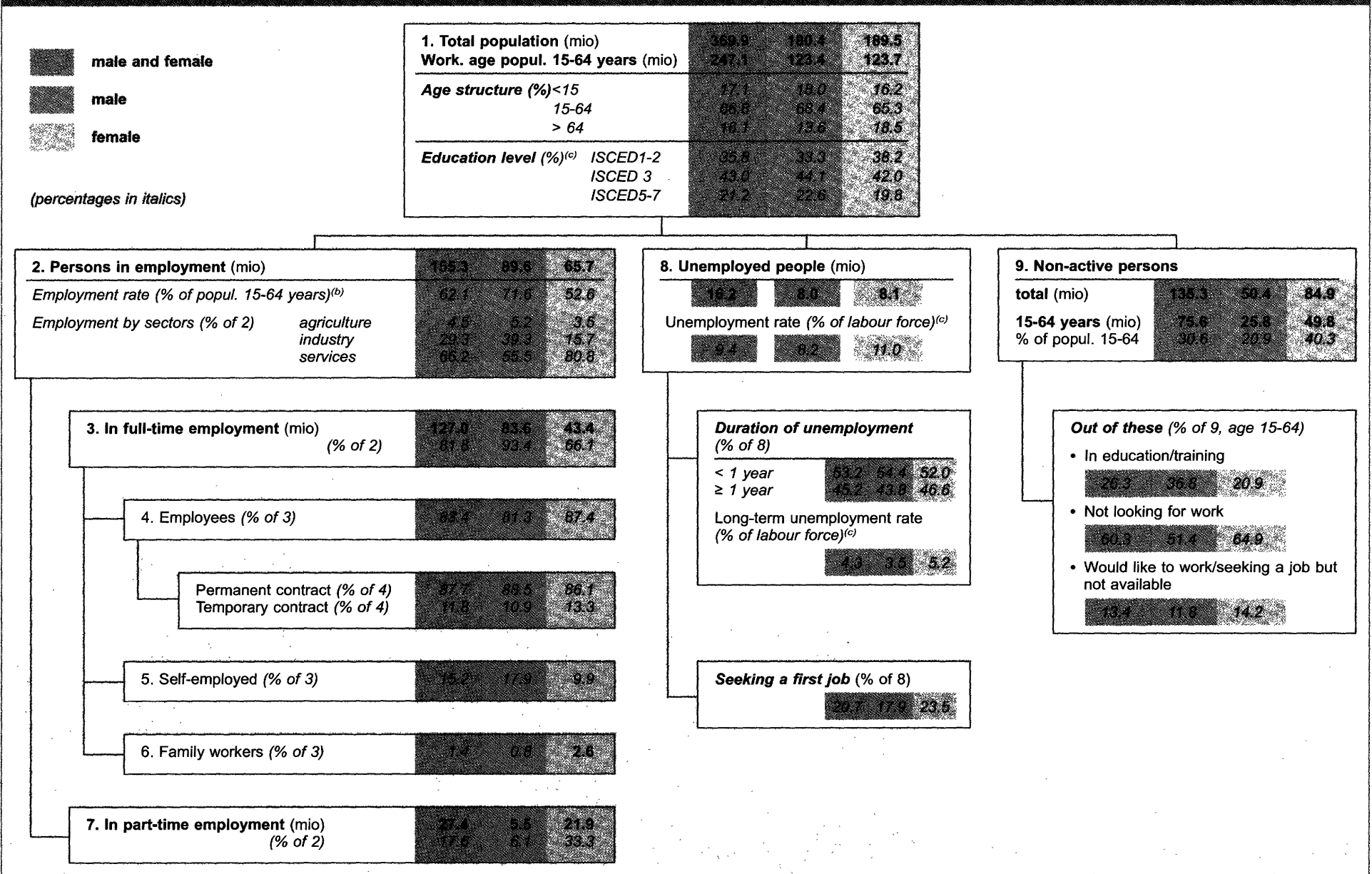
⁵ The latest issue of 'Employment in Europe 2000' became available in late spring 2000 and could not be considered in detail in this report.

⁶ Sum of employed and unemployed people.

⁷ Employed persons in private households (without unemployed) in % of the working age population (age 15-64 years).

⁸ ISCED 1976; for the distribution of the labour force by 'new' ISCED 1997 levels see Table 4.2.

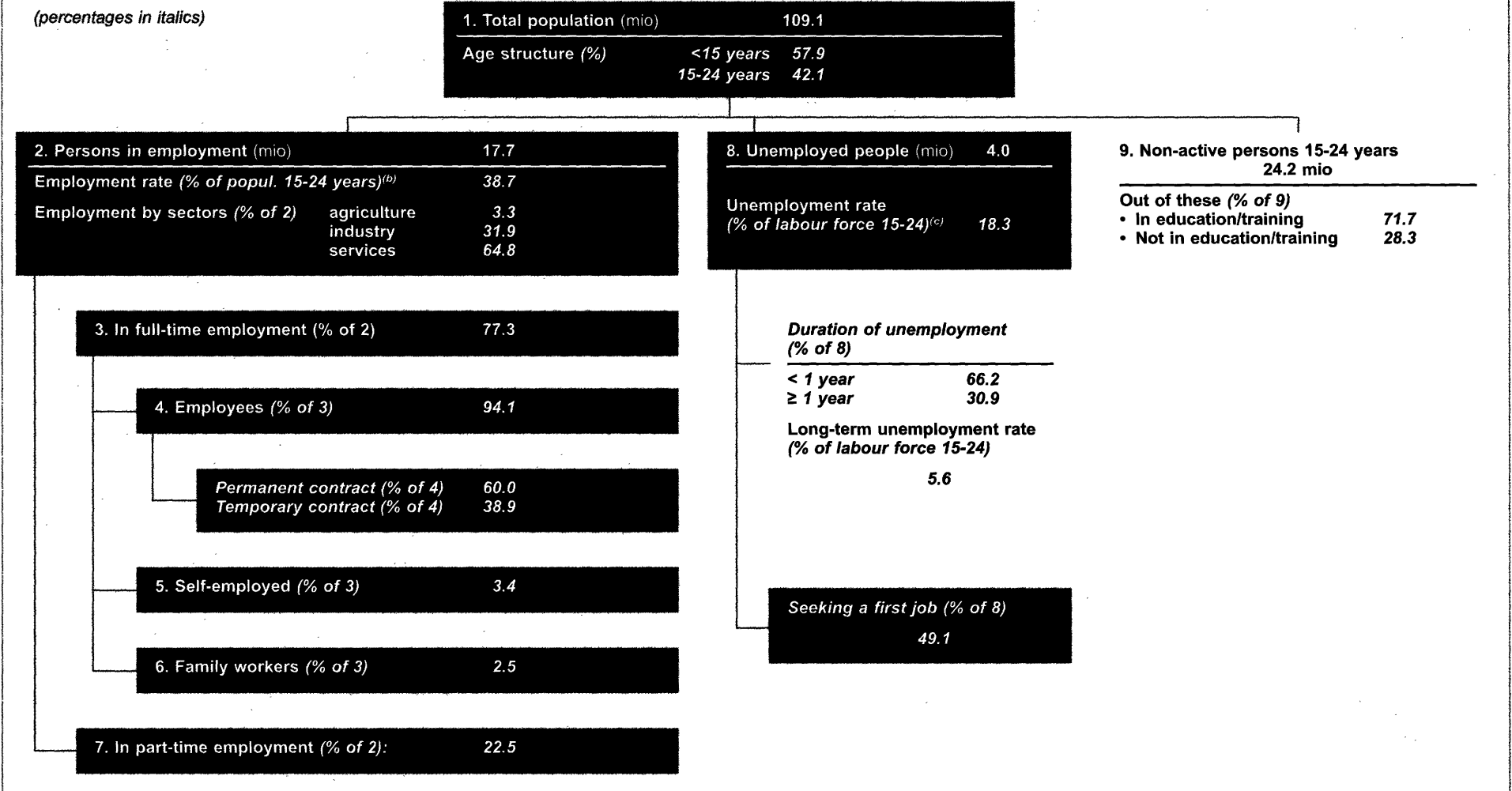
Figure 4.1: Employment situation in Europe by gender, EU-15, 1999^(a)



(a) Greece: 1998; (b) in private households; (c) employed and unemployed persons.

NB: Sums of subcategories do not always add up to 100% because of non-response; partly estimated by the authors; for further details, see Eurostat: Community labour force survey – methods and definitions, 1998.

Source: Eurostat & Franco, 2000.

Figure 4.2: Employment situation of young people aged less than 25 years in Europe, EU-15, 1999^(a)

(a) Greece: 1998; (b) in private households.

NB: Sums of subcategories do not always add up to 100% because of non-response; partly estimated by the authors; for further details, see Eurostat: Community labour force survey – methods and definitions, 1998.

Source: Eurostat & Franco, 2000.

- There are considerable variations concerning self-employment (men: 18%, women: 10%).
- Of all inactive people aged 15-64 years, around 26% are in education or training programmes (men: 37%, women: 21%).

Figure 4.2 contains an equal set of indicators for young people aged less than 25 years. Some of the main features are:

- their lower employment rate (39%) is due to the large proportion of younger people still in education and training (38% of the total age group 15-24 and 72% of inactive young people). Another 6% of this age group are neither in employment nor in education or training;
- compared with the total European workforce, younger people more often work part-time (22.5% compared with 17.6%). Furthermore,

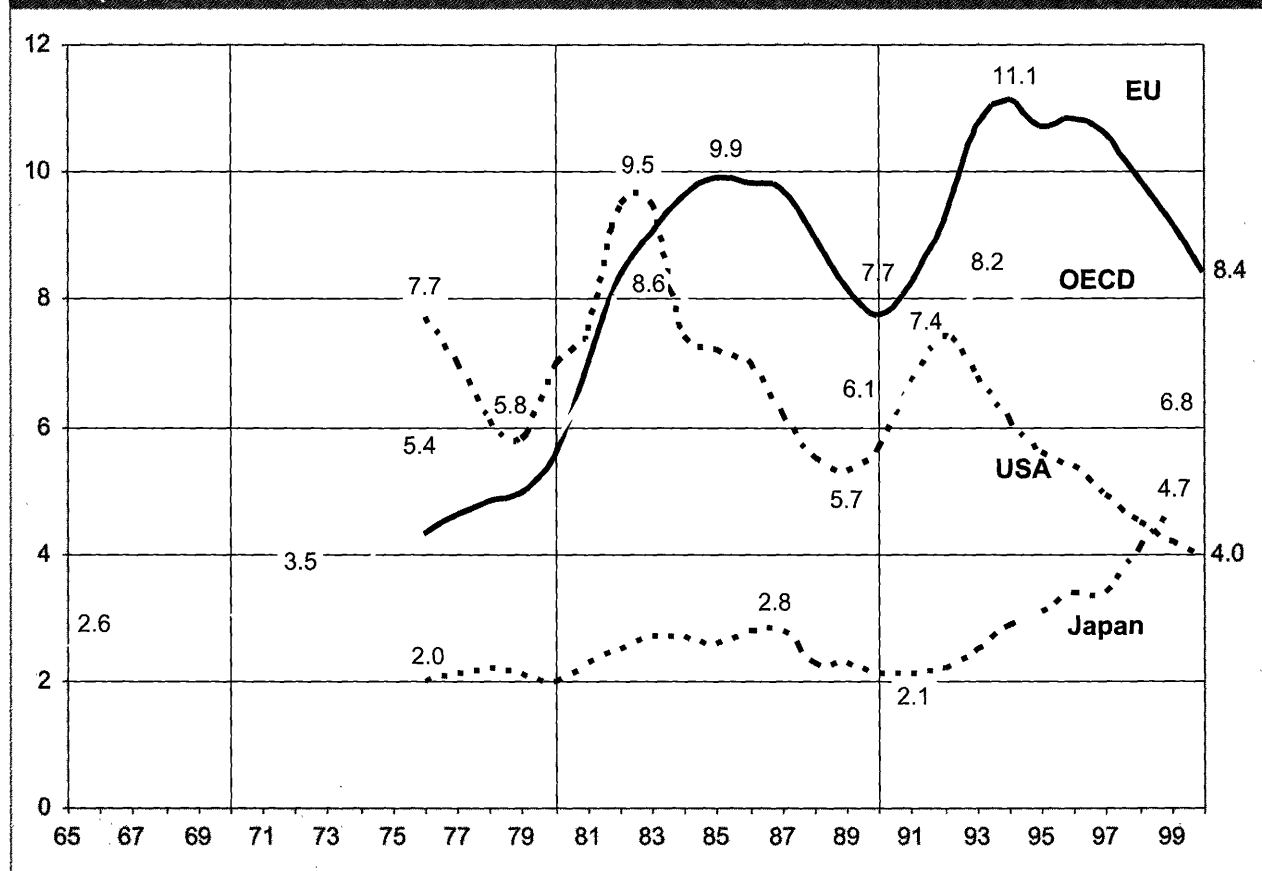
many young employees (39%) have temporary contracts only (total: 12%). Not surprisingly, the share of self-employed is much lower at this age than is the case for the total workforce.

1.3. Unemployment

The long-term development of unemployment since 1965 in OECD countries shows a clear cyclical behaviour with peaks in the four major recession periods 1969-72, 1973-77, 1979-83 and 1990-93 (Figure 4.3). After each economic upswing, unemployment stabilised at a higher level. We will come back to this phenomenon later in Chapter 4.1 below.

In the early 1980s, and after a steady increase during the 1970s, unemployment rates in the European Union surpassed those of the US. The

Figure 4.3: Unemployment rates in OECD countries, the European Union, the United States of America and Japan, 1965/75 - 1999/2000, %



Legend: annual averages; EU-data: % of labour force; OECD data: % of civilian labour force, standardised unemployment rates.

Sources: OECD: Economic outlook, various issues; Eurostat Newcronos database: unemployment, theme 3, Series B (various issues); European Commission, 1999c; Bollens, 2000; Gries *et al.*, 1998.

decrease in European rates in the second half of the 1980s, however, was not sufficient to return to the previous level of unemployment. In the first half of the 1990s, unemployment rates (annual averages) reached an unprecedented level of 11%, but started to decline in the last years of the last decade (2000: 8.4%).⁹

US data show a clear cyclical behaviour with peaks in the early 1980s and 1990s, and troughs in the late 1970s and 1980s. From 1992, US unemployment fell steadily and reached an unprecedented low level of 4.0% in 2000. In Japan, the extensive period of extremely low unemployment rates (2-

3% until the mid-1990s) was followed by a relatively sharp increase – due to the ‘Asian crisis’ – in the second half of 1990s. In 1999, the Japanese unemployment rate (4.7%) even surpassed the US rate – but was still half the European rate.

According to the Community Labour Force Survey 1999 (Eurostat & Franco, 2000; Figure 4.1), unemployment rates differ substantially by gender. Whereas 8.2% of the male labour force is registered as unemployed, female unemployment stands at 11%. Equally, women are much more affected by long-term unemployment (LTU) than men: the female LTU rate is 5.2%, that of males 3.5%.

It is also interesting to note that the proportion of unemployed women who are seeking a first job

⁹ For current unemployment rates see the Eurostat website: <http://europa.eu.int/comm/eurostat>

Table 4.3: The composition of the labour force potential by gender, EU-15, 1999			
Status	Total	Men	Women
		1000	
1. Full-time employees	105 901	67 938	37 963
2. Self-employed	19 267	14 952	4 315
3. Family workers	1 831	689	1 142
4. Part-time employment	27 370	5 465	21 905
Sum 1-4: People in employment^(a)	155 273	89 557	65 716
5. Unemployed < 1 year	8 595	4 364	4 231
6. Long-term unemployed ≥ 1 year	7 309	3 516	3 793
Sum 5+6: Unemployment^(b)	16 156	8 023	8 133
7. ‘Hidden unemployment’ ^(c)	10 140	3 052	7 088
Total labour force potential^(d)	181 569	100 632	80 937
		%	
1. Full-time employees	58.3	67.5	46.9
2. Self-employed	10.6	14.9	5.3
3. Family workers	1.0	0.7	1.4
4. Part-time employment	15.1	5.4	27.1
Sum 1-4: People in employment^(a)	85.5	89.0	81.2
5. Unemployed < 1 year	4.7	4.3	5.2
6. Long-term unemployed ≥ 1 year	4.0	3.5	4.7
Sum 5+6: Unemployment^(b)	8.9	8.0	10.0
7. ‘Hidden unemployment’ ^(c)	5.6	3.0	8.8
Total labour force potential^(d)	100.0	100.0	100.0

(a) Incl. people without statement of employment status; (b) incl. people without statement of unemployment duration; (c) people who would like to work under certain conditions but are not registered unemployed; (d) incl. without statement.

Source: Eurostat & Franco, 2000 (Community labour force survey 1999); own compilation.

exceeds that of men considerably (23.5% / 18%). This proportion (for all age groups), however, does not only reflect the transition from education and training to work – although this aspect certainly predominates – but also the first entry to work in later age years, e.g. of women after their family phase.

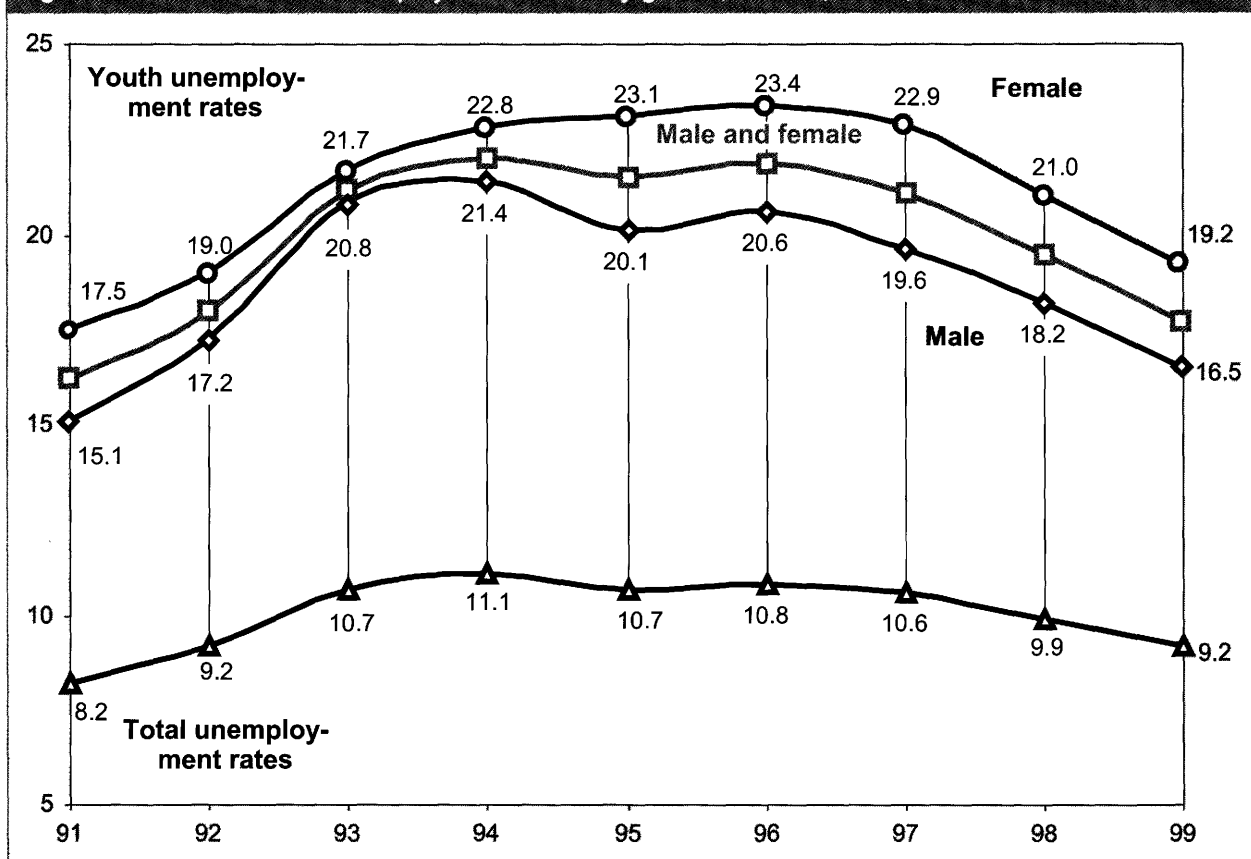
Figure 4.1 also indicates the ‘hidden labour force’, i.e. those people who are not registered as unemployed but are willing, under certain conditions, to take up work. It can be assumed that many of these were ‘sorted out’ during their long-lasting previous period of unemployment, and that many of them became discouraged. Altogether in 1999, almost 39% of all economically inactive people aged 15 to 64 years – registered and hidden unemployed – (men: 28%, women: 47%) who would like to work or are seeking a job, belong to hidden unemployment (Table 4.3). In absolute numbers, there are around 10 million non-registered job seekers in addition to

the registered unemployed (16 million). In other words, almost 15% of the ‘potential European labour force’ are unemployed or wish to work under certain conditions.

Figure 4.4 – based on the unemployment statistics of Eurostat – illustrates the unemployment rates of young people aged less than 25 years in the period 1991-99 by gender. After increasing up to 1994, youth unemployment tends to fall. In 1999, the youth unemployment rate stands at 17.7%. Over the whole time period considered here, youth unemployment rates almost double total unemployment rates in the EU.

According to CLFS data, in 1999 (Figure 4.2) 31% of all young unemployed are long-term unemployed – somewhat surprising for this age group. The long-term unemployment rate (LTU; percentage of the labour force 15-24 years) stands at 5.6% and thus is even higher than the total LTU rate across all age groups (4.3%).

Figure 4.4: Youth and total unemployment rates ^(a) by gender, 1991-99, EU-15, %



(a) Less than 25 years of age; annual averages.

Source: Eurostat: Unemployment, Theme 3, Series B (various issues).

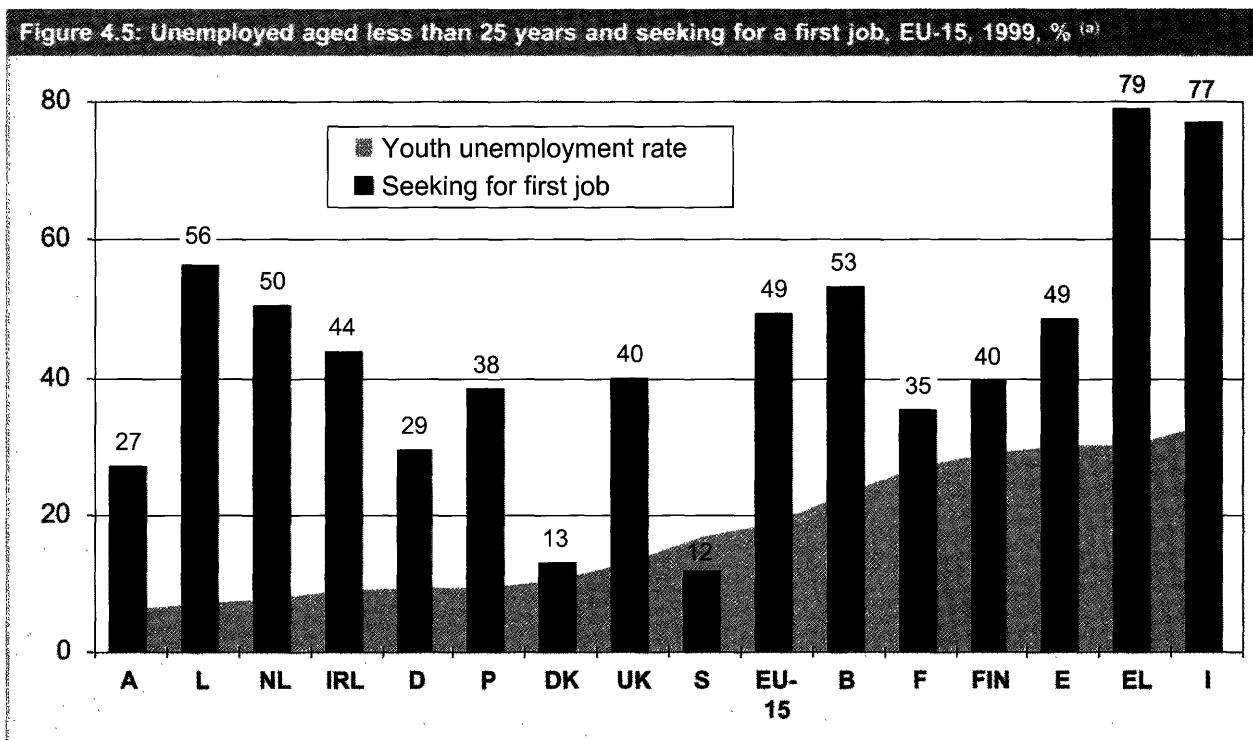
On average in the EU, almost 50% of young unemployed people are looking for a *first job*. This indicates – much more clearly than for the total population – the problems young people are facing in their transition to the labour market (see also the discussion on transitions in Part 5, Chapter 2 in this report). However, here again, variations across EU countries are enormous as Figure 4.5 shows. The proportion of the young unemployed seeking a first job ranges from less than 15% in Sweden and Denmark to around 50% and more in Belgium, Spain, Luxembourg and the Netherlands. In Greece and Italy, almost 80% of the young unemployed are looking for a first job.

There is no – or at best only slight – correlation between youth unemployment rates and the proportion of unemployed first job seekers, although in countries with a relatively high youth unemployment rate the proportion of first job seekers exceeds 40% (except France).

This may also be due to statistical reasons: youth unemployment rates relate unemployed young

people to the labour force (at same age). If more and more young people stay longer in education and training, the potential labour force in these age groups will become smaller and, in consequence, youth unemployment rates will increase. The same would be the case, if, for example, the number of unemployed were to remain constant and the labour force were to decrease, e.g. for demographic reasons (or if unemployment were to decrease more slowly than the labour force).

Furthermore, the figures related to first job seekers are highly dependent on the definition of training and of the national education and training systems. If in one country apprenticeship training is predominant (normally, apprentices have a training contract and are, legally and statistically, defined as employees), seeking a job after completion of training would not always be defined as a search for a ‘first’ job. Equally, young people who leave active labour market measures may not assess their job search as ‘seeking a first job’. Finally, the inclination of young people to register as unemployed after training depends, among other things, on national regulations concerning unemployment benefits for young people without previous time in work and social security contributions.



(a) Youth unemployment rate: unemployed youth in % of labour force of same age; number of people looking for a first job in % of unemployed youth.

Source: Eurostat, Franco 2000; countries ranked by youth unemployment rate.

These findings, however, need much more analysis than can be done here. But they should be borne in mind when discussing national patterns of skill mismatch, unemployment and transition to work, as will be done in the following chapters and in Part 5, Chapter 2 of this report.¹⁰

1.4. Conclusions

In the last years of the previous decade, employment in the EU rose and unemployment decreased to 8.4%. Employment change in the EU was marked by an ongoing shift towards services, in particular health, social and business services, and towards high skill occupations.

However, there are still considerable distortions in European labour markets between men and women as well as between younger and older workers in terms of employment rates, educational attainment, and employment in full-time and permanent work contracts.

Furthermore, falling unemployment figures should not give rise to relaxation of efforts to combat unemployment. Unemployment rates tend to remain at an ever-higher level after each economic recovery period, and around half of the unemployed are long-term unemployed. What is more, hidden unemployment has reached a considerable number: around 10 million people in addition to the registered unemployed (16 million) in 1999. A large part of these may be considered as discouraged workers who retired from the labour market or as persons who fell out from 'official' unemployment registers.

The transition to working life for young people – once unemployed after completion of education or training – remains difficult. Around 50% of unemployed youths under 25 years of age are still looking for a first job, though there are large variations between countries.

These findings call for ongoing policies to combat unemployment and exclusion, as well as for targeted measures in favour of those most hit by

structural change and shortage of labour. As in the past, the main target groups are women, young people and the long-term unemployed, but also, increasingly, discouraged workers of all ages and sexes.

2. Education, training and economic performance

The first report on VET research in Europe presented a discussion and empirical evidence on macroeconomic costs and the benefits of education and training (Tessaring, 1998b, Part 2, Chapter 3.2). This review is, in most of its parts, still valid. Therefore, we will only recapitulate some essential statements, complemented by additional research results.

The most frequently discussed benefit of education, training or of human capital in macroeconomic terms¹¹ is the contribution to economic growth. However, there are a number of additional benefits, most of them intangible or less accessible for empirical research. Examples are the effects on health, crime or participation in social and political life. Furthermore, the avoidance of aspects such as unemployment or marginalisation has a direct effect on reducing governments' spending for unemployment benefits or other transfer payments.

2.1. Contribution of education and training to growth

The starting point for study of the links between economic growth and human capital is the growth model of Solow (1956) which explains GDP growth by investment in physical capital and labour. The basic assumptions are decreasing returns to scale¹² in a market of perfect competition. This model could, however, explain only a part of GDP growth. Other factors of influence on growth are treated as 'residuals', in particular exogenous technical progress, human capital or demographic change.¹³

¹⁰ More information on employment and unemployment aspects by level of qualification are presented in Section 4.1.1 below. Further data are given in the first research report (Tessaring, 1998b, Part 2), and in the Key data on vocational training in the European Union (European Commission, Eurostat, Cedefop, 1997, 1999; see also European Commission, 2000a, and Cedefop, European Commission, Eurostat, forthcoming).

¹¹ The effects of education and training at the enterprise level are discussed in Part 3, and at the individual level in Part 5, Chapter 1 of this report.

¹² Returns to scale indicate that rate at which output (e.g. production of goods) changes as the quantities of all inputs (investment in physical capital and labour) are varied.

¹³ For a discussion of Solow's growth model see Barrett (2000).

Research work in the 1960s and early 1970s tried to explain this residual in particular by measuring the contribution of human capital.¹⁴ ‘Growth accounting models’ showed that between 21% and 40% of the GDP growth in the US 1929 to 1956 could be explained by human capital accumulation.

Cross-country comparisons revealed that lack of qualifications among workforces could result in bottlenecks of productivity and growth development. However, they left the crucial question open whether more education and training would lead to higher economic growth.

For a long time there was no further substantial development of growth theory. It was not until the late 1980s and early 1990s that new insights were offered into the dynamics and sources of economic growth. These ‘new growth theories’, inspired by Lucas (1988) and Romer (1990, 1994) tried to model and explain particularly the role of innovation, technical progress and human capital. These factors of influence were no longer treated as exogenous (‘falling from the sky’) but as endogenous ones.¹⁵

The key term is ‘knowledge’, created either by research and development (R&D) and/or by learning in a firm. Since new knowledge cannot be kept secret, other firms will benefit from R&D and human capital. These spillovers or external effects will lead to an increase in total output and, in turn, to more resources available for R&D. Thus, knowledge is increasingly generated within an economy. In addition, human capital is also generated through the production process itself by learning on-the-job: human capital accumulation is the outcome of the production process and contributes to economic growth. R&D, knowledge and human capital accumulation will lead to innovative and new products as well as to improved quality and thus are decisive engines of growth.

A number of studies conducted in the 1990s more or less confirmed the significant positive influence of R&D and human capital, in addition to investments in physical capital, on economic growth (OECD, 1998d). Mankiw, Romer & Weill

(1992) even explained 80% of the variation of national income levels across 98 countries by the effects of investment in real capital, human capital and the compound effect of population growth, technical change and depreciation.

Griliches (1996) reviewed work in this area. Although he found that the initial level of schooling (basic literacy) is a robust factor contributing to growth, there are also repeated findings that changes in the level of schooling or human capital do not contribute to growth, at least in the period 1965 to 1985. One explanation put forward by him is that a large number of highly educated people in several countries were absorbed into the public sector. Similarly, Barro & Sala-I-Martin (1995) found that growth in labour input (number of employed, hours worked and educational attainment) made almost no contribution to output growth in four European countries. Increases in educational attainment and employment were partly offset by a reduction in working hours per person.

Although the new growth theory has substantially contributed to explanations of the role of human capital, Bodenhöfer & Riedel (1998) underline that these are often based on very specific models and artificial assumptions. Basically, the new growth theory has not produced new substantial insights but implemented long known ideas into the model of equilibrium growth. W. Petty and A. Smith, for example, already put forward the notion that the whole capital of a society also includes the abilities and skills of all its residents.

Moreover, education and skills are only one variable among many in the explanation of economic growth. Levine & Renelt (1992) have identified more than 50 variables in growth literature that correlated significantly with economic growth. However, many of these are auto-correlated.

Sometimes, discouraging results in studies on the contribution of human capital to growth and the deduced scepticism about the role of schooling for economies may also be due to data problems in comparative studies. Many of them are affected by implausible inconsistencies in primary data or by breaks of time series.¹⁶ Therefore, it remains a challenge to research as well as to statistics to

¹⁴ For an overview on these studies see, for example, Bowman, 1980, and Bodenhöfer & Riedel, 1998.

¹⁵ Other new growth theories also ‘endogenised’ population growth as a factor for economic growth (via the influence of education and training on fertility).

¹⁶ Fuente & Doménech (2000) present a new data set for cross-country studies, concerning educational attainment and its evolution over time. These data are available at: <http://iei.uv.es/~rdomech/human.html>.

develop the modelling further and to provide a comparative and consistent database.

The contribution of education and training to *employment* is not as clear as assumed. In an economic view, increased employment will only be achieved if GDP growth exceeds a certain level of productivity. This relationship between GDP growth and employment growth can be illustrated by the 'employment intensity', i.e. by the question 'how much will employment change if GDP increases (or decreases) by 1%?' Werner (1998) shows, for example, that in the US a very small GDP growth is sufficient to increase employment by 1%. In Germany, on the other hand, employment will only rise with a GDP growth of almost 2%. The link between education and training on the one hand, and employment growth on the other therefore is an indirect one: via the stimulation of GDP growth. Some of these issues have also been discussed in Tessaring (1998b, Part 2). We will not deepen the discussion here but refer to some TSER projects which deal with these and related questions (Box 4.2).

Box 4.2: TSER projects on employment and labour market

'Full employment in Europe' (thematic network)

The general objective of this thematic network is to reintroduce and substantiate the concept of full employment into the economic policy discussion in the European Union, on the Community as well as on the national and regional/local level. More specifically this includes the following three sub-objectives:

- (a) the development of an analytical understanding of the endogenous and external reasons why full employment has been widely abandoned as economic policy goal;
- (b) the elaboration of the necessary modifications and differentiation which must be made in a full employment strategy in contemporary Europe as compared to the three decades after World War II;
- (c) the concretisation of the instrumental and institutional aspect of an appropriate full employment strategy as a multi-layered policy at the European, the national and regional/local levels, paying particular attention to the mutual links between the different levels.

Coordinator: J. Huffschnid, University of Bremen, *Institut für Europäische Wirtschaft und Wirtschaftspolitik*; E-mail: huffschnid@ewig.unibremen.de

Report: Full employment, solidarity and sustainability in Europe. Old challenges, new opportunities for economic policy. 1998.

'TRANSLAM - social integration by transitional labour markets: New pathways for labour market policy'

This project aims to develop a theoretical analysis of the nature of transitional labour markets.

In this framework the main aims are the following:

- to examine the transitions provided by flexible working time arrangements, in particular part-time work;
- to evaluate active labour market policies in terms of their capacity to prevent social exclusion and to support social integration;
- to examine the performance of education and training systems with regard to the provision of basic skills and competences, as well as access-inequalities to education and training, over some length in a person's educational and occupational trajectory.

Coordinator: G. Schmid, *Wissenschaftszentrum Berlin für Sozialforschung GmbH*, Germany. E-mail: gues@medea.wz-berlin.de

Final Report: G. Schmid, 1999: TRANSLAM – Social Integration through Transitional Labour (SOE1-CT95-3007; TSER034).

2.2. Social benefits of education and training

Studies collected by Coopers & Lybrand (1996), Behrman & Stacey (1997, mostly US studies) and the OECD (1998d) show significant positive correlations (not necessarily causalities) of education with non-monetary aspects.

- Better educated people can process more health-related information. They generally have better health prospects, lower mortality and morbidity, less heart disease and hospital utilisation and lose less working time through sickness. In general, the human capital stock is negatively correlated with infant mortality (Nehru *et al.*, 1993).
- Research findings reported by Behrman & Stacey (1997) indicate the major crime-reducing effects of education. These are not only due to higher educational attainment by individuals, but also the 'socialising and supervisory activities of educational programmes. Reducing early school dropout and failure may contribute significantly to avoiding crime and anti-social behaviour amongst young people' (OECD, 1998d, p. 67).
- The avoidance of unemployment by higher education and training is an issue which has been addressed throughout this report. This is not only a benefit for the individual, in terms of work career,

avoidance of skill losses and social exclusion (as discussed later in this Part and in Part 5, Chapter 3 of this report), but also a benefit for society which avoids transfer payments to the unemployed and therefore resources which could be allocated in other and more 'productive' fields of social action. Table 4.4 presents some OECD estimates on the expected years of unemployment over a working lifetime according to level of education.

These estimates, with some exceptions, show clearly that individuals with higher levels of education are likely to spend far fewer years in unemployment than less educated ones. In

some countries, such as in Finland, Ireland, Spain and the UK, people with lower educational levels can expect to lose five or more years of their working life in unemployment. However, these external effects – which influence decisively economic development as well as quality of life – have not yet been considered sufficiently in economic growth models.

2.3. Conclusions

Although obvious in common thinking, the links between economic growth and skills are not easy to measure, nor are the links between skills and employment change. The relationships are more indirect: they operate through the impact of the skills of the workforce on knowledge dissemination, research and development, innovation and technical progress.

In general, these positive impacts have been confirmed by a number of research studies based on theories of endogenous growth. However, there are numerous other factors that influence growth and employment, many of them also indirectly linked to skills and knowledge.

Other benefits from training and skills are – although obvious – still more difficult to capture through empirical work or to integrate into models of economic growth. These are mostly 'intangible' benefits from improved information and knowledge, such as health, crime-reduction and political participation. What can be expressed better by empirical figures is the link between avoidance of unemployment and higher educational attainment: more highly skilled people are likely to lose fewer years of their working life in unemployment. This yields both individual and social benefits.

On the whole, research confirms the essential influence of knowledge and skills on economic performance, even if this is not always proved by concrete numbers. To put it another way: it is not imaginable that economic, technological and social change could have been achieved without the high investment in education and training of the past decades. Thus, it seems clear that refraining from ongoing efforts to raise the skill level of populations would result in economic and social stagnation, in particular in view of the challenges to be met in the future: enlargement of the EU, rapid technological change, increasing internationalisation and the avoidance of polarisation and social exclusion.

Table 4.4: Expected years of unemployment^(a) over a working life by level of educational attainment, men aged 25-64, 1995

	Educational attainment		
	Below upper secondary (ISCED 0-2)	Upper secondary (ISCED 3)	Tertiary (ISCED 5-7)
Austria	1.6	0.9	0.6
Belgium	3.0	1.4	0.9
Denmark	4.0	2.8	2.0
Finland	6.8	5.8	3.1
France	4.4	2.5	2.1
Germany	4.5	2.3	1.6
Greece	1.8	1.7	1.9
Ireland	5.0	2.3	1.4
Italy	2.2	1.4	1.8
Luxembourg	0.7	0.6	0.1
Netherlands	1.9	1.1	1.1
Norway	2.2	1.4	0.9
Portugal	1.9	1.6	1.4
Spain	5.6	3.9	2.9
Sweden	4.3	3.3	2.0
Switzerland	2.3	0.9	0.7
UK	5.4	2.9	1.6
US	3.0	1.7	1.1

(a) Expected years of unemployment represent the number of years an individual would spend in unemployment over a working lifetime at current rates of unemployment (for further methodological information see OECD, 1998d).

Source: OECD, 1998d, table A4.1b.

3. Dynamics of labour market and competences¹⁷

Traditional ways of analysing the relationship between education/training and employment are all too often based on formal education and training certificates and imply a functional relationship between both systems.

In order to understand more clearly how individuals are assigned to jobs, what is exchanged on the labour market and what kinds of skill-related imbalances have to be distinguished, the concept has to be enlarged in two ways: the consideration of different time scales in which education, training and production operate, and the notion of 'competences' as a vector of different – formal and non-formal – human productive capacities that are acquired in various places, at various times and by various means.

In doing this, the relationship between the 'production' and 'consumption' of knowledge becomes more complex than is generally assumed and the phenomena of skill mismatches need to be more clearly defined. Avoiding wastage of human resources while maintaining the flexibility to readjust to needs that are constantly being redefined is an ongoing challenge for policy. Imperfect information and the incompatibility between the time scales that govern the production of skills within education and training systems and their utilisation at work make it difficult to find an easy solution based on reliable economic or social calculations.

In most European countries, the labour market is currently recovering due to increasing employment and economic growth (see Chapter 1). Unemployment figures are decreasing – although slightly in most cases – and medium term perspectives are seen as much more positive than was the case some years ago. In the longer term, there are hopes (state: autumn 2000) that unemployment in the European Union will decrease considerably, also due to a demographically induced fall of the labour force potential, sustained economic upswing and creation of additional jobs, labour market programmes and the deregulation of labour, capital and financial markets.

This is not the place, however, to discuss these current developments in detail.¹⁸

However, long-term unemployment and imbalances are expected to remain persistent problems of European labour markets, coincident with skill and labour shortages in particular areas (e.g. ICTs, engineering, technicians) and different countries (see also Chapter 4.3). Skills gaps – unemployment and shortages, overqualification and underqualification, different labour market situations across countries and regions – cannot be overcome by economic and employment recovery solely. They require appropriate policies at all levels: economic, labour market, education and training, social. However, a sustained economic and employment growth certainly will be of major help in closing skills gaps and other imbalances in the longer run.

3.1. Skill supply and demand

Numerous factors influence the change of labour demand and supply and the interactions between both sides of the labour market. Globalisation, structural change towards services and information, new technologies, changes of the production process and work organisation and the deregulation of markets are some well-known 'buzzwords' which characterise major changes in economies, labour demand and job requirements.¹⁹

A number of broad trends are discernible in almost all Member States in relation to the evolution of labour supply in Europe. The ageing of the workforces, the increase in the number of higher skilled workers and of activity rates, changing requirements for skills and competences and challenges for the responsiveness of education and training systems are features which characterise Europe's way towards an information, learning and knowledge society.

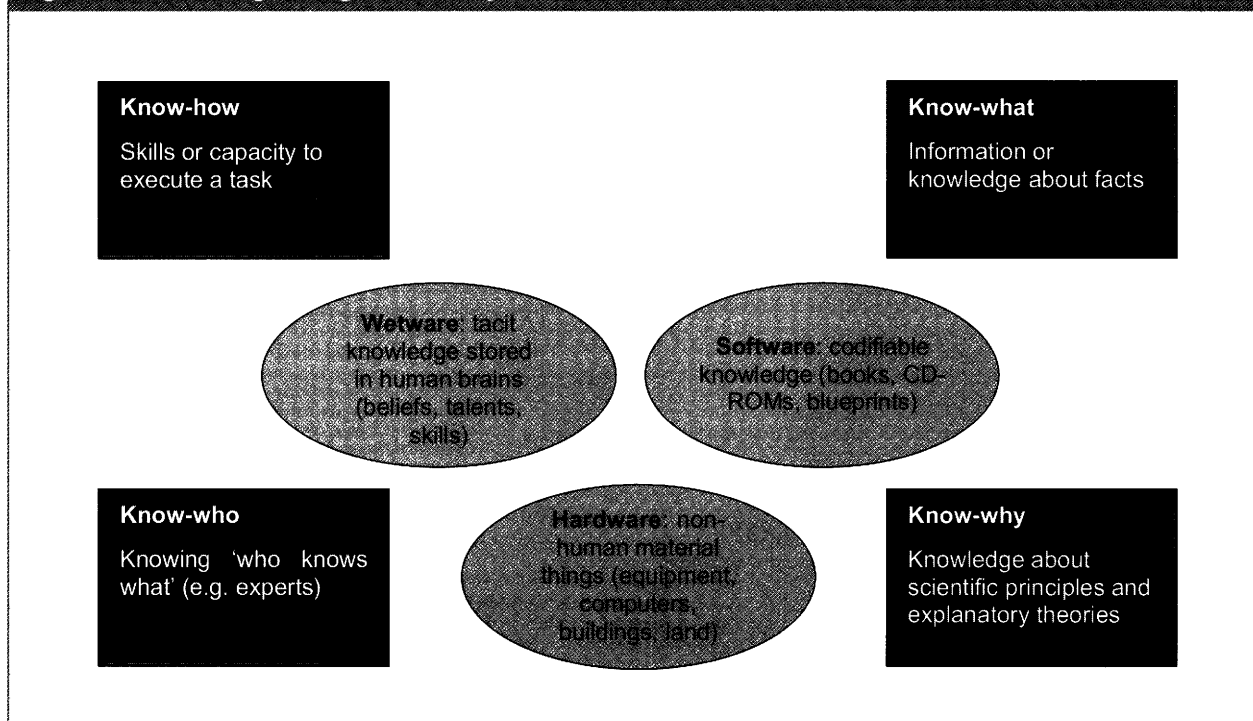
A number of recent documents from the European Commission and others address Europe's way

¹⁷ This chapter is based to a large extent on the paper of J. Planas, J.F. Giret, G. Sala and J. Vincens, 2000: 'The skills market: dynamics and regulation'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

¹⁸ For further information on national employment strategies see the Employment Guidelines, the National Action Plans (NAPs) for employment 2000 and the Joint Employment Report of the European Commission: http://europa.eu.int/comm/dg05/key_en.htm; http://europa.eu.int/comm/employment_social/empl&esf/naps00/naps_en.htm.

¹⁹ These issues have been discussed exhaustively in the first research report (Tessaring, 1998b, Part 2; Cedefop, 1998a; Tessaring, 1998a), in the publication on Cedefop's network 'Ciretoq' (Sellin, 1999a, b) and in most contributions to this second research report (Descy & Tessaring, eds., 2000 [publication date: 2001]).

Figure 4.6: Knowledge in a global society



Source: Forey & Lundvall, 1998.

into a global knowledge economy or society, or into the information and learning society.²⁰ Forey & Lundvall (in Conceição *et al.*, 1998 [*cit.* in OECD, 1999c]) present the following taxonomy of knowledge (Figure 4.6).

The changing nature of work and competences, however, is accompanied by several concomitant phenomena such as polarisation and mismatches (overqualification, shortages, unemployment; see Chapter 4). These imbalances are also result of different time horizons between rapidly changing production systems (technological innovations) and the time education and training systems need to implement reforms (see Section 3.4.1).

This raises a basic question: is the increase in training and the rise of qualifications compatible with the needs of the economy?

Approaches which describe the processes of 'human capital formation' (manpower supply) and 'human capital utilisation' (manpower demand), and the 'matching' of both sides on the

labour market (*cf.* Tessaring, 1998b, p. 35) are useful to describe the main interactions and to illustrate the main points of intervention. However, they are not, in themselves, sufficient.

There is one major aspect that deserves specific attention: the flexibility of both qualifications and job requirements. With a few exceptions (regulated occupations and professions) most jobs can be adequately performed by individuals with different occupational or qualificational backgrounds – in particular, if the education/training system has provided them with broad and flexible competences. There is little evidence to suggest that there is a fixed and static correspondence between jobs and competences.

Furthermore, the above mentioned approaches are restricted to 'visible' qualifications acquired within formal education and training systems. In the course of educational expansion they will become less and less sufficient for an allocation to jobs – but paradoxically more and more necessary as a *conditio sine qua non*. It can be expected that the importance of tacit knowledge acquired by non-formal learning will increase (*cf.* Part 1, Chapter 4 of this report).

²⁰ See for an overview the contributions to Conceição *et al.*, 1998; OECD, 1999c; Schwartz *et al.*, 1999.

The relationship between the creation of human productive capacity and its utilisation in production is not a straightforward and mechanical one. We should abandon the implicit hypothesis of perfect information and an ideal education and training system and propose a new rationale based on the concept of competences and on a dynamic view of their creation. This also requires a redefinition of the common concepts of 'mismatches' (Planas *et al.*, 2000).

Defining this new concept raises three types of questions (*ibid.*, section 1.3):

- (a) how is human capital to be defined and measured when we regard certificates as not the sole proof of qualification? How do we then recognise and certify the assets that are actually exchanged in the labour market?
- (b) what role does technological and organisational change play in the development of skill requirements?
- (c) how is a balanced skills market to be defined and achieved? What constraints and adjustment mechanisms does this entail?

Box 4.3: TSER project 'Growth, inequality and training'

The main objectives of this project are the following:

- to extend the recent discussion of the changing distribution of skills and wages in the workforce by incorporating both demand-side and supply-side factors;
- to look, on the supply-side, at both the evolving distributions of the supply of skills in different countries, but also at the factors that determine the acquisition of skills, and hence the responsiveness of skill supply to technology shocks;
- to provide a coherent intellectual framework in which to understand the links between growth and inequality;
- to provide a systematic analysis of policies that can enhance long-term economic performance, where the measure of performance will encompass both growth and distributional considerations;
- to undertake all the above analysis at macro, meso and micro level, through a combination of theoretical, econometric and case studies.

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3.2. Certificates, skills and competences: What is exchanged in the labour market?

The matching of supply and demand in the labour market – which is characterised by imperfect information and lack of homogeneity of labour – and in particular the question of what is being matched is subject to different perceptions.

- At the institutional (and statistical) level, *certificates* play an essential role in approaches for their recognition in collective agreements and pay scales and in the measurement of the qualification level of the workforce, in particular for international comparisons and benchmarking exercises.
- At the political level, the current debate on the identification and recognition of *skills and competences* acquired on-the-job and off-the-job illustrates an extension of the certificate concept (see Part 1, Chapter 4).
- At a theoretical level, *limitations* of the qualification and certificate concepts are increasingly debated. However, the difficulty in transforming non-formal categories (such as skills and competences based on tacit knowledge) into formal ones which are codified and can be measured empirically, reveals the dilemma of complementing or replacing the certificate concept by a new one.

However, definitions of skills, competences and qualifications vary within the scientific world, from one discipline or from one school of thought to another as well as across countries.

In this section – which focuses on the labour market – we will not enter into an educationalist debate but use the term 'skill' synonymously with 'competence'.

Box 4.4: Skills and competences

In the original French version of their paper, Planas *et al.* (2000) use the term *compétence* as people's capacity to perform tasks or achieve objectives. It is difficult to distinguish between 'competences' and 'skills' in English language. According to Rainbird (1994) 'skill' denotes a complex concept concerning both individual characteristics and policies concerning the organisation of production ('skilling').

According to this author, 'skill' is related to work and largely based on knowledge, the unity of conception and execution, and the exercise of control by the workforce – a combination of 'knowledgeable practice' within 'elements of control'. Furthermore, skill is measured less by a formal definition than by historical context and comparison.

According to the OECD (1998d) the concept of skills is gradually shifting towards the broader concept of competence. This includes all human actions and the individual capacity to use know-how, skills, qualification or knowledge in order to meet complex – and unclear – situations and requirements inside and outside work. The competence concept is based on the understanding of the individual as an interpreting, acting and problem-solving human being.

(See also Part 2, Chapter 2 in this report for a more comprehensive definition and discussion of skills and competences.)

The emergence of the concept of skills or competences in the domain of industrial relations and in management of human resources is no mere cyclical or short-term effect, it is a sign of profound change (Lichtenberger, 1999). No consideration of the relationship between the production system and education/training can ignore this debate.

In this debate, three elements seem to be essential (Planas *et al.*, 2000, Chapter 2.1):

‘On the one hand, there are clearly observable changes in the way in which labour is mobilised and used in the market. On the other hand, behind the terminology there lies an issue that is crucial to the development of social and industrial relations. Governments, employers and labour are establishing their positions in a debate which is gradually taking centre stage within the collective-bargaining process and may well come to be at the heart of the future development of labour law.

Finally, acceptance of the concept of competence as part of the currency of collective bargaining necessarily implies that competences must be made measurable and negotiable. This brings us back to the problem of formal recognition.’

3.2.1. Concepts of skills and competence

If we identify qualification with the certificate provided by the education and training system, the problem is a rather simple one: a certificate is required for a job (except for unskilled work). Imbalances may occur in the form of excess supply or of shortages for available jobs. In either case, it would be necessary and sufficient to ‘produce’ exactly the right number of people with the right certificates to redress the balance. The only – although crucial – problems in open, not centrally planned, societies arising here are those of anticipation of imbalances, of convincing people

to choose the ‘right’ courses and of steering the education and training system and also considering the time it takes to produce competence.

The concept of skill/competence has been developed to describe better the diversity of ways in which the productive capacity of people is created. Beyond ‘explicit’ initial and continuing education and training there is on-the-job training which may be entirely non-formal or partly formal and may or may not lead to a certificate; there is also the social learning process. This complexity can even increase as a result of the fact that most competences can be acquired by different complementary and/or alternative means.

The purpose of this concept of competences is to arrive at a better definition and understanding of individual human capital, more accurately reflecting its utilisation in the workplace by taking account of the extracurricular acquisition of knowledge and competences. If the nature of the competence of an individual is closely related to the capacity to solve problems, it seems more likely to be an intrinsic function of a person’s job and dissociable from the concept of occupational experience, even if formal training is the basic source of competences and the bedrock on which experience can be built up.

In this sense, competences cannot be developed by conventional training alone. Competences are necessary to gather experience of non-routine processes by active involvement of the individual. Competence is a ‘vector’ entailing various abilities to mobilise a specific combination of knowledge and know-how in order to achieve a given performance standard (Delavallee, 1998). Training is one – and, in most cases, a necessary - input in the creation of competences, but not the only one.²¹

We will not propose a precise and exhaustive definition of skills and competences here. Instead, following Planas *et al.* (2000), there are three characteristics of competences on which we believe there is a consensus:

(a) the competence of an individual is a *conjunction of elementary capacities* (knowledge, know-how, life skills etc.) which are acquired by different means (formal and non-formal learning, in social life, inborn etc.). The same competence level may

²¹ The notion of competences from a learning point of view is discussed in Part 2, Chapter 2 in this report.

be attained by various combinations of inputs, depending on the individual's ability, the knowledge he or she has acquired through implicit and explicit training and the time invested in the absorption of knowledge. Thus, competences cannot be regarded as a stock of fixed knowledge but are developing throughout one's working life;

(b) behaviourist and evolutionary approaches see competence as the *accumulation of knowledge* resulting from a collective learning process within an organisation. This collective competence is an intrinsic part of an organisation (Lundvall, 1997). Interactions between different competences are developed by the production of tacit and codified knowledge which then becomes part of a company's capital asset (Nonaka, 1993). However, this collective competence poses problems of measurability, recognition and, above all, of transferability to the individuals within an organisation;

(c) the diversity of skill components and the vast array of working situations make it impossible to anticipate, for example in the recruitment process, how a particular set of competences will translate into *productivity*. One indicator is provided by formal certificates, another can be gained by tests. Recruiters face a twofold problem. They have to identify the competences of the job applicant, and they have to translate these competences into a potential productivity for the vacant job. Degrees and diplomas are a rough guide; selection based on competence levels, however, may result in disparate productivity potentials if competences are not accurately measured, assessed and recognised.

The OECD (1998d) cites empirical analysis done by Altonij & Pierret (1996) who examined how quickly employers learn about the 'true' productivity of workers. Their results suggest that the value of education in predicting future wages (= 'true productivity') does not decline over time. With increased information about individuals' productivity, the expected relationship between productivity and educational levels is confirmed. Over time, the authors claim that the signalling component (i.e. without knowing about productivity) of educational qualifications accounts for a relatively small part of the wage differential associated with education.

3.2.2. Measurement

The past two decades are marked by a significant change in the nature of investment. According to the OECD (1996f), expenditure on intangibles

has become the major form of investment in several countries such as in Germany, Sweden and the United Kingdom. This sets a challenge for the measurement of human capital both from a macroeconomic perspective and in microeconomic management.

3.2.2.1. Macroeconomic skill measurement

This challenge refers to several problems to be examined by macroeconomic analyses of human resources: the impacts of mass training and of the expansion in higher education systems; the transformation of employment structures and job requirements; the obsolescence of skills in the labour market; the restriction of internal labour markets; and the impacts on careers and recognition of competences.

However, in the macro view there are severe limitations to the codification of tacit knowledge (Lundvall & Borrás, 1997) and the implementation of this knowledge in statistical classifications. This problem had not been overcome until today. Macroeconomic analyses are still based on indirect measurements of skill using formal qualifications or the length of studies, seniority or work experience (mostly proxied by the age of workers).

This concept of measurement has been applied, for example, in the Cedefop project 'Diploma and the labour market' (Béduwé & Espinasse, 1995a; Cedefop 1998b; Cedefop & Planas, 1997) and the follow-up project in the framework of the TSER programme 'Educational expansion and the labour market', coordinated by LIRHE, University Toulouse 1. Statistical analyses carried out for six countries in this project – Germany, Spain, France, Italy, United Kingdom, US (partly) – indicate a substitution effect between these two components of skill - formal qualification and experience – in each country and in every period considered (Box 4.5).

Box 4.5: TSER project 'Educational expansion and the labour market (EDEX)'

The main objective of the EDEX research programme is to examine the effects of the increase in highly educated workers on the functioning of the labour markets in five European countries: Germany, Spain, France, Italy and UK (and partly also the US).

The research describes the trends in different national systems in terms of training, employment and earnings. It explores the reactions of enterprises *vis-a-vis* the improvement in the level of education and tries to prepare an analysis for the medium-term.

The project comprises five stages:

- (1) analysis of educational structures;
- (2) analysis of the distribution of qualified people in the labour market;
- (3) analysis of the employers' reactions;
- (4) establishment of scenarios for the evolution of the job-training system;
- (5) comparative summary of the main findings.

The project will be completed in spring 2001.

Coordinators: C. Bédoué & J. Planas, *Université des Sciences Sociales Toulouse 1 – LIRHE* – & *Universidad Autonomá de Barcelona – CNRS – France/ Spain.*

For more information, interim reports and related papers see: <http://edex.univ-tlse1.fr/edex/>.

3.2.2.2. *Microeconomic foundations of competences*

Although microeconomic analyses of competences and their relationship to jobs and earnings do not deny the various components of competence (e.g. general and specific knowledge, know-how, experience, social competences, personal abilities etc.), most statistical and econometric approaches are based on reduced competence variables. In particular, these are the level of (formal) qualification or, as a proxy, years of study, and experience, approximated by 'age minus years in education and training' (seen as a proxy for implicit training). This is due to data restrictions and to the fact that uncoded or tacit knowledge cannot (yet) be transformed into cardinal values.

The question of which of these competence components are more important for individual performance on the labour market has to remain open. It seems plausible that formal initial education and training has a greater influence on access to a first job than experience. With growing distance from completion of initial education and training (i.e. with growing age) the importance of experience and non-formal competences may become predominant.

This means that, without the possession of the 'right' certificate, a worker would have had much less chance of attaining the actual position and enlarging and enriching his or her initial skills during working life.²² A more adequate approach

²² This is clearly supported, for example, by the significant positive correlation between participation in continuing training and level of qualification (source: Tessaring, 1998b, pp. 157 ff.).

would be to distinguish between the chance 'of getting a (first) job' and the probability 'of keeping this job' and establishing a career, identifying the role different competence components play in this context.

Without consistency in the measurement of skill or competence, however, the relationship between skill/competence and earnings, individual performance or mobility will remain incomplete and even controversial.

Table 4.5 presents some indicators of the 'vulnerability' and the exits from unemployment for younger and older people.

3.2.3. *Recognition of competences*

The concept of qualification is one of the cornerstones of industrial relations. It is the basis for collective bargaining, employment contracts, pay scales, for the structure of hierarchies and the allocation of responsibilities. It can be assumed that qualifications are more important in Tayloristic or bureaucratic work organisations, characterised by hierarchic division of functions, seniority and well-defined job requirements. In this model, qualification is a necessary precondition for the pursuit of a job – although, in particular for higher skilled workers and with growing distance of work from material production, certainly not a sufficient one.

The accelerating pace of change, especially in relation to skill requirements, questions the validity of the concept of a trade, occupation or profession as a relatively stable body of predefined knowledge and abilities, that can be encompassed in a similarly stable curriculum of initial education and training. Behind this change lie two developments: changes in the content and character of trades, occupations and professions; and pressures for deregulation or new forms of regulation of industrial relations. Both result in a redefinition of work and of the concepts of qualification and competence as well.

Consequently, the traditional nature of the employment contract is eroding, in conjunction with delegation of initiative and responsibility, and with a loosening link between work and pay. Transversal competences²³ that can be used in a wider range of working situations gain in importance and may cut across the boundaries drawn in collective agree-

²³ Chapter 2 in Part 2 of this report discusses how these competences can be taught and learned in education and training.

Table 4.5: Entries into and exits from unemployment by years of labour market experience^(a), 1996-97, EU-15, %

		Transition from	
		employment to unemployment ^(b)	unemployment to employment ^(c)
'Juniors'	0-5 years ^(d)	6.4	36.4
▶ by educational level ^(e)	low	10.0	30.7
	medium	6.5	36.2
	high	3.7	51.5
▶ by years after leaving ET	0-2 years	7.5	36.3
	3-5 years	5.8	36.4
'Seniors'	> 5 years	2.9	30.1

(a) Theoretical age of education and training (ET) completion + years spent in labour market;

(b) people who were employed in 1996 and unemployed in 1997;

(c) people who were unemployed in 1996 and employed in 1997;

(d) after completion of education and training;

(e) low: ISCED 0-2, medium: ISCED 3; high: ISCED 5-7.

NB: 'Juniors' and 'seniors' are defined according to the number of years after leaving education and training (see Box 5.13 in Part 5 for definition).

Source: Cedefop, European Commission, Eurostat, forthcoming.

ments and pay scales. These competences assume a strategic value in individual careers and new forms of work organisation and risk management. The individualisation of career patterns and training investments coincides with the retreat of internal labour markets and a reduction of the average length of service within companies (Planas *et al.*, 2000).

It appears to be a matter of time before this debate about a new concept of competence will also affect the definition of the 'standard' employment contract and collective bargaining. Many factors, such as outsourcing, subcontracting, telework, 'quasi self-employment', etc., will further complicate the traditional relationship between employers and employees. The situation becomes even more complicated with the gradual demise of skill recognition in the internal labour market reinforced by an abundance of certificates held by the active population. Both create a pressing need for making skills tangible in the external labour market.

It seems paradoxical that the value of certificates decreases with their abundance, but that a certificate at the same time becomes more and more a *conditio sine qua non*. Moreover, the *absence* of a certificate becomes a severe handicap not only for young job seekers without a paper qualification,

but also for the older generation who have generally received less education and training but are well-endowed with practical know-how and work experience. The recognition of their informal qualifications and competences – e.g. by a portfolio, training passport, by a standardised assessment of non-formal skills (*cf.* Bjørnåvold, 2000a, and Part 1, Chapter 4 in this report) or by awarding credits for work experience – could rectify the paradoxical situation across Europe in which those who already have high qualifications benefit most from further training.

3.2.4. Validation of skills

At present, considerable efforts are being made in Europe to evaluate and recognise knowledge and skills, whether formal or non-formal, and irrespective of where and how they were acquired. These efforts are being pursued at individual, company, government and European levels (*cf.* Bjørnåvold, 2000a, and Part 1, Chapter 4 in this report).

- At the *individual* level, the introduction of systems for evaluation of non-formal learning aims to make individual competences visible in order to improve job opportunities and mobility. This is particularly important for lower qualified people and older age groups.

- At the *company* level, a gradual movement is taking place towards the evaluation and stocktak-

ing of human resources, in the frame of human capital reporting and human resource management (cf. Westphalen, 2000; Nyhan, 2000, and Part 3, Chapter 5 in this report).

- Governments are trying, at the *macro level*, to introduce new methods of quantifying public expenditure on human capital. Their aim is to create more efficient systems for definition and inventory of skills, thereby guaranteeing the transparency of labour markets and measuring the available national resources of human capital. Their strategy will lay the ground rules for skill evaluation and certification methods – similarly to those in the commodity and service markets.
- At the *European level*, with the aim of finding a common denominator for all Member States, specialised computer systems such as the European skill-accreditation system aim to offer all individuals the opportunity to have their competences assessed and recorded in a personal record book. This appears as one step in making competences transparent and comparable for foreign employers, e.g. in case of cross-national mobility.

The success and impact of all these approaches depend on their legitimacy and acceptance. These goals can be achieved through the involvement of all players on an equal basis, through delivery of useful and relevant information and by reaching a consensus (Bjørnåvold, 1998).

3.3. Competences and adaptability

The classical macroeconomic approach and its adherents, the proponents of the manpower requirement approach, translate shifts in economic output and structures, changes in technologies and work organisation and institutional constraints into the demand for labour and skills. They infer an adjustment of education and training systems to these outputs. Theoreticians of endogenous growth ascribe productivity gains to technological progress combined with higher skills among workers and plead for more public investment in the provision of basic skills.

A non-determinist position does not regard technology as an independent variable but tries also to identify contextual elements that strengthen the demand for skills. Its protagonists address the heterogeneous nature of labour and adopt an approach based on the concept of competence. They try to understand how the market absorbs variations of the supply of skills without necessarily pleading for an adaptation of education and training systems.

3.3.1. Determinants of the demand for skilled labour

All industrialised countries experience a significant fall in the demand for unskilled labour and, correspondingly, an increase in the demand for higher skills, although the patterns of demand change vary across countries, sectors and periods. These demand shifts are generally attributed to four types of factor:

- (a) macroeconomic ‘shocks’;
- (b) accelerated involvement in international trade;
- (c) institutional pressure on the labour market;
- (d) technological and organisational changes.

These factors translate into the labour market in different ways (Table 4.6).

Planas *et al.* (2000) present a large body of research work on the impact of technological and organisational change on the demand for skilled and unskilled workers.

The impact of technological change on the demand for skilled workers is disputed in research. Technology can hasten a general downgrading of the workforce by simplifying their tasks or, conversely, can upgrade the workforce by presenting and requiring additional training and skills.

Some authors (e.g. Goux & Maurin, 1995a, b) observed that the introduction of new technologies in production and of new work organisation led to a reduction in managerial staff to a greater extent than for white and blue collar workers who are still required to handle the new machinery. Others, for example Greenan *et al.* (1999) show that ‘the percentage of blue-collar workers in industrial and service companies, as well as of white-collar workers in non-managerial posts in service enterprises, decreases as the companies’ degree of computerisation and their input in terms of research and studies increase’ (p. 427).

Planas *et al.* (2000) conclude with Castaño Collado (1994): though the generally accepted rule concerning the role of capital as a complement to skilled labour and a substitute for unskilled labour seems to be fairly sound, it is observable that the links between technological progress and types of labour are subject to a broad empirical debate. This debate still seems to have a long way to run, because the empirical results are difficult to reduce to a common denominator and because they are affected by different research methods and the quality of available data.

Table 4.6: The main factors affecting skilled and unskilled labour in economic theory

Factors of influence	Indicators for skill demand					
	Relative volume of jobs for unskilled labour	Relative pay levels for unskilled labour	Relative price of unskilled labour-intensive goods	Real wages for unskilled labour	Real wages for skilled labour	Unskilled labour unemployment rate
Skill biased technical change	-	-	-	?	+	+
Freer trade with developing countries	-	-	-	-	+	+
Increase in the minimum wage	-	-	-	+	+	+
Increase in the supply of skilled labour	+	+	+	+	-	-
Greater wage flexibility	+	-	-	-	+	-
<i>Empirical findings:</i>						
Continental Europe	-	?	-	+	+	+
United States	-	-	-	-	+	0

NB: - negative influence or development; + positive influence or development.

Source: Cotis, Germain & Quinet, 1997.

Another constraint on the representative nature of most research work is the fact that it concentrates on the microeconomic level. However, the impact of technical changes on skills as observed in specific companies is not necessarily equal to the macroeconomic impact on labour demand of the modernisation of the technological level of an economy. This is, for example, the domain of research based on endogenous growth theories (see Tessaring, 1998b, pp. 65 ff. and Barrett, 2000; see also Chapter 2.1 above) which more or less reveals a significant correlation between the level of (formal) skills and technology and growth.

Similar debates are continuing concerning the impact of *organisational change* within companies. Apart from the question of whether new forms of work organisation have been introduced on a large scale or whether the majority of firms favour neo-Taylorist approaches,²⁴ new forms of work organisation have the potential to increase both the responsibilities of workers and the skill requirements of jobs. At the same time, they may create new types of segmentation in the labour

market, within and between companies (Caroli, Greenan & Guellec, 1997).

3.3.2. Competences for adaptability

Most of the work referred to above and by Planas *et al.* (2000) applies a simplified distinction between formally 'skilled and unskilled labour'.²⁵ They presuppose a high degree of homogeneity of both skill types, and, in addition, full information on future needs and developments.

However, as discussed above, in reality competences are rather heterogeneous, and technological, organisational and other developments that affect competences are hardly or not at all foreseeable in the medium or longer term. This calls for a strategy to enhance the adaptability and versatility of workers to respond more quickly to the prompting of the market and of technological change. According to Léné (1998) this can be done at four levels:

(a) increasing the *learning capacity* of an employee, for example by reducing in regular

²⁴ See also the contribution of Dejonckheere & van Hootegem (2000) to the background report, and Part 3, Chapter 1 of this report.

²⁵ In some cases, a further breakdown is made by different levels of (formal) qualifications, or of subjects/training occupations.

stages the discrepancy between the competences required for a post and the competence of the incumbent;

(b) providing a series of *learning experiences*; this succession of experiences increases the productivity of the training process by means of gateway effects;

(c) increasing the *transferability* of learning outcomes; interdisciplinary competences are the foundation stones of a diversified economy, and complementary learning processes are reflected in shared production savings;

(d) encouraging the '*learning company*' (Amadiou & Cadin, 1996) and the development of cognitive competences, which require diversified activities, cooperation and functions within organisations that are not rigidly compartmentalised.

It is far from certain that companies, with the aim of ensuring that highly adaptable individuals are on their payroll, will choose a strategy based entirely – or even principally – on recourse to the formal systems of education and training. An exception may be young job applicants who have not yet had the chance yet to acquire non-formal work experience and competences.

This call for *adaptability* implies a more behavioural set of competences. These are not necessarily generated by education and training systems, especially when we consider the time it takes to implement and produce skills. However, education and training can lay the foundations for higher versatility – less by the level of instruction but by the type of education and training. Box 4.6 presents some examples of those skills (based on a study for the US by Levin & Rumberger, 1989) that determine an employee's adaptability to new forms of technology and work organisation. It should be noted that the authors see these skills not as substitutes, but as *complements* to traditional knowledge and techniques.

Box 4.6: Skills to enhance adaptability

- *initiative and dynamism*: the drive and creative ability to think and perform independently;
- *cooperation*: constructive, goal-directed interaction with others;
- *teamwork*: interaction in work-groups directed towards both short-term goals of efficient task or activity accomplishment and the long-term goal of group maintenance;
- *peer training*: informal and formal coaching, advising and training of peers;

- *evaluation*: appraisal, assessment and certification of the quality of a product or service;
- *communication*: good use of communication channels;
- *reasoning*: evaluation and generation of logical arguments including both inductive and deductive approaches;
- *problem solving*: identification of problems, hypothesis testing on causes, generation of alternative solutions and their consequences, selection of an alternative, and implementation of a solution;
- *decision-making*: employing the elements of problem-solving on an ongoing basis in the workplace;
- *obtaining and using information*: deciding which information is relevant, knowing where to find it, obtaining it, and putting it to use;
- *planning*: establishing goals as well as scheduling and prioritising work activities to reach goals;
- *learning skills*: cognitive and affective skills that facilitate the acquisition of new knowledge;
- *multicultural skills*: understanding how to work with persons from other cultures in terms of language, communication styles, and different values.

Source: Levin & Rumberger, 1989.

Concluding (Planas *et al.*, 2000), a person's competence level is not a homogeneous entity that can be assimilated to his or her level of educational attainment. Companies try to attract manpower with the highest possible level of competence, and, above all, with the greatest capacity for adaptation to a market dominated by short-term planning and innovation. This results in a transition from the perception of skill as qualification for a single job to that of skill as general competence and redefines the nature of the relationship between the process of innovation and productive capacity.

On the one hand, the ability to deal effectively with unfamiliar and unexpected situations is based on the transversality and transferability of skills. On the other hand, adaptability constitutes the basis of their durability in rapid innovative processes. Both lay the foundation for *lifelong employability* of individuals (for a discussion see Part 2, Chapters 1 and 2).

3.4. Adjustment of skill supply and demand

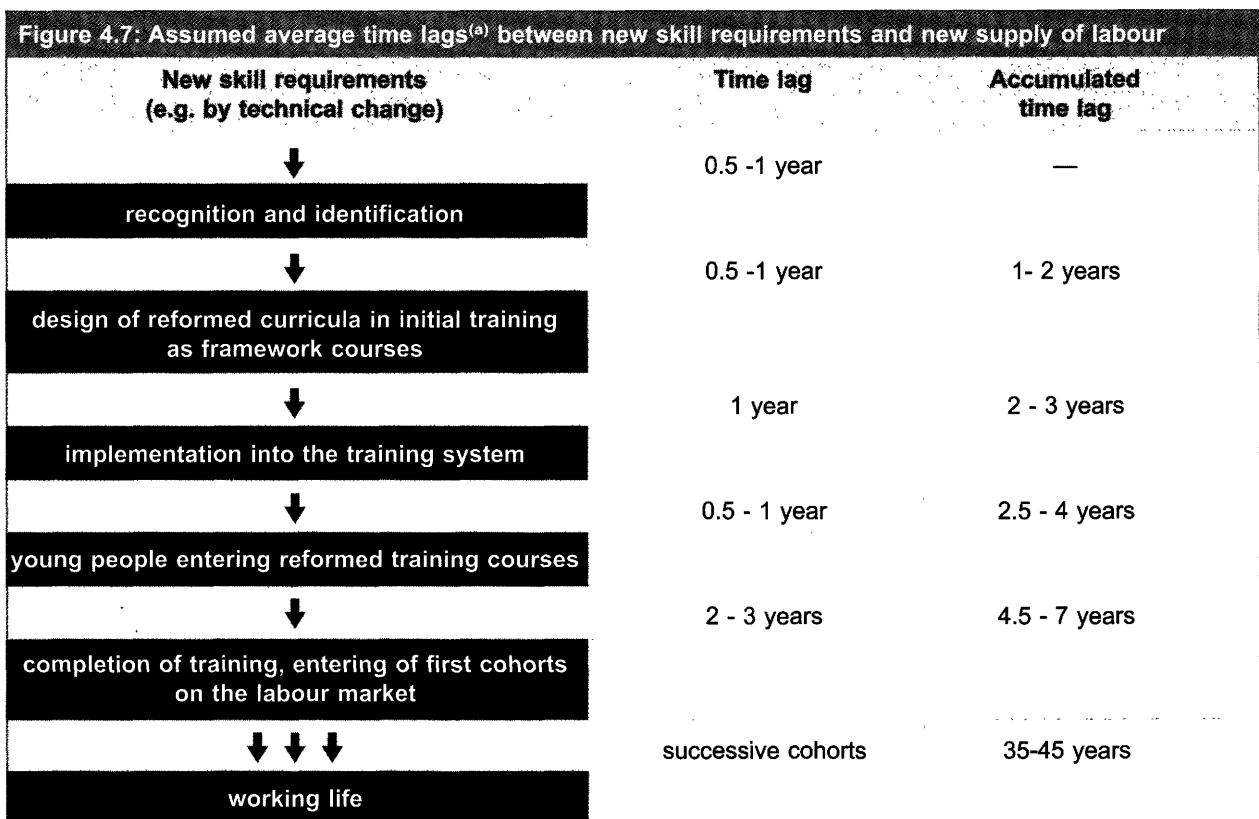
In the previous section we have outlined that the good which is traded in the market is neither 'labour' as an amorphous entity nor 'qualification' as a product of purely explicit training. The traded item is the skill and competence of an individual: a set of characteristics which govern his or her productive capacity in a given work situation.

3.4.1. Diachrony between the generation and utilisation of skills

Difficulties in matching available skills with required skills also result from different time horizons between those supplying and those demanding labour (Figure 4.7). Depending on the particular national training system and its institutional arrangements, we can assume a time lag of around 5-7 years after the emergence of a (e.g.

technical) change with significant new skill requirements before the entry of the first cohorts trained in these new skills into the labour market. It will take another 40 years or so until these 'new' cohorts will have completely replaced the older workforce (in the meantime, of course, other new requirements and cohorts with new skills will have appeared on the stage). It should be noted in this context that in all European countries the time taken to generate qualifications – essentially the time young people stay in education and training – is tending to increase (Planas *et al.*, 2000).

It is not imaginable that these changes will ever be met or anticipated by initial training. Instead, they call for a responsive and flexible system of continuing training in the frame of lifelong learning. This also results in a new definition of mismatches and has consequences for the role of education and training systems in terms of their regulation and objectives.



(a) Depending on national institutional settings, regulations, etc.

Source: Authors.

Both processes – changes in the labour market and in initial education and training – are fundamentally diachronic. Decisions on production, circulation and accumulation of physical capital are governed by short- or medium-term priorities, whereas decisions on human and social capital require a long-term, even ultra-term perspective (Vinokur, 1999).

‘The contradiction between these two temporal perspectives emerges clearly from a comparison between individuals and enterprises. Individuals, possessing competences from which they wish to derive benefit over a long period of time, are subject to antithetical forces: on the one hand the long duration of their active lives [calls for an increase of] the length of time they spend in formal education, while on the other hand the pace of economic change implies a shorter lifespan for the competences they acquire. [...] This confronts the individual with a problem regarding the obsolescence and transferability of his or her acquired competences. In their economic calculations, individuals cannot be certain how long their skills will serve them and must take that uncertainty into account if they are to recoup their investment’ (Planas *et al.*, 2000, Chapter 4.1.1.1).

This brings us to the question of whether the anticipation of skill demand by young people could be a basis for their education and training choice. In the absence (or non-reliability) of long-term forecasts of particular skill requirements, young people tend to base their choices on the present labour market situation. This may create cyclical fluctuations (‘cobweb cycles’) of the supply of people with particular skills (see the hypothesis of Freeman, 1976, and the tests for the Dutch situation by Borghans, de Grip & Heijke, 1996). For Germany, too, marked cobweb cycles have been observed for higher education studies (teachers, lawyers, engineers and others) during the past three decades with successive periods of unemployment, decreasing student numbers and shortages (see also Section 4.3.1 in this Part).

We may conclude with Planas *et al.* (2000, p. 351) that ‘in our societies, the initial education of the population [...] is irreversible in the sense that an inadequate basic framework of initial education tends to exclude individuals from jobs as well as from subsequent training opportunities (Steedman, 1999), since initial education forms the basis of fur-

ther training. Within the system of initial education system itself [...] the scope for acquiring knowledge, and hence skills, is not *isotropic* [...]’.

One of the main aspects of change in education and training systems is that of the concurrent use of time for basic and specialised training. In most countries, education and training systems are divided into a minimum of four subsystems:

- (a) general schools, initial training, colleges and universities;
- (b) programmes for the occupational integration or reintegration of the unemployed or for people at risk;
- (c) continuing or further vocational training;
- (d) learning on and off-the-job, which tends to become institutionalised as mechanisms are established for the recognition of non-formally acquired competences.

Current research shows that these systems are gradually becoming more complementary in a framework of lifelong learning than mutually exclusive (Planas, 1996; Steedman, 1999).

3.4.2. Requirements of enterprises

Which competences are required by the ‘customers’ – enterprises and organisations – of education and training systems depends on the company’s strategic horizon (see also Part 3, Chapter 2 of this report). A company working with a short time frame will try to obtain the competences it needs from the external labour market or by short-term adaptation measures. If a company has long-term goals and a long-term staffing policy, it may also develop a training policy of its own and have regard to the potential of individuals when recruiting new staff.

The traditional industrial relations model was based on a high degree of institutionalisation and State intervention as well as on a marked division of labour and standardised tasks. This approach is being replaced by new work organisation models (see also Dejonckheere & van Hootegem, 2000 and Part 3, Chapter 1 of this report) and has increased uncertainty, diversification and weakened the influence of trade unions. Human resource management concepts are gradually following these new approaches to industrial relations (see Part 3, Chapter 5 in this report) and favour individualised negotiating mechanisms in the realms of training, career development and even pay.

Concerning recruitment, and hence external flexibility, companies have changed their recruitment procedures by applying new methods for the identification of competences (Alpin & Shackleton, 1997). As the educational attainment of the population continues to rise, employers seem to be trying harder in the selection process to find evidence of personal competences that are difficult to evaluate, more or less irrespective of degrees, diplomas or any other formal certification the individual may possess.

3.4.3. Determination of demand by supply?

In a more global view, changes of the demand for skilled workers are often regarded as inevitable or determined exogenously. For that reason workers have to adapt and a 'mismatch' will then be attributed to the supply side. However, many researchers postulate that the demand for skills is not rigidly determined by technology and that the need for adaptation is not one-sided. Changes in skill demand are the product of numerous decisions on the part of institutions and organisations, and the dictates of technology are sometimes a secondary consideration when these decisions are made (Planas *et al.*, 2000).

This being the case, variations in the supply of skilled workers become a challenge to companies, prompting them to make more and better use of the available competences. As Bruno (1998) puts it when referring to mismatches between supply and demand: 'In most industrialised countries there is a perceptible sort of sequential order whereby cognitive advances made by the company executives lead to technological and organisational changes, which also require greater knowledge on the part of workers on the shop floor, while cultural development at grass-roots level within the company creates new opportunities which directors and middle management perceive and subsequently exploit. Consequently, the process is in permanent imbalance, which makes the occurrence of mismatches easy to explain, impossible to avoid and, we have to say, desirable [...]' (p. 3).

At the macroeconomic level, empirical evidence shows that the spreading of formal qualifications within the labour market tends to follow what has been termed the 'supply effect' (Mallet *et al.*, 1997). The results of a macrostatistical analysis conducted in six countries of the EU (France, Ger-

many, Italy, the Netherlands, Spain and the UK)²⁶ confirm that the availability of young people (supply) with higher education and training levels, generation after generation, who enter the working population also leads to changes in the deployment of qualifications within occupational categories.

Box 4.7: Jobs outside skill supply and demand?

When talking about supply and demand in general or for skills or qualifications, and the effects of the 'free play of market forces', we should take into account that a considerable number of jobs are subject to a lesser degree or only indirectly to the concurring forces of supply and demand.

These are, for example, jobs in non-traded sectors, jobs strongly influenced by political decisions (public administration, health, social work and education), by individual preferences (e.g. family workers, self-employed), by regulated accession (e.g. liberal professions) or by talent (e.g. artists, sportsmen, writers etc.). In a rough estimation, which certainly needs more verification and may include some overlaps, the share of these categories adds up to around one third of the total EU labour force:

• public administration, armed forces	7%
• self-employed	13%
• family workers	2%
• parts of education and culture*)	ca. 4%
• parts of health and social services*)	ca. 4%
• social enterprises, NGOs (e.g. churches, associations, trade unions)	ca. 3-5%
Total	ca. 33- 35%

*) assumption: 50% of all employed in these sectors are in non-market service sectors

Sources: Eurostat: Community labour force survey, 1998; Archambault, 1996 for social enterprises; NGOs estimated by the authors.

According to these findings, the change in qualification levels in each occupation can be explained by the general growth in the number of certificates rather than by particular recruitment patterns within each occupation. In the light of these findings, the rising level of qualifications is based more on the social demand for education and training (supply side) than on some 'objective' skill

²⁶ The project 'Diploma and the Labour Market' has been carried out on behalf of Cedefop (1998b). Work is being continued and refined in the framework of a TSER project 'Educational expansion and labour markets' (EDEX) and will be completed in 2001 (see Box 4.5). Both projects are coordinated by LIRHE, Toulouse. For more information and publications see the coordinator's website: <http://edex.univ-tlse1.fr/edex/>

requirements of companies. This is not to say, however, that these dynamics have no effect on job contents and on company behaviour, as Bruno (1998) indicated. Whether they are also an indicator of ‘credentialism’, i.e. on a recruitment of workers only by certificates and without regard to their real ‘productivity’, must remain open here.

3.4.4. Skill adjustment and typology of mismatches

In consequence of the expansion in education across Europe in the past decades, formal certificates, according to several researchers (see Planas *et al.*, 2000 and the references given there) seem to be less and less able to provide the information required for recruitment and promotion processes. Apart from the temporal dimension, the mechanisms for adjusting supply of and demand for skills do not work instantaneously and are subject to three major constraints:

(a) the *social value of education and training* is at least as important as the productive value assigned to it by the market. Education and training is not purely associated with job prospects and material rewards but has also a symbolic and a status value. For example, as P. & A. D’Iribarne (1993/99) put it for France, ‘scholastic nobility’ acquired by education will determine an individual’s ‘personal nobility’ for the rest of his days. It is also the basis for the self-positioning of an individual in society. A mismatch will be observed if the social hierarchy produced by, or reflected in, the education and training system does not correspond to the hierarchies in the production system;

(b) an increasing number of certificates – which used to be *signals* for the allocation of skilled workers in the labour market – diminishes their market value and may support the hypothesis of credentialism (see Tessaring, 1998b, pp. 56 ff.): ‘the abundance of signals kills the signal’. The information value of certificates will diminish. However, there are remarkable differences between European countries, in particular between those having a dual or alternate system of training and other countries (Hannan *et al.*, 1996);

(c) *institutions* which are involved in the generation of competences (family, education and training providers, career guidance, social networks, the State, Social Partners etc.) are changing their roles. The acquisition of competences in less and less regulated and institutionalised markets will undermine the existing forms of regulation, in particular the adjustment mechanisms concerning new entrants to the labour market.

These constraints lead to different notions of skill mismatches or imbalances. Key criteria are the different durations of adjustment processes coupled with different kinds of uncertainty and with the reversibility of expectations and decisions on training investments. Furthermore, from an analytical point of view, imbalances may refer to an excess, respectively shortage of skill demand or supply. In reality, an oversupply of skills may coexist with a shortage of demand and vice versa due to the situation in specific labour markets (e.g. occupations, sectors) and regions.

Basically, in a macroeconomic view we may distinguish between cyclical and structural imbalances.

- *Cyclical imbalances* are of more short-term nature and will occur in case of exogenous shocks which affect the supply or demand of skills. These imbalances are due to imperfect information and uncertainty in the shorter run – as assumed in neoclassical economic theory – and can be reversed, with different degrees of speed, by an adjustment of training and employment decisions. In principle, those imbalances appear unavoidable in a changing society.
- *Structural long-term imbalances* are often irreversible and relate to strategic decisions in a context of profound uncertainty. These imbalances are analogous to the Keynesian view of the unpredictability of human behaviour and call for appropriate policy intervention.

We should add that discussion of imbalances should not only focus on quantitative figures (excess or shortage of *numbers* of jobs or of people) but also on ‘qualitative’ aspects such as inappropriate deployment of skilled workers in unskilled jobs (and vice versa).²⁷

Planas *et al.* (2000, Chapter 4.2.2) propose, on this basis, a typology of skill mismatches taking into account the variables ‘demand’ and ‘supply’ and the cyclical or structural nature of imbalances (Table 4.7).

What is the role of education and training in these imbalances?

- (a) In case A, structural adjustments to the system of initial training are liable to create irreversible sit-

²⁷ See for a discussion on ‘overqualification’ section 4.2 in this Part.

uations without meeting the short-term needs. Measures for further training, retraining or in-company training are more adequate.

(b) In case B, to overcome structural shortages of skill supply, the education and training system should lay the foundations for enabling young people to adapt to growing or changing skill needs. This can be done by the pursuit of two (not necessarily exclusive) strategies: the option for general training and transferable knowledge, and the provision of 'ready-to-use skills' that make individuals immediately competitive in labour markets. However, in the medium term this second type of skills entails the problem of obsolescence and calls for their continuing adaptation. Moreover, the provision of transferable knowledge and ready-to-use skills corresponds to contradictory education and training systems which cannot easily be reconciled (see also Part 2, Chapter 2 in this report).

(c) Case C may result from short-term variations of skill supply (e.g. due to 'cobweb cycles' in individual education and training choices). This type of imbalance does not necessarily create inefficiency but may even stimulate technological and organi-

sational change within companies (Bruno, 1998). Young people's educational strategies may be justified by the fact that they preserve their preference for being at the head of the 'job queue'. The alternative, to refrain from acquiring higher skills, will most probably affect their labour market position negatively in the medium and longer term. However, if internal labour markets are closing more and more, as is the case in several EU countries (cf. Part 3, Chapter 2) there may be a risk of remaining in the secondary and unstable segments of the labour market.

(d) Case D appears to be the most crucial mismatch situation from the viewpoint of individuals. It may be the result of 'false' education and training decisions taken by institutions, the State or by individuals themselves (e.g. when reflecting short term needs without sufficient information on the longer term changes of skill requirements). Improved vocational guidance or competition between training providers may reduce these imbalances. However, both are dependent on the quality of data and above all on information on future developments (see also Chapter 5 in this Part).

Table 4.7: Typology of skill mismatches

	Cyclical imbalance (short/medium term)	Structural imbalance (long-term)
	A	B
Growth in skill demand If skill supply remains unchanged or increases less than demand → skill shortage	Shortage of skills in the short term: price of skills (earnings) will increase; companies may poach workers in the external labour market; they may reorganise their work organisation, increase the productivity of their machinery, subcontract etc.	Shortage of skills in the long term: certain skills (e.g. foreign languages, computer skills) become a structural necessity; responsiveness of the education and training system concerning the in-time provision of transferable and competitive skills.
	C	D
Growth in skill supply If skill demand remains unchanged or increases less than supply → skill surplus	Skill supply surplus in the short term: new cohorts may be overqualified and financial benefits of training may decrease. However, skilled individuals preserve their relative better position within the labour market. Or, individuals acquire the skills needed during the first years of their active life. Given that these imbalances do not persist, 'overqualification' will be a temporary phenomenon only.	Skill supply surplus in the long term is a result of the consensus of all actors on the desirability of educational growth and of the weak influence of prices (earnings) as regulators of access to training. A number of skilled people will be 'overqualified' with little chance of access to primary labour market segments. Imbalances might be reduced e.g. by improved vocational guidance or by more competition between training providers; both, however, require perfect information on future skill needs.

Source: Planas et al., 2000.

As mentioned before, several imbalances may coexist together and careful analysis should be made to distinguish whether imbalances must be attributed to the supply or to the demand side, and whether they concern cyclical or structural mismatch phenomena. Both distinctions, admittedly, are not easy to prove empirically since, at the time of the emergence of an imbalance, it is not yet clear – and also depends on exogenous factors – whether the mismatch is a temporary or persistent one.

Structural and long-term imbalances require specific attention from policy-makers responsible for the shaping and reform of education and training systems. Short-term imbalances, on the demand as well as on the supply side, create less inefficiency and may be overcome, with different degrees of speed, by appropriate adjustment measures or by the functioning of labour markets in a neoclassical sense.

However, it would be counterproductive, and could even cause cobweb cycles, if short-term mismatches gave rise to measures which aim to reduce structural deficiencies. Thus, targeted measures concerning the reform or redesign of education and training depend on information whether the problem to be solved is cyclical or structural in nature.

We will discuss the most crucial types of skill mismatch – unemployment and overqualification – in Chapter 4 below.

In view of the basic impossibility of anticipating specific competence needs in a distant future,²⁸ and in view of the skill deficiencies of people at risk, it is essential to define the ‘durable’, for instance a ‘minimum training platform’ (Cedefop, 1999q; Newskills, see Box 4.8) or a ‘minimum threshold of competences’ (Blaug, 1999).

Such a platform of basic skills does not consist of an accumulation of curricula but puts ‘framework competences’ at the core of initial education and training policies that are targeted, guarantee the dissemination of key knowledge and competences, and thus serve as a ‘gateway to lifelong learning’ (Planas *et al.*, 2000).

²⁸ This refers to the contents and ‘qualitative’ aspects of skills. As we will see in Chapter 5, forecasts of qualifications and qualification demand – based on formal certificates – may be justified according to the particular needs of users of these forecasts.

Box 4.8: TSER project ‘Education and training, new job skill needs and the low skilled (Newskills)’

The project involves an analysis of what is happening to labour demand, as well as an understanding of why the pattern of supply does not always respond adequately. It will try to determine the most effective means of developing the necessary skills – both in terms of curriculum and teaching methods (including the newest technology). The aim is to work towards defining a Europe-wide definition of the ‘platform for learning’ with which every European citizen should be equipped.

The programme of work consists of four specific studies as follows:

- (a) the demands for labour by skill in the EU;
- (b) the factors determining the supply of and demand for labour by skill in the EU;
- (c) the profile of education and training provision at the basic level in the EU;
- (d) defining a minimum learning platform for the EU.

The relative significance of a number of factors influencing supply of and demand for skills has been analysed and assessed using, among other sources, data from the OECD Adult Literacy Survey. The profile of educational provision at the basic level was investigated at the level of curriculum content, pathways and progression for young cohorts. Work on the minimum learning platform involves an extensive literature survey, consultation with governments, employer and employee representatives and fieldwork samples from companies.

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Final Report: S. McIntosh & H. Steedman. Low skills: a problem for Europe. SOE2-CT95-2006.

Since education and training systems cannot restrict independently the number of young people entering and passing through training establishments, a general rise in education levels would result in a conflict between ranking by educational levels and the hierarchies in the production system. A longer stay in education and training may be a way to reduce youth unemployment while, at the same time, raising the general level of knowledge.²⁹ Individuals will recognise

²⁹ This would, however, be short-sighted if the decision to stay in education and training is not based on information on future job opportunities but aims only to keep young people away from the labour market.

that higher skilled people are more likely to find a job even if their qualification does not always correspond to job requirements.

Employers – at least those who do not have to finance educational expansion directly – can utilise the better educated labour force while driving down relative pay levels. This coincides with the demand side where skill requirements tend to become less standardised. Though this process will lead to decreasing differentials of return to education and training, the relative positions of different qualification levels will be maintained.³⁰

Given the diminishing value of formal certificates for the distinction of workers by means of their productive capacities, the emergence of new types of certification based on competence has the objective of increasing flexibility and the significance of education and training efforts. However, the gradual replacement of standards and certificates by competence could undermine the social edifices associated with certificates (D'Iribarne, 1996) and the systems of industrial relations.

'In order to adapt, the education and training system must develop the information value of its certificates and encourage the various operators in the labour market to recognise the competences it imparts. [...] Finally, we cannot rule out long-term self-regulation by the market. A persistent glut of certified labour would result, for example, in lower returns from education for new entrants to the labour market, downskilling mechanisms and/or a shortage of job opportunities or, possibly, a freeze on social mobility' (Planas *et al.*, 2000, Chapter 4.2.4).

3.5. Conclusions³¹

Implications for research

Skills or competences are 'produced' by complex mechanisms in which learning in the education and training system and in production systems are the predominant – though not exclusive – forms.

The complexity is increased by the fact that, at any given moment, the nature and volume of competences being traded, is not yet (totally) determined. The longer the time scale, the greater uncertainty. Whereas the supply and demand for *formal* qualifications (e.g. replacement demand, new supply of education/training leavers) can be anticipated and balanced in the medium term with certain assumptions and alternative projections (see Chapter 5), competences and competence needs become unforeseeable beyond a certain horizon.

This assertion goes beyond the classic problems of imperfect information on competences required for a job and on the future performance of an individual in that job. The 'productive value' of an individual with a given set of characteristics will depend on that individual's interaction with the working environment and the valuation of his or her competences at work. Empirical research on this issue is scarce, however, and needs to be intensified.

The inherent imperfection of information in the 'market' for skills and competences lies in the very nature of human work and economic development. On the demand side, globalisation, technical progress and the political framework (e.g. enlargement of the EU) tend to reduce the time frame within which reliable information is available.

Imperfect information also applies to the supply of skills. Individuals, in the course of their working lives, draw on their experiences in and outside the workplace to adjust and supplement their repertoire of competences. These changes result from the interaction between their initial education and training and the series of productive tasks they subsequently perform (possibly coupled with additional training they receive). These interactions are strictly individual and, as such, are unforeseeable.

³⁰ In this case, *cet. par.*, young skilled workers would earn relatively less than young workers with comparable skills in the past. But their earnings are still higher than contemporaries with lower skills: earnings differentials will continue to exist.

³¹ This chapter summarises the conclusions drawn by Planas *et al.* (2000).

Research – including empirical research – should focus much more than before on competences instead of on formal skills. Research questions which still have to be tackled are the short- and long-term perspectives and coordination requirements in the systems of skill ‘production’ and ‘consumption’.

The provision of appropriate information on possible future developments and on ‘mismatches’ beyond formal categories of manpower demand and supply is a pressing task for research. This applies equally to the analysis of the manifold interactions between supply of and demand for competences, the impact of education and training expansion on labour markets and competence utilisation and the role institutions and other agents play in this process.

Implications for policy

Overproducing or underutilising competences may seem a waste of resources. Avoiding wastage of human resources, while maintaining the flexibility that is necessary to readjust to needs that are constantly being redefined, is one of the central problems of modern economies. It is a political problem in the true sense of the term, because imperfect information and the incompatibility between the time scales that govern the gestation of competences and their productive utilisation make it impossible to find a solution based on reliable economic or social calculations only.

This clearly does not mean that reflection on future developments is worthless. On the contrary, it is essential to guide the system by advancing rational hypotheses on the future of society and on the durability of human competences. We must refrain, however, from postulating the existence of fixed, rigid causalities between the information that is collected, the decisions that are taken and the effects that are produced.

Instead, competences are generated in cooperation and interaction between the educational and the productive spheres. Each of the two systems establishes its strategy in response to the action of the other. Each acts on different information, but the information is subject to that same intrinsic unpredictability.

The transition from school to work is a very special moment in the ‘confrontation’ of the two systems. There is a double asymmetry of information: job applicants do not know exactly the requirements of jobs, and employers know little about the competences of the applicant, at best about his/her formal qualifications. It is the

moment when the differences between the interests of the two systems come into play. At that precise moment, the production system has a customer/supplier relationship with the education system, and its normal behaviour as a customer is to try to obtain the best products at the lowest prices. It is in the company’s interests to use immediately the skills it ‘buys’.

It is not the primary task of enterprises to produce competences *per se*. These may simply be a by-product of the work process and are often acquired through voluntary measures organised in the framework of a company’s human-resource management policy in the expectation of higher productivity. This remains true even when companies invest heavily in the training of their employees. It is still true when the enterprise, through the various forms of apprenticeship, agrees to become directly involved in the initial training of young people.

In all of these cases, skill is regarded by the company as an intermediate good which must subsequently yield a return on the company’s investment. Otherwise, the company will suffer a net loss or will be subsidising its competitors.

The aim of the education and training system, on the other hand, is, or should be, to allow everyone to develop his or her potential as far as possible. Though operating in a context of imperfect information, it is required to adopt a long-term perspective (the lifetime of individuals). The knowledge it imparts will be used – in whole or in part – in a future society about which there is little reliable information. One of its aims will be to develop at least those framework competences that seem likely to prove durable and to provide the best basis for subsequent further training, whether explicit or implicit.

The existence of a horizon beyond which strategic policy can no longer be based on secure knowledge reveals a sharp division within the raft of policies for the development of competences. Two strategies compete to determine the nature of initial training policies:

(a) according priority to the *familiar*, i.e. training young people on the basis of the well-known and adapting them to the present needs of the market. This has the advantage of making the trainee more immediately effective and facilitating his or her transition into employment. The disadvantage of this approach is that it involves heavy investment in ‘perishable’

technology and that the skills imparted are subject to more or less rapid obsolescence;

(b) embracing the *unfamiliar*. Attention is focused on sustainability, on 'durable' skills that are usable for a very long time and protect against skill obsolescence. However, this attempt to facilitate the trainee's long-term adaptation may retard the transition to work and his or her inevitable accumulation of competence outside the education and training system.

Education and training policies face the difficulty of choosing between these two strategies, especially when the aim is to provide training that is applicable to people with heterogeneous abilities and background. It is conceivable that, in certain cases, short-term adaptation and long-term development will prove to be incompatible.

Lifelong learning, conceived as a dynamic and flexible means of adapting individual competence profiles to the needs of the production system, can ensure that appropriate skills are produced, utilised and that the market operates smoothly. It is an effective way to reconcile shorter-term changes in production, technologies and work organisation on the one hand, and the very different longer-term needs and performance levels of individuals on the other (see also Part 2, Chapter 1).

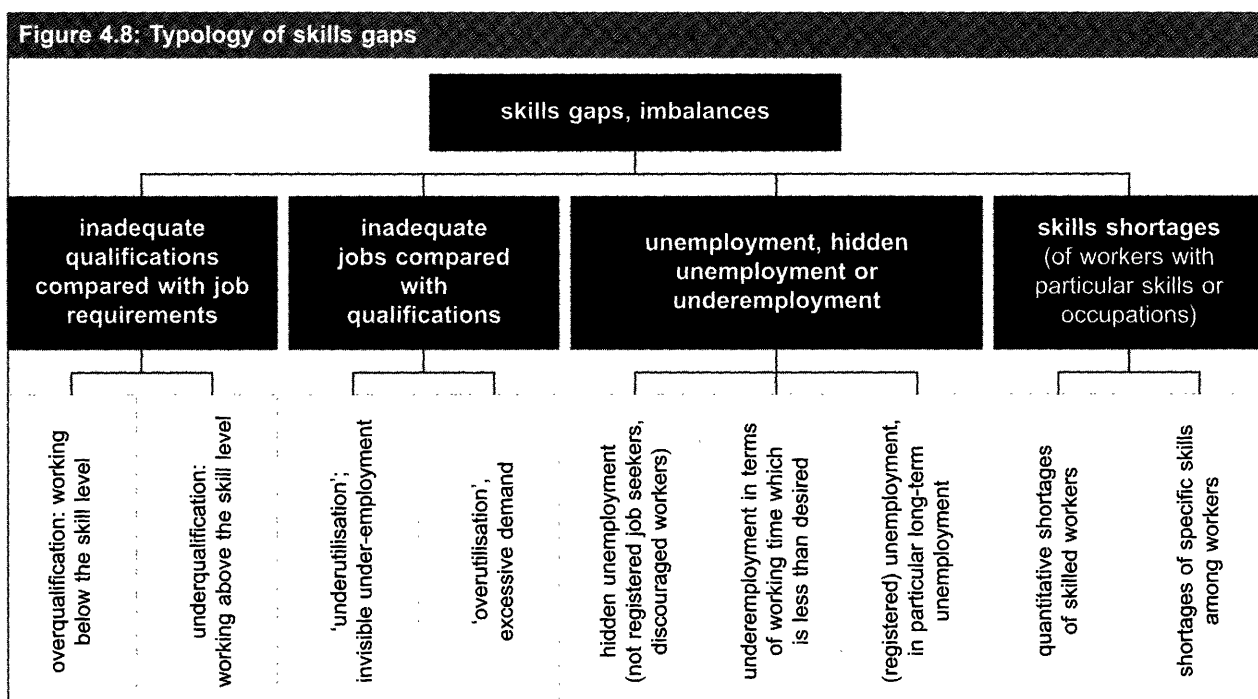
4. Skill mismatch in the labour market

This chapter discusses three major types of mismatch in the labour market: unemployment, overqualification and skills shortages. These gaps refer to quantitative as well as to qualitative imbalances. A typology is proposed in Figure 4.8.

Two rival approaches are confronted which both attempt to explain the persistence of unemployment: state dependence, which refers to the implications of a long duration of unemployment, for example on skill obsolescence and 'labelling' of the long-term unemployed; and skill mismatch, which refers to the heterogeneity of people in terms of skills and the effect upon them of technological and structural change. Both approaches are based on different theories and call for different policy measures.

The second type of mismatch considered – overqualification – is a more qualitative one and denotes the extent to which workers are employed below their level of (formal) qualifications. This phenomenon apparently increases in many EU and other countries. However, there are still a number of questions as to its significance and implications for policy.

Finally, there is a presentation of indications of skills shortages – mostly in terms of ICT skills –



Source: Authors

which seem to become a major problem in EU countries. However, the reasons, scope and measurements of shortages are not always clear-cut.

4.1. Dynamics of unemployment

4.1.1. Unemployment, long-term unemployment and skills: some facts

After almost 10 years of rising and high-level unemployment in the European Union, unemployment figures tended to fall in most Member States. Figure 4.3 above reveals two particular evolutions. The first one is that, starting in 1983, US unemployment rates fell below the European rate and, at the end of the last decade, even fell below the (increasing) unemployment rate in Japan. However, starting in 1997/98, European unemployment rates decreased from 10.8% (1996) to 8.4% (2000, annual averages).

A second observation (Figure 4.3) relates to a different cyclical behaviour in the EU and US unemployment series. Whereas the US series display a clear cyclical pattern, with alternating peaks and troughs, the European series, in the observed period, showed only one substantial decline in the end-1980s.

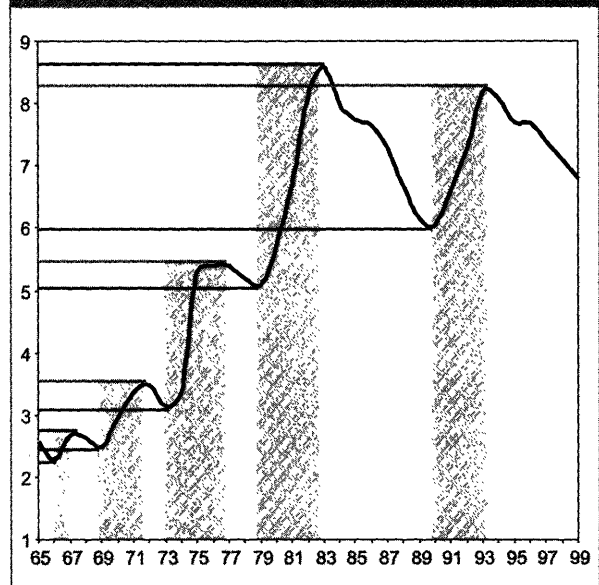
In past decades, the level of unemployment tended to increase gradually. This becomes clear when looking at the development of unemployment rates in the OECD over the past 35 years (Figure 4.9). After the four major economic recessions with their steep increases in unemployment (1969-72; 1974-77; 1979-83; 1990-93) unemployment rates remained at an ever higher level at the beginning of subsequent recession periods. However, although the next recession is not predictable, it becomes obvious, too, that the relative distance of these shifts in unemployment levels tends to become somewhat smaller.³²

4.1.1.1. Unemployment and skills

An important and well-known feature is the fact that unemployment affects lower qualified people more than the higher qualified ones (Table 4.8). This inverse relationship is not particularly European nor limited to the past one or two decades.

³² There are manifold reasons for this (e.g. decreasing labour force potentials due to demographic decline) which cannot further be discussed here.

Figure 4.9: Long-term development of unemployment rates in OECD countries, 1965-99, %



NB: Shaded areas: economic recession periods with increasing unemployment rates.

Source: Gries *et al.*, 1998; update by the authors (based on: OECD: Economic outlook, various issues).

Table 4.8: Unemployment rates^(a) by level of education and training^(b), 1997, EU-15^(c), %

	Educational level		
	High	Medium	Low
Netherlands	3.3	4.1	7.0
Austria	2.7	4.2	7.3
Denmark	3.4	4.6	7.9
United Kingdom	3.0	5.9	7.7
Portugal	2.0	6.5	6.1
Ireland	3.5	6.5	14.2
Belgium	3.4	7.0	12.7
Italy	6.6	8.0	10.3
Greece	5.5	9.0	6.3
France	6.6	9.7	15.0
Germany	5.7	9.8	16.3
Sweden	4.2	10.1	12.6
Finland	5.5	13.1	16.3
Spain	13.3	17.5	19.1

(a) Unemployed in % of the labour force, 25-64 years olds;
 (b) according to ISCED (High=higher education [ISCED 5-7]; Medium=upper secondary [ISCED 3]; Low=less than upper secondary [ISCED 0-2]);
 (c) without Luxembourg.

NB: Countries sorted by ISCED level 3.

Source: Eurostat, Community labour force survey 1997.

In the EU, only Greece and Portugal show a somewhat different pattern, with unemployment rates of people with intermediate qualifications exceeding those of lower qualified.

4.1.1.2. Long-term unemployment

Another striking feature is the high long-term unemployment³³ (LTU) in Europe.³⁴ Table 4.9 illustrates the development of unemployment and LTU rates in Europe by gender for the period 1995-99. In general, LTU rates and numbers are almost half of the total unemployment rate. However, as with total unemployment rates, in 1997

³³ Long-term unemployment is defined as a period of unemployment which is one year and longer.

³⁴ These figures relate to official statistics based on unemployment figures at a certain date. Unemployment figures based on longitudinal data measure the entire completed period of unemployment and show a significantly higher share of LTU. In 1996, for example, LTU constituted more than 58% of total unemployment in Germany, and in excess of 67% in England and France (see Tessaring, 1998b, p. 84, based on Karr, 1997).

the LTU rate started to decrease – even more than the total rate in relative terms.

When we look at the correlation between skills and unemployment duration across EU countries, we again find a significant inverse relationship between skill levels and LTU rates (Figure 4.10).

Table 4.9: Unemployment and long-term unemployment rates, EU-15, 1995-99, %^(a)

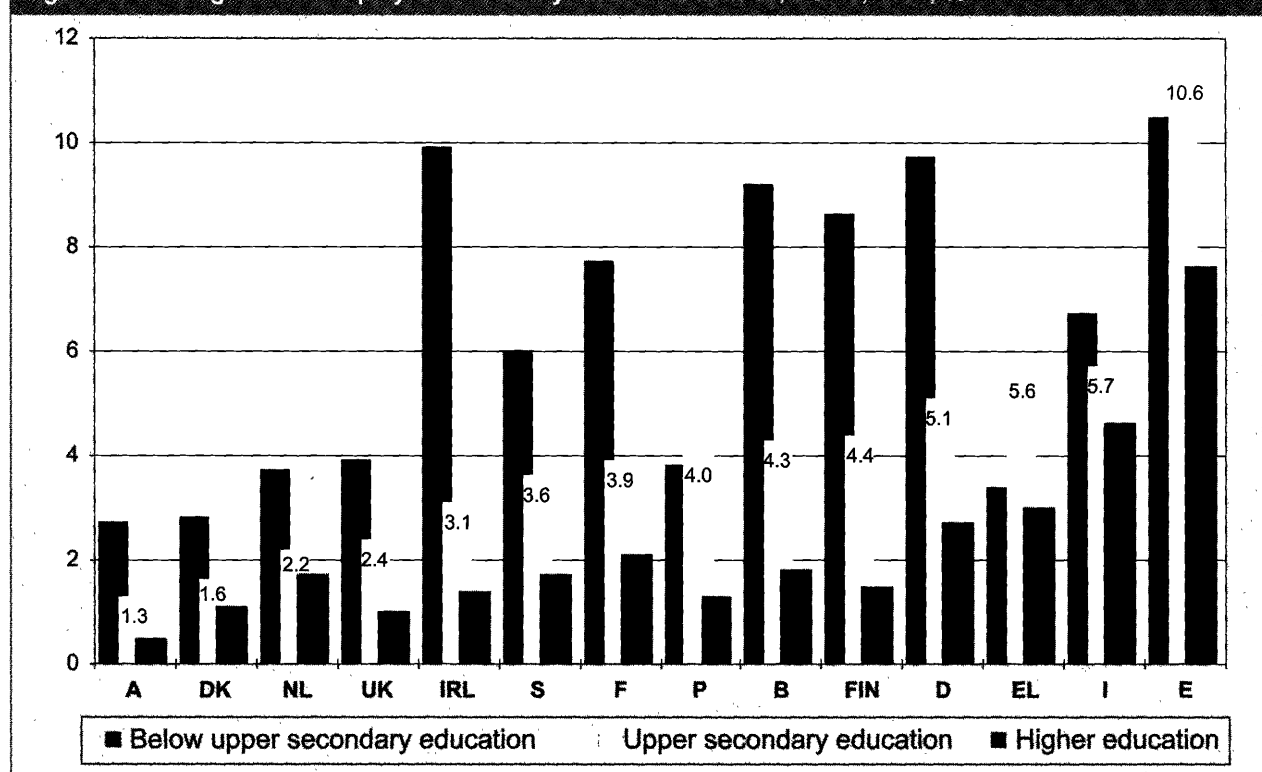
	1995	1996	1997	1998	1999
UR	10.7	10.8	10.6	9.9	9.2
LTUR total	5.2	5.3	5.2	4.7	4.2
LTUR males	4.5	4.5	4.5	3.9	3.5
LTUR females	6.2	6.3	6.3	5.7	5.0

(a) Unemployed or long-term unemployed (annual averages, seasonally adjusted) as a percentage of the labour force.

NB: UR = unemployment rate; LTUR = long-term unemployment rate. The UR and LTUR differ slightly from those based on the CLFS (see Figures 4.1 and 4.2) because of different measurement.

Source: Eurostat (Newcronos data).

Figure 4.10: Long-term unemployment rates by level of education, EU-15, 1997, %^(a)



(a) Long-term unemployed (duration of unemployment 1 year or more) in % of the labour force with same level of education. NB: Sorted by upper secondary.

Source: Bollens, 2000 (based on Eurostat: Community labour force survey 1997).

Again, Greece and Portugal, but also Spain, are exceptions: in these countries the LTU rate for people with upper secondary level is higher than that for the low skilled.

These aspects will be discussed further in the framework of the rival theories of state dependence versus heterogeneity (sub-section 4.1.2).

One reason for the high level of long-term unemployment is that inflows into unemployment change little, but that outflows from unemployment drop substantially over time. In other words, an increase in unemployment rates, and in particular in long-term unemployment rates, cannot be attributed to an increased probability of losing a job. It is the decreased probability of *finding* one, once unemployed, that is the driving force for EU unemployment growth (Bean, 1994; Layard *et al.*, 1991). The reverse is true for declining unemployment.

This can be demonstrated by a ‘dynamic’ measurement of unemployment, i.e. by looking at the status of people over time. The Community labour force survey provides a first indication of those movements (e.g. exits out of unemployment), although for a limited period (1994-95; Eurostat & Marlier, 1999).

Of the total declared to be unemployed in 1994, 52% still were unemployed one year later, 30% had found a job and 18% became economically inactive. Women transfer more often to inactivity (23%) than men (14%), who find a job to a greater extent than women. However, there are significant differences between countries. Remaining in unemployment for one year and more is above the EU average in Belgium, Ireland and France, and clearly below in Greece, Portugal and the UK (Table 4.10).

4.1.1.3. Some stylised facts

Although the patterns of unemployment are not identical across EU countries and statistical data contain some flaws, we can draw some stylised and mostly well-known facts from the figures presented above (Bollens, 2000).

- Over time, unemployment rates reached a dramatic level in the EU but are on the decline in recent years.
- Unemployment appears to be persistent, i.e. once the unemployment rate has risen, it has a

Table 4.10: Status of people who were unemployed in 1994, one year later, EU-12, age 18-64, %^(a)

	Unemployed in 1994: status 1995			Total
	Employment	Unemployment	Inactivity	
Male	34	52	14	100
Female	25	52	23	100
Total	30	52	18	100
UK	38	45	17	100
DK	35	48	17	100
P	34	45	21	100
EL	34	41	25	100
L	(33)	(50)	(17)	100
D	32	50	18	100
E	31	52	17	100
IRL	30	62	8	100
F	29	60	11	100
I	24	51	25	100
NL	24	51	24	100
B	16	71	13	100

(a) Percent of the unemployed in 1994.

(...) Small sample size.

NB: The starting point is the number of unemployed in the year 1994. These are examined in terms of the employment status they occupy one year later, in 1995.

Source: Eurostat & Marlier, 1999, Table 3 (based on CLFS 1995).

tendency to remain at a higher level than before when economic situation recovers.

- Unemployment rates are higher for lower skilled workers than for the higher skilled, even though the number and share of the lower skilled shrinks over time.
- Long-term unemployment remains at a high level, although LTU rates gradually decreased over the past decade.
- Broken down by skill levels, LTU reveals a pattern similar to total unemployment. However, cross-section data on LTU are biased in that they do not indicate completed periods of unemployment.
- A considerable proportion of the unemployed becomes inactive and thus reinforce the ‘hidden labour force’ (see also Figure 4.1 and Table 4.3).

4.1.2. Explaining and measuring unemployment and skill mismatch³⁵

There are two major theories that try to explain the perseverance of unemployment and mismatches on the labour market:

- (a) the approach of *equilibrium unemployment*, enriched with a hysteresis component, and
- (b) *structural unemployment* and *skill mismatch* theories.

The equilibrium approach suggests that it is unemployment itself which explains its persistence. The longer they remain unemployed, the more people become unemployable and employers regard unemployment as a negative signal for productivity. The structural approach proceeds from the assumption of heterogeneity of individuals (e.g. different qualifications, abilities, age, sex, etc.) which exists before their entry into unemployment. In this case, the skill composition of labour supply does not correspond to labour demand.

Policies based on these theories are different. The equilibrium approach calls for active or compensatory labour market policies to bring people back to work. Overcoming structural unemployment, however, requires preventive education, training and social policy measures to improve skills and social integration.

4.1.2.1. Natural and equilibrium unemployment

During the 1960s and early 1970s, economic policies were largely founded on the *inverse* relation between inflation and unemployment, as expressed in the 'Phillips curve'. Friedman (1968, quoted by Cross, 1995) and Phelps (1972) concluded that this trade-off could not be generally true. Instead, they put forward the 'natural rate of unemployment' which is a long-term equilibrium rate of unemployment. Actual unemployment rates may vary (e.g. due to fiscal and other policies) but not the equilibrium rate.

During the 1970s, macroeconomic developments coincided with the prediction of the natural unem-

ployment rate hypothesis: rising inflation rates went together with high unemployment, in particular induced by the energy crisis in 1973. In the 1980s, however, disinflationary policies, especially in Europe, coupled with a tight monetary policy and a major fiscal contraction, resulted in a further rise of European unemployment.

After inflation had been stabilised and the other factors that had propelled unemployment growth had largely disappeared in the mid-eighties, a substantial decrease of unemployment was expected. This did not occur and gave rise to the suggestion that not only the actual unemployment rate, but also the equilibrium rate had risen sharply.

4.1.2.2. Persistence of unemployment and state dependence

One explanation was that the equilibrium rate of unemployment 'depends [...] also on the history of unemployment' (Bean, 1994, p. 603). The phenomenon that, once unemployment has risen, it has a tendency to remain at this higher level is called 'hysteresis'. Hysteresis is at the same time the consequence of past and the reason for future unemployment (Box 4.9).³⁶

Box 4.9: Hysteresis

Hysteresis is derived from the ancient Greek *υστερεω*, meaning to come later, and was first used in physics.

In economics, according to Amable *et al.* (1995), 'the equilibrium unemployment rate no longer returns to the *status quo ante* once a temporary shock is reversed, but instead displays perseverance. This means that the new equilibrium will not be the same as the old, but will remain displaced' (which cannot be reconciled with the natural rate hypothesis). Moreover, 'the equilibrium rate of unemployment retains a selective memory of past shocks: neither it forgets all past shocks, as in the natural rate hypothesis, nor does it, like the elephant, remember all past shocks'.

This implies that shocks (e.g. oil crisis, major policy interventions, etc.) 'can, by way of the selective memory process, shape the equilibrium path for unemployment'. This, again, contradicts the natural rate hypothesis.

Source: Bollens, 2000, Section 3.1.1.

³⁵ The following sub-sections of Chapter 4.2 are mainly based on the paper of J. Bollens, 2000: 'Unemployment and skills from a dynamic perspective'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

³⁶ Several reasons were put forward for the emergence of persistent unemployment, e.g. insider-outsider models (and hiring and firing costs), specific characteristics of the outsiders (unemployed people) and capital shortage (for an overview see Bollens, 2000).

Of course, it is hardly imaginable that ‘unemployment’ as an abstract phenomenon has a ‘selective memory’. What lie behind this notion, are changes in the *employability* of the long-term unemployed (‘outsiders’) because of their long stay outside work. In this context, Layard, Nickell & Jackman (1991) introduce the ‘Non Accelerating-Inflation Rate of Unemployment’ (NAIRU) which can be of long-term and short-term nature. They argue that the long-run NAIRU is equal to the natural unemployment rate whereas the short-term NAIRU is consistent with stable inflation and an increase of actual unemployment. There is no long-term hysteresis, however, but uniquely a long-term NAIRU.³⁷ In the end, the unemployment rate always reverts.

The mechanism is as follows. An increase in unemployment after some time also leads to an increase of long-term unemployment. The long-term unemployed increasingly become unemployable and no longer exert a downward pressure on wages.³⁸ The equilibrium rate of unemployment, which is determined by wage-setting and price-setting, will therefore be higher, the higher the proportion of (unemployable) long-term unemployed. This may also be in the interest of ‘insiders’ (employees) and trade unions³⁹ since their bargaining power in requesting higher wages will be more favourable.

What is generally called ‘hysteresis’ in economic usage, therefore, is a form of persistence of deviation from the natural equilibrium path. From now on, we will avoid usage of the term ‘hysteresis’, and will speak about ‘persistence’ instead.

Models of the dynamic behaviour of unemployment and its persistence are seldom able to discriminate between the different causes and mechanisms of the persistence of unemployment, and are thus not always helpful to policy makers. A

³⁷ The OECD regularly calculates NAIRU rates in their ‘Employment outlook’ publications.

³⁸ The assumption is that ‘effective’ unemployed people reduce their job demands and their reservation wage and thus exert a downward pressure on wages. This is no longer the case if unemployed persons become ‘unemployable’.

³⁹ There is a long debate on whether trade unions represent only employees or the unemployed as well. This aspect plays, for example, a role in wage negotiations when a lower wage increase is accepted in favour of the creation of additional jobs for the unemployed.

collection of papers from the International Monetary Fund (Henry & Snower, 1996) concludes that there is a large variation in the degree of persistence between European countries. Their results⁴⁰ for France, West Germany, Italy, Spain and the UK suggest that these countries exhibit a substantial degree of unemployment persistence. For the US, however, the hysteresis or persistence hypothesis is rejected.

The persistence of unemployment, as seen by Layard, Nickell & Jackman (1991), is, to a large extent, due to the existence of long-term unemployment. Long-term unemployment occurs if the exits out of unemployment are lower than the inflows into unemployment. If the probability of leaving unemployment (measured by the *hazard rate*; see Box 4.10) reduces with increased period of unemployment, the duration of unemployment will increase.

Box 4.10: Exit rates, hazard rates and state dependence

Outflows out of unemployment are measured by *exit rates*. An exit rate denotes the ratio of the number of unemployed leaving unemployment during a given period to the number of unemployed at the beginning of this period (see for an example Table 4.10).

If the period (normally one year or one month) is made infinitesimally small, the exit rate is called a *hazard rate* and denotes the probability of leaving a particular state (unemployment) at a certain point within a period. If the hazard rates are constant, someone who is long-term unemployed has the same probability of leaving unemployment as someone who has only been in unemployment for some weeks.

When the hazard is not constant, we speak of duration dependence or *state dependence*. A negative duration or state dependence occurs when hazard rates decrease with the length of time spent in unemployment: the probability of leaving unemployment becomes smaller, the longer someone remains unemployed.

In this case it is claimed that the duration of unemployment itself has, in some sense, an autonomous impact on the exit probability – over and above individual characteristics (such as age, gender, educational attainment, work experience, ethnicity, etc.): the unemployed gradually become ‘unemployable’.

Source: Bollens, 2000.

⁴⁰ The authors use structural VAR (vector autoregression) models to simultaneously simulate the dynamic behaviour of (un)employment, labour force and wage formation.

A negative state dependence implies that something happens or changes during the period of unemployment, either because unemployed persons themselves change, or because they are perceived to have changed. There is an unresolved debate on the question whether state dependence dominates or whether observed differences in hazard rates are accounted for by personal characteristics (heterogeneity such as educational level, gender, etc.) that were already present at the beginning of the unemployment spell.

Several aspects are brought forward by the adherents of negative state dependence. Examples of these are:

- *discouragement and demotivation* of the unemployed, which can lead to habituation and resignation and thus to a reduction of job search activity;
- *loss or erosion of acquired skills* (formal and non-formal skills) or obsolescence of skills which are outdated and no longer used;
- negative impacts of unemployment on *work attitudes and discipline* (e.g. keeping appointments, concentration on work, social integration, etc.). Because this process usually becomes apparent after someone is hired, indirectly, potential employers may associate long-term unemployment with loss of work attitude.
- This last argument can be generalised as a *loss of reputation*. Because an employer normally has limited information about the productivity of a candidate for a job ('asymmetric information'), he may rank job applicants by their unemployment duration. In this case, the hazard rate will decrease with duration even if the former explanations have no or little significance. Ranking the unemployed by their employability can easily become a self-fulfilling prophecy.

Concerning unemployment rates of different skill levels – i.e. the aspect of heterogeneity –, Layard, Nickell & Jackman (1991) observe that the lower skilled are more likely to become unemployed than higher skilled groups, but that their unemployment duration is not significantly longer.⁴¹

⁴¹ This empirical evidence produced by these authors relates only to the US and UK labour markets which are hardly comparable with continental European economies. It contradicts empirical observations for almost all EU countries (cf. Figure 4.10) which indicate a significant inverse relationship between skill level and duration of unemployment.

Therefore, the higher unemployment rates of the lower skilled are primarily due to higher inflow rates and not to a longer average duration (*ibid.*, pp. 44-45). The authors acknowledge the importance of skill mismatch, but argue that skill (and other) mismatches are not a new phenomenon. Therefore, in their opinion, skill mismatch cannot be held responsible for the observed changes in unemployment.

What has changed over the past decades, is the emergence of long-term unemployment (Bollens, 2000) which applies to almost 50% of all unemployed (Figure 4.1). The policy implications thus focus on the prevention of long-term unemployment and the reactivation of the (long-term) unemployed.

If long-term unemployment leads to discouragement and habituation, loss of skills and worker attitudes, it is important to act preventively by creating, for example, temporary work experience and recruitment subsidy programmes to prevent the disenfranchising processes. The long-term unemployed can be reactivated by work in social enterprises (see Part 3, Section 4.4 in this report) and/or training programmes that upgrade lost or outdated skills, and reestablish work attitudes. Mandatory participation⁴² can be a solution for problems of habituation, while job-search programmes can be a remedy for discouragement (Cockx, 1998).

These policies were also strongly recommended by the EU Luxembourg Summit in 1997.

However, as was shown in Figure 4.10, long-term unemployment in Europe is clearly inverse to the level of educational achievement, thus calling equally for policies of training, retraining and continuing training, particularly of the lower skilled.

4.1.2.3. Structural unemployment and heterogeneity of skills

Hypotheses of persistence and state dependence, as outlined above, assume long-lasting consequences on unemployment, but the underlying equilibrium unemployment is not affected. Once active labour market measures are successful, these policies are no longer needed.

⁴² For an analysis of the 'workfare' rationale (mandatory participation) see Part 5, Chapter 3.2.3.5 in this report.

A rival view states that during the past decades the equilibrium unemployment rate has increased. This view is based on the observation that there has been a dramatic deterioration of the labour market position of the low skilled. In Europe, the demand shift away from the low skilled reveals itself in growing structural unemployment whereas in the US labour market, where wage rigidity is lower, the demand shift has led to a decline in the relative wages of the low skilled and thus in increasing wage inequality (OECD jobs study, 1994).

Werner (1998) claims that both downward and upward wage disparity in the US and the UK is far greater than in other EU countries and has even increased in the course of time: the numbers of both low earners and high earners has risen. This contradicts statements that the 'American job miracle' was achieved merely by an increase in 'bad jobs'. However, growing wage disparities also point to the reverse of the medal, an increasing number of the 'working poor' who, because of incomplete social security systems, have to accept any kind of work, even very low paid jobs.

Given the downward rigid wages in Europe, long-term unemployment has reached a high level of around 50% of all unemployed. LTU may persist because the unemployed do not possess the skills demanded, but not, or not necessarily, because they become disenfranchised. It is not the negative duration dependence in the exit rates from unemployment, but *heterogeneity* of the unemployed that leads to high levels of LTU (Krugman, 1994; Drèze & Sneessens, 1997).

It is difficult to obtain figures that are comparable over time. Nickell & Bell (1996) relate the unemployment rates of lower and higher skilled people for the period 1971-93. These figures indicate indeed a deterioration for the lower skilled, although a reverse process has taken place in some countries more recently (for further details and results see Bollens, 2000, section 3.2.1, Table 4). It remains open to debate whether this new tendency is due to an amelioration of the position of the lower skilled or to an above average deterioration of the employment situation of higher skilled people.

Some more recent results confirm that unemployment risk is unevenly distributed along educational levels. This can be illustrated more clearly by the ratios of the unemployment rates (Figure 4.11) of lower compared with medium skilled people (left side) and of medium compared with higher skilled people (right side), both for 1995 and 1997.

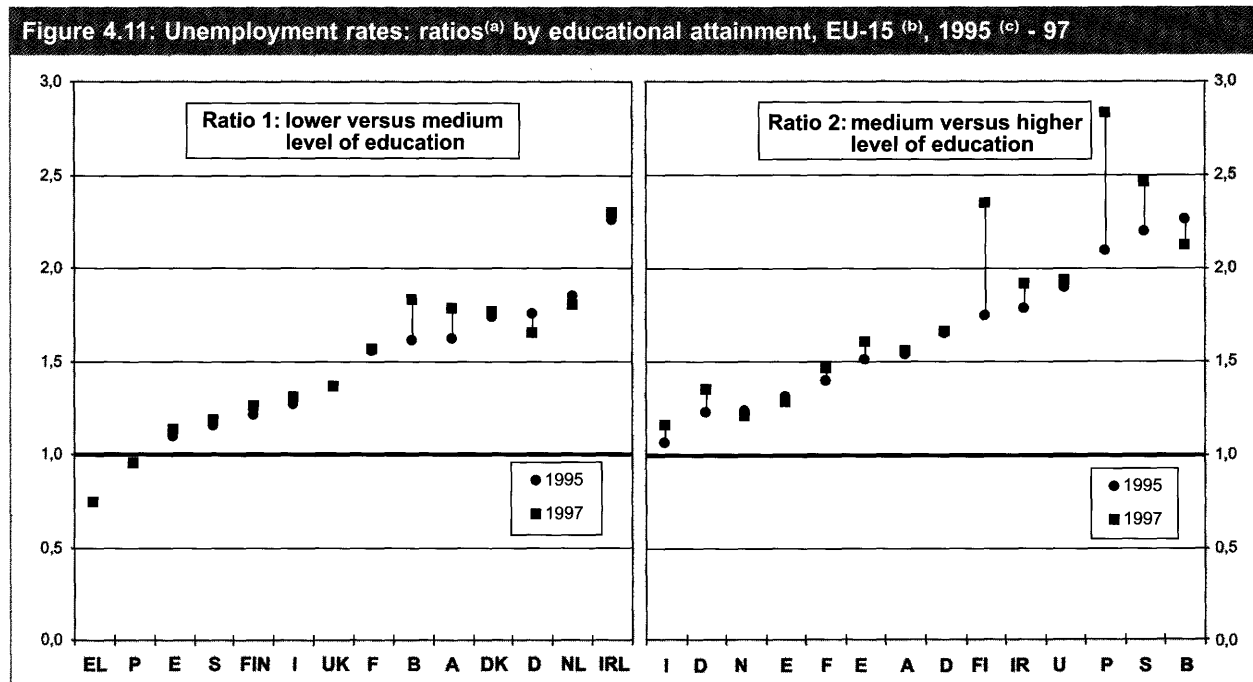
The ratios in Figure 4.11 (for the total unemployment rate) reveal several patterns:

- in all European countries, except Greece and Portugal for ratio 1, the ratios are >1 , i.e. the unemployment rates of the lower exceed those of the respective higher educational level. In Greece, the unemployment rate of lower skilled falls below that of the medium level (ratio 1 = 0.7); in Portugal the unemployment ratio 1 is just below 1.0;
- in Belgium, Austria, Denmark, Germany, the Netherlands and, above all, Ireland the distance between the unemployment of lower and medium skilled people (ratio 1) is above average. Concerning ratio 2, people with higher skills have significant labour market advantages compared with medium skilled people in Portugal, Sweden, Belgium and, in 1997, in Finland;
- the distances between the different unemployment levels have increased between 1995 and 1997⁴³ in several European countries, in particular in Belgium and Austria (ratio 1), and in Italy, Denmark, Greece, Finland, Portugal and Sweden for ratio 2. The latter is the more remarkable since the expansion of higher education in Europe is often expected to reinforce unemployment among the highly skilled. This can be seen as a certain confirmation of the heterogeneity hypothesis by Nickell & Bell, 1996, mentioned above. Some countries show no or minor changes in this period; others display a significant increase of ratio 2.

A similar calculation of the ratios for the *long-term unemployed* by level of educational attainment 1997⁴⁴ (Figure 4.12) displays in general a comparable, although much more scattered picture. Apart from Greece, Portugal and Spain where the unemployment rates of lower skilled people are below or equal to those of people with upper secondary education, in the majority of EU countries, ratio 2 (medium/higher level) is higher than ratio 1 (lower/medium level). This means that the labour market favours medium qualifications more than lower qualifications, but is even more favourable for highly skilled people. The largest differences between both ratios are found in Portugal, Greece, Ireland, Finland and the UK; almost equal ratios are found in Italy, Germany and France.

⁴³ For Germany, data were only available for 1996.

⁴⁴ Data for previous years were not available.



- (a) Ratio 1: unemployment rate of lower educational level (ISCED 0-2) / unemployment rate of medium level (ISCED 3);
Ratio 2: unemployment rate of medium level / unemployment rate of higher educational level (ISCED 5-7);
a ratio of 2.0 means that the unemployment rate of the lower level doubles the respective higher level.
- (b) Without Luxembourg.
- (c) Germany: 1996.

Source: Bollens, 2000 (based on Eurostat: Community labour force surveys 1995 and 1997).

The unemployment ratio is the quotient of the unemployment rates of respective lower to the respective higher qualification. In Figure 4.11, for instance, a ratio of 0.7 (Greece, ratio 1 in 1997) means that the unemployment rate of people with primary or lower secondary educational level (6.4%) falls below the unemployment rate of people with upper secondary level (8.6%) by the factor 0.7. A ratio of 2.5 (Sweden, ratio 2 in 1997) means that the unemployment rate of the upper secondary educational level (10.1%) exceeds that on of the higher educational level (4.1%) by 2.5.

4.1.2.4. Explaining heterogeneity

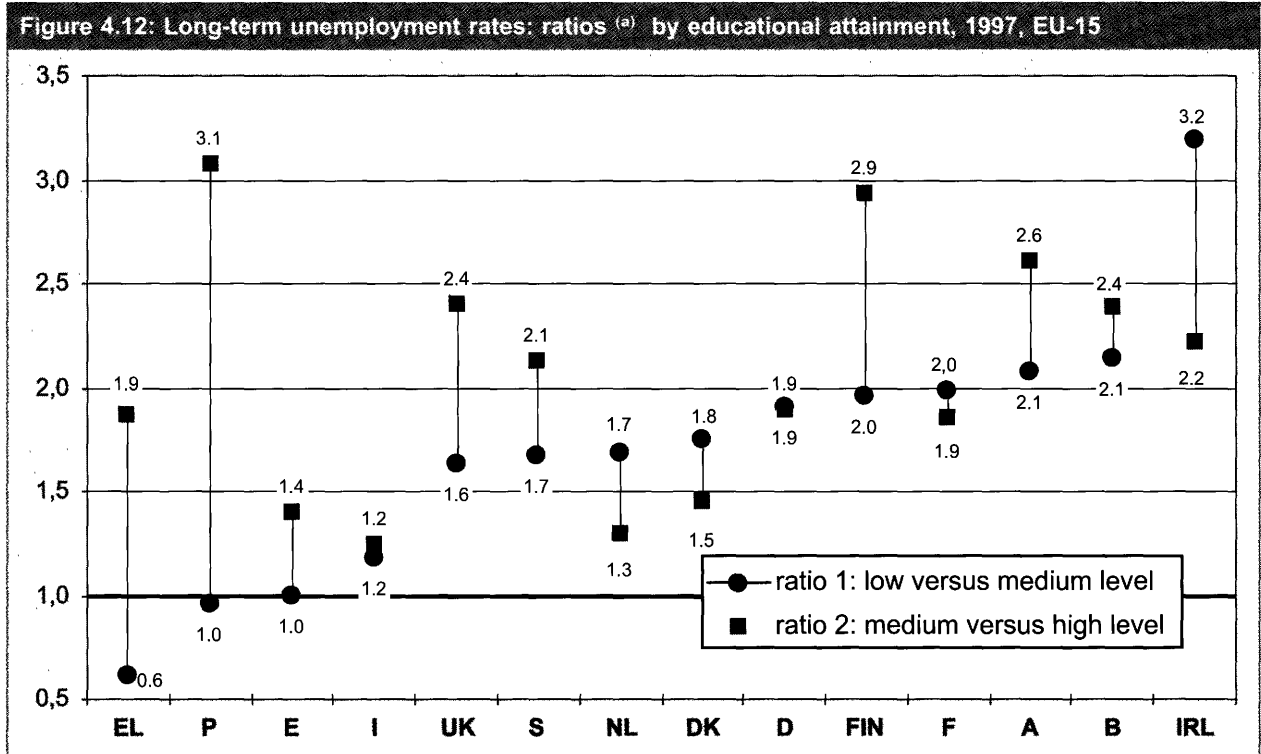
Returning to the discussion on the reasons for long-term unemployment – state dependence or heterogeneity – these results indicate that the heterogeneity of the unemployed or structural distortions is a not negligible reason for the persistence of unemployment. In particular it is the shift in demand against the low skilled which is generally observable in all industrial countries.

Three explanations of this demand shift are put forward (Drèze & Sneessens, 1997; see also Part 5, Chapter 3.3.2 in this report):

Table 4.11: Proportion of highly skilled persons employed in service sectors, EU-15, 1997, %

Service	Proportion of highly skilled
Distributive trades	11.3
Hotels, restaurants	7.2
Transport, communication	12.1
Financial services	25.9
Total business services	37.8
Real estate	22.8
Renting	16.2
Computer activities	52.3
R&D	63.4
Other business activities	36.8
Public administration	26.0
Education	62.1
Health, social work	36.4
Other community, social and personal services	22.7
Extra-territorial organisations	39.9
Total economy	19.8

Source: European Commission, 1999d, Table 3.8 (based on the Community labour force survey 1997).



(a) Legend and explanation: see figure 4.11.

Source: Bollens, 2000.

(a) *skill-biased technological change*: higher skilled people are expected to adapt more easily to new technologies and thus are in high demand. Moreover, new technologies replace repetitive work traditionally performed by lower skilled workers;

(b) *deindustrialisation*: The structural shift from industrial sectors to service sectors leads to losses of low-skilled jobs and to a growing employment of the higher skilled (see Table 4.11). Despite decreasing job numbers, industrial sectors also display a growing share of highly skilled workers (OECD, 1996h; Grömling *et al.*, 1998);

(c) *competition from low-wage countries* – accelerated after the opening of Eastern Europe – can be seen as an increased supply potential of less educated workers.⁴⁵

⁴⁵ We should note that Eastern European populations have a relatively high level of qualification (see Table 6.2 in Part 6). However, due to economic problems in their countries, there is a high acceptance of low-skilled and low-paid jobs, too – thus referring to the aspects of overqualification as discussed in Chapter 4.2 below. See also the TSER project ‘Globalisation and social exclusion’ (summarised in Box 3.3. in Part 3). This project investigates how firms and industries in Europe have responded and adjusted to increased competition from low wage countries.

Box 4.11: TSER project ‘New forms of employment and working time in the service economy’

The objective of the project is to analyse the effects of new forms of employment and working time in the service sector and service activities on the opportunities for a redistribution of work likely to promote employment.

Its quantitative parts include the analysis of data relating to the diffusion of new employment and working time forms in the individual service industries. Data analysis will also include individual working time preferences, broken down by employee category, family structure, income, etc., as far as possible.

The qualitative parts identify basic industry- and activity-specific reasons for the emergence of certain new forms of employment and working time in selected service industries and activities.

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Debates continue as to the relative importance of these effects and to their quantitative assessment (for a discussion *cf.* Bollens, 2000). The increase of employment in service sectors also favoured low-skilled white-collar workers in addition to the creation of highly skilled jobs. However,

empirical evidence shows a continuing decrease in the proportion of low skilled workers in almost all western economies in the longer term. Thus, skill-biased technological change is given the highest weight to structural change. A number of empirical studies support this argument (e.g. Machin & Van Reenen, 1998⁴⁶; for additional research findings *cf.* Bollens, 2000). However, empirical evidence is still limited and the impact of technological change on skills is still disputed.

4.1.2.5. Measuring mismatch in labour markets

Mismatch in labour markets refers to a situation where vacancies remain unfilled or where high unemployment exists in certain regions, sectors, skills, occupations or among certain groups (e.g. age groups, gender) – where both, shortages and unemployment coincide. However, the definition of ‘mismatch’ is rather loose. A growing consensus suggests that ‘mismatch’ denotes structural, long-term imbalances and not frictional unemployment induced by job search or labour turnover (see also Table 4.7).

Different forms of mismatch can be distinguished, such as:

- *skill mismatch*, which implies that the skill requirements of jobs do not correspond to the skills of workers;
- *regional or geographic mismatch*, which indicates that there are simultaneously regions with high unemployment and regions with tight labour markets;
- *industrial, sectoral or occupational mismatch*, which refers to similar situations in certain segments within the labour market.

The measurement of mismatch – we will focus on skill mismatch – is problematic in many respects (see Bollens, 2000, for more details).

The comparison of unemployment rates and vacancy rates as in the Beveridge curve (Box 4.12) faces the problem that firms have little incentive to notify their vacancies when unemployment is high. Moreover, in many countries firms are not obliged to have their vacancies registered by public employment services. Press advertisements, too, are not representative in many respects. A suitable source would be regular surveys of vacancies;

however, these are rather costly and only a few countries have conducted such work (e.g. the Netherlands, Germany, Belgium).

Vacancy surveys should be complemented by information on how the vacancies were filled afterwards. The Belgian survey of 1997 shows, for example, that although 42% of a representative sample of vacancies required only a lower secondary degree, 67% of these were eventually filled by workers holding higher degrees (Denolf & Denys, 1998). Similar findings are reported in the frame of the BIBB project ‘Early recognition of skill demand’, concerning the evaluation of vacancy advertisements (see Box 4.16 below).

Box 4.12: The Beveridge curve

The Beveridge curve displays the relationship between the ratio of job seekers (unemployment rate) and of vacant jobs (vacancy rate). This relationship is assumed to be inverse, i.e. an increase in the number of vacancies will *ceteris paribus* reduce the number of unemployed and vice versa (OECD, 1993b; Calmfors, 1994; Van Der Linden, 1997).

The Beveridge curve can be seen as a measure of the efficiency of the matching process in the labour market (Franz, 1996; Calmfors, 1994). The observed evolutions – high unemployment rates, persistence, simultaneously high unemployment and high vacancy rates – imply over time that the curve has shifted outwards and the matching process in the labour market has become less and less efficient.

Another measure does without vacancies but calculates the dispersion of specific unemployment rates for a category (e.g. qualification) compared with the aggregate unemployment rate (Jackman, Layard & Savouri, 1991). This measure of the variance of unemployment rates may reveal valuable information on structural discrepancies within the labour market. However, critics suggest that, if absolute unemployment numbers are increasing, the measure of mismatch tends to decline without any changes in the relative structure of sectors, skills, etc. (Entorf, 1998).

All measures mentioned above are affected by the fact that the results crucially depend on the classification and aggregation used (and, of course, on the quality of data). If the category, e.g. vacancies or unemployment data by skills, is too fine, mismatches may be exaggerated. The reason is that skills normally do not prepare for one specific job only; on the other hand, vacant jobs may be filled alternatively with different skills. If the categories are too coarse, mismatch will be understated.

⁴⁶ The authors find a strong relationship between technical change and the increasing relative demand for skilled workers in Europe (DK, F, D, S, UK), the US and Japan.

With regard to skills, heterogeneity has risen over time – irrespective of the question whether it is qualifications that are traded on the labour market or rather competences, including formal and non-formal skills (cf. above, Section 3.2). One reason is that skill measures most often have to rely on formal qualification categories. Taking these as a proxy for skills, obviously neglects both on and off-the-job training, work experience and thus the whole set of competences acquired within and outside work.

Moreover, the measures of mismatch presented above conceive mismatch as a one-dimensional problem. However, mismatch is multi-dimensional comprising a mixture of skill, regional, sectoral and other mismatch phenomena. If these aspects are not included in analyses, the results remain subject to misinterpretations (Entorf, 1998; Sneessens *et al.*, 1997).

In a policy context, a situation of increased skill mismatch probably will not be permanently solved by the classical measures of active labour market policy (Bollens, 2000). Temporary work experience, recruitment subsidy programmes and a general lowering of the costs of the low skilled may be of little help. As skill mismatch is primarily a problem of low skills, there has to be some scope to remedy the skill problem through training and education, and, in general, by raising the skill level of populations. However, the upgrading of the skill level of the lower skilled can only be brought about by programmes that are sufficiently long and are recognised in the labour market.

4.1.2.6. Theories and reality

Which of the rival theories – skill mismatch due to individual heterogeneity or persistence of unemployment duration due to state dependence – is more in line with reality is largely an empirical matter. Empirical proof will not be easy because, even on a theoretical level, there is no consensus as to how mismatch could be defined, let alone measured. Hazard rates could give an indication of which theory is dominant for a given country. If negative state dependence is absent or negligible, this will be a strong argument against the disenfranchised workers hypothesis and favour the heterogeneity hypothesis.

If one observes negative state dependence however, both hypotheses (or a mixture) become possible.

Hazard rates, in principle, require longitudinal data on the course of unemployment of individuals over time. Cross-section data will systematically underestimate the duration of time spent in unemployment since they provide no information on when unemployment is terminated. Unfortunately, longitudinal data on entries into and exits out of unemployment are not available in the majority of European countries. On the other hand, the Community labour force survey contains some retrospective information on status changes between two years (see for example Table 4.10) and thus represents a valuable source for respective analyses. From a policy point of view, this information should be used much more to shape appropriate measures.

Even in a case of pure heterogeneity (without state dependence), job competition processes might occur. In a situation of increased unemployment, higher skilled people can always descend on the skills-ladder by lowering their reservation wage and displacing the lower skilled, while the latter soon reach the bottom. With a tightening of labour markets, the position of the lower skilled should improve again, at least if job competition is the only mechanism in operation. In this case, mismatch is not the preferred explanation (Cockx, 1998).

Thus, job competition cannot explain unemployment growth or persistence. However, it should not be excluded from the recent unemployment history of some countries. It is quite possible that these processes have aggravated the position of the lower skilled, on top of the (joint) effects of skill mismatch and/or persistent long-term unemployment.

4.1.3. Empirical evidence

The measurement of the effect of unemployment duration on the exits out of unemployment (hazard rates) is seriously affected by unobserved heterogeneity ('spurious duration dependence'). If certain characteristics of the unemployed are not included in hazard models, declining hazard rates may not correspond to reality. More recent applications thus attempt to model unobserved heterogeneity (Bollens, 2000).

Box 4.13: Spurious duration dependence

Bollens (2000, section 4.1.1) illustrates *spurious duration dependence* by an example.

Supposed that there are only two groups in unemployment: higher skilled and lower skilled people. Supposed further that the exit/hazard rates for these groups are constant over time, but are higher for the higher skilled than for the lower skilled people. In this case, after some time, the higher skilled (with high exit rates) will have increasingly left unemployment status and unemployment consists increasingly of lower skilled people (with low exit rates). If there is no information in respect to skill in the unemployment data, one will therefore, wrongfully, be inclined to infer that hazard rates are declining, i.e. that there is negative duration dependence.

These problems apply to all analyses which omit characteristics which have an impact on the probability to leave the unemployment status (e.g. age, gender, work experience, motivation, non-formal skills). If these are not controlled for, hazard rates will be misleading.

4.1.3.1. State dependence versus heterogeneity

Economic analyses of unemployment duration are mostly based on job search theory (Devine & Ciper, 1991, 1993). If job search is difficult, the unemployed person will reduce his/her demands e.g. by accepting a job and wage below the level of aspiration. Furthermore, it is often argued that the prevailing systems of unemployment compensation and other transfers may interfere with such a search behaviour: if the distance between unemployment and other benefits on the one hand, and wages of a low-level job on the other, is too small, job searchers might not be willing to accept those jobs. This behaviour will affect the probability to exit from unemployment.⁴⁷

In a comprehensive literature survey, however, Atkinson & Micklewright (1991) found little evidence of the assumed effects of unemployment compensation on transitions out of unemployment at that time. More recent research confirms this observation to some extent (for an overview of recent studies cf. Bollens, 2000, section 4.1.2).

As to empirical proof of state dependence versus heterogeneity, Meager & Evans (1998) conclude that more recent research for the UK (female), Portugal, the US (except

white males), France and the Netherlands suggests a limited role of state dependence; 'most variation in observed durations of unemployment can be explained by heterogeneity' (*ibid.*, p. 14). Similar results are found in Swedish and Belgian studies. Empirical evidence thus points towards heterogeneity; the US and the UK, at least for (white) males, are exceptions to this general observation.

4.1.3.2. Unemployment and psycho-social condition

Early work on the impact of unemployment on the psycho-social condition of individuals dates back to the 1930s. In the past two decades a large body of research was devoted to this problem (for an overview see Bollens, 2000, Section 4.2), increasingly by using longitudinal studies.

The loss of a job will not only involve a deprivation of manifest functions such as earning a living, but also of the latent functions linked to employment. These are losses of a time structure for personal life, of social contacts, of involvement in shared goals, of assignment of status and identity, and of enforcement of activity (Feather, 1990).

In addition, becoming unemployed is perceived as uncontrollable. Loss of control may lead to a sense of helplessness, in particular if individual efforts to reestablish control are not successful. As stated by De Witte (1993), the deterioration of psychological health may stabilise after a certain period of time. Many long-term unemployed will adapt to their role and withdraw from the labour market by lowering their employment commitment and their job search activities.

In this context it is important to refer to the situation of the unemployed in a household context. The situation may be rather different in households where the unemployed is the only breadwinner from those households where one or more family members are still in employment. From a European perspective, those issues can be analysed in the framework of the European Community Household Panel (ECHP; Box 4.14).

Bollens (2000) concludes: upon becoming unemployed, individuals experience a serious deterioration in their psychological well-being, e.g. due to a deprivation of manifest and latent functions and/or due to a sense of helplessness. This results in a high level of stress

⁴⁷ For a criticism of this reasoning, based on empirical data, see Part 5, Chapter 3.2. in this report.

if it becomes clear that the probability of finding another job is low. Many of the unemployed therefore will become discouraged and demotivated.

However, high stress levels are not sustainable for a long period of time. Therefore, as the unemployment spell continues, in an attempt to reduce cognitive dissonance, the unemployed will adapt to the new situation, by changing their preferences. The long-term unemployed might withdraw from the labour market and lower their employment commitment. Job search will be substantially reduced. Psychological health settles on a stable albeit lower level.⁴⁸

Box 4.14: European Community household panel (ECHP)

The ECHP has established a user-databank which has been available for external researchers since 1999. This is possible in the framework of study contracts of Eurostat with research or other organisations.

Some examples for research issues are:

- low paid employment;
- links between standard of living, social policy and labour market;
- precarious employment, unemployment and social exclusion;
- transitions from education and training to working life;
- earnings disparities between men and women.

More information: <http://europa.int/eurostat.html> or contact directly E. Marlier:
E-mail: eric.marlier@cec.eu.int.

A large number of studies confirms that when the long-term unemployed individual finds a job, this will lead to a substantial improvement in psychological wellbeing, although not always at the same level as before. This last observation could be due to the fact that the long-term unemployed often have to accept jobs below their skill level.

In summary, empirical evidence during the past 20 years on the psycho-social impacts of unem-

ployment sustain the hypothesis that long-term unemployment is also characterised by negative state dependence. The long-term unemployed will tend to lower their employment commitment and will reduce their job search activity. Non-psychological research, however, as done in the US and UK (Layard *et al.*, 1991), found that unemployment duration does not seem to affect the time spent searching, but to affect the effectiveness and intensity of job search (e.g. less direct contacts with employers or with labour offices).

4.1.3.3. Obsolescence and erosion of skills

In contradiction to the vast number of researchers and policy makers who take the loss and obsolescence of skills during long unemployment for granted, the number of empirical studies of these aspects is remarkably scarce. Mincer (1991) assumes an annual skill depreciation rate of 4%, however without a sound empirical background. Basically, three mechanisms can be distinguished that relate unemployment to the loss and acquisition of skills (Bollens, 2000, Section 4.3).

First, unemployment may lead to a loss or erosion of acquired skills, primarily because they are no longer practised. Some indications can be obtained from the International Adult Literacy Survey (IALS, *cf.* OECD, 1997). Literacy skills correlate with educational attainment and the labour force status. Thus the unemployed score lower on literacy skills than working people. However, a crosscheck with educational attainment has not yet been reported. Moreover, since the IALS results are based on cross-sections of the population (i.e. do not contain longitudinal data), the direction of causality remains unclear: do the unemployed score lower on literacy due to their being unemployed, or are they unemployed because they possess less literacy skills (among other things)?

Secondly, unemployment may lead to the obsolescence of acquired skills because skill requirements in the world of work have changed in the meantime (e.g. from the introduction of new technologies).

Indirect evidence is given by the increasing importance of continuing training, on-the-job training and non-formal training for performance at work. This points to the increasing necessity of adapting to new skill requirements. Even if unemployment will not necessarily bring about a decrease in acquired skills, unemployment will tend to widen the skill gap in relation to those remaining at work.

⁴⁸ Some indications are found in Figure 4.1: around 13% of non-active people are seeking a job. Vranken (2000) presents classifications of unemployed concerning their motivation and willingness to seek a job (see also Chapter 3.2 and Table 5.7 in Part 5 of this report).

Recent trends in the demand for labour suggest that, due to rapid technological change, vocational skills are becoming obsolete at an increasingly faster rate (Blechinger & Pfeiffer, 2000; Machin, 1996; Machin & Van Reenen, 1998). This favours cognitive and more academic skills.

Finally, unemployment may temporarily or permanently reduce the individual's potential to learn and acquire new skills.

According to social psychology, helplessness may reduce the motivation to acquire new skills, and possibly diminishes cognitive efficiency. Unemployed people may find it more difficult to learn, even if they are motivated. Helpless people are reported not to memory scan as rapidly as people who are not helpless (Darity & Goldsmith, 1993) and tend to solve fewer tasks, e.g. due to their higher stress level. This suggests that training programmes for the long-term unemployed should benefit from psychological support.

4.1.3.4. Recruitment behaviour

As mentioned several times above, employers may use unemployment duration as a (negative) signal for productivity. In that case LTU leads to a loss of reputation and to stigmatisation.

This behaviour is broadly confirmed by employer surveys. Meager & Evans (1998) give an overview of several studies made for the UK, Norway, Ireland and France which confirm this hypothesis. The same is true for studies for Flanders/Belgium (Lamberts, 1993) and for Austria (Winter-Ebmer, 1991). This kind of behaviour strongly supports the presence of state dependence.

From a policy point of view it is important to know whether this behaviour is based on an objective evaluation by employers, e.g. based on previous experience, or on a more subjective or even prejudiced appraisal of the employability of the long-term unemployed in general. In the latter case, information campaigns to unmask received wisdom might remedy the problem somewhat.⁴⁹ The

former case calls for a different approach, e.g. policies to remedy loss of skills, work attitudes and the like.

4.1.3.5. Evidence of skill mismatch

Due to different measures, sometimes based on different theoretical underpinnings, empirical evaluations of skill mismatch do vary. Bollens (2000, Section 4.5) gives an overview of a number of research studies carried out in the 1990s.

- Layard, Nickell & Jackman (1991) and subsequent research studies observe substantial mismatch in a variety of countries (occupational, sectoral, industrial and age mismatch). For example, the combined sources of mismatch can be held responsible for raising Britain's unemployment by some 40% above what it would have been otherwise. However, they do not detect a trend evolution and conclude that increased unemployment cannot be attributed to an *increased* mismatch.
- Sneessens & Shadman-Metha (1995), Sneessens (1995a) and Sneessens *et al.* (1997) observe a significant mismatch increase for France in recent decades, most of which is attributed to skill mismatch. Skill and regional mismatches explain around 75% of the increase in unemployment until 1990.
- For the US and the UK, Manacorda & Manning (1997) find evidence for an increased skill mismatch; however, they find no increase for France, the Netherlands, Germany and Italy. Equally, Franz (1991) detects some regional and skill mismatches for Germany, but states that it is less obvious whether these imbalances have increased. Entorf (1998), using highly disaggregated panel data of occupational groups for Germany, observes a decline of the matching efficiency over time. Since 'easy matches' are typically periods of high unemployment, he concludes that high unemployment is accompanied by lower mismatch. However, the general level of mismatch is higher in the 1980s than in the 1970s.
- Labour markets in Spain might serve as an example of situations where labour market regulations also have undesired effects on skill mismatch. One reason for the very high youth unemployment rate in Spain (1999: 29.5% compared with a total unemployment rate of 15.7%⁵⁰) is the employment protection rules for older workers. Therefore, the Spanish youth labour market has

⁴⁹ An example is the information campaign emphasising the (empirically proved) vocational skills and work experience of older and long-term unemployed workers by the German Federal Employment Services in recent years.

⁵⁰ Source: Eurostat & Franco, 2000.

been characterised as a ‘high skilled – bad job’ labour market, since high skilled (younger) individuals end up in low skilled jobs, crowding out low skilled workers (Dolado *et al.*, 1999).

Although these results do not present a clear picture of the evolution of mismatch over time, most researchers find – irrespective of the approach they use – that the level of mismatch is by no way negligible, and sometimes even substantial. Whether a policy oriented towards reducing mismatches will be sufficient, or whether it has to be supplemented by policies aimed at other malfunctions of the labour market, depends on whether there has been an unfavourable trend in mismatch or not.

This question cannot be answered unambiguously, and much more work is still needed both at theoretical level and at empirical level (Bollens, 2000). This work may lead to some convergence in the different approaches and may establish richer data with consistent time series and at a more disaggregated and multidimensional level.

To achieve this, surveys linking household data with establishment/firm data look promising (Hamermesh, 1999; see also Bellmann, 2000 and Part 3, Chapter 6 of this report). Another obstacle to measuring mismatch phenomena is the absence of suitable and comparable vacancy data. Here there remains a challenge for the national as well as the European statistical authorities (Bollens, 2000).

Concluding, a mixture of both explanations – state dependence due to the disenfranchising effects of long-term unemployment on the one hand, and skill mismatch due to the heterogeneity of people on the other – may be responsible for the particular unemployment problems in European countries. However, the importance of both explanations may differ across countries.

A similar conclusion is reached concerning policies to tackle skill mismatch. These are quite different from active labour market policies which aim to reactivate the unemployed and to prevent long-term unemployment. In this context, Bollens (2000) criticises the fact that the actual policy approach recommended by the EU through its

employment guidelines⁵¹ is based on the assumption that European unemployment can be alleviated by a common set of policies for all Member States. ‘While the prevention of long-term unemployment may be a goal in its own right [...], the economic rationale for preventive policies, namely the claim that unemployment duration itself has a clear negative impact on employability, is questioned by a growing number of empirical results’ (*ibid.*, Section 4.6).

Labour market programmes that seek to intervene at early stages of unemployment, e.g. training for the unemployed, can thus be questioned on two grounds (Bollens, 2000):

(a) first, because of dead-weight effects, an early intervention will direct scarce resources also towards the unemployed who would leave unemployment early anyway;

(b) second, early intervention requires identification of who is at risk and who is not. Research is rather pessimistic on the potential for early identification. Even if the unemployed at risk would benefit from early intervention, those measures may be insufficient if they lack enough depth (e.g. short training courses) or are of temporary nature (e.g. temporary wage subsidies). Given the difficulty of early identification, the potentially long-term unemployed will not benefit much when all the unemployed are targeted. This may also be one of the reasons that the employment guidelines of the European Commission focus on measures for people with longer or long-term unemployment (more than 6 or 12 months).

4.1.4. Conclusions

There is undeniably an inverse relationship between skills and unemployment, and, in particular, long-term unemployment. The position of the low-skilled has declined markedly during the past decades. On the other hand, long-term unemployment has increased – at least in Europe – from one business cycle to the next and became persistent.⁵²

⁵¹ http://europa.eu.int/employment_social/empl&esf/naps00/naps

⁵² As indicated above, however, in recent years long-term unemployment – as with unemployment in total – appears to decrease. However, apart from the question of whether this is a sustainable development or not, the measurement of long-term unemployment within official statistics (mostly based on cross-section observations) is biased for several reasons.

There are two major explanations: one is based on the theories of skill mismatch and the other on state dependence. Depending on which of both theories is better able to explain reality, different policies are called for.

- *Skill mismatch theory* proclaims a discrepancy between the skills of labour supply and skill requirements of jobs, due to the *ex ante* heterogeneity of people in terms of their personal characteristics, in particular skills. The demand shift away from lower-skilled workers, as observed in the past for almost all countries, is explained by several facts. The most important is technical change which favours the higher skilled, but there is also the shift towards services and those sectors with higher skill requirements (deindustrialisation). In the case of downward rigid wages (as in most European countries) the low skilled people risk becoming long-term unemployed because they do not possess the skills required in the labour market.

- *State dependence theory* assumes that the duration of unemployment itself has a negative impact on the probability of leaving unemployment and thus will lead to a persistence of long-term unemployment. The explanation put forward is that with increasing duration of unemployment, the unemployed individual tends to become unemployable – more or less independent from his or her previous level of education and training. Reasons for this are discouragement, obsolescence or erosion of skills, loss of motivation and work attitudes, and a loss of reputation, since employers regard long-term unemployment as a negative signal for productivity.

Which of these theories applies, differs according to country although recent research clearly favours the skill mismatch explanation. It appears plausible that the problems of contemporary labour markets reflect a certain mixture of both: above all heterogeneity of workers and in particular the problems of the low skilled, but partly also a loss of skills and reputation with increasing duration of unemployment. However, empirical evidence based on these rival hypotheses is scattered and not always consistent.

Implications for research

To gain more insight into the causes of persistent long-term unemployment, as well as the deterioration of the labour market position of certain groups – in particular the lower skilled – data have to be improved substantially.

First, there is a need for the provision of highly *disaggregated unemployment data* with reference to the most important individual characteristics which affect labour market status. This is especially necessary for the calculation of exit/hazard rates out of unemployment which are affected by unobserved characteristics ('unobserved heterogeneity'). Furthermore, data should be comparable to enable comparisons across countries.

Next, both the state dependence and the skill mismatch theories refer to dynamic processes on the labour markets. To analyse these processes, cross-section data which refer to one or subsequent fixed observation dates are not appropriate. Research should be based much more on *longitudinal or panel data* which meet the requirements indicated above and allow for a realistic measurement of exit/hazard rates taking into account individual characteristics such as skills, etc. to avoid 'spurious duration dependence'.

Third, to permit comparisons between skill supply and demand, data on *job vacancies* should be provided at a reliable and comparable level. These data, set against unemployment figures, are necessary to prove the efficiency of matching processes in the labour market and thus to propose appropriate policy measures. The provision of this kind of data is a challenge, not only for individual countries but also for the statistical services of the EU. Regular European surveys on vacancies, containing a comparative set of variables, would substantially improve the analysis of dynamic labour market processes.

Fourth, *linking employer and unemployment/employee data* promises to explain and compare better the characteristics and behaviour of workers and the unemployed on the one hand and the skill requirements and recruitment patterns of employers on the other.

Fifth, the impact of unemployment on economic and psycho-social wellbeing is strongly embedded in a *family context*. Thus, research should use household data (e.g. the European Community household panel [ECHP]) much more than today to analyse the motivation of the unemployed towards work.⁵³ This, however, requires that respective characteristics (on unemployment, skills, search behaviour, job aspirations, etc.) are included in such surveys.

⁵³ See also Part 5, Section 3.2 and Table 5.7 in this report.

Finally, research should not simply concentrate on one of the theories discussed above, and try to find empirical evidence in support. Instead, research should try to *integrate and reconcile both approaches*. The complexity of the social and economic processes which characterise contemporary labour markets cannot be captured by isolated hypotheses any more. Moreover, because of the fact that the explanatory power of these approaches differs across countries, research studies should also consider the political, economic and social contexts in particular economies. This exercise appears to be a major stimulus to targeted training and labour market programmes which – according to the situation and the prevailing reason for long-term unemployment in a particular country or region – requires a different policy-mix.

Implications for policy

At national level, policy-makers should know, based on reliable research findings, which (or which mixture) of the different explanations for long-term unemployment correspond to reality in their particular country.

If state dependence appears to be dominant, active labour market policy measures may be applicable. These focus on the prevention of long-term unemployment and on the reactivation of the long-term unemployed. Present programmes aim to impart work experience, to compensate for the loss or obsolescence of skills by appropriate training measures for the unemployed, to subsidise recruitment, to reactivate the unemployed by training and psychological support – but also to lower the costs of the low-skilled, e.g. by permanent subsidies, reductions in labour tax, lower social insurance contributions, etc.

At EU level, the employment guidelines prefer the prevention of long-term unemployment and result in a policy in its own right. However, the claim that unemployment duration has a negative impact on employability is increasingly questioned by research. In addition, early intervention may lead to dead-weight effects. Equally, the possibility of an early identification of the potentially long-term unemployed is doubted by most researchers.

In a situation of significant skill mismatch the problem will not be permanently alleviated, let alone solved, by traditional measures of active labour market policy. Temporary work experience and recruitment subsidy programmes will

be of little help. ‘As soon as the subsidy is cancelled, the low-skilled worker will lose his job and unemployment will persist’ (Sneessens, 1995b, p. 19).

A similar conclusion applies to measures to lower the relative cost of low-skilled workers. Since skill mismatch is primarily a problem of skills which are no longer in demand (or no longer in demand at the prevailing wage rate), obviously there has to be some scope to remedy the skills problem through training and education. It is a challenge for education and training policy to impart skills which are required in the labour market as well as improve long-term individual careers.

Thus, quality, relevance and recognition of skills provided within the formal education/training system as well as by non-formal learning are expected to alleviate unemployment spells considerably. However, measures to upgrade skills will be ineffective if not targeted and if they have a short duration or narrow and specific contents.

4.2. Overqualification: reasons and implications⁵⁴

4.2.1. Definitions

It has become undisputed that human capital is a decisive location factor in the context of global competition. From an economic perspective, however, it is the productive human capital which counts. In the course of mass unemployment, a substantial part of human capital is not utilised and will be devalued with increasing duration of non-utilisation.

Non-utilisation of skills not only refers to unemployment but also to a situation where an individual performs a job below his or her skill level. In research literature, this phenomenon is denoted as ‘overeducation’.⁵⁵ For the purpose of this study

⁵⁴ This section is mainly based on the paper of F. Büchel, 2000: ‘Overqualification: reasons, measurement issues and typological affinity to unemployment’. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 2 (published 2001).

A brief discussion of, overqualification and empirical findings can also be found in Cedefop’s first research report (Tessaring, 1998b, Part 2, Chapter 4.3).

⁵⁵ This is the term mostly used in research literature. Other terms used are, for example, ‘overqualification’, ‘over-skilling’, ‘skill underutilisation’, ‘surplus schooling’, ‘skill mismatch’ or ‘inadequate employment’ (for references see Büchel, 2000, Section 2).

which focuses primarily on vocational training as the main precondition of work, we will use the term 'overqualification' instead.

In a more mechanistic view, unemployment means that the total individual human capital remains unutilised; in the cases of underemployment (fewer working hours than desired) and of overqualification, a part of human capital is not used.⁵⁶ There are several reasons for the fact that policy and the public have paid considerably less attention to overqualification than to unemployment. Measurement problems and the burden of public transfer payments to the unemployed are some of the main reasons (Büchel, 2000).

We will define 'overqualification' with Büchel (2000) as a situation where an individual cannot, or can only to a small extent, utilise at work his or her vocational skills acquired in (formal) education and training.

This definition has two dimensions: a horizontal one and a vertical one. *Horizontal overqualification* applies to a situation where an individual performs work tasks requiring different skills from those acquired in education and training – but still at the same job level. An example of this is a skilled tool-maker employed as a skilled sheet-metal worker.

Vertical overqualification – as already implied in this term – refers to a situation where the skill requirement level is significantly far below the (formal) skill level of the worker. In other words, the job could clearly also be performed by someone with a lower level of formal qualification. In the following we will focus on vertical overqualification since the horizontal dimension seems structurally unavoidable (and less precarious) in the process of allocation of workers and jobs.

Overqualification is one phenomenon from a broad scale of 'skill gaps', although, besides unemployment, certainly an important one. Another type of skills gap – skill shortages – will be discussed in Chapter 4.3.

The empirical measurement of overqualification is restricted to formal education and training. However, as discussed in Chapter 3 in this

Part, it is not purely formal certificates that are exchanged on the labour market but the whole 'vector' of competences, including skills acquired by non-formal learning on and off the workplace. This restriction has to be kept in mind when discussing 'overqualification' in the following chapters.

4.2.2. Explanation of overqualification

4.2.2.1. Theoretical background

In a neoclassical economic perspective, overqualification – like unemployment – is a 'non-event' and a short-term disequilibrium which will be overcome by mechanisms of adjustment via prices and earnings on the supply and demand sides of the labour market. In the longer term, this will lead to a stable equilibrium in the labour market.

However, criticisms of this explanation are well known. In reality, there is no perfect information on the future, no homogeneity of labour and no rapid adjustment of imbalances. To trust solely on the 'healing forces of the market' therefore would not be sufficient.

Alternative theoretical approaches attempt to explain the various facets of overqualification in a more partial-analytic view. An overview on the most 'popular' theories in this context is given in Box 4.15. For a further discussion of these theories and for references cf. Büchel (2000, section 3.3).

4.2.2.2. Alternatives for workers and employers

Most empirical studies based on the theories mentioned in Box 4.15 have in common that they only consider one of the two sides of the labour market: mostly workers. It is important for the understanding of a job match, however, that both sides – including the interests of employers as well as of workers – have to be reconciled (Büchel, 2000). Both sides of the labour market have different options and follow different strategies that influence the allocation of workers and jobs, as well as the adequacy of employment.

Preferences of workers

Workers – particularly if unemployed, underemployed, non active⁵⁷ or entering the labour market after training – have (or may have, dependent on the labour market situation) different alternatives

⁵⁶ This view corresponds to an OECD definition which distinguishes between 'unemployment' and 'underemployment'. The latter comprises two sub-categories: 'visible' and 'invisible' underemployment. 'Visible underemployment' refers to employed persons who work less working hours than they wish. 'Invisible underemployment' refers to 'individuals who are working in jobs where their skills are not adequately utilised' (OECD, 1995a, pp. 44 f.).

⁵⁷ In particular those who can be assigned to the 'hidden labour force' (see Table 4.3).

regarding their participation at work. The main options are to stay in their present status or to move to an alternative: unemployment, non-active status, training, appropriate employment or sub-adequate employment.

Most people in gainful and adequate employment not threatened by unemployment will regard the move to ‘unemployment’ or ‘sub-adequate employment’ as exceptions. They will change their job only if a better job offer (‘match’) is found. Unemployed people or training leavers are also predominantly interested in an adequate job. However, with increasing duration of unemployment or job search they may reduce their job demands and their reservation wage and may also accept a job below their skill level.

However, these options between adequate and inadequate employment are not as unambiguous as can be assumed. Several studies point out that an inadequate job may be a true alternative, e.g. for first-job seekers. They may give more importance to, for example, non-monetary working conditions (such as working load, shorter working time, shorter journey to work, social or ecological relevance of work, etc.) which score higher on the individual preference scale (cf. Teichler, 1994 for Germany; Hecker, 1995b for the US).

It might even be the case that – at least in a short term and in the first years of working life – earnings in inadequate jobs are higher than in adequate ones (Neubäumer, 1993; Büchel, 1994b).⁵⁸ This option, however, might be deceptive since empirical evidence shows that higher earnings in these jobs are not sustainable: after a more or less short period, the adequately employed gain higher wage increases than the overqualified. If information on (future) wages is not available, however, the transition to inadequate employment is quite understandable. Table 4.12 provides an overview of the decision alternatives of workers.

Preferences of employers

It can be assumed that employers seek to fill a (vacant) job primarily with a worker whose skills correspond to the job requirements. However, there might also be reasons for an employer to recruit an ‘overqualified’ worker from the external labour market.

⁵⁸ This, for example, would be the case if a skilled craftsman after completion of training prefers an unskilled or semi-skilled job in a large industrial company and earnings there are higher than alternative earnings in an adequate job in a small handicraft firm.

If, for example, in a local labour market or for a very specific job, no adequate job applicants can be found, a higher qualified worker might be recruited if the costs of a more intensified search exceed the importance of this specific job. Another alternative would be not to fill the job.

A second possibility is where an employer recruits an overqualified applicant with a medium or longer term strategy to build up a stock of qualified workers for future executive positions. In this case, the worker will be overqualified only at the beginning of his/her work career, and it depends on his/her performance whether career potentials will be realised.

A third case arises if ‘soft skills’ gain in importance. The growing importance of competences (of which formal qualifications are one part) was discussed in more details in Chapter 3 in this Part and in Part 2, Chapter 2. But it is also possible, from an economic point of view, that broad and transferable skills (acquired inside and outside the formal education and training system) may be preferable to the firm. This would be the case if employers expect a ‘quasi rent’ if recruiting a flexible worker below his qualification level. This quasi-rent for the firm accrues, for example, if the recruited worker is expected to cope better with new technologies and to be more creative and innovative than ‘traditionally’ trained people.

Concluding, approaches to model and empirically test overqualification should always consider the options and interests of both sides of the labour market. Equally, the variety of underlying reasons that a worker may have for accepting or rejecting a job below the level of qualification must be considered. If no plausible explanations are given for the behaviour of the two counterparts, even a sophisticated approach will remain a partial analysis and can lead to misunderstandings.

4.2.2.3. Exogenous framework conditions

The phenomenon of inadequate employment has to be complemented by exogenous framework conditions which exert an influence on adequate or inadequate employment as well. These framework conditions refer to institutional arrangements and regulations and to changes in the structure of production and labour markets, but also to preferences of employers and employees as indicated in the preceding section.

Table 4.12: Decision alternatives for workers

Initial status	Decision alternative and examples for underlying reasons			
	Adequate job	Overqualification	Unemployment	Non-active
Adequately employed	<i>(stay in adequate job)</i>	<ul style="list-style-type: none"> threatening unemployment; if inadequate job is preferred (e.g. for non-monetary reasons); wish for shorter working time 	<ul style="list-style-type: none"> in case of regional move of the (employed) partner; unbearable working conditions (without a job alternative) 	<ul style="list-style-type: none"> care for family and children; health status; move of partner; dropout, e.g. because of stressing work
Overqualified (employed)	<ul style="list-style-type: none"> wish to utilise skills and to increase earnings; higher social status; better working conditions, career perspectives, etc. 	<i>(stay in overqualified job)</i>	<ul style="list-style-type: none"> earnings not significantly higher or equal with unemployment benefits; registration as job seeker to search for adequate job (e.g. because of working conditions) 	<ul style="list-style-type: none"> care for family and children; health status; dropout
(Registered) unemployed	mostly preferred alternative	<ul style="list-style-type: none"> lowering of job demands and of reservation wage (in particular long-term unemployed); preference for reasons mentioned above 	<i>(stay in unemployment)</i>	<ul style="list-style-type: none"> unsuccessful job search, discouragement; expiry of entitlement to unemployment benefits; other reasons as mentioned above
Non-active or leaving education/training	mostly preferred alternative if a job is sought	<ul style="list-style-type: none"> if the utility of the job offered is higher than stay in non-activity; if earnings are higher than in adequate job; non-monetary preferences 	if an adequate job is looked for (and job search is supported by labour office) and entitlement for unemployment benefits are given	<i>(stay in education and training if unemployment for young people is high and no suited job is offered)</i>

Source: Authors, based on Büchel, 2000.

Furthermore, we should not forget that for a considerable part of the labour force (e.g. self-employed, family workers, politicians, sportsmen, artists, etc.) the notion of 'formal qualification' is more or less meaningless (see also Box 4.7 above).

Institutional arrangements play a more important role in European countries than in the US, where most of the approaches presented above have been developed. Institutional regulations, alongside structural change, rapid technical progress and changing structures of production and work organisation, are expected to have a significant impact on overqualification.

The following list summarises some features of those exogenous conditions which may have an impact on overqualification:⁵⁹

- institutional regulations and settings concerning the stratification/hierarchy of formal certificates and qualifications may be inflexible or not up-to-date and thus may increase the risk of overqualification;
- a small difference between unemployment benefits on the one hand and wages of an inadequate job on the other hand may increase the risk of overqualification;

⁵⁹ For a more detailed discussion and for references see Büchel (2000, section 3.4).

quate job on the other may prevent people from accepting a job below the level of skills acquired;

- regulations concerning the acceptance of a job offered by labour offices to the unemployed may perpetuate overqualification: most countries expect the unemployed (in particular the long-term unemployed) to accept a job on a lower skill level. This may lead to an increase of skill inadequacy in the course of persistent and long-term unemployment;
- strict dismissal protection may reduce labour market flexibility and increase inadequate employment. This is also true for strong protection rules for older workers which lead to highly skilled youth ending up in low-skilled jobs (as for example in Spain);
- funding arrangements may increase overqualification if education or training is cheap (e.g. free university studies). This may increase the number of students in higher training options which exceed real employment opportunities ('credential inflation');
- the same effect occurs if employers regard certificates of higher levels as a signal for higher performance – irrespective of the 'real' productivity of job applicants. In order to stay ahead of the job queue, individuals will attempt to obtain the highest certificate possible which also may exceed future employment opportunities;
- in a situation of high unemployment more people may accept inadequate employment and lower wages (as an alternative to unemployment);
- the non-monetary benefits of an inadequate job may sometimes be higher in the ranking of preferences of workers than adequate employment (e.g. considering work load, stress, meaning/value of work, social environment, image of the enterprise, job satisfaction, work autonomy etc.);
- firms may recruit overqualified workers if no suited applicant is found in the local market or if employers intend to build up a stock of potential candidates for higher positions;
- other firms may be reluctant to recruit overqualified workers, because of the fear of dissatisfaction, higher quits and loss of firm-specific human capital, absenteeism, shirking, higher transaction costs for recruiting new workers, etc. This behaviour would reduce the volume of overqualification, if sufficient adequate alternatives are given.

4.2.3. Measurement of overqualification

In order to interpret empirical evidence on overqualification properly it is important to know how this phenomenon is measured by research analyses.

4.2.3.1. Approaches

There are, in principle, three approaches with several variations: subjective, objective and 'indirect' approaches.⁶⁰

(a) The *subjective approach* is based on the self-assessment of workers by means of an inquiry or a survey. Job-holders are asked for the qualification which is required (or 'usually' necessary) to perform or to get their job.

(b) The *objective approach* refers to job analyses specifying the required level and type of education and training which are compared with the actual qualifications of a worker. This approach is rather popular in the US and is based on a comparison of occupations (DOT)⁶¹ with levels of skill requirements (GED)⁶² which is then transposed into equivalent years of schooling.

Another objective method is based on information on the distribution of the qualification levels of all workers in this occupation. A comparison of an individual's qualifications with the mean value (= 'adequate employment') indicates the degree of over- or under-qualification.

The calculation of private rates of return to education using wage equations over time can also be subsumed as an objective approach. A reduction in the return to education or in wage differentials for a specific skill level (by controlling other variables such as gender, age, occupation, etc.) would indicate 'over supply' and implicitly overqualification.⁶³

(c) *Indirect approaches* use indicators or proxies which may explain inadequacies and are based on the different theories or models described above. Indicators may be any of the following: earnings; the duration of internal training and initiation of newly recruited workers; the participation and efficiency of further training measures; tenure, age and work experience; intra-company promotion and status gains; and the scope of inter-company mobility.

Some reservations concerning the measurement of overqualification have to be mentioned.

⁶⁰ See Hartog (1997) and the papers submitted to the AEA conference (1997, published partly by Heijke & Muyskens, 2000); see also Tessaring, 1998b, pp. 85 ff.

⁶¹ Dictionary of Occupational Titles.

⁶² General Educational Development.

⁶³ For a recent study for the UK using this approach, refined by a stochastic frontier production function, cf. Vignoles & Walker, 2000.

Box 4.15: Theories to explain overqualification – an overview

- In the *neoclassical theory*, unemployment and overqualification are 'non-events', i.e. only short-term imbalances which are immediately balanced out through the adaptation of wages and production structures and through the subsequent adaptation of labour supply.

In this model, unemployment and overqualification are only frictional and short-term phenomena.

- *Human capital theory* (which is based on neoclassical theory) refers not only to formal qualifications but also to (work) experience. Both together form the 'human capital' of a worker. If both - formal qualifications and experience - are substitutive elements, an equal stock of human capital may consist of different amounts of both components.

No evidence of overqualification or inadequate employment is possible here, if only formal qualifications (and no work experience as an alternative/substitutive element of human capital) are considered.

- The *assignment theory* looks at the allocation of people with different qualifications to jobs with different skill requirements. Because of the high complexity of the allocation process, misallocations are inevitable.

According to this theory, mismatches, both over- and underqualification, are imminent in complex structured market economies.

- *Filter, screening and signalling theories* are based on the assumption that the individual productivity of a worker to be recruited is not known to the employer (asymmetric information). Firms assume, however, that certificates (as a screening device) will indicate a high future productivity. Thus, certificates are used as an entry filter for recruitment; the 'real' individual productivity becomes visible only later on. At the same time, such a recruitment practice (along formal certifications) is a signal for young people to achieve ever higher formal qualifications.

In this process, overqualification occurs if a growing number of young people achieve the highest certificates possible (credential inflation) without knowing their future career and work tasks. In this case, the number of people with higher qualifications will exceed the number of jobs that require these qualifications.

- One of the main approaches to explain inadequate employment is the *job-competition model*. Firms expect that higher education and training levels are connected with lower costs for internal training and initiation as well as with higher returns to subsequent further training measures. Therefore, higher qualified workers are placed at the top of the job queue in the recruitment process (not least because employers also assume that social skills have been acquired predominantly in high-level training). The result is that firms tend to prefer 'overqualified' applicants.

This recruitment practice may reinforce overqualification as well as may result in the displacement of the lower qualified.

- Another approach widely used is based on the *job-matching theory*, where jobs and workers are matched in the labour market. If people gain information on a 'better match', they will change company; similarly employers will dismiss the worker.

The main indicator for overqualification in this matching process is job tenure (seniority): a long tenure may indicate a better match and thus adequate employment.

- Closely connected are explanations based on the *career mobility theory*, which is a further development of the human capital theory. Workers, once recruited, accept the (lower) entry wages and expect future career opportunities - and thus inter-temporal wage increase - as a return for their education and training. If these expectations of career and future higher incomes are not realised, they will leave the firm.

Given this motivation to accept inadequate employment and lower wages in their entry-jobs, 'it will be rational for some individuals to spend a portion of their working careers in occupations that require a lower level of schooling than they have acquired. This phenomenon can serve as a partial explanation of "overeducation".'

- *Segmentation theory* assumes the existence of labour market segments with little permeability between them. Primary labour markets are reserved for core workers with well-paid and secure jobs, and secondary (peripheral) labour markets are characterised by precarious and lower qualified jobs (see also Part 3, Chapter 2). The assignment to one of these segments is done by screening devices, among which formal qualifications play an important role. This model may, in combination with screening and job-competition models (see above), explain the persistence of inadequate employment: Once all adequate jobs are filled within the primary segment, new applicants have to move to the peripheral segment.

Because of the major impermeability between both segments, an employment in secondary labour markets will in itself become a negative screening device (state dependence effect) and thus reinforce inadequacies even for better qualified workers.

Source: See Büchel, 2000, and the references and literature given there.

- They are mostly of a *static nature* and do not sufficiently take account of dynamic changes in job requirements (due to new technologies, work organisation, etc.) and in individual skills (through experience, continuing training, learning in the workplace). Thus, there may be adaptation processes on both sides – supply and demand – leading to a reduction in mismatches of skills and requirements. Static analyses should, therefore, be supplemented or even replaced by dynamic measures.

- Most empirical studies are based on *formal qualifications*. As we have discussed above, it is not only formal qualifications which count for the recruitment and career of workers. Equally important are non-formal skills and competences which, however, are not included in official statistics.

- It is not always clear whether a measured ‘overqualification’ could also be ‘*under-utilisation*’. For example, out of two equally qualified persons in a similarly defined workplace or occupation, one worker may claim to be appropriately employed in a modern, dynamic firm, whereas the other one may feel ‘overqualified’ in a traditional Tayloristic company.

- The interpretation of overqualification raises a dilemma between *age and work experience*. Young persons at the beginning of their work career are usually better trained than necessary for a specific job: their education and training should have prepared them for a variety of jobs and not for a specific one for which they may be ‘overqualified’. Therefore, the phenomenon of overqualification may be more true for younger workers than for older ones. Similar ideas are put forward by the career mobility theory (see Box 4.15).

- In addition, *transferable or broad skills* – the main objective of today’s training policies – may result in ‘overqualification’ for a specific job. This phenomenon is known as ‘the qualification paradox’: young people when entering a job are at the same time overqualified and underqualified. They have acquired broader and more comprehensive skills than are actually required at the job; at the same time they know less than is necessary to perform the specific job tasks. However, in the longer term, due to changes of occupations, jobs and work tasks throughout individual work biographies, transferable skills may have considerable advantages in the effort to stay ‘employable’.

- In a subjective ‘self-assessment’, job requirements are very often overestimated, and the individual position and status is upgraded by respon-

dents; sometimes respondents may only refer to common requirement standards and not to their specific job.

Table 4.13 gives a comprehensive overview of the measurement concepts and some applications.

4.2.3.2. Empirical evidence

A number of empirical studies on overqualification (respectively overeducation) have been carried out for the US in the past 20-30 years. Recent work concentrates on specific groups of persons (e.g. college graduates, married women) or contexts (e.g. impacts of demographic change, wages etc.; for a comprehensive literature review see Büchel, 2000).

In Europe, issues of overqualification have a research tradition only in certain countries (e.g. in the Netherlands and Germany). Starting in the mid-1980s, European research devoted substantial work to the refinement and measurement of overqualification. Cedefop’s first research report described a number of studies published in the years 1995-98 (Tessaring, 1998b, pp. 85 ff.). Some selected findings are listed in Table 4.14.

The results make it difficult to gain a clear picture of the degree of ‘over- or underqualification’ in different countries and periods. There are substantial differences, not only from country to country, but, more important, also between different studies made for a particular country. In addition, there are considerable variations depending on the approach used.

Recent European research on overqualification has been compiled by Büchel (2000).

- Research activities on overqualification in the *Netherlands* are numerous. Worthy of mention are studies done by Hartog and Hartog *et al.* (several publications), Batenburg & De Witte (1998), Groot & Maassen van den Brink (forthcoming), Eijs van & Heijke (forthcoming) and the reader edited by Borghans & De Grip (forthcoming a, b). Although the subjects and approaches of these studies are different, most of them confirm a growing tendency of overqualification in the Dutch labour market. However, Hartog (1999b) warns against a too negative connotation of overqualification because there are positive, though small, returns for surplus education years.

- In *Germany*, too, aspects of overqualification attracted increasing attention in the 1990s. Büchel, Büchel & Weissshuhn (several publications), Szydlik (1996b, 1997a) and Blechinger & Pfeiffer (1999) published the most recent studies on diverse aspects of this issue. In general, overqualification is more marked for medium and lower qualification levels than for higher education. Most studies indicate an increasing degree of overqualification over time. Moreover, Neubäumer (1997 and forthcoming) demonstrates that in those occupations where working conditions are poor, training is provided in excess of demand. Young people who complete their training in these occupations, but do not find a job in a respective occupation, are generally exposed to the risk of overqualification. Büchel & Weissshuhn (1998) analyse overqualification in a household context. Financial restrictions within the household exert a strong influence on acceptance of an overqualified job.

- Several studies on overqualification in the *United Kingdom* state that in this country the problem of overqualification seems relatively insignificant (Sloane *et al.*, 1996, forthcoming; Groot, 1996; Alpin *et al.*, 1998). Replacement effects by overqualification are found only in the upper qualification segments, and are almost nonexistent for unskilled people (Battu & Sloane, forthcoming). Moreover, the majority of young people entering work, who are employed below their qualification, are not successful in finding an adequate job in the first six years (Dolton & Vignoles, 1997, forthcoming). However, small positive returns for surplus education are found by these authors, too.

- In general, an increasing degree of overqualification is found in analyses for *other European countries*. Forgeot & Gautié (1997b) for France; Beneito *et al.* (forthcoming) for Spain; Kiker *et al.* (1997) and Mendes de Oliveira *et al.* (forthcoming) for Portugal; Patrinos (1995, 1997) for Greece and Ofner (1994) for Austria are some authors among others whose studies indicate this trend (for more details of these studies see Büchel, 2000).

- *Compilations* of comparative international studies were carried out by Büchel & Weissshuhn (1997c), Tessaring (1998b), Büchel (1998b) and Groot & Maassen van den Brink (forthcoming). Direct comparisons between the US and Germany (Daly *et al.*, 1997, forthcoming; Büchel & Witte, 1997) find significant common patterns of overqualification in these countries.

On the whole, overqualification seems to have grown in most countries under consideration, whereas underqualification seems to decrease. In addition, the problem of overqualification seems to be more crucial for workers at vocational training level compared with higher education graduates. Self-assessment of workers tends to result in higher degrees of overqualification than 'objective approaches' which compare occupational standards with skills.

Qualitative skills gaps may be a *temporary situation* in an individuals' work career – in particular at entry to working life – as a result of imperfect information, incomplete search for an adequate job or as a result of an insufficient offer of appropriate jobs exactly at the time that a young graduate is first looking for employment. According to the career mobility theory (see Box 4.15 above) the acceptance of an inadequate jobs may be coupled with the expectation of future career and higher earnings, once the entry into the internal labour market of an enterprise has been successful. Several studies confirm this close link between higher levels of qualification, higher age/work experience and tenure on the one hand, and the lower probability of employment in an inadequate job on the other.

Women tend to be affected more by overqualification than men, in particular when they have interrupted their work career and try to reenter employment in later years.

Not enough information was available to answer the question of whether overqualification will be reduced by *mobility* (between occupations, firms, sectors). This depends on the number of individual moves and the duration of subsequent employment phases. It appears also to be decisive whether the move was voluntary or enforced. Voluntary mobility leads to greater adequacy in the sense of the job-matching and the career mobility theories, whereas involuntary changes of occupations and firms, in particular after preceding unemployment, tends to increase inadequacy.

4.2.3.3. A refined measurement approach

In his contribution to the second research report, Büchel (2000, Chapter 6, based on Büchel, 1998b) presents a refinement of the conventional subjective measurement strategy he applied for Germany. This approach is based on the introduction of a

Table 4.13: Typology of overqualification measurement approaches			
Short description of approach	Advantages of approach	Disadvantages of approach	Selected follow-up empirical studies based on approach
Ia: 'Objective' approach			
<ul style="list-style-type: none"> • For each occupation listed in the <i>Dictionary of occupational titles</i> (DOT), information about the level of educational requirements is available in an ordered scale (<i>General educational development</i>, GED). • The GED scale has to be made compatible to the scale on which individuals report their acquired schooling (e.g. transformation into requested years of schooling). • The information about the requested schooling (SR) to perform a specific occupation is compared with the acquired schooling (SA) of job-holders. • Overqualification of an individual is stated, if $SA > SR$. 	<p>No negative influences in the measurement process which are caused by subjective assessments of job-holders.</p>	<ul style="list-style-type: none"> • Heterogeneity of jobs within an occupation is neglected. • No consideration of different work organisations and utilisation of skills. • New occupations, such as in the ICT industry, cannot be considered (until a new DOT is realised). • Change in job requirements is neglected (until a new GED scale is realised). • Defining required skill levels (construction of GED scale) is methodologically problematic. • Making the GED scale compatible to the scale of acquired schooling is methodologically problematic. • Usually high numbers of missing values in occupational information (caused by coding problems). 	<p>Hartog, 1980; Burris, 1983c; Rumberger, 1987; Patrinos, 1997; Batenburg & de Witte, 1998.</p>
Ib: Variant of 'objective' approach: 'realised match approach'			
<ul style="list-style-type: none"> • Within each occupation (disaggregated as far as possible, usually at a 3-digit-level), the mean, median, or mode (M) and the standard deviation (SD) of acquired schooling of job-holders (e.g. based upon a labour force survey) is calculated. • Information about M and SD of a specific occupation is compared with the acquired schooling (SA) of job-holders in a specific enquiry. • Overqualification of an individual is stated, if $SA > (M + SD)$. 	<p>Higher validity when categorising over-qualification.</p>	<ul style="list-style-type: none"> • Genuine problem of neglecting heterogeneity of jobs within an occupation remains; equally the non-consideration of work organisations. • Methodological problems in measuring means, medians, or modes, and especially measuring standard deviations, in occupations with few employed. • If the basic data (e.g. LFS results) are already biased by a high proportion of effectively over-qualified people, the measured share of 'detected' overqualified workers will be lower (and vice versa). 	<p>Shockey, 1989; Verdugo & Turner Verdugo, 1989; Groot, 1993a, 1996; Kiker <i>et al.</i>, 1997; Alpin <i>et al.</i>, 1998; Cohn & Ng, 1999; Cohn <i>et al.</i>, 1999; Mendes de Oliveira <i>et al.</i>, forthcoming.</p>

Table 4.13 (contd.)			
IIa: 'Subjective' approach			
<ul style="list-style-type: none"> • Workers are asked about the educational requirements of their specific job (e.g. 'What kind of education is usually required to perform (get) a job like yours?' (required education, RE). • The scale of the RE variable has to be made compatible with the scale of the respondents information of acquired schooling (SA, ideally already by the designers of the questionnaire, e. g. by asking for years of schooling required). • Overqualification of an individual is stated, if $SA > RE$. 	<ul style="list-style-type: none"> • Severe disadvantages of 'objective' approach become obsolete. • Individuals know the specific requirements of their specific job best (specifically: better than labour market experts generating the GED scale). 	<ul style="list-style-type: none"> • Subjective influence in measurement approach: e. g. risk of getting answers influenced by a cognitive dissonance behaviour; answers may be biased towards pompousness or exaggerated modesty. • Answers may also be influenced by other variables, such as working condition, subjective job satisfaction, physical and social environment etc. which have not much to do with the aspect of overqualification. 	<p>Sicherman, 1991; Tsang <i>et al.</i>, 1991 [with an extension using approach Ia]; Hersch, 1991, 1995; Alba-Ramírez, 1993; Johnson & Roy, 1995; Robst, 1995b; McGoldrick & Robst, 1996; Sloane <i>et al.</i>, 1996; Borghans & Smits, 1997; Battu <i>et al.</i>, 1998b; Borghans, de Grip & Sloane, 1998; Battu <i>et al.</i>, 1999; Velden, van der & van Smoorenburg, 1999; Beneito <i>et al.</i>, forthcoming; Dolton & Vignoles, 1999 and forthcoming; Vahey, forthcoming.</p>
IIb: Variant of 'subjective' approach: three variables approach			
<ul style="list-style-type: none"> • Measuring overqualification in a first step as described in IIa. • Using a third variable (occupational status) for validation. • Validation check is done using a standardised categorisation system. This produces the output categories 'clearly plausible combination of the three variables', 'clearly implausible combination' (in the German Socioeconomic panel (GSOEP): about 1% of cases), and 'doubtful plausibility of combination' (in German GSOEP: about 5% of cases). • Overqualification of an individual in the case of $SA > RE$ is stated only if the validity check leads to a clearly plausible result (otherwise: generating a missing value). 	<p>Tests showed a much higher validity when categorising overqualification, compared to the standard subjective two-variable approach.</p>	<ul style="list-style-type: none"> • Approach produces a so-called 'mixed' or 'grey' area of work with doubtful plausibility of combination of required schooling, acquired schooling and occupational status. In general, individuals working in such a situation have to be excluded from overqualification analyses. This leads to information loss in general and reduced number of cases in special. • Number of missing values in the produced overqualification variable is slightly higher than in the standard subjective two-variable approach, because three source variables are involved. 	<p>Most of overqualification studies authored or coauthored by Büchel.</p>

Source: Büchel, 2000.

Table 4.14: Synopsis of over- and underqualification studies in Europe						
country	year/period covered	level of qualification	Method ^(a)	author(s)	overqualification (%)	underqualification (%)
NL	1960	all	OA1	Hartog & Oosterbeek, 1988	7	36
	1977				26	21
	1974	all	SA	Hartog, 1997	17	30
	1995				24	12
	1995	higher voc. educ., grads.	SA	Borghans & Smits, 1997	22	24
E	1985	all	SA	Beneito <i>et. al.</i> , 1997	26	17
	1990	all	SA		28	11
	1990	all	OA2		~ 15	~ 15
UK	1986	all	SA	Sloane, Battu & Seaman, 1997	31	17
	1991	all	OA2		13 (male) 10 (female)	10 (male) 8 (female)
P	1982-85 1991-92	all	OA1	cit. in Hartog, 1997	24-26 > 33	43-48 38
F	1986	CAP, BEP	OA2	Forgeot & Gautié, 1997	29	.
	1995				27	9
	1986	all	OA2	Forgeot & Gautié, 1997	15	
	1995	all	OA2		21	
D	1995	all	SA	Büchel & Weissshuhn, 1998 (West Germany); 'inadequate employment' ^(b)	7 (male) 13 (female) 9 (total)	
	1995	completed vocational training	SA		9 (male) 13 (female) 11 (total)	
	1979	apprenticeship training	SA	Pfeiffer & Blechinger, 1995	21	
	1992				24	

(a) OA1=objective approach, based on comparison with job titles or analyses; OA2=objective approach based on comparison with average; SA=self-assessment;

(b) high loss of qualification.

Source: Tessaring, 1998b, pp. 86 ff. and updates.

third variable – 'occupational status'⁶⁴ – in addition to 'level of qualification' and 'occupation'. This variable serves to validate the comparison between the formal qualification and the employee's subjectively reported job-requirement level.

Based on this approach, and using German longitudinal data, the author examines empirically

⁶⁴ Unskilled/semi-skilled worker; skilled worker/foreman/master craftsman; white-collar worker in an unskilled job; white-collar worker in a skilled job; white-collar worker in a highly skilled job; self-employed person; civil servant.

some selected issues in the field of overqualification.

- First, cross-section analyses⁶⁵ show that, once the data have been controlled for the main social characteristics, overqualified workers do not differ significantly from jobseekers in their problem-solving capacity and level of political involvement. However both lag far behind workers whose jobs match their qualifications.

⁶⁵ Note that longitudinal data sets also allow for an analysis at a certain point of time (= cross section).

- The second stage of the analysis involves the use of the instruments of dynamic unemployment research to analyse overqualification. In the case of transitions into overqualification from various other types of employment status, multivariate analyses show that unemployment is the most frequent status from which individuals move into a job for which they are overqualified.

4.2.4. Conclusions

Conventional labour market research, with its fixation on unemployment, underestimates the volume of skills and qualifications which education systems produce but are not in demand in the labour market. This touches upon the design and efficiency of education and training systems and upon coordination problems between education and training systems and labour markets.

The omission of inadequate employment – in particular overqualification – is often ascribed to unresolved measurement problems: ‘Invisible underemployment [i.e. the percentage of the workers who are overqualified for their jobs] [...] by its very nature is difficult to measure. For this reason, it is not discussed’ (OECD, 1995b, p. 45).

One problem lies in the almost universal practice of implicitly equating the level of skills required for a job with the *formal* qualifications of the incumbent. As long as information on the non-formal components of skills and competences is sparse or lacking, formal qualifications will remain in the foreground of overqualification debates. Given the different time frames between skill ‘production’ and utilisation (see Chapter 3.4.1), an incongruence between formal qualifications and job requirements appears to be inevitable.

Another problem lies in the static view of many studies on overqualification. Several longitudinal analyses indicate that the phenomenon of overqualification is mainly a problem of the first working years after education and training. The problem here (also for the identification of overqualification) is that, after a certain period of time, the significance of formal training acquired many years ago will decline in favour of work experience, continuing training and other competences. A direct comparison of formal qualifications and respective job requirements becomes increasingly insufficient.

It is a common belief that technological progress and structural change are raising the average skill

level required for jobs in European labour markets. If ‘demand’ is reduced in relation to employees’ formal qualifications only, educational expansion will inevitably not be congruent with actual job requirements: these certainly could not be foreseen at the time that curricula were designed. In this context, it is often argued that forecasts of educational requirements are based on the *ex post* development of the labour force’s formal qualification. Demand forecasts which do not address the problem of overqualification are plagued with a considerable degree of uncertainty. However, the question remains: how can a future level of overqualification or other mismatch be anticipated and incorporated in those forecasts? Forecasting skill mismatches appears at least as problematic as the extrapolation of long-term structural trends.

Implications for research

Overqualification research is seriously hampered by the non-availability of representative data. Available data reach their limits when it comes to measuring overqualification and the decision-making processes of employees and employers.

To examine skill mismatch, longitudinal data are necessary since the transition from adequate employment to ‘overqualification’ and *vice versa* is often a gradual process in an individual’s working life. Other transitions which require longitudinal data concern the exits from education, training or unemployment to employment or refer to a change of employer, sector or occupation. Equally, the household context should be represented in these data.

Longitudinal and/or panel data for individuals appear indispensable for any dynamic analysis of overqualification over time. In particular the question discussed above whether, and to what extent, formal qualifications are replaced or complemented by other competences in the course of working life, and how this affects overqualification, can only be answered adequately by using longitudinal data which include respective categories.

Qualitative approaches, e.g. case studies, may offer some valuable insights that cannot be captured on the basis of standardised empirical data. This makes them a suitable medium for imparting fresh momentum to research by broadening the scope of aspects such as the intrinsic motivation of people to do jobs for which they are overqualified.

Equally, for a closer investigation of employers' motivation to recruit overqualified job applicants, more comprehensive studies with a broader database could deliver important new information.

Because of the increasingly limited significance of formal education and training and of formal qualifications, research should attend more to the non-formal side of skills and skill requirements. The extension of the whole set of competences acquired within the formal system of education and training as well as outside, at work, at home or in social interaction is expected to bring about a new understanding of the interplay between supply and demand in labour markets and thus of the notion of overqualification, too. This extension, however, requires comparable standards to identify, assess and recognise non-formal skills.

Implications for policies

The discussion on overqualification gives rise to some postulates for the domains of vocational education and higher education policies.

- A vocational training system with very distinct specialisations will reduce the probability of individuals to find an appropriate job within the trade that they have learned. It would make more sense if the emphasis in initial training were placed on imparting skills which are transferable to a broader range of occupations.⁶⁶
- A second strategy focuses on the improvement of existing information systems regarding the marketability of training courses. The information provided by careers advice centres or vocational guidance bodies in many European countries too frequently contains little or no information on career prospects.

The implication, however, that vocational guidance should provide much more detailed information on *future* career prospects is, in a way, opposite to the widespread belief that such forecasts are irrelevant and misleading. In consequence, vocational guidance should follow a differentiated approach by using forecasts only as one source of information among others. Guidance should focus on short and medium-term forecasts (i.e. covering the time when the trainee will leave the education and training system), but should also raise the awareness of

long-term risks of a renunciation of training. A broad set of relevant information for use in vocational guidance has been developed, for example, by the German Institute for Employment Research (IAB; www.iab.de) and the Dutch Research Centre for Education and the Labour Market (ROA, www.unimaas.nl/roa).

- The discussion on overqualification is subject to widely varying interpretations. Nevertheless, the question arises, at least in economic terms, as to whether the high skills demanded in the labour market could not be provided with less effort and at less expense.

Büchel (2000) discusses how education policy can combat a possible excess demand for *academic* qualifications which may result in more and more university graduates being overqualified.⁶⁷ Depending on the national situation, the introduction of tuition fees (with, of course, a built-in social component) or of a repayment obligation could reduce the size of the group of overqualified employees who report that a successful career 'is not so important'. Vouchers as introduced, for example, in the UK and discussed in other countries as well, could also raise awareness of the quality and future-orientation of training and thus reduce overqualification.⁶⁸ However, no analyses of this specific issue are yet known to the authors.

- These and other reforms should be accompanied by improved information on career prospects for graduates of specific courses. This might prevent them from choosing courses in 'high-risk' subjects, depending on the level of risk they are prepared to take and depending on their individual talent. However, as indicated above, to base those decisions on forecasts alone may be problematic.
- Measures designed to broaden or to reorient the skills and competences of overqualified, as well as of unemployed, people are likely to prove more effective.⁶⁹ In this instance, emphasis should be placed on training in marketable jobs.
- Limited regional mobility has proved to be an obstacle too, to people's prospects of obtain-

⁶⁷ That this is not the case up to now in several European countries is demonstrated by the (preliminary) results of the EDEX project, referred to in Box 4.5.

⁶⁸ For the advantages and disadvantages of training vouchers see Part 1, Section 2.5.2 in this report.

⁶⁹ The role of further education as a means of reducing the risk inherent in underemployment is discussed in Büchel, 1998b.

⁶⁶ See also Part 2, Chapter 2 in this report.

ing a job commensurate with their qualifications. Research findings show that greater efficiency could be achieved not just if individuals were willing to move but also if they were prepared to commute. Measures designed to overcome obstacles to regional mobility (including an efficient traffic infrastructure) may help to ensure a better return on investments in skills and qualifications and to enhance the efficiency of the labour market.

- Other labour market policies are discussed controversially, e.g.:

(i) cutting unemployment benefits if the unemployed refuse to accept a job below their skill level;⁷⁰

(ii) creating a greater distance between transfer payments (unemployment and other benefits) and wages;

(iii) greater differentiation of wage rates, in particular at the lower end of the pay scale. This could create jobs, particularly in the services sector, but also lead to an increase of the 'working poor' as happened in the US.

These strategies, therefore, can only operate within certain limits, which are set by social policy or by society itself.

4.3. Skill shortages in Europe

As we have seen in the preceding sections, skill mismatch patterns in labour markets might be coincident with structural unemployment and shortages. These phenomena exist alongside each other due to insufficient mobility or highly structured labour markets in specific skills, regions and countries. Several EU countries are experiencing skills shortages at the moment. Most shortages in Western Europe are ICT skills shortages which are seen as the major inhibitor to the development of the 'electronic economy' or 'information society'.

4.3.1. Reasons and consequences

The discussion on skills shortages, specifically on the lack of skills is not new, however. In 1990, for example, IRDAC⁷¹ claimed that higher investment in technological R&D possibly would not yield the economic benefits expected because of a

shortage of skilled workers. According to IRDAC, this could be an obstacle to European competitiveness.

The European Commission (1998d) notes that high unemployment in the European Union is accompanied by skills gaps and lacking propensity to invest. At the end of 1998, the shortage of information technology expertise was estimated to be half a million unfilled vacancies.⁷² This shortage is not limited to ICT suppliers but affects also the user industries, many of which are in SMEs. The reason put forward is that the potential of the ICT revolution is not fully exploited so far. Measures proposed by the Commission are, among other things, fostering entrepreneurship and new forms of enterprises.

In relation to education and training, the European Commission pleads for 'urgent preventive action [...] to be taken, including a reallocation of resources into computer courses, an increased emphasis on retraining older workers (and the unemployed) through conversion courses, continuing training and the development of private-public partnerships to transparently set curricula content in line with technology development and better anticipate skill needs' (European Commission, 1998d, p. 14).

With reference to its 'Futures project', the Institute for Prospective Technological Studies (IPTS) of the Commission's Joint Research Centre expects widening global skills shortages with rapid expansion in the applications and markets for ICTs (IPTS, 2000, p. 9). 'First, there is an absolute shortage of highly qualified information and computer scientists. Expertise shortages could be the most serious constraint on realising the massive growth of new technologies that could come through in the next years. There is also a gap between the demand and supply for workers with the ability to use PCs and Internet tools in a powerful way. Finally, basic ICT savvy is missing across the workforce and throughout society.'

With electronic business becoming prevalent, organisations become increasingly dependent on ICTs. The economic impact of *e*-business is most significant in the business-to-business sector, where many companies are engaging with their suppliers and other partners electronically. Those partners who cannot keep pace with this development risk becoming less competitive.

⁷⁰ See also the discussion on 'workfare' in Part 5, Section 3.2.3.5 of this report.

⁷¹ Industrial Research and Development Advisory Committee of the European Communities.

⁷² This estimation is based on a former IDC study (see also sub-section 3.3.2).

Another reason for increasing gaps between skill supply and demand in certain fields – in particular technical and computer – is seen in the slow adaptability of the education and training systems, including higher education.

At macroeconomic level, the most obvious consequences of skills shortages are lower quality and productivity, higher wages and a ‘low skills equilibrium’ (Haskel & Holt, 1999). In their paper to the UK Skills Task Force these authors distinguish between skill shortages, recruitment difficulties, skills gaps and hard-to-fill vacancies. All these measures are closely correlated.

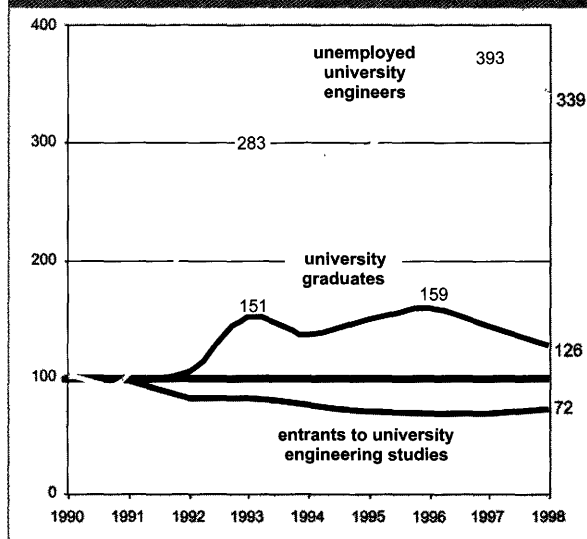
However, not all of these shortages can be attributed to training and skill deficiencies *per se* but also are home-made. Many countries, facing budgetary constraints, have cut back on computer training and engineering courses in higher education over the past 10 to 15 years. Furthermore, firms were not always willing to recruit ICT specialists and engineers for medium and longer-term needs. Growing unemployment of graduates in these subjects, as was the case in the early 1990s, in turn influences the decisions of young people to study engineering and computer courses and, with a time lag, lead to a decreasing number of graduates in these subjects.

One example is the evolution of the number of entrants and graduates in engineering at German universities, compared with the development of unemployment of engineers. Figure 4.13 illustrates that high unemployment among engineers in the early 1990s has had a marked influence on students’ choice of subject and, some years later, the number of graduates.⁷³

It has to remain open to discussion whether shortages in this area are sustained shortages or reflect ‘cobweb cycles’ that might reverse in the coming years. This, again, demonstrates that, in particular, education and train-

⁷³ However, these figures reveal only a rough picture of possible interrelationships and cover a time period too short to allow for generalisation. Further analysis should eliminate, for example, demographic effects and other characteristics not relevant for this issue. Furthermore, an attempt should be made to extend this approach to other relevant fields of study and to vocational training, using advanced econometric measures.

Figure 4.13: Engineers - entrants to university studies, graduates and unemployed^(a), Germany, 1990-98 (1990=100)



(a) Entrants and graduates without teacher studies; 1990-92 old Länder only; unemployed engineers: 1990-91: old Länder only;

Source: BMBF: Statistische Informationen, 2000; Grund- und Strukturdaten, various issues.

ing policies have to take into account long time lags between the generation and utilisation of skills, as illustrated in Section 3.4 above.

4.3.2. Evidence on skills shortages in Europe

There are currently no representative and comparable quantitative data on skills shortages across Europe, as far as the authors are aware. The analysis of job vacancies could be a solution. However, as Bollens (2000) indicates, vacancy data must be interpreted very carefully: firms are not obliged to have vacancies registered; many vacancies do not reflect the real skill requirements; and advertisements are sometimes made more to explore markets than to fill a post. However, several countries report current problems with labour shortages.

- Referring to a representative survey of more than 4,000 firms in Britain in 1997, commissioned by the DfEE (Haskel & Holt, 1999), firms report that many workers lack ‘core skills’. These are (in descending order): computer literacy; customer skills; communication skills; practical skills; management skills; personal skills; basic ability; literacy and numeracy.

- In addition, according to a survey of UK firms by Mason (1998, *cit.* by Haskel & Holt, 1999), among those firms which reported recruitment problems with technical graduates, lack of communication skills, appropriate work experience and commercial understanding were mentioned most frequently.

- As a result of its forecast until the year 2005, Statistics Sweden (1999, pp. 14f.; see also Section 5.4.1 of this Part) expects significant shortages in the following fields: civil engineers and computer programmers, certain categories of teachers, the healthcare sector and economists.

- In Germany, debates on skills shortages as obstacles to innovation and the performance of firms have been the subject of a long debate. However, according to the 'Mannheim innovation panel' (MIP; see Blechinger & Pfeiffer, 1999), shortage of skilled personnel was only a minor obstacle for innovation; high costs, long redemption time, high feasibility risks and lack of capital resources scored significantly higher in the statements of firms. Skills shortages were a more severe innovation obstacle for SMEs than for large firms.

In Germany again, debates started in 1999 to promote the immigration of computer and electronic specialists from abroad to fill shortages in the ICT and computer sectors. The German government accepted to issue a temporary working permit ('Green card') for those professionals. Debates continue as to whether ICT shortages could not be filled with the – still rather numerous – unemployed engineers or computer professionals.⁷⁴ Furthermore, present shortages are attributed to the reduction in budgets for engineering and computer departments of universities in the late 1980s and early 1990s, as well as to the massive dismissals of technicians and engineers in the early 1990s which led, together with demographic decline, to falling numbers of students and graduates (see also Figure 4.13 above).

- At European level, few update quantitative analyses exist to analyse the scope and profiles of skills shortages. One example are the estimates of the International Data Corporation (IDC – www.idc.com). IDC *et al.* (2000) expect the western European skills shortage to reach 1.7 million

information technology (IT) professionals by 2003. Depending on the type of the technology, the demand for IT skills varies.

Method of the IDC estimation

The estimation of shortages by IDC is based on a bi-annual review of the level of demand and supply of skilled professionals in the IT services industry. Demand figures are derived from more than 12,000 interviews with information systems managers across Europe, resulting in measurement of the amount of work needed (demand profiles). These profiles are validated by investigating trends among 'intermediaries' (in particular recruitment agencies) which are estimated to cover 40% to 70% of IT vacancies.

Supply figures are based on output levels (graduates) of universities and other educational establishments obtained by a survey of the academic community in Western Europe. In addition it is assumed that 12% of new IT supply is covered from the reskilling of workers from other industries.

Source: IDC *et al.*, 2000.

Table 4.15 presents an estimate of the IT skills shortage in Western Europe (European Union and Switzerland) for the period 1998 to 2003. According to the IDC estimate⁷⁵, total IT shortages are increasing and will consolidate at a level of around 13%⁷⁶ in 2003. Figure 4.14 illustrates IT skills shortage rates by country. In 2003, Austria, Denmark and Germany are expected to have the highest skill shortages (around 15% or more); the lowest shortages with 11% or less – however, depending also on lower absolute numbers – are expected for Luxembourg, France, Greece and Portugal.

4.3.3. Policies to overcome skills shortages at European level: the 'e-initiative'

With a view to preparing longer term perspectives for a knowledge-based economy and closing the numeracy gap – in particular IT numeracy – the European Council concluded at its special meeting in Lisbon (March 2000) a number of specific issues. The strategic goal for the next decade is 'to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion' (Presidency conclusions, Lisbon 23 and 24 March

⁷⁴ In spring 2000, around 31,000 computer specialists and 57,000 engineers were registered unemployed in Germany; on the other hand, labour offices registered only 14,000 vacancies for computer specialists and almost 7,000 for engineers (preliminary figures by the Federal Employment Services).

⁷⁵ However, the estimating method and data of analysis have not been clearly stated in the IDC paper.

⁷⁶ $100 - (\text{supply} / \text{demand} * 100)$.

	1998	2000	2003
Demand (1000)	8772	10421	13071
Supply (1000)	8313	9189	11331
Shortage (1000)	459	1232	1740
Shortage (%)	5	12	13
among which shortages in: (%)			
Internetworking skills	14	23	33
Application skills	4	12	10
Distributed skills	5	10	10
Technology neutral skills	5	9	14
Host based skills	3	3	3

(a) European Union and Switzerland.

Source: IDC *et al.*, 2000.

2000, p. 2). To this end, among other things, measures should be taken:

- to provide each citizen with the skills necessary to live in the information society;
- to ensure that schools and training centres become local centres for acquiring knowledge, open to and tailored for all target groups;
- to define and adopt a European framework for basic skills in a lifelong learning perspective and a system for recognising these skills;
- provide all citizens with a basic education in order to bridge the gap between those having access and those not having access to the new technologies;
- to develop the pedagogical knowledge on how to best utilise *e-Learning*.

The Commission communication on ‘*e-Learning – Designing tomorrow’s education*’ (2000), building on the recommendations and conclusions of the Lisbon European Council 2000 proposes a set of objectives to be reached within the next one to three years.

Examples of these objectives are:

- the provision of Internet connection to all schools by the end of 2001 and of fast Internet connections and multimedia resources by 2002;

- the training of a sufficient number of teachers in the use of Internet and multimedia resources by 2002;
- to create a trans-European high speed network for specific communications linking research institutes, universities, etc.

4.3.4. Conclusions

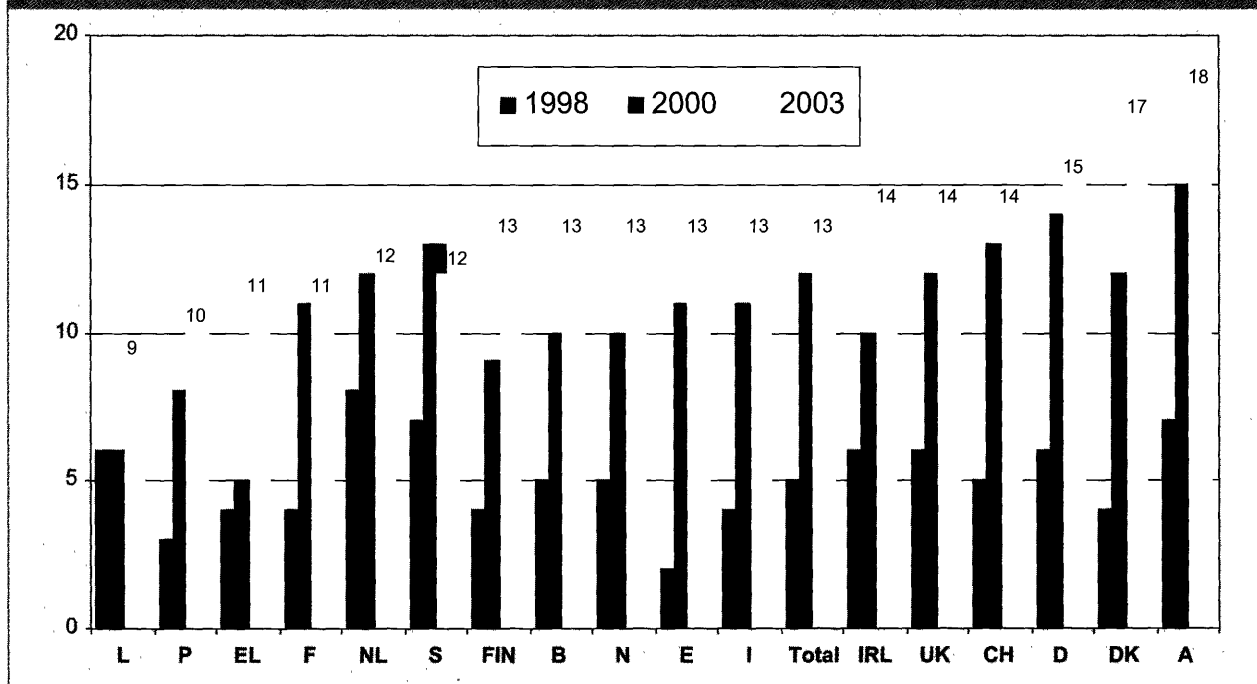
Complaints of skill deficiencies of (mostly younger) workers and of skills shortages are not new. However, the fact that these exist alongside unemployment and overqualification indicates a severe imbalance of skill supply and skill needs and has serious implications for both initial and continuing training.

If not solved, these problems may affect the future competitiveness and performance of European economies as well as the motivation of individuals and firms to engage in education and training.

Most skills shortages reported to date concern ICT skills. Therefore, it appears important to reinforce measures to impart these skills in education and initial training. The ‘*e-learning*’ initiative of the European Commission follows this approach, as well as national initiatives to establish appropriate framework conditions.

However, these measures are likely to come into effect in the medium and longer term only and should be supplemented by continuing training measures to close the skills gaps of the existing workforce. In view of the unsteady funding of related programmes, and of erratic developments of unemployment of this group of persons in the past, it appears essential to arrive at a smoothing of labour supply and demand developments. The reason is that current labour market imbalances exert – and in particular respective messages in the media and by politicians – a strong influence on the individual choice of studies and thus, in the longer run, on the number of graduates in these fields.

These ‘cobweb cycles’ can only be avoided by responsible handling of information, by improving the instruments for the anticipation of skills and by vocational guidance which takes account both of the interests and longer-term perspectives of individuals and of future needs of the labour market.

Figure 4.14: Shortages in information technology skills in western European countries, 1998-2003, %^(a)

(a) 100 - (supply of skilled professionals in the IT services industry in % of demand).

NB: Data sorted by shortages 2003.

Source: Estimation by IDC, 2000.

5. Future skill requirements⁷⁷

Employment and skill forecasts are regularly undertaken in a number of OECD countries, often using sophisticated models. The first report on VET research in Europe provided an overview of the methodologies and findings of skill supply and demand forecasts (Tessaring, 1998a, b).

Skill forecasts aim to inform policy-makers about labour market developments to be expected if past trends continue. The results form one of the inputs into strategic decisions about the scale and structure of education and training programmes needed by government officials, education and training providers, companies and trade unions.

Whether such forecasts are also useful for individual education and training decisions, however, is disputed. In some countries, such as the US,

very detailed information on future trends is seen as essential for individual training choice. In others, such as Germany and the Netherlands, skill forecasts play a more or less subordinate role for the individual and are more addressed to policy-makers and to vocational guidance services.

The chapter also discusses forecasts at regional and enterprise level as well as 'qualitative' forecasts, such as scenarios and monitoring exercises.

5.1. Objectives of forecasting

As man is not given to know the future, forecasts have to be understood as conditional models: What will happen, if...? In this way, forecasts have the character of *projections* of the past into the future, assuming no dramatic shocks will occur. However, some kinds of shock might be included as a conditional assumption, e.g. in the framework of a scenario.

⁷⁷ This section is mainly based on the paper of R.A. Wilson, 2000: 'Forecasting skill requirements at national and company levels'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP. Vol. 2 (published 2001).

Forecasts aim to make decision-makers at all levels aware of the consequences of actions taken or not taken. They may give an indication of long-term and relatively stable devel-

opments, e.g. demographic change, and their implications for education, training and employment. The more rapid the change, however, the more difficult forecasting will be.

Forecasts are subject to a ‘magic triangle’: the longer the time horizon and the more differentiated the categories predicted, the lower is the accuracy of results. We might add that the ‘quality’ of a forecast also depends essentially on the quality of the underlying data, assumptions and methods used. This is one reason why early forecasts on supply and demand, based on insufficient data and using fixed coefficients, were prone to error and fell into disrepute.

Forecasts often include several variants, e.g. showing future developments to be expected if past tendencies (time series) continue (trend variant), if employment structures remain stable (status quo variant) or the future implications of particular political measures (political variant). By comparing, for example, the status quo with the political variant, differences between the results indicate the impacts of these measures.

Therefore, forecasts also have an assessment and warning function, in that they indicate need for action or warn against undesired developments. Forecasts can never anticipate future realities. Nevertheless, they can serve as a didactic tool in improving understanding and awareness of the actors concerned of future possibilities and the ways of influencing them in time.

5.2. Methodologies and approaches

5.2.1. Forecasts at national and regional level

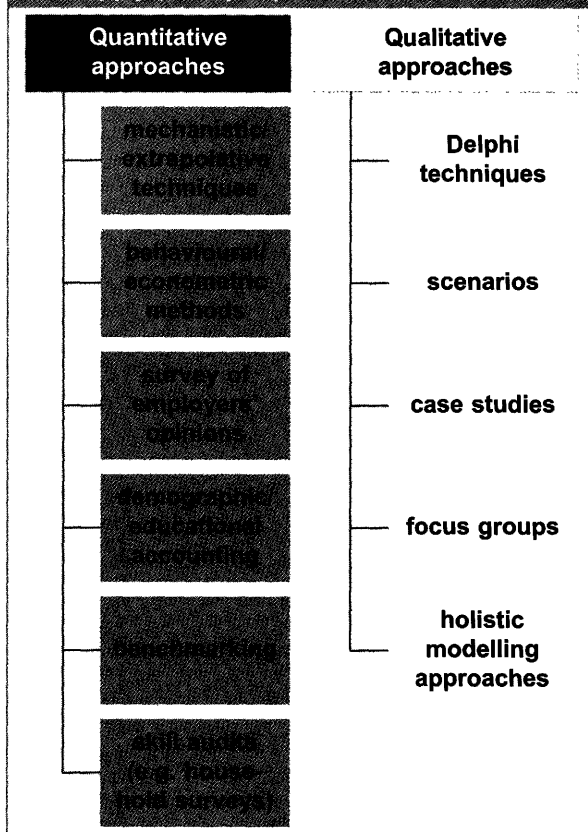
A number of different approaches have been adopted to anticipate skill needs and supply. Some involve formal, quantitative methods, others are less formal and have a strong qualitative emphasis. Figure 4.15 presents an overview of some common approaches.⁷⁸

5.2.1.1. Macroeconomic and sectoral forecasts

Behavioural/econometric models are used to forecast macroeconomic and sectoral employment

⁷⁸ For more information on forecast methods and applications see Wilson (2000), Strietska-Illina (1999), Tessaring (1998a) and the references given there.

Figure 4.15: Methods to anticipate skill demand and supply (examples)



Source: authors, based on Wilson, 2000.

developments at national level, e.g. in the form of simulation models.⁷⁹ Usually, the available data are not sufficient to allow a more detailed breakdown of sectoral employment figures, particularly by occupation and qualification structures.

Conventional forecasts of *skill demand* use extrapolative techniques, mostly based on macroeconomic and sectoral overall figures. They use production functions⁸⁰ to estimate the future number of jobs available for different occupations or skills if the underlying assumptions (mostly economic parameters) became reality and if past trends continue in the future. The most common method is the ‘manpower requirements approach’. Refinements are made concerning the estimate of the impact of technological and socio-economic changes on jobs and skill requirements (e.g. Weidig et al., 1998 for Germany).

⁷⁹ For example, to illustrate the (combined) effects of changes of interest rates, labour costs, economic policies, working time etc. on employment.

⁸⁰ I.e. links between gross national product, productivity and other industrial output measures, and employment.

Recent forecasts attempt to introduce key or generic skills instead of traditional occupational classifications (examples for the US and the UK are given in Wilson, 2000). Green, 1998, has tried to demonstrate the value of different types of key skills using hedonic wage equations, while Business Strategies Ltd. (BSL, 1996, 1998) have tried to apply such concepts directly. In general, more and more multidimensional approaches are used, involving work functions, work tasks, abilities, generic skills, etc. However, there remain substantial difficulties to operationalise these categories.

Employer surveys used to be regarded as a valuable alternative or even complement to manpower forecasting. However, they soon became subject of serious criticisms as to their reliability⁸¹, their theoretical foundations and their ad hoc nature. But there are some recent examples that this approach, if conducted in a thoughtful manner, can provide valuable information on more qualitative issues, such as detailed aspects of current skill requirements, for a short period (for references cf. Wilson, 2000, section 3.2.4). Thus they have much in common with 'Delphi'-techniques and scenario buildings as discussed below.

Skill supply forecasts range from simplistic extrapolations of participation rates⁸² (in education, training, work) to advanced stock-flow models which model inflows, outflows and transitions of people in different states (education, training, employment etc.). In some countries (e.g. the Netherlands, Germany) flow and transition data are derived from demographic or educational accounting systems. In sophisticated models, econometric analyses of time series are used to explain past trajectories of people and to project them into the future.

So-called 'skills audits', based on surveys of qualifications held by individuals (e.g. household surveys), have been widely used in recent years to analyse the stock of skills available in particular local areas. These audits are primarily concerned with assessing the supply of skills rather than skill demand in the labour market.

5.2.1.2. Forecasts at regional and local level

Forecasts in several countries also include a spatial (regional) dimension (for an overview on approaches see Blin, 1999). In the UK, for exam-

ple, detailed analyses of the standard regions (Wales, Scotland, Northern Ireland and the nine regions of England) have been conducted for many years (Wilson, 2000). In France, regional employment and training observatories (OREF) develop education and training forecasts in support of decentralisation. In Germany, the *Länder* provide forecasts of the number of pupils and students, coordinated by the Standing Conference of the Ministers of Culture. Regional employment forecasts, which also include skill and occupational indicators, are undertaken by the Institute for Employment Research (IAB, e.g. Tassinopoulos, 1996; Blien & Tassinopoulos, 1998; Oberhofer *et al.*, 1999).

During the late 1980s and early 1990s, emphasis in many countries shifted to forecasts at local levels, partly linked to macroeconomic forecasts. The OREF (France) and IAB (Germany) activities are examples (see above).

In the UK, the Institute for Employment Research (www.warwick.ac.uk/ier) developed in 1993, in joint operation with Cambridge Econometrics (CE), a Local Economy Forecasting Model (LEFM; Wilson *et al.*, 1995). The model was designed to provide local users with a complete economic and labour market database for the local area, as a mirror of the models used by CE/IER at national level. Corresponding data are also provided within the package for the region and for the whole of the UK. Since then, LEFMs have been set up for over 100 local areas in the UK. The main clientele has been TECs, along with local authorities, career guidance services and others. The models have been used to produce local labour market forecasts which lie at the heart of many 'local labour market assessments' and related reports. Versions of LEFM have also been set up for countries outside the UK, including Germany and Spain. Wilson (2000) presents a more detailed overview of the features of this model.

5.2.1.3. Qualitative forecast approaches

A variety of different approaches can be considered as *qualitative methods*. They are not primarily concerned with obtaining precise quantitative figures on future skill demand and supply but rather with an assessment of trends and future possibilities. The following approaches can be distinguished:

- techniques to *monitor and anticipate change* have been increasingly popular in France (for a description see Giffard & Guegnard, 1999), but

⁸¹ For example, it is not possible for all firms in an industry to increase their market share simultaneously (Ahmad & Blaug, 1973).

⁸² People in training, etc., as a percentage of the total population (or of the respective age group).

also in southern European countries which do not have sufficient labour market statistics or where there are marked regional disparities (see, for example, Vergani & Muscella, 1999; Antonio, 1999);

- the ‘*Delphi approach*’ involves the pooling of the opinions of a number of people (experts, stakeholders) in order to identify current and possible future key issues. Another similar approach is to develop case studies on the basis of structured interviews;

- *track records of work* (for references see Wilson, 2000) have been established by the UK’s National Institute for Economic and Social Research (NIESR). They focus on the current situation and often entail detailed quantitative analyses and international comparisons. Although anticipation of future change is very qualitative, these can add important insights which complement and support the results of quantitative projections;

- another approach is to arrange ‘*focus groups*’. Discussion of the topic of interest is based on material submitted in advance. A facilitator prompts and structures the discussion. This type of approach is used in a number of ADAPT projects launched by the European Commission;

- the construction of *scenarios* on future possible or likely developments is another approach used for some time (for references and examples cf. Tessaring, 1998a and Section 5.4.2 below). Scenarios aim to exploit the knowledge and estimates of experts (as in the Delphi method) on a particular topic. The results are analysed using social science techniques and are then clustered along several criteria. On this basis, (alternative) scenarios are built which can elucidate appropriate policy strategies and actions;

- a number of countries have attempted to develop more *holistic approaches* to assessing long-term futures. They distinguish, for example, long and short-term drivers of competitiveness which are proxied by a number of indicators to operationalise the concept. This approach does not fully, if at all, provide precise predictions but rather represents – similar to some scenario approaches – a policy tool for long range issues. Examples of this approach are the study of the Henley Centre of the future of work in London, the ‘Futures project’ of the Institute for Prospective Technological Studies (IPTS) of the European Commission and the ‘Swedish Foresight’ project (see Section 5.4.2 below).

5.2.2. Forecasts at company level⁸³

Companies and other employers also have an obvious interest in monitoring their workforces and assessing the implications for recruitment of such factors as the age structure of the workforce, wastage rates, and changing patterns of demand. Company level personnel planning is now a well-established management function, in particular in larger companies.

The scope of approaches and methods is rather broad, ranging from simple rules of thumb to quite complex models paralleling the national level ones described above. In general, they tend to focus more on the short or medium term than the national models, reflecting companies’ interests in coping with immediate problems connected with recruitment, wastage and fluctuation of staff.

There is an enormous literature covering these topics, much of which is far too specific to be of general value, given the aims of this particular review. Nevertheless, it is useful to provide a brief overview of some of the key issues.

5.2.2.1. Planning techniques

Bartholomew, Forbes & McClean (1995) give a comprehensive review of the various techniques in use to produce company manpower forecasts.

The starting point for most traditional company manpower models is the existing stock of labour resources in the company and the wastage flow from their stock. The mathematics of Markov chains provide a ready modelling framework for predicting such flows and exploring alternative scenarios, when an analysis of career patterns is taken into account. The demand side of manpower forecasting calls for a different approach because it is primarily concerned with jobs rather than people. There is no clear-cut demand model, because the demand determinants at company level are very diverse, depending on the organisation.

Marked differences are apparent between the demand for employment in the traded sector (e.g. manufacturing companies) and the non-traded sector (e.g. local government or the health services). There is a huge body of work on planning in areas such as health and social services, education and government

⁸³ This section summarises the review of Wilson (2000) on company level employment planning (Chapter 4).

administration. Much of this is in the public domain.

Forecasting done in companies operating in the traded sector is extremely diverse. Much of it is highly technical and falls within the boundaries of operational research rather than the broader economic and social sciences which underlie national forecasts. A problem in this area is that much of this research is not made public because of concerns about commercial confidentiality.

Where the time series of data is long enough and of sufficiently good quality, regression modelling is used. Alternatively, if information on causal variables is lacking, a simple trend extrapolation approach can be applied. In its more sophisticated form the autoregressive moving average class of models (ARIMAs) developed by Box & Jenkins (1970) may be used. A common problem at company level remains the relatively short time series of consistent data on which such models can be based, also due to continuing restructuring of work organisations. As databases of employment records have developed, opportunities to build better demand-side models for specific company occupations have increased.

Reilly (1996) described some more general and less quantitative approaches to assessing company employment demand. Amongst the methods are work study, which establishes optimal levels of resourcing for planning of business operation. Associated with this technique is activity analysis, which can be used to identify the numbers of employees needed for specific tasks. Both methods presuppose the company can accurately determine its future scale of operations from market output forecasts.

In many smaller companies demand forecasting (both for output and employment) is achieved by subjective judgement of the senior managers. The criteria for making such judgements is never made explicit, so that forecasting errors cannot be reviewed and there is little opportunity to improve predictive performance from past experience.

5.2.2.2. Evaluation and improvements in company employment planning models

Commercial confidentiality shrouds many of the models produced by the corporate sector and so it is not possible to assess how well they perform in terms of predictive accuracy. As the sophistica-

tion of supply-side modelling has increased, the prediction of changes in the existing stock of employees is likely to have become more efficient. Difficulties remain with the models for forecasting demand changes in the medium and longer term and it seems likely that the shortcomings in this area will be similar to those encountered for the national employment forecasting approaches.

Company employment planning models continue to be a valuable tool for the planning of human resources and the development of suitable training and education strategies. Associated literature continues to produce papers from many different countries which demonstrate the evolution of models used for forecasting employment at varying levels of aggregation (see, for example, Khoong, 1996; and Kao & Lee, 1998). Furthermore, a number of specific studies on skill anticipation at company and sectoral levels have been carried out in the framework of the Leonardo da Vinci I programme of the European Commission.

5.3. Limitations and benefits of skill forecasting

A number of criticisms of the manpower requirements approach and, in general, of employment forecasting have been put forward (see, for example, Colclough, 1990)⁸⁴; these and some counter-arguments are compiled in Table 4.16. The limitations of this approach as a major steering mechanism for education and training systems were also pointed out in Part 1, Chapter 1 of this report.

Wilson (2000, Chapter 7) lists a number of problems and limitations attached to labour market and skill forecasts. Some of these can, in principle, be solved; others are likely to remain intractable for the foreseeable future.

(a) Limits to understanding

This problem relates particularly to the explanation of behaviour of the different actors (at all levels). Adequate methods might identify and isolate the key factors, but it will remain difficult to

⁸⁴ For an early German discussion on the pros and cons of the manpower requirements and the social demand approach see Gottsleben & Tessaring, 1974, and Kühlewind & Tessaring, 1975.

Table 4.16: Arguments for and against employment forecasting	
Against	For
National level employment planning is irrelevant because markets will respond of their own accord to ensure that the correct skills are produced.	The evidence of market failures (unemployment or skill shortages) and long time lags in training may lead to imbalances in occupational labour markets which could be prevented by policies based – among other things - on forecasts.
The fixed coefficient approach is invalid since it ignores the possibilities of economic substitution.	Skill substitution processes and wage structures change very slowly. Improvements in methodology allow for explicit consideration of substitution in forecasting models.
Inaccuracies in the assumptions will be compounded, making the projections of little value.	Forecasting inaccuracy applies to any economic or other projection; employment forecasts are not significantly more inaccurate than others. Moreover, there is evidence that decision-makers have found these useful.
Demand forecasts focus solely on economic considerations without reference to wider social implications.	Other disciplines have been introduced (e.g. in qualitative approaches). Interpretation of results should bear in mind that economic development is only one factor of influence among others.
Past imbalances (e.g. overqualification) are ignored and carried forward into the projections.	Although methodologies have been improved, this remains a crucial point. However, to consider imbalances within forecasts (if these are generally considered as useful), would mean to predict these imbalances in the longer term. This would require assumptions which are as disputable as any others.
Supply forecasts extrapolate only trends (of participation rates, flows) but say nothing about the underlying causes of behaviour.	Behavioural aspects are increasingly considered within econometric models. However, data and our knowledge are still too limited to include all factors of influence for individual decisions (e.g. personality variables, social background, ability, or just accident). As far as behaviour is influenced by the labour market situation, a number of analyses do exist but are not yet sufficiently implemented in forecasts, apart from simulation models.
The approach does not allow for interaction between supply and demand factors.	This is a challenge to improve methodologies. First attempts have already been made. One of the problems is that adaptations to future imbalances will change both supply and demand and require endless iterations of the calculation which may - dependent on the elasticities of both sides - lead to a long term equilibrium or to exploding imbalances.
Forecasts, once made public, could change the behaviour of actors and thus destroy themselves.	If it is a policy goal to inform the public on possible future developments (risks or opportunities), forecast results should not be kept secret. However, results should be interpreted carefully (as possible and not as inevitable futures and by pointing to the basic assumptions), in particular by the media and by policy-makers, and should be treated as one information set among many others only.
Forecast categories are more or less large aggregates and cannot be used for specific decision making (e.g. individual choice of education and training).	Forecasts are only one information set among others for individual training and occupational decisions, illustrating general trends in labour markets and in tendency reducing uncertainty. They cannot predict the employment perspectives of an individual, but can be used as one information tool for individual guidance, e.g. by pointing to the high risks of renouncing qualified training or by illustrating job opportunities in certain fields. Only in centrally planned economies is uncertainty reduced to a minimum – at the expense of individual freedom, self-responsibility and social change.

Source: Colclough, 1990 (cit. in Wilson, 2000) and additions by the authors.

disentangle the whole set of influence factors. Behaviour is not determined but responds to exogenous factors which are often hidden. One solution is the assessment of the sensitivity of the forecast to alternative assumptions, e.g. concerning political measures, foreign economies or possible shocks. Another way of improving the quality of forecast models is to carry out 'retrospective forecasts', i.e. to model forecasts based on information at a certain date in the past and to compare the results with the (known) development afterwards.

(b) *Methodological difficulties*

A number of methodological and analytical problems arise when carrying out forecasts. This is not the place to present them in detail.⁸⁵ Considerable advances have been made in methodological questions in recent years. However, not all of these are implemented in forecasting practices yet.

(c) *Data inadequacies*

This is one of the most crucial problems forecasters are facing. Problems relate to the lack, quality and/or insufficient disaggregation of data on occupations, skills, earnings, flows and to the possibility of combining all these.⁸⁶ There is no substitute for good quality, regular information. Many European countries have to muddle through using limited data. Therefore, their forecasts are less substantiated and subject to serious criticisms.

(d) *Statistical infrastructures*

Differences between countries (in terms of culture, history, systems, etc.) also reflect differences in the general approach to forecasting issues as well as specific problems concerning data availability. Advanced countries in this respect, such as the US and some European countries, invest heavily in data collection, modelling and forecasting. Other countries with less developed statistical infrastructures adopted more qualitative

approaches based on ad hoc surveys or other methods. Wilson (2000, Chapter 6) presents some features of an adequate statistical infrastructure:

- development of standard systems of classification. Recent developments are found in the inclusion of generic skills (e.g. numeracy, literacy, problem solving, social skills). Related efforts are being made in the US, the UK, France, Germany, the Netherlands and Sweden. This also applies to the inclusion of regional and local levels (e.g. in Germany and the UK);
- regular national surveys of households and employers. These surveys should be of sufficient sample size to combine the relevant key variables (sectors, occupations, qualifications) at a fairly disaggregated level. Comparability between countries should be ensured (e.g. by ISCO, ISIC, NACE and ISCED⁸⁷ classification systems). In this respect, the Community labour force survey carried out by Eurostat has become a prime source for comparative data;
- development of means to access to national and international datasets electronically. Substantial progress has been made in this respect at international level, e.g. concerning the datasets of Eurostat (<http://europa.eu.int/comm/eurostat>), OECD (www.oecd.org) and ILO (www.ilo.org). Many of their statistics are accessible via Internet or CD-ROM; access, however, is sometimes restricted to organisations.

At national level, some countries have developed electronically accessible datasets. Examples are the American Labor Market Information System of the US Department of Labor (ALMIS; <http://almis.dws.state.ut.us>) and the National Online Manpower Information System (NOMIS) in the UK. In Germany, two main institutions provide access to researchers on statistical data (although limited electronic access): the Center for Survey Research and Methodology (*Zentrum für Umfragen, Methoden und Analysen*, Mannheim – ZUMA; www.zuma-mannheim.de) which gives access, for example, to microcensus data; and the Central Archive for empirical social research (*Zentralarchiv für Empirische Sozialforschung*, Cologne, <http://za.uni-koeln.de>) being the only public archive for data of social research in Germany.

⁸⁵ Problems are, for example, related to the analysis of time series (e.g. multicollinearity, spurious relationships, simultaneity) and may become subject to misleading interferences. The variables used may be flawed with serial correlation, heteroskedasticity, or may be biased by omitted variables.

⁸⁶ In most cases, the data come from labour force sample surveys. Depending on the sample size, it is not possible to combine more than a limited number of characteristics (e.g. sector x occupation x qualification) at an aggregate level. An extension of the number of characteristics and/or a further disaggregation will result in increasing errors concerning data representativity.

⁸⁷ The new ISCED classification (see Chapter 1.1 in this Part) provides an improved tool for country comparisons in education and training.

5.4. Forecasting activities in Europe

5.4.1. Forecasts at national level

Reviews on national forecasting activities have been presented by Heijke (1994), Tessaring (1998a). Strietska-Ilina (1999) provides a review of forecasting practices in France, Germany, Ireland and the Netherlands as well as a number of eastern European countries. This project is carried out in the framework of the Leonardo da Vinci II programme and is still continuing. Haskel & Holt (1999) reviewed the merits and limitations of such work, focusing on the UK. Wilson (2000) presents a comprehensive overview of forecasts in several European countries, in particular in the UK, Ireland, Italy, Spain, the Netherlands and Germany. Table 4.17 compiles some basic information on skill forecasting in western and eastern European countries.

In *France*, conventional manpower forecasting fell into disrepute after the energy crises of the 1970s and early 1980s. The *Commissariat Général du Plan* carried out projections until the end-1980s (for an overview on past and future activities and on activities in Germany, the UK and the US cf. *Commissariat Général du Plan*, 1991). Forecasting in France today uses more qualitative methods to monitor and anticipate change (Giffard & Guegnard, 1999). Regional prospective studies are done by the Regional Employment and Training Observatories (OREF). An exception are the forecasting activities undertaken by BIPE. BIPE is mainly concerned with sectoral forecasts but also carries out forecasts of the future number of young people leaving education and training, and their job prospects (Aguettant & Ait-Kaci, 1997). [More information: <http://www.bipe.fr>]

In *Germany*, a number of institutions are concerned with general and specific employment forecasts (for an overview cf. Tessaring, 1997).

- In relation to forecasts of skill demand and supply, the Institute for Employment Research (IAB, www.iab.de) and the Prognos AG, CH-Basel (www.prognos.ch) have carried out several demand forecasts since 1985, although on an irregular basis (see Tessaring, 1998a, pp. 303 ff.). The last forecast⁸⁸ was carried out by Prognos AG in 1998 concerning the impacts of technological and socio-economic factors on work tasks (Weidig *et al.*, 1998).

- A forecast of the effects of educational expansion and demographic constraints on future qualification structures (supply side), based on IAB's Educational Accounting System (*Bildungsgesamtrechnung – BGR*) was elaborated by Reinberg *et al.* (1995).

- In addition, several universities and research institutes are concerned with skill forecasting, although on an irregular basis, too. Worthy of mention are the Technical University Berlin (G. Weissshuhn), the German Institute for Economic Research (DIW, www.diw-Berlin.de); and the Sozialforschungsstelle Dortmund (SFS, www.sfs-dortmund.de).

- The *Länder* regularly publish forecasts of the number of pupils in general and vocational schools and of students in higher education. These projections are coordinated by the Standing Conference of the Ministers for Culture (KMK).

- The Federal Institute for Vocational Training (*Bundesinstitut für Berufsbildung – BIBB*, www.bibb.de), together with other German institutes and supported by the BMBF, has started a longer term project 'Early recognition of skill requirements' (see Box 4.16; www.frequenz.net).

In *Ireland*, occupational and skill forecasts are carried out regularly by the Economic and Social Research Institute (ESRI – <http://www.esri.ie>). Some information on the methodologies used and on selected results have been presented in the first VET research report (Tessaring, 1998a, pp. 301 ff.). A more recent overview is given by Hughes (1999).

In the *Netherlands*, the Research Centre for Education and the Labour Market (ROA, www.unimaas.nl/roa) of the Maastricht University has a long tradition in elaborating skill demand and supply forecasts (for an overview see Tessaring, 1998a, pp. 298 f.). These concentrate on short and medium term replacement demand and on flow models for the supply of school leavers at different qualification levels and subjects. Furthermore, substitution processes, i.e. shifts of people with a particular qualification between different occupations, are considered explicitly. A recent overview is given by de Grip & Marey (1999). The results of ROA's forecasts are explicitly used as one source of information among others within the Dutch educational and vocational guidance services (see, for example, Metze, 1995).

In the *United Kingdom*, the Institute for Employment Research (IER, www.warwick.ac.uk/ier) of the University of Warwick has carried out a number of manpower demand forecasts in the past (for an overview see Tessaring, 1998a, pp. 299

⁸⁸ A qualification forecast is planned by IAB for 2000-01.

ff.). National government has supported employment forecasting. The Department for Education and Employment (DfEE – www.dfee.gov.uk) has for many years collected and analysed labour market data. These are published in Labour Market Trends (formerly The Employment Gazette). The DfEE has a long tradition in commissioning labour market research, including labour demand forecasts. One recent anticipation of future skill needs has been published by the Skills Task Force within DfEE (Haskel & Holt, 1999; to be downloaded from the DfEE server).

A forecast of manpower demand by occupation in Finland has been described in Tessaring (1998a, pp. 306 f.).

In Sweden, Statistics Sweden (1999) presented a forecast of the transitions from education to work (outflows) and of recruitment demand until 2005. 'The calculations indicate that during the period up to 2005, we will experience shortages in the supply of certain categories of teachers, economists/social scientists, engineers/natural scientists and nursing staff, while there will be a surplus of people educated in the arts and humanities, and in service-oriented fields. There will continue to be a large surplus of people with compulsory 9-grade schooling only, even if the employment situation improves in the way that the government's employment objectives presuppose.' (*ibid.*, p. 14) The imbalances expected do not necessarily mean increasing unemployment for the groups concerned. Instead, they underline the need for adaptation and the realisation of the government's goal to create a substantial number of new jobs.

The national 'Swedish Foresight' project brings together a number of actors to discuss the promotion of the long-term (10 to 20 years) interplay between technical, economic and social processes, including also education and training as central fields. The aim is to indicate directions for investments in education, research and development. The project relies on expert panels, with no use of Delphi enquiries. The use of scenarios is optional, and panels vary significantly in this respect. Consensus building is the primary objective and this explains the choice of methodology.⁸⁹

Several Central and eastern European countries (e.g. Czech Republic, Poland) plan to conduct skill forecasts in the future. An overview of programmes, approaches and available statistical data is given in the reader edited by Strietska-Ilina (1999; see also Table 4.17 and Section 1.4.2.5 in Part 6).

⁸⁹ More information: www.iva.se/tekniskframsyn.nu or www.tekniskframsyn.nu

5.4.2. Scenarios at European level

Up to now there have been no quantitative forecasts of skill demand and supply at European level. Existing forecasts are more of a qualitative nature and/or use a number of indicators (e.g. demographic trends, technological developments etc.) which serve to construct scenarios or indications of possible future developments.

Several scenarios were described in Cedefop's first VET research report (Tessaring, 1998b, pp. 101 f.) and need not be repeated in this report. Instead, we will briefly address three scenarios at European level which have been carried out in the recent past.

The Institute for Prospective Technological Studies (IPTS) of the European Commission's Joint Research Centre (<http://www.jrc.es>), Sevilla (Spain), launched the project 'Futures' in mid-1998. The project involved a number of researchers and was to examine the individual and combined effects of technological, economic, political and social drivers. A series of reports have been published providing a major benchmarking and prospective analysis on a European scale (website of the IPTS Futures project: <http://futures.jrc.es>).⁹⁰ Some of the reports are summarised in Box 4.17.

Cedefop in 1999, together with the European Training Foundation (ETF, Turin, www.etf.eu.int) and the Max-Goote Expert Centre (University Amsterdam; www.educ.uva.nl/MGK/), launched a scenario for vocational education and training in Europe, with the participation of five EU and five central and eastern European countries (Austria, Germany, Greece, Luxembourg/Belgium⁹¹, the United Kingdom, Czech Republic, Estonia, Hungary, Poland and Slovenia).

The scenario is based on a Delphi enquiry among several hundreds of VET experts and stakeholders per country who were asked on their views concerning trends, strategies and actors in VET. The findings should reveal possible and likely developments in VET systems (until around 2010) by considering trends in three major contexts:

- (a) economy and technology;
- (b) employment and labour market;
- (c) training, skills and knowledge.

The project should equally identify possible VET related strategies and actors. The first phase of

⁹⁰ The results of the project were presented at a final conference 10 to 11 February in Brussels. Since most of the papers did not become available until end-1999/early 2000, it was not possible to analyse them in detail in this report.

⁹¹ These two countries were investigated together.

Table 4.17: Overview on skill forecasting activities in several European countries

	France	Germany	Ireland	Netherlands	United Kingdom	Czech Republic	Poland	Slovenia
Data sources: sectors	Employment Survey; census (INSEE); staff turnover statistics	Microcensus (SO); social insurance statistics (Fed. Empl. Services); establishment panel (IAB); employment statistics (SO)	ESRI medium-term model	Athena model of NL Bureau of Economic Policy Analysis (CPB)	Macro-econometric model by Cambridge Econometrics (CE)	Firm census of employment and wages (SO); costs of labour (SO); survey of economic units		Employment survey (ESS); survey of company training needs – Podravje region (HRDF); survey of companies (SO)
Data sources: occupations or work tasks	Training vocational qualification survey; job seekers statistics; census	Microcensus, social insurance statistics	EU labour force survey (SO)	EU labour force survey (SO)	Labour force survey	Labour force survey; business survey; census of population (all SO)	Labour force survey (SO); population census (SO)	
Data sources: qualification	Census	Microcensus; social insurance statistics; educational accounting system (IAB)	Census of population; labour force survey (SO)	EU labour force survey (SO); reference forecasts of flows of school-leavers (DMECS); educational accounts (SN); surveys of school-leavers, RUBS, HBO-Monitor, WO-Monitor (ROA)	Labour force survey	Register of labour offices	Registered unemployment (SO and national labour office); survey of labour demand (SO); survey of employment graduates (SO)	Employment survey (ESS); survey of company training needs (HRDF); ESS data base
Data sources: education and training	Education / training statistics	Education/training statistics (SO); educational accounting system (IAB)	Education/training statistics	Education/training statistics	Education/training statistics (flows)	School enrolment data (Min.of Education)		
Contribution of irregular surveys	Young people starting working life (Cereq); sensitive jobs and obsolete skills (Quaternaire education)	BIBB-IAB survey (1979, 1985-86, 1991-92, 1998-99)	Not used	Not used		First destination of third level graduates (Int. project); first destination of school leavers (National education fund); labour market histories (Economics institute)		
Institutions carrying out skill forecasts	Institute of Economic Forecasting (BIPE, www.bipe.fr); Regional Employment and Training Observatories (OREF)	Institute for Employment Research (IAB, www.iab.de); Prognos Institute, Basel, www.prognos.ch; Technical University Berlin; German Institute of Economic Research (DIW, www.diw-Berlin.de)	Training and Employment Authority/Economic and Social Research Institute (FAS/ESRI, www.esri.ie)	Research Centre for Education and the Labour Market (ROA/ Maastricht University, www.unimaas.nl/roa)	Institute for Employment Research (IER)/ Warwick University www.warwick.ac.uk/ier	Currently no skill forecasting; approaches planned by Ministry of Labour and Social Affairs, and Ministry of Education (macroeconomic models, without reference to skills, carried out by SO, Ministry of Finance, Czech National Bank)	Currently no skill forecasting; preparatory work by Government Centre for Strategic Studies; other activities by Committee of Research, Ministry of Labour and Social Policy, Institute of Labour and Social Studies	Employment Service of Slovenia (ESS); Human Resource Development Fund (HRDF, regional survey on training needs)

NB: SO: Statistical office.

Source: Strietska-Illina, ed., 1999 (see country reports for more information) and additions by the authors.

this project was completed by Spring 2000. The second phase, which aims at deepening and improving the robustness/consistency of the results, will be finished in 2001.

A more detailed description of the approach and the results of phase 1 is given in Box 4.17 (the results of the first phase can be downloaded from: www.trainingvillage.gr/etv/scenarios/index.asp).⁹²

The 'Forward Studies Unit' of the European Commission elaborated *Scenarios on the future of Europe until 2010* (European Commission; Forward Studies Unit 1999). The scenarios reflect the expertise of a number of officials of the Commission and have been set up via a process of brainstorming. The scenarios embrace all major aspects of European development: markets, economies, employment and technologies; social, political, demographic, cultural and value changes; globalisation and enlargement of the EU; the role of national and European organisations, social partners and NGOs, etc.⁹³

5.5. Conclusions

Many problems discussed throughout this report – e.g. combating unemployment and overqualification, steering and shaping VET systems and curricula, improving employability and competitiveness, measures to prevent unemployment and overqualification – call for information on future developments in the skills of workers and the skill needs of labour markets. Forecasts at national, regional and enterprise levels, if used properly and in a responsible way, are important tools for providing such information. However, forecasts are still seen in a sceptical light by many people and countries. This may also be due to occasional lack of knowledge of the objectives and potential of forecasting, as well as resulting from overemphasised expectations of their predictive power.

Forecasts are able to prepare decisions or to elucidate the impacts of measures taken or planned. Although forecasts can never anticipate the 'real' future, they indicate possible alternative developments or serve as evaluation

measures. In this way, they can be seen as a 'didactic tool' for decision-makers at all levels.

However, an appropriate use of forecast results requires knowledge of their methods, underlying assumptions and limitations. Forecasts can never grasp the complexity of all the interactions and behaviour of all actors in education, training and labour markets. Instead, they are able to indicate broad developments if certain conditions come into force. Thus, forecasts need to be updated and improved regularly by new methods and data.

Once the usefulness of forecasting is acknowledged in principle, it appears necessary to resolve a number of problems:

- to improve the understanding of the aims and complex interrelationships forecasts must cope with;
- to constantly improve their methodology;
- to remove data inadequacies in order to increase the quality and degree of representativity of results.

The last issue refers to the establishment of an appropriate statistical infrastructure. This means in particular:

- development and use of standard systems of classification (sectors, occupations, qualifications), including international comparisons and local and regional levels;
- facilitating access to national and international databases;
- fostering cooperation and exchange between researchers within and across countries;
- supplementing quantitative by qualitative forecasts in order to avoid a 'technical trap', which may be the result of overestimating forecasts at a highly aggregated level using sophisticated methods, and not considering the strategies and steering power of decision-makers.

Last, but not least, efforts should be made to establish a European approach to forecasting which also transcends the limits drawn by merely formal qualifications. The first steps in this direction are being made by constructing European scenarios of VET development (Cedefop, European Training Foundation, Max Goote Expert Center, 2000a, b). They should be complemented by quantitative approaches using comparable classifications and methods, but still leaving space for specific developments at national and regional levels.

⁹² The results of the first phase have been published in the meantime: Sellin B., van Wieringen F., Dekker H., Tessaring M., Fetsi A. Scenarios and strategies for vocational education and training in Europe. European synthesis report on phase I. Max Goote Rapport. Amsterdam, March 2000.

⁹³ The scenario can be downloaded (in French, English, German and Italian language): http://europa.eu.int/comm/cdp/scenario/index_en.htm.

Box 4.16: 'Early recognition of skill requirements' (Germany)

The project aims for early identification of changes of skill requirements, particularly at the skilled worker level, and to provide such information in-time for the reform of initial and continuing training occupations. At present, nine institutes or organisations participate in this project. The project coordinator is the Federal Ministry for Education and Science (BMBF). The following approaches are used:

- Analysis of vacancy advertisements (BIBB). Advertisements are analysed in order to identify new jobs which do not correspond to common classifications. A sample of those new jobs identified is evaluated by direct employer enquiries.
- Enquiry of reference firms (BIBB). Around 1,900 firms are asked for skill requirement changes due to process, product and organisational innovations.
- Analysis of regional continuing training offers (BIBB). Continuing training institutions are asked for new qualification measures and their regional significance.
- Analysis of training offers by vocational schools and academies (BIBB). This analysis allows for the identification of skill requirements not provided by vocational schools.
- Development and test of early recognition instruments in employment areas with low degree of professionalisation (BIBB). Here is demonstrated how new skill requirements emerge beyond established training fields; exemplary fields: health, social care, education and rearing.
- Utilisation of the network of professional associations and chambers (*Kuratorium der Deutschen Wirtschaft für Berufsbildung*). Experts from associations and chambers as well as of working groups from several training organisations are asked for the skill requirements of firms.
- Process development for a permanent close-to-work observation of skill requirement (*Fraunhofer Institut für Arbeitswirtschaft und Organisation – IAO; www.iao.fhg.de*). At the heart are case studies of firms with a comprehensive description of work tasks and associated work systems and business processes.
- Skill development in the services sector (*Infas Sozialforschung GmbH www.infas.de*). Of interest are skill requirements of SMEs within particular dynamic markets (mostly related to new technologies).
- Detection trendsetter (*Institut für Strukturpolitik und Wirtschaftsförderung*). Firms which took on the role of trend-setter in terms of production of new goods or utilisation of leading technologies are asked for cooperation.
- International comparative studies (*Wissenschaftszentrum Berlin für Sozialforschung; www.wz-berlin.de*). Investigation of skill development in OECD countries.
- Report on qualification structure (BIBB in cooperation with IAB, www.iab.de). Starting in 2000, a report on general trends in the qualification structure will be published periodically.
- Qualification report and qualification development – Online (BIBB). The report provides detailed results on qualification requirements on a continual basis.

The initial results of the BIBB activities in this project have been published by Alex & Bau, 1999. For further information contact: www.bibb.de

Source: *Bundesinstitut für Berufsbildung. Der Generalsekretär*, 2000. More information: www.frequenz.net

Box 4.17: 'Futures' – a project by the IPTS

The Institute for Prospective Technological Studies (IPTS), one of the institutes of the Commission's Joint Research Centre (JRC), started the 'Futures' project in mid-1998 and brought together a considerable number of experts and policy makers from industry, academia and government. The project aims to elucidate demographic, social, economic, skill and technological trends and their effects on competitiveness and employment at horizon 2010. The papers elaborated in this project contain analyses and trends on various socioeconomic aspects of European societies, focussing on their relationship with technological developments. The deduction of future tendencies is not, or only partly, based on forecasts in a more technical sense but reflect in most cases estimations and assessments of the experts involved or have the character of scenarios. The papers have been discussed and summarised in five panels: Demographic and social trends; ICT and information society; Natural resources and environment; Political and economic context; Life sciences and the frontier of life. The panel and the research reports are published in the 'Futures Report Series' (for more details see: <http://futures.jrc.es>). Below, we present extracts of the executive summaries. [Bibliographical details are found in the list of references.]

Europe's changing demography. Constraints and bottlenecks. By G. Coomans, 1999

Current demographic projections show that the European Union might reach a stationary level of population in the next half century. However, enlargement by candidate countries will increase the EU population by one sixth, and immigration along recent trends would postpone global demographic decline by two or more generations.

The main problem ahead lies in the triple ageing process: (1) Increasing share of people aged 65 and over; (2) 'elder ageing', i.e. the fast increasing share of increasingly vigorous people aged 80 and over, in terms of health cost and caring systems. This is offering also job opportunities. (3) The ageing labour force will lead to labour shortages in an increasing number of Member States. Economic growth and global competitiveness of those countries with tight labour markets will depend more and more on the improved use of human resources. The progressive reduction of global unemployment can be labelled 'high certainty', and first of all will favour incoming young generations.

Adaptation to workforce ageing can be organised in two directions: a) accelerated changeover must be organised towards lifelong learning and age-specific reskilling; b) more diversified and flexible ways of retiring should be promoted, with clear legal facilities.

Demographic and social trends panel report. By J.P. Gavigan, M. Ottitsch and C. Greaves, 1999

Economic and technological changes, demographic processes and value changes are responsible for the change that is reshaping the way we live and our environment. Ageing of the working-age population, decrease of unemployment and job creation, labour shortages and migration are patterns common to all European countries. The move to a 'mosaic society' is, among other things, characterised by flexible working conditions and the quality of working life, but also to reconcile work and family. The development of social and communicative skills and to foster the 'independent learner' in a framework of lifelong learning call for new teaching styles and training systems to accompany this process. New needs relate to personal life, intellectual life and community life within the frame of European diversity. European competitiveness policy has to follow objectives of homogenisation and economic cohesion as well as to reconcile diversity by the preservation and valorisation of European identity.

The competitiveness map. Avenues for growth. By K.M. Weber, M. Zappacosta, F. Scapolo et al., 1999

Europe's competitiveness is rooted in its ability to sustain the production and consumption of high value-added products and services. Europe will have to deal with new challenges and opportunities in three main respects:

- (a) What to produce? The integration of high technology into complex goods and services ask for an intelligent use of technologies. In addition, non-codified know-how, such as creativity and design skills, as well as copyrights, standards and brand-names will be of increasing importance. Beyond high technology, research and development should focus more on the integration and application of technologies, and production should more value intangibles. Growth in services will demand more personal attention and knowledge-intensity.
- (b) Where to produce? In regard of Europe as the largest consumer market of the world, proximity of production and diversity of national innovation systems represent advantages of an integrated European market. From a longer term perspective, the enlargement of the EU calls for a modernisation strategy towards a more technology and skills-intensive economy. Customisation, decentralisation and localisation in the era of globalisation increasingly require the utilisation of local knowledge and skills bases and offer new opportunities for disadvantaged locations and regions.
- (c) How to produce? Firms have to adjust to a larger but highly diverse market, e.g. by building on networks of production and distribution, involving not only larger firms but also SMEs.

Information and communication technologies and the information society panel report. By K. Ducatel et al., 1999

The trend of miniaturisation will speed the complexity of circuits in ever decreasing time periods. Further trends relate to the development of systems which can be embedded into non-PC devices. Artificial intelligence, the development of software agents and of knowledge management tools may offer relief from information overload and alleviate the trend towards a skill-biased polarisation in the Information Society. Growing communication demand will be met by a 'seamless interoperability' of different communication devices.

Employment map. By K. Ducatel and J.C. Burgelman, 1999

In the years to come, and mainly due to demographic ageing, job creation and unemployment will gradually be replaced by issues of employability, know-how and quality of work in the policy agenda. However, labour shortages might continue to exist alongside persistent long-term unemployment. Skill mismatches and the increasing demand for new skills will be an inherent issue for employment policy, due to the growth of information technologies and services. Employers are trying to achieve a higher performance and more flexible work organisations. However, some forms of flexibility (such as part-time and temporary contracts) are associated with lower levels of investment in people. This raises the question about the responsibility for the accumulation and renewal of knowledge in Europe's 'knowledge society'.

The future of education in Europe until 2010. By D. Mercer, 1999

Compared with primary and secondary education, higher education is still some way off saturation across the EU. The current level, of around one third of young persons participating in it, is likely to double over the next decade.

The most dramatic expansion will, however, be seen in education following on from initial education and training in the framework of lifelong learning (LLL). The emerging need for LLL is most clearly underwritten by the predicted need to retrain 80% of EU workers over the next decade - as their existing jobs are destroyed by radical changes in technology. This training will shift from the existing conventional forms of in-house on-the-job training. Instead, the need will be for longer-term education - providing intellectual frameworks for individual development - rather than shorter-term training - providing immediate job skills for employers. The EC's initial role may be to set and monitor standards and to 'certify' providers, and the resulting new qualifications will need to be recognised across the EU.

Knowledge and learning. Towards a Learning Europe. By J.P. Gavigan, M. Ottitsch and S. Mahroum, 1999

The commitment to continuous learning and the generation of new knowledge is justified by the significant contribution of knowledge to economic growth and employment. Some basic features are addressed in this panel report:

- In a learning Europe, a shift takes place from a 'frameworks' model of learning to a focus on 'People'. This concept puts citizens at the centre and provides a strong human dimension for the development of European innovation and research areas.
- The pursuit of European excellence requires a more comprehensive definition and understanding of knowledge and learning and their transformation into a coherent learning system adapted to the changes in society and economy.
- The most pressing knowledge and learning priorities relate to technical and tacit knowledge. Specialised knowledge, general literacy and a Europe-wide learning culture has to be realised at the community, individual and organisational level.
- In view of failures of education and training, e.g. concerning ICT literacy, fostering self-motivated learning, attitudes of openness, curiosity and responsibility are increasingly needed. Quality and relevance should be the main layers of reforms and curricular improvement.
- Lifelong learning is still far from reality and should be on top of the policy agenda. Demographic ageing, unequal access of target groups to continuing training, and other problems call for a lifelong as well as a life-wide learning over time and in different contexts and environments.
- Linking individual learning to collective learning levels (private and public organisations, and in particular SMEs) by networking, cooperation and partnerships requires, among other things, knowledge management and intellectual accounting practices. This should be supported by public policy and promote an EU-wide innovation culture.
- European knowledge infrastructure: A Learning Europe must accommodate the preservation and deepening of the rich diversity of knowledge and learning traditions. A balance must be found between the internal configurations of European knowledge infrastructure and a global orientation and openness at all levels. Regional development policies have to counter tendencies towards a division into knowledge centres and knowledge peripheries.
- The EU needs to accentuate a more global involvement in the generation and flow of knowledge. This applies to human capital mobility schemes, education and training, research and development as well as to joint-ventures and firm alliances.

The engagement of all kinds of stakeholders in an interactive policy discussion has a strong impact on the effectiveness and relevance of the policies derived. A participative learning-for-policy approach can be found in several EU initiatives and strategies. To attain a true 'learning European' would benefit from such a policy and would be well suited to handle issues which are beyond the reach of individual stakeholders, for example: accreditation, validation and recognition of formal and non-formal skills; cross-border systems of distance education via ICT networks; the cultivation of pan-European knowledge and competences, e.g. redundancy of knowledge infrastructure, European centres of excellence, accentuation of local knowledge and abilities.

Mosaic living. By R. Scase, 1999

The report attempts to build a scenario of emerging lifestyles characterised by greater mobility, diversity and change. Patterns of changing lifestyles are:

- Ageing and increase of retired people with greater diversity in life style will have implications for pensions and jobs.
- Families and households will become smaller, and personal relationships will be more varied.
- An increasing number of women is highly qualified and professional allowing them to develop an independent

life style and work careers. Growth of entrepreneurship and self-employment, flexible and non-standard employment and working time are some more patterns of future work.

- Student numbers in tertiary education will increase, equally opportunities for lifelong learning, supported by ICTs.
- Spending on food will decrease in favour of spending on health, medical products and leisure. Single person households and ICTs will be key factors driving future retailing trends.
- Mobility of people is supported by mobile communication. The growth of households 'on-line' will affect retailing and corporate marketing and selling strategies. However, socio-demographic and cultural patterns will largely determine the utilisation of new technologies, work patterns and life styles characterised by a shift to 'mosaic living'.

The wider picture. Enlargement and cohesion in Europe. By M. Weber, W. Meske and K. Ducatel, 1999

If the plans of the European Commission become reality, before the end of this decennium the enlarged European Union will cover 28 countries with about 500 million people. It will represent the largest (by purchasing power) common market in the world. This is a unique chance for Europe's enrichment by diversification in culture and experiences, economic and social structures. Enlargement, however, will not only have major implications for Eastern Europe, but for the EU 15 as well.

The higher numbers of Member States with their diversion in language, culture, religion, education and welfare has to be managed by appropriate mechanisms. There is a definite need to encourage creation of SMEs, to develop the service sector and to increase the productivity and competitiveness of the former national industrial and agricultural production units.

Economic catching-up should be combined with a general shift towards the knowledge-based economy. This remains a big challenge for the candidate countries as well as for the enlarged Europe as a whole. One of the hopes for a more rapid transition and cohesion is that the candidate countries enjoy a developed educational system, a relatively large science and technology base as well as well-educated and skilled people. Institutional reforms should bridge the gap between industrial requirements, science and research outputs and an adequate supply of well-trained workers.

The societal bill: financing social protection and a sustainable environment. By G. Fahrenkrog and L. Delgado, 1999

In the next decade, European public finance is confronted with a number of choices. Ongoing developments affect the financing of pensions, social protection, health system, education and environment protection. The picture that emerges shows that the next few years also open a 'window of opportunity' in which to reorganise some basic agreements on which these systems have been built. This picture is based on following trends:

- Expenditure on social protection is unlikely to decrease. All trends indicate that expenditure on health care, disability allowances, retirement and pensions, family and child benefits, expenditure on unemployment and social exclusion will either remain stable or follow their in-built tendency to grow.
- Social benefits are an essential part of the mechanisms of resource allocation. Social transfers (other than pensions), particularly to reduce the poverty rate, have been streamlined in the last decade. Further reductions may be difficult. However, new life styles and changes of work may create a new income and wealth distribution, but may also generate a 'new poor'.
- Investments in education and training, as far as publicly funded, are influenced by demographic change and changing participation rates. An increase of the latter to raise the quality and skill level of populations may be favoured by redundant resources in the course of demographic decline. Two developments, however, could stifle further improvement in education: (1) the built-in inertia of the traditional education system and its resistance to change; (2) new needs for training and retraining beyond initial education and training – lifelong learning – may pose new demands on public budgets, too. However, an increasing part of education may happen outside the established systems, and its financing might be (partly) public and/or private. There is a danger that public expenditure constraints might tempt governments to cut expenditure despite the high returns to more and better education in the future.
- Environment protection becomes more and more important as Europe plays a major role in shouldering the burdens which are being placed on the sustainability of our planet. However, it is difficult to get an overview of how all these added costs will influence public expenditure. According to several estimations, Council directives and EU legislation, increased expenditure is to be expected: on water treatment, to reduce air pollutants, to clean up soil contamination and to reduce emissions in order to prevent climate change and global warming.

The reports and conference papers are summarised in:

The IPTS Futures project. Synthesis report. IPTS, 2000 (more information: <http://www.jrc.es>)

Box 4.18: Scenarios and strategies for VET in Europe

The scenario project was launched by Cedefop in joint operation with the European Training Foundation (ETF, Turin) in late 1999. The scientific-technical coordination was entrusted to the Max Goote Expert Centre (MGK) at the Amsterdam University. Five EU Member States (Austria, Germany, Greece, Luxembourg/ Belgium⁹⁴, the United Kingdom) and five candidate countries (Czech Republic, Estonia, Hungary, Poland and Slovenia) are participating in the project. Its aim is to develop alternative scenarios and strategies for the future development of vocational education and training by around 2010. The results may serve as tools for strategic discussion and planning.

Three contextual *environments* were distinguished:

- (a) economy and technology;
- (b) employment and labour market;
- (c) training, skills and knowledge.

A common questionnaire was sent to a number of stakeholders and experts in the participating countries. The results of this enquiry were evaluated and discussed at national level as well as at European level. A number of trends identified for the three environments were analysed⁹⁵ and clustered to scenarios.

The *scenarios* common to all participating countries indicate:

- within the 'economy and technology' context, (a) the importance of partnerships and cooperation between public and private organisations, companies and training providers; (b) economic restructuring of companies and networking in order to improve competitiveness;
- within the 'employment and labour market' context, (a) changes in the workplace towards multiculturalism, ICT utilisation, knowledge management and social skills; (b) increasing flexibility of labour, in terms of new combinations of work, training and geographic mobility;
- within the context of 'training, skills and knowledge', (a) the need for flexibility of training programmes in view of the growing demand for general, social and communication skills; (b) the changing roles of VET providers to adapt to regionalisation, decentralisation and a different relationship with SMEs; (c) the increasing social task of training, by which older employed, unemployed and groups at risk of social exclusion should benefit from vocational training; (d) individualisation in that individuals will become more and more responsible for the outcomes of education and training.

Out of the numerous *strategies* related to these trends, the following were common and relevant to all countries participating:

- within the 'economic and technology' environment: (a) improve the incentives for all actors to engage in training; (b) anticipate specific needs; (c) encourage learning organisations and knowledge management;
- within the 'employment and labour market' context: (a) modern workers and work contracts are required as well as (b) supportive structures and measures for groups at risk;
- concerning the environment 'training, skills and knowledge', strategies are needed (a) to improve the transparency of qualification structures and mobility; (b) to foster personal development and to combat social exclusion; (c) to provide basic skills and to concentrate on specific age groups; (d) to convince individuals to invest in their own training.

Scenarios and strategies were also developed for each of the participating countries, with some differences in nuance from the European dimension. Furthermore, a number of actors responsible for these strategies have been identified. The main actors in all three contexts are the national State and European institutions.

The second phase of the project, carried out in 2000/2001, concentrates on several aspects:

- to improve the structuring, consistency and robustness of scenarios and strategies;
- to develop 'overarching' scenarios across the three contexts;
- to identify concrete instruments and measures within the strategies and to develop a tool to stimulate discussion between stakeholders at national and European level.

Source: Cedefop, European Training Foundation (ETF), Max Goote Expert Centre MGK, 2000a, b. The report on phase 1 is available through Cedefop's electronic training village (www.trainingvillage.gr/etv/scenarios/index.asp). Country reports are available on request (contact: Cedefop's project managers Burkart Sellin [bs@cedefop.eu.int] or Manfred Tessaring [mt@cedefop.eu.int]).

⁹⁴ These two countries were investigated together.

⁹⁵ Method: exploratory principal component analysis (PCA).

Part five

Individual performance, transition to working life and social exclusion

Chapter 1 of this Part reviews the determinants of training and their impact on individual performance. The works conducted do not always make it possible to draw clear and convincing conclusions although training clearly has a significant impact on pay and other performance indicators.

The period of transition from education to working life has been attracting the attention of researchers and policy-makers for over ten years. The dynamics underpinning this period have to be understood if policies are to be better targeted. Chapter 2 reviews comparative research on transition.

The review of the problems facing young people as they make their transition from the education system to working life is followed by an analysis of people's situations during the following stage, when they have arrived in the labour market. This section looks at the cases of people whose routes could be termed difficult. 'Target groups' are made up of people who have difficulty gaining a foothold in the labour market – or more generally in society – and for whom special measures are implemented. This is followed by an analysis of the role that training can play in promoting social integration.

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1. Training and individual performance¹

This chapter provides a review of research work on the individual determinants of participation in initial and continuing training and on the impacts of training on wages, unemployment, productivity and mobility, among other things. Training has significant positive effects on individual performance and, in general, is able to explain a major proportion of the variation in wages and other variables. However, there are considerable differences among the research findings. Research results on the incidence and impacts of training depend on the national education and training system, and on the nature and quality of data and research methods. Furthermore, individual heterogeneity and self-selection often hamper the clarity of results.

There is significant evidence of a positive relationship between education, training and labour market performance. Skills and competences acquired in education, training, in and off the workplace, are seen as the most important prerequisites in the knowledge-based economy. This belief is mostly based on aggregate figures which suggest a clear hierarchical pattern in European labour markets. These patterns have been rather stable over time and have been addressed in several parts of this report.

However, aggregate data for the whole workforce or for large groups tend to hide particular trends and structures. Individual performance over time and age can only be adequately analysed by using microdata, in particular longitudinal or panel/cohort data.

Moreover, it is not possible to conclude on the basis of aggregate figures that the observed relationships between skills and performance are the direct result of education and training. Analyses which take into account numerous 'intervening' variables (such as age, sex, social background, work experience, innate abilities, etc.) require, in principle, individual data and econometric methods which explain the separate contribution of each of these characteristics to labour market performance.

Simple statistical correlations between schooling and outcomes (such as earnings) might be biased due to omitted variables and self-selection: it is not possible to compare the impacts of an individual participating in training with the same individual in the case where he/she would not have participated in that training ('comparison problem').

1.1. Individual choice of education and training

Normally, individuals have the choice between several alternatives and actions. They can choose between different education routes, training programmes or jobs. However, the realisation of this choice depends on the training and labour market situation and on individual abilities and (e.g. financial) possibilities. Individual training decisions reflect, among other things, expectations about the outcome and benefits of training.² The consideration that other people may also decide to acquire higher skills also plays a measurable role in individual behaviour (Heckman, Lochner & Taber, 1999).

Another important aspect is the timing of investment in human capital. Among other things, timing depends on compulsory school regulation, individual abilities, labour market situation and career plans. This consideration suggests that the decision to undergo a particular training measure is embedded in a framework of internal and external conditions. Training decisions depend on how, and by whom, education and training is financed, on its content, qualification and assessment as well as on information on future benefits. Therefore, analyses of the impact of training should not be isolated from its context.

1.2. Impact of training

This chapter deals with the impact of training and skills at the individual level.³ Since 'training' can take manifold forms and is organised differently in different countries (and even within a single country) we will only highlight some current empirical research results. 'Individual perform-

¹ This chapter is in major parts based on the paper of F. Pfeiffer, 2000: 'Training and individual performance: evidence from microeconomic studies'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP. Vol. 3 (published 2001).

² For a discussion on individual vocational choice and the role of vocational guidance see Tessaring (1998b, pp. 119 ff.).

³ The macroeconomic impact of training – such as economic growth, productivity and competitiveness, innovation and social cohesion – plus the impact of training on enterprise performance have been discussed in Parts 3 and 4 of this report.

ance' in this context denotes the visible outcomes of training (and higher skills); less visible or indirect indicators such as a higher reputation, social status, health, democratic participation, values or 'nobility' associated with higher qualification will not be addressed here (see Tessaring, 1998b, p. 65; OECD, 1998d, pp. 66ff.; see also Chapter 2 in Part 4 of this report).

A number of indicators for education and training outcomes have been analysed in empirical research. These are, for example, impacts on:

- earnings, wages or individual monetary returns;
- productivity;
- job search and tenure in the first job;
- hours of work;
- precariousness of jobs;
- over- or underqualification;
- upward mobility;
- regional and occupational mobility;
- employment prospects, career;
- unemployment spell;
- becoming self-employed;
- participation in continuing training.

Several of these impacts have also been discussed in Parts 3 and 4 of this report.

These impacts cannot be attributed to education and training alone but are also influenced by other – observed or not observed – personal characteristics ('background variables'). It is a challenge for empirical research, and the methods used, to filter out the direct and indirect impacts of education and training and respective skills. Furthermore, it is data quality as well as the nature of skills and competences included in these data, that determine whether or not the results achieved are reliable.

1.3. Methods, data and measurement

1.3.1. Econometric methods⁴

Most quantitative measurements of the determinants of training and its impacts use econometric methods which model the decision to train and the outcome of training simultaneously. Most of these also explicitly take care of the self-selection problem mentioned above.

⁴ See for the following discussion Pfeiffer (2000).

The problem of impact measurement in social sciences⁵ when compared with natural sciences is that social programmes cannot be easily isolated from real life processes (with the exception of psychological experiments). The main task of research is to measure the impact of the programme despite the fact that many other factors simultaneously influence participating individuals and thus the desired outcomes.

Individual benefits of training are usually identified by the difference between two outcomes: one observed (for individuals included in a sample), and the other one not observable (for the same individuals if they had not participated in the training programme). To assess the impact of training, one has to rely on estimates which can be based on a 'control group' of people without training. Obviously this group of people should be identical with the people participating in training with respect to all relevant characteristics (whether they are observed or not) and the environment in which they live.

Self-selection (and/or programme selection) occurs if participants in training are not a representative random sample of the population or workforce. Those individuals who see comparative advantages or higher benefits in training might have a higher probability or inclination of participating in training programmes. A comparison of the outcomes (e.g. earnings, unemployment spell) between participants and non-participants in training thus might be seriously biased. Advanced econometric methods explicitly attempt to take care of the self-selection problem.

The comparison problem is finding such a control group. The precision and accuracy of the estimate will depend on the precision and accuracy of the control group. While some researchers believe that the comparison problem can only be resolved by means of social experiments, others have developed statistical and econometric tools for unbiased estimates of training impacts with the help of non-experimental data.

- In classical '*social experiments*', prospective programme participants have been randomly divided into one experimental and one control

⁵ For an in-depth discussion of the methodological issues see Heckman, LaLonde & Smith (1999). Discussion in this chapter will concentrate on the determinants and effects of training with the exemption of training programmes as part of the active labour market policies for the unemployed. For an extensive literature survey on the impact of active labour market programmes in the United States and Europe, see Heckman, LaLonde & Smith (1999).

group. Given this research design, the difference between the outcome in both groups must be a result of the programme if all other conditions are similar. Since social experiments are rarely used in Europe, current research into the determinants and impact of training in Europe depends on non-experimental data and adequate econometric tools.

- A second method is the comparison of individual outcomes before and after participation in VET in the framework of an econometric model (see Blundell *et al.*, 1997; Pannenberg, 1997; Pischke, 1996). Information on previous 'performance' is, however, often not available, for example when people are young and have no labour market experience before entering VET. Therefore, the comparison of trainees and non-trainees, taking care of the selection problem with econometric methods, is the most common way of taking advantage of non-experimental comparison groups.
- There might also be intentional and unintentional outcomes of training, which are either favourable or unfavourable for the individual, firm, region or industry, or for the whole economy. Most econometric studies investigating training analyse the direct intended impact for certain favourable variables such as wages, productivity, employment prospects, etc. However, secondary effects cannot be excluded empirically *a priori*. If some firms, for example, provide excellent training for their employees and thus are more competitive, other firms, in consequence, might lose market share, and their employees may have a higher probability of being dismissed. Such negative⁶ indirect effects are, however, difficult to trace, and their assessment often requires costly research design.

1.3.2. Data and research design

Studies on the individual determinants of training, and its impact on wages and subsequent working career, which take into account observed characteristics (such as age, gender, skills, labour market conditions) as well as unobserved factors (such as motivation or innate abilities) are based on microdata. The units of observation are either individuals, firms or both.⁷ The aim and scope of the data differ considerably. Not all are collected for studying VET-related issues exclusively.

⁶ 'Negative' from the viewpoint of the firms or individuals affected.

⁷ There is a tendency in empirical work to match employee-employer data (see Bellmann *et al.*, 1999; Bratberg & Nilsen, 1998; Entorf & Kramarz, 1997; Krueger & Rouse, 1994 and Part 3, Chapter 6 of this report). In this chapter we concentrate on the individual level.

1.3.2.1. Cross section and longitudinal data

At the individual level, we can distinguish roughly between two kinds of data relevant for VET issues: cross section and longitudinal data (see Figure 5.1 and Box 5.14 below). Both are based, in principle, on surveys of individual persons,⁸ carried out once, repeatedly or on a regular basis. The difference between cross-section data and longitudinal data is that the former – if done repeatedly – collect information on individuals who are not identical from one survey to the other.⁹ In longitudinal surveys, on the other hand, the individuals remain identical in all subsequent surveys.

Repeated cross section data normally do not allow for an analysis of longitudinal processes. However, if cross section data contain information on constant (invariable) characteristics such as age plus sex, etc., it is possible to construct 'pseudo' cohorts by comparing the same (age) group of people over time. In such cases, the composition of any particular group consists mainly of identical groups of individuals at two or more points of time, only changed at the margins, i.e. by deaths, emigration (outflows) and by immigration (inflows).¹⁰

Longitudinal data usually contain a larger number of individual characteristics than cross section surveys. They allow for the analysis of interactions of these variables as well as for their changes. Furthermore, analyses of changes of the states of single individuals, and thus of transition behaviour over time and its determinants, become possible. Individual longitudinal data are the basis for constructing panels or 'genuine' cohorts and for taking into account numerous factors of influence on training behaviour and outcomes. Thus longitudinal data are the preferred basis for econometric analyses of processes over time.

The different types of data have specific advantages and disadvantages for investigating VET-related issues. Cohort data provide valuable information for a well-defined cohort of persons, but no information on individuals of other cohorts. Differences

⁸ Besides these, there exist data which stem from official registers (e.g. social insurance statistics, residence registration offices, training or labour market programmes and the like).

⁹ However, there are exceptions. Thus, in the annual German microcensus, for example, only one part of the sample population is exchanged every year. The others remain in the sample for several subsequent surveys.

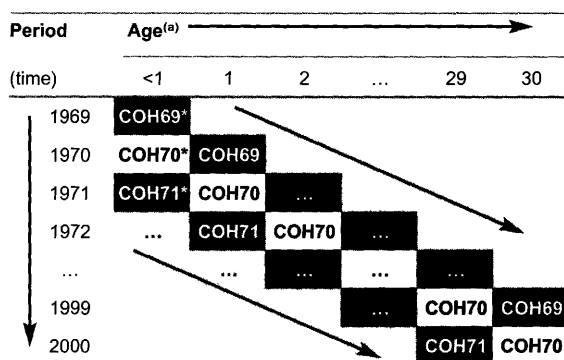
¹⁰ These in- and outflows will increase in quantitative importance over time. Births represent new cohorts which add up to the existing ones.

between different cohorts can only be studied if other cohorts are investigated in parallel. Cross section data, in contrast, do not allow, for example, the disentangling of age and cohort effects (Box 5.1).

Longitudinal studies based on panel data or on the simultaneous investigation of several cohorts might overcome these restrictions. Individual biographies, such as lifetime earnings profiles or education, training and work histories can, in principle, be investigated if the time period is long enough.¹¹

Box 5.1: Cohort, age and period effects

When measuring flows (of individuals) over time, changes can be assigned to three effects: cohort, age and period effects. These three dimensions can be illustrated as follows:



COH: Cohort (same year of birth);
 * = born during this year.
 (a) Completed age on 31 December.

Source: Based on Plewis, 1985, pp. 9 ff.

The basic relationship between these effects is:

Age=Period (calendar year)–Cohort (year of birth)

This relationship is, of course, a tautological one¹², but serves for a better understanding and analytical distinction between the three effects.

- 'Cohort effects' point to differences, e.g. of participation rates in VET, when two or more cohorts are compared with each other. They thus denote different patterns of (training) behaviour between generations. It is shown empirically, for example, that

the level of educational attainment and of skills is considerably higher for the younger generation than for older people.

- 'Age effects' relate to 'typical' changes of states (e.g. completion of training and transition to work; retirement age) within the lifecourse of one cohort. However, these typical age patterns have changed considerably: younger cohorts stay longer in education and training and start work at higher ages. Equally, retirement age is tending to decrease.
- 'Period effects' concern exogenous framework conditions in a certain period of time, such as wars, oil crisis, high unemployment, shortage of training places, but also rapid diffusion of new technologies, European integration etc. Period effects influence the whole population, i.e. all 'cohorts', according to their age and particular status in that period. They might affect participation in initial training of young people, transition to work of young adults, and employment conditions for older people.

The simultaneous consideration of age, cohort and period effects in a model, where a certain variable (e.g. participation in training) is made dependent on these effects, causes the so called 'identification problem': because of the tautological relationship between the three effects the model is overdetermined.

However, longitudinal data might be affected by the problem of comparison of variables and other information over time and also by fluctuations in the business cycle or political and other events. Changes in the definitions of earnings, working conditions and hierarchies over longer time periods might lead to spurious correlations in empirical work.

Figure 5.1 illustrates the different types of data used in social and economic analyses of training and skills (and, of course, of other issues as well).

Box 5.2: TSER project 'European panel analysis'

The panel project has two objectives:

- to produce a comparative European longitudinal micro-database on employment, income and social protection, living standards and family or household circumstances, combined with other European panel materials to extend the topical coverage and historical range; and also to negotiate with the responsible national authorities, in partnership with Eurostat, for release of these data-sets to other researchers;

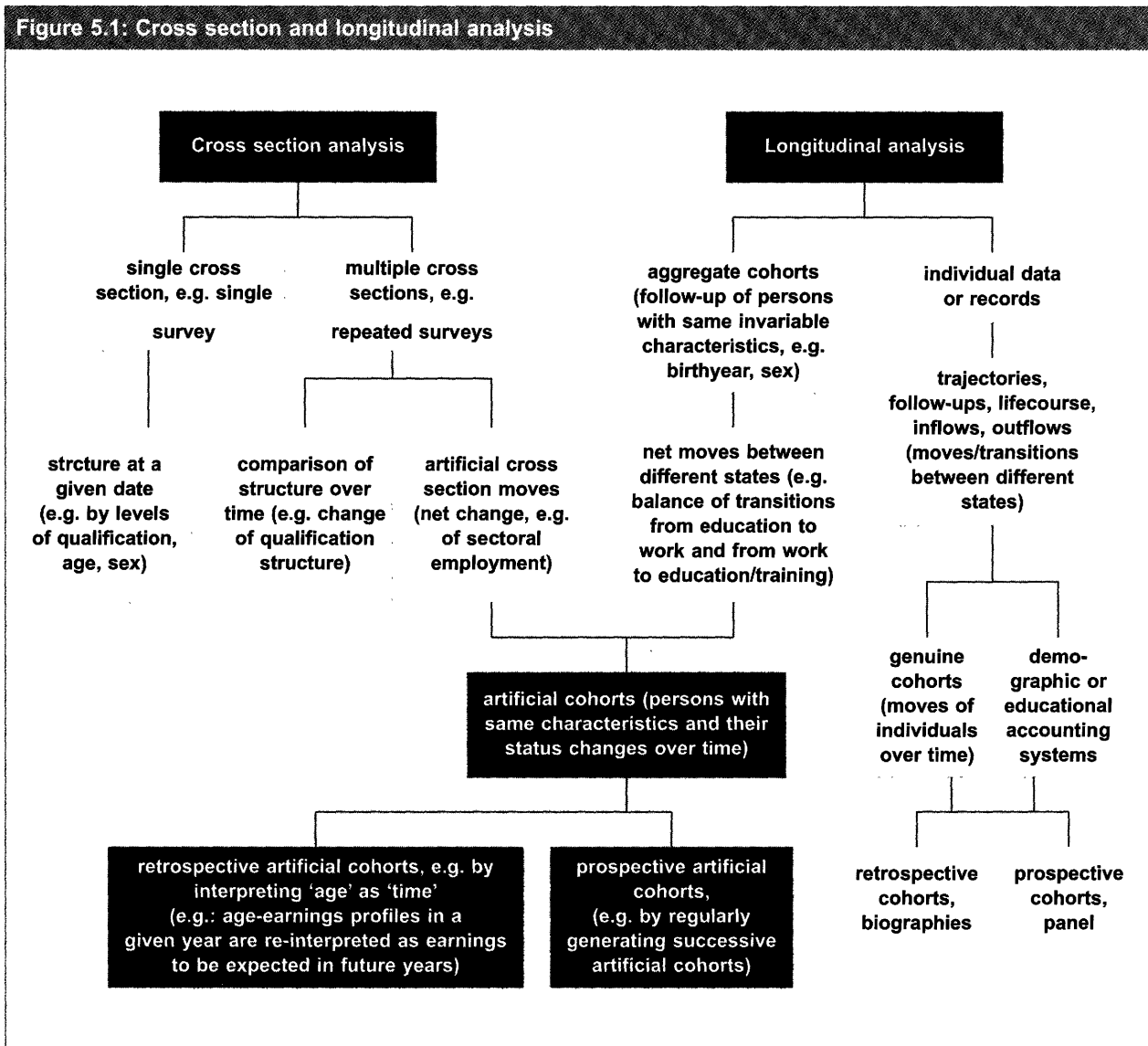
- to use this database in the investigation of a number of issues:

- the nature and dynamics of social exclusion and integration, and their causes and consequences;

¹¹ The German Socio-economic Panel, for example, contains biographical records for all persons surveyed for the first time in 1984.

¹² If we investigate 15 year-old pupils 1995 (December 31), it is clear that they are born in 1980. Therefore, if two dimensions (e.g. age and calendar year) are given, the third one (year of birth) is determined automatically.

Figure 5.1: Cross section and longitudinal analysis



Source: Authors.

- specifically examining and seeking to explain similarities and variations among European countries in terms of the pattern of household income stability or instability over time, movement into and out of different forms of employment status, and formation, growth, diminution and dissolution of households.

Coordinator: J. Gershuny, ESRC Research Centre on Micro-Social Change, University of Essex, UK. E-mail: gershuny@essex.ac.uk

1.3.2.2. Empirical basis of research on individual performance¹³

In the follow we will concentrate on four types of data and will describe some results of selected studies. The data are of the following types:

- cross sections (CS);
- repeated cross sections (RCS);
- cohort data (CD);
- panel data (PD).

¹³ See for this and the following sections Pfeiffer (2000).

Table 5.1 gives an overview of the main databases used for analyses of education and training aspects at individual level:

- the two examples cross-section (CS) surveys are samples of a well-defined population at a point in time. The Dutch wave of the International Adult Literacy Survey is based on a sample of the whole Dutch population in 1995; the French Survey on Education and Qualifications is based on a sample of the adult French population;
- examples of repeated cross sections (RCS) are the German Qualification and Career data, a representative sample of employees surveyed in 1979, 1985, 1991 and 1999; the German Labour Force Survey, a representative sample of the population surveyed every year (NB: regular labour force surveys exist in all EU countries); and the Swedish Level of Living Survey, a representative sample of the Swedish population surveyed in 1968, 1974, 1981 and 1991;
- cohort data (CD) consists of all persons or a sample of persons born in a certain year. These persons are either interviewed once retrospectively (as in the German Life History Study, the Brabant Survey, the Norway Survey and the Lancashire Career Data Survey), or are followed during their life on a regular basis. An example for the latter is the English National Child Development Study;
- the last type of data sets are panel data (PD). The same individuals are surveyed repeatedly at different time points. Three studies in Table 5.1 build on individual panel data: the Dutch Biannual Labour Supply (since 1992); the German Socio Economic Panel (annually since 1984); and the Norwegian social insurance data (since 1989).¹⁴

The recent *Employment Outlook* (OECD, 1999a, not mentioned in Table 5.1), refers to a study of the determinants and wage impacts of continuing training in seven OECD countries: Australia, Canada, France, Germany, United Kingdom, Italy, the Netherlands. The analyses are also based on microdata. For a description of the data sets, which look quite promising for microeconomic research on training issues, see OECD, 1999a.

¹⁴ A comparable database is the German employee statistics (*Beschäftigtenstatistik*) based on social insurance data records for individuals. The statistics started in 1973 and provide annual information on the total number of employees covered by social insurance. Samples of different sizes have been constructed by the Institute for Employment Research (IAB) and others.

The data designs compiled in Table 5.1 differ according to the main focus of the surveys. The following broad aims can be distinguished:

- the main objectives are the study of the determinants and impact of education and training;
- the main objectives are also related to education and training;
- the objectives focus on a different set of topics; meaningful questions on education and training are included.

The lessons to be learned from empirical work seem to be that there is no single ideal data set for all research problems. An ideal data set will depend on the goal under investigation and on financial resources as well, since conducting surveys – in particular longitudinal ones – is expensive and it takes a long time until results are available.

1.3.2.3. Surveys at European or international level

In the past years in OECD and/or European countries, several major surveys have been conducted to provide harmonised training statistics: the International Adult Literacy Survey (IALS), the Community Labour Force Survey (CLFS), the OECD/INES (Indicators of Education Systems, based on national statistics), Eurostat's Continuing Vocational Training Survey (CVTS) 1994 (reference year: 1993)¹⁵ and the European Community Household Panel (ECHP)¹⁶. These surveys provide valuable insights into training or related matters across different countries. Comparative VET research based on cross section data now has become possible.

However, measured participation rates in CVT differ significantly between the four surveys (OECD, 1999a, pp. 142 and 144), which is presumably a result of different definitions of training between the surveys and, furthermore, of sample sizes. To give the reader a numerical example of the diverging participation rates in career or job-related training: in Germany this rate amounts to 20% according to the IALS, 4.2% according to the CLFS, 33.3% according to the

¹⁵ The CVTS is being repeated in 2000.

¹⁶ The ECHP contains only limited information on education and training related issues (e.g. education-related income transfer).

Table 5.1: Selected individual datasets for VET research in Europe

Description (acronyms in brackets)	Country/ region	Type ^(a)	Aims ^(b)	Unit of observation	Sample	Start	Frequency of interviews
German Labour Force Survey (GLFS)	D ^(c)	RCS	B	individuals	Representative sample (1%) of the population	1981	1 year
German Life History Study (GLHS)	D ^(c)	CD	A	individuals	Representative sample of cohorts born in: 1929-31, 1949-51, 1954-56, 1959-68	retrospective surveys	
German Socio-Economic Panel (GSOEP)	D ^(c)	PD	B	individuals	Representative sample of the population	1984	1 year
Qualification and Career (Q&C)	D	RCS	A	individuals	Representative sample of employees	1979	1979/1985/1991
French Survey on Education and Qualifications (FQP)	F	CS	A	individuals ^(d)	Representative sample of French adult population	1993	
Brabant Survey (BRAS)	NL	CD	B	individuals	Cohort 6. Class 1952	1952	1952/1983
Dutch wave of the International Adult Literacy Survey (DIALS)	NL	CS	B	individuals	Representative sample of the population	1995	once
Dutch biannual Labour Supply Survey (OSA)	NL	PD	B	individuals	Employees 1994	1992	biannually
Social Insurance Data (KIRUT)	N	PD	C	individuals	10 % sample of the Norwegian population	1989	regularly
Norway Survey (NORS)	N	CD	B	individuals	Cohort of people born from 1956 to 1958	1975	1975/1981
Swedish Level of Living Surveys (SLLS)	S	RCS	B	individuals	Representative sample of the Swedish population	1968	1968/1974/1981/ 1991
National Child Development Study (NCDS)	UK	CD	B	individuals	Cohort of people born in 1958	1958	1958/1965/1974/ 1981/1991
Lancashire Career Service Data (LCSD)	UK	CD	A	individuals	Cohort of school leavers	1991	1 year

(a) Type: CD = cohort data; CS = cross sections; RCS = repeated cross sections; PD = panel data.

(b) Aims: A = the main objectives are the determinants and the impact of education and training; B = the main objectives are related to education and training; C = the main objectives focus on other topics, but meaningful questions on education and training are included.

(c) Before 1989: West Germany.

(d) Matched with firm data.

Source: Pfeiffer, 2000.

Table 5.2: Dimensions and outcomes of training in microeconomic studies	
Dimension	Description
Dimensions of training	
Types of training	initial training; continuing training
Degree of formality	non-formal training; formal training courses: (a) without or (b) with a recognised vocational qualification
Content	general knowledge; work-related knowledge; occupation-specific knowledge
Provider	employer; individual; government
Place	at school; in the classroom; at the workplace; inside a firm; outside the firm
Duration	days, months or years
Frequency	number of courses taken in a period
Resources invested	costs
Outcomes of training	
Type	wages, earnings, productivity, hours of work, time of search for the first job, length of stay in the first job, regional/occupational mobility, upward mobility, employment/unemployment, further training, others (health, fertility, democratic values etc. not investigated here)
Impact	direct intended impact, direct impact not intended but favourable, direct impact not intended and not favourable, indirect impacts both desired or undesired
Level	individual, firm, training institution, region, industry, economy

Source: Pfeiffer, 2000.

OECD/INES, and 24% according to the CVTS (OECD, 1999a: Table 3.2). This indicates that harmonisation of surveys might not always be a superior strategy of data collection.

1.4. Measurement of training and outcomes

1.4.1. Dimensions of training and outcomes

In the empirical research studies selected here a number of dimensions have been investigated, some of them overlapping (see Table 5.2). The studies use slightly different definitions of training and none includes comprehensive information on all dimensions of training.

The measurement of training impact requires further dimensions. In empirical literature, outcome measures focus on wages, earnings, productivity, hours of work, time of search for the first job after VET, duration of the first job, mobility (regional, occupational), upward mobility, employment and unemployment probabilities, further training and others.

1.4.2. Explanatory factors

When research aims to assess the determinants and the isolated impacts of VET, often the determinants of participation in VET and its outcomes are modelled simultaneously, which seems natural since training is chosen individually or by firms through its impact on desirable outcomes. The set of factors explaining training and its impacts usually includes all or some of the following variables:

- socio-demographic background and work history (e.g. age, gender, work experience, periods of unemployment);
- family background information (e.g. education or social status of parents, place of residence);
- educational background and ability variables (e.g. intelligence scores, educational degrees);
- information on former or current labour market conditions (e.g. regional unemployment rate) and characteristics of the firm (if training was or is provided in a firm);
- information on the training institution (e.g. type of school, duration of courses, qualifications).

1.5. Discussion of results

The determinants and effects of training depend on individual characteristics, the labour market situation, institutional arrangements (e.g. involvement of social partners) and economic and technological development. Above all, however, they depend on national education and training systems.

Critical review of empirical literature indicates that well-structured VET systems and a high degree of investment in general education and training display lower returns on continuing training after the high initial investments. Conversely, in less structured training system the returns on continuing training seem to be higher.

1.5.1. Determinants of training participation

The discussion of results starts with the question of who participates in IVT and CVT? Evidence from empirical work can be summarised as follows:¹⁷

- family background, school quality and ability (measured for example with mathematics scores) are important determinants of participation in IVT and CVT;
- CVT participation increases in parallel with work experience but begins to decrease after 10 to 20 years;
- higher educational qualifications or vocational skills increase the probability of CVT participation;
- former participation in CVT seems to raise the probability of subsequent CVT participation;
- women do not have a higher probability of CVT participation than men; according to some studies the probability is even lower;
- self-employed persons have a lower probability of CVT participation than employees;
- for the self-employed, non-formal CVT seems to be more important than formal CVT;
- minority groups, for example immigrants, have a lower probability of receiving CVT;
- part-time workers receive less CVT than full-time workers;

- the probability of CVT participation decreases with job tenure, although the pattern in the first 20 years is far from being monotonous;
- workers staying in the firm where they received initial training have a lower probability of CVT than other workers;
- initial training and CVT seem, in part, to be mutual substitutes.

In general, most of the studies confirm the positive relationship between the level of initial education and training and continuing training participation in a multivariate statistical framework.

Oosterbeek (1998), who examined supply and demand factors in terms of training determinants, suggests that the positive correlation between initial education and training and CVT found in most of the studies is the result of omitted ability variables or self-selection on the supply side: better educated people are more ready to participate in training.

Focusing on the determinants of participation in initial VET, evidence suggests that *innate abilities* have a significant explanatory power. Innate differences in abilities can explain up to 50% of the variance of intellectual capacities of young people (Weinert, 1997). Furthermore, ability differentials stay rather constant over long periods and seem to be unaffected by schooling.

Similarly, the *family background* (parents' educational attainment) and the *size and quality of general schools* seem to be important for explaining participation in VET: young people with a more favourable family background and those educated in larger and 'high quality' schools are more likely to choose non-vocational higher education and training routes (mostly academic ones).

Some findings suggest that the level of education is not the only factor of influence on CVT training participation. The *position and tasks* of an employee have some explanatory power, too. According to the study of Pfeiffer and Reize (2000) for Germany, the determinants of continuing training for workers with an apprenticeship degree point to occupation and sector-specific differences in skill needs resulting from technological change, or to differences in the quality of initial training in different trades.

Concerning *gender specific differences* of participation in CVT, several studies indicate that it is

¹⁷ For a detailed presentation and discussion of the results see Pfeiffer (2000).

not lacking willingness of women to undergo training, but that firms seem to prefer men. Oosterbeek (1998) argues that this behaviour may reflect a higher investment risk, since women have a higher probability of career interruptions than men. The OECD (1999a) study found, however, no significant gender differences in participation rates based on recent surveys.

Box 5.3: LDV project 'Extended regional further training in Europe (ERFTIE)'

The aim of the ERFTIE project is to question unemployed women in rural areas about their interests, wishes and attitudes and about the skills and qualifications they have acquired. The results of this survey should help to assess these women's prospects of reentering the mainstream labour market, either as employees or through self-employment.

A total of 280 women in the selected areas were questioned, and 60 of them underwent a skills analysis. The findings in terms of their individual educational and occupational histories, as well as of their respective personal interests and ambitions, provided a largely customised training recommendation for each of the respondents.

The intention is to use this survey, the skills analysis and a range of further-training modules to create a standardised system that can also be used in other comparable parts of Europe.

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Final report: *Erweiterte regionale Weiterbildung in Europa* [Extended regional continuing training in Europe].

Box 5.4: TSER project 'Enhancing the participation of young adults in economic and social processes: balancing instrumental, biographical and social competences in post-school education and training'

The objective is to generate a more comprehensive understanding of the potential and limitations of current approaches to post-school education and training for unemployed youth and young adults.

In this line of thought, the main objectives of the research are the following:

- to explore the different kinds of assumptions that direct schemes aimed at (re)orienting or integrating young adults (in) to the labour market;
- to identify ways in which particular educational practices construct the choices and opportunities for social and economic inclusion and exclusion;

- to extend current understanding of the experiences and perspectives of socially differentiated groups of unemployed youth/young adults with regard to education and training programmes that seek to widen choices and opportunities for participation in social and economic processes;
- to illuminate the direction of actions and choices of policy makers, programme investors and designers, and educators/trainers;
- to consider how, in the different regions involved, balances between skills-integration, social integration and biographical integration do, or do not, come about and to explain how these may relate to structural, economical, historical and cultural particularities and policies of the regions;
- to generate and further develop innovative educational concepts and practices which will address the social and biographical dimensions of economic participation and exclusion.

The research design combines features of collaborative action inquiry and participatory research, with narrative, life history and case study research.

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1.5.2. Effects of training

Does training have a positive impact, for example on productivity, job search duration and mobility and if so, how much? Which part of the observed differences in wages or wage growth, in hours of work, or job duration can be attributed to training?

Box 5.5: Unexplained variation of training outcomes

In 'standard earnings equations' (so-called Mincer earnings equation)¹⁸, based on cross-section data, 25 to 50% of the variance of earnings or wages can be explained by human capital variables such as years of education or educational qualification, training, age, professional experience, occupational status, technology and gender. This shows that a quite substantial proportion of earnings variation among workers remains unexplained by the standard human capital approach.

Other studies investigate the effect of training on job search duration, length of job duration, hours of work,

¹⁸ The original 'Mincer earnings equation' (Mincer, 1974; see also Tessaring, 1998b, pp. 68 f.), based on the human capital theory, explains earnings rates by the level of schooling (e.g. years of schooling), work experience and unobserved variables. This equation has been further developed by including additional variables.

post training firm job mobility and upward mobility, and the impact on employment probability. Although training and other human capital variables often have some explanatory power, again a large part of the individual variations in these outcome variables remains unexplained by empirical research.

The findings of selected econometric studies, which have been put together in Table 5.3, can be summarised as follows:¹⁹

- there is a positive correlation between VET and wages (found in all studies)²⁰; the positive relationship between VET and wages depends on the type of VET, the country and the group of individuals under investigation. The estimated returns range up to 40%;
- family background and ability have measurable effects on earnings (Blundell *et al.*, 1997, 1999);
- there is evidence that the returns for employed workers are higher than those for the self-employed (Pfeiffer & Reize, 2000);
- the returns to CVT seem to be higher if CVT is financed by individuals instead of firms (Pannenberg, 1997);
- non-formal CVT also yields returns (Weiss, 1994), though lower ones than those of formal CVT (Pfeiffer & Reize, 2000);
- returns to CVT seem to depend on the educational qualification and on gender (Blanchflower & Lynch, 1994; Blundell *et al.*, 1997; Elias *et al.*, 1994). However, these findings seem to be ambiguous: while some former studies found a negative relationship between educational qualification and returns to CVT, more recent studies with different econometric methods seem to challenge these findings (Abadie *et al.*, 1999, not cited in Table 5.3);
- there is evidence that hours of work are positively correlated with CVT (Pfeiffer & Brade, 1995);
- upward mobility tends to rise parallel to CVT and educational qualification (Schröder & Blomskog, 1997; Goux & Maurin, 1998; Pannenberg, 1997);

- employment prospects increase with educational qualification and firm-related CVT (Blundell *et al.*, 1997; Bratberg & Nilsen, 1998; Mayer & Carroll, 1987);
- there is evidence that job search duration after initial education and training and length of stay in the first job rise with educational qualification (Bratberg & Nilsen, 1998) and with the amount of human capital the firm invested in apprentices (Franz & Zimmermann, 1999, not cited in Table 5.3).

Box 5.6: Discontinuity of work careers

A recent study for Germany (Schaeper *et al.*, 2000) examines the question whether 'normal life histories' are disappearing and if 'occupation' as the major principle of individual work identity and social structuring in occupational labour markets (such as in Germany²¹) is losing its significance for employment and the shaping of biographies.

The study is based on a longitudinal cohort study of young skilled workers whose occupational development was followed from completion of training in 1989-90 until eight years later, taking as an example six of the most common training occupations.

The results show that 'neither interrupted occupational histories nor changes of occupation are exceptional phenomena but that they have become normality. However, discontinuity is not to be equated per se with instability or precariousness [...]. For young adults with discontinuous employment histories employment retains a high level of subjective relevance. [...] A change of occupation is, in most cases, preceded by the creation of a new occupational orientation...' (p. 155, summary). The authors conclude that the occupational principle continues to play an important role for work histories and for the orientation of young adults.

Source: Schaeper *et al.* (2000).

The OECD (1998d), based on a review of research literature, confirms on the whole the findings on individual returns reported above. The OECD concludes that there is a significant wage premium associated with completing each successive level of education. Whereas *additional* earnings associated with completing upper-secondary education is higher than for less educated people, they are not as high as for those with completed higher education. Moreover, less educated workers are more likely to experience more years of unemployment over a working lifetime than higher educated.

¹⁹ For a more detailed discussion of the results see Pfeiffer (2000).

²⁰ With the exception of one study for Norway, where the effect is zero (Elias *et al.*, 1994); in the other Norwegian study, the coefficient is positive (Bratberg & Nilsen, 1998).

²¹ See Part 3, Chapter 2.4 in this report.

Table 5.3: The effects of training: empirical results

Database ^(a) ; Study country	Study	Sample	Training	Wage/earnings (+-volume)		Post training mobility	Employment
NCGE (E)	Alba-Ramirez (1994)	Industry enterprises with more than 200 employees	Firm-provided training	Labour productivity +28% (4.2) (mainly driven by training of senior employees)			
CTIRE (UK)	Barnett & O'Connell (1998)	Private enterprises	General training Specific training (training expenditure total payroll)	+2.0 (1.9) -0.8 (-1.0)			
NCDS (UK)	Blanchflower & Lynch (1994)	Men/women	Training with current firm Apprenticeship No qualification + City and Guild Craft + City and Guild Awards	Men 1.8 (1.5) 1.8 (2.3) 1.9 (0.1) 7.2 (3.3)	Women 2.6 (2.3) 1.8 (1.7) 1.6 (0.03) 2.7 (0.3)		
NCDS (UK)	Blundell, Dearden & Meghir (1997)	Men/women	Employer provided training: current job On-the-job Off-the-job previous job: On-the-job Off-the-job Other work-related training	Men +4.1 (1.7) +7.2 (3.0) +6.2 (1.67) +6.0 (2.1) +6.7 (3.2)	Women +0.3 (0.1) +4.6 (1.4) +0.5 (0.1) +1.0 (0.3) +6.6 (2.4)		positive
KIRUT (N)	Bratberg & Nilsen (1998)	Men/Women	<10, 10-12, 13-15, >15 years in education	Increasing with education		Increasing with education	positive (for 13-15 years in education)
NORS (N)	Elias, Hernaes & Baker (1994)	Men age 22-24 Women age 22-24	Vocational apprenticeship formal certificate	-/0 -/0			
FQP (F)	Goux & Maurin (1998)	Wage earners	Firm-provided training	+7% (3.5) Selectivity bias corrected -5.7 (0.9)		0 (firm mobility)	
FQP (F)	Hocquet (2000)	Wage earners, men	Employer-provided training: Content (11 categories) Qualification (6 categories) Duration (11 categories) From current firm From previous firm	0 to 28% 0 to 17% 5% to 11% (not ordered) +7% +10% to +18%			

Table 5.3 (contd.)

Database ^(a) country	Study	Sample	Training	Wage/earnings (+/-volume)	Post training mobility	Employment
BRAS (NL)	Groot (1995)	Wage earners Trained Not trained	Enterprise-related training	Rate of return per year Average marginal +28% -0.16 -83% -0.16		
DIALS (NL)	Oosterbeek (1998)	Trained Not trained	Work-related training	Positive returns for firms and workers 50% net effects negative for workers, but positive for firm 33% net effects for workers positive, but negative for firms 17% negative for both		
GLHS (D)	Mayer (1996) Mayer & Carroll (1987)	Employed	Vocational apprenticeship compared to no vocational training		+ (expert statement)	positive (qualitative statement)
GSOEP (D)	Pannenberg (1995, 1997)	Wage earners	CVT On-the-job training Employer-financed	+9% (2.9) +3% (0.9)	Change of employer: 0 upward mobility + (short courses)	
GLFS (D)	Pfeiffer & Brade (1995)	Male wage earners	CVT on-the-job Less than 1 month Longer CVT off-the-job At a chamber of trade At chamber of commerce	+7.2 (-3 to + 7%) -2.4 (-0.1 to -3.8)	Hours of work +1.9 1.6 to 3.4 +8.1 1.9 to 3.3	
Q&C (D)	Pfeiffer & Reize (2000)	Trained workers Trained workers Trained self-employed	Formal CVT with certificate: relative to no certificate relative to informal train. train. for self-employed Informal CVT rel. to no training	11.8 % 28.6% -11% (rel.to informal, n.s.) +16.1 % +0.09 % (n.s.)		
SLLS (S)	Schröder & Blomskog (1997)	Men / Women	Educational levels EDUC2 comp to EDUC 1 EDUC3 comp to EDUC1 EDUC4 comp. to EDUC1 Post-entry education		(upward mobility) + 0 / +0 + / + + / + + / +	

(a) For description of acronyms see Table 5.1.

Source: Pfeiffer, 2000.

Although considerable methodological and data problems remain to be solved, the results indicate, first, that classroom education, work-related and more general types of training are beneficial for both firms and individuals. These benefits are not negligible and are sometimes rather large. Individual heterogeneity and differences in the education and training systems between countries are important factors which account for the sometimes large differences in these benefits.

Second, evidence of positive benefits from education and training does not mean that policy has been optimal or that publicly provided VET should *not* be enhanced. There is much evidence of the positive impact of VET on participants and comparably less evidence on the impact of VET in the group of non-participants.

Third, the benefits of CVT seem to decrease with the level of educational qualification. The lower the amount of initial training, and the lower the incidence of CVT participation, the higher are the measured returns in terms of increase in wage for those who participated in CVT. CVT participation by those who already have a high educational qualification seems to raise (the already higher average) wages to a much less extent than of those with a lower level of qualification. However, the positive impacts of CVT for lower educated people are mainly found in cross-sections (e.g. OECD, 1999a) and might not stay constant in panel studies. This hints at unobserved heterogeneity problems in cross-section studies (Abadie *et al.*, 1999).

Furthermore, IVT and CVT can be substitutes to a certain extent. In countries where investment in initial VET is high (as in Germany and France), returns to CVT are lower than in those countries with lower initial training investment. Examples are the United Kingdom (Blundell *et al.*, 1999; Pfeiffer & Reize, 2000; Pischke, 1996) or the United States, where returns to continuing training also seem to be rather high (Lynch, 1994). The refined hypothesis therefore postulates that returns to training after education are reduced if more people have received increased initial education.

Fourth, government intervention in training by firms has an effect, which should be carefully investigated. There is some evidence, for example, that the French system provides more workers with training, because firms have obligations to do so. However, in this system returns to training seem to be zero (Goux & Maurin, 1998). Government interventions into private training processes should be considered carefully in terms of unintended negative secondary effects.

Fifth, returns to CVT seem to be higher for employed workers than for the self-employed (Pfeiffer & Reize, 2000). This result indicates that human capital aspects, in the narrow sense of productivity enhancement, constitute only one part of the training story. Training often seems to be the result of a pre-selection process where workers are matched to hierarchical positions. It is not always training which leads to higher wages but rather the selection process which is the driving force behind an increase in wage.

Sixth, training in a competitive environment may have positive effects on some individuals, and negative effects on other individuals. Trained workers might crowd non-trained workers out of jobs. These negative, indirect or external effects cannot be ruled out in market economies. Therefore, if training is subsidised by government, assessment of VET programmes should take note of such indirect negative impacts. Unfortunately, there is not yet enough empirical evidence on these issues to answer the question of whether, and under what circumstances, training has positive or negative secondary overall impacts on society.

There is a large heterogeneity of research findings with respect to the determinants and effects of training. The estimated effects differ between individuals, regions, over time and even between researchers and methods. This is true even if the same data are used, as can be seen by a comparison of the numerous studies performed by the British NCDS or the German GSOEP data. From the evidence surveyed there and the diversity of results, it is not possible to draw strong and unshakable conclusions for VET policies.

1.5.3. Individual costs and benefits of education and training

One of the most fundamental principles in economics is that resources, including human resources, should be allocated to ensure the highest possible return (Barrett, 2000). Positive returns on education and training in terms of earnings and other benefits, as discussed in the previous section, are necessary but insufficient measures of efficiency or performance. A measurement of the rates of return on education and training must also calculate the costs of investments in human capital and compare these rates of return with alternative investments, such as in physical capital. Positive rates of return influence individuals' decision to undertake additional education and training.

The costs of education and training investment by the individual consist of direct costs and indirect costs in terms of earnings foregone during the time spent in additional education and training programmes (opportunity costs).²² The benefits of education and training are, in particular, additional earnings, but there are also other benefits such as avoidance of unemployment or immaterial benefits (e.g. job satisfaction, higher social status, better health, etc.). Since the benefits of education and training will accrue over a very long time, the accumulated value of expected lifetime earnings associated with higher education and training minus costs has to be discounted in order to calculate annual rates of return.

Although theoretical research is rather advanced, empirical evidence which takes into account all these kinds of cost and benefit seems to be lagging behind. The OECD (1998d) refers to studies on private rates of return and concludes that, relative to costs (including foregone earnings), most available research indicates higher post-tax earnings for individuals associated with higher levels of education.

Barrett (2000; contribution to the second research report) discusses the manifold difficulties in calculating individual rates of return. He cites the study of Bishop (1994) which, based on employers' estimates, confirms not only positive impacts of training on wages but also on productivity. Training raises productivity even more than it raises wages.

'Social rates of return' indicate the returns on education and training including both private and public costs. One element of public benefit is seen by looking at the gross earnings of individuals: higher income tax revenues paid by people who have higher earnings, among other things as a result of their education (OECD, 1998d). The social rate of return may influence whether societies decide to finance education and training.

Data from the OECD's INES project (international indicators of education systems) make it possible to estimate annual rates of return by level of education. Table 5.4 illustrates these rates of return for European countries, Australia, Canada and the US. The data show the annual growth of gross earnings

that can be expected when completing a respective education or training programme.

'The results suggest that annual rates of return for upper secondary level are generally high (typically above 10 per cent) for both men and women. They are particularly high [...] in Ireland, the Netherlands, Switzerland and the United States. Rates of return for tertiary education tend to be lower on average than rates for upper secondary. In the case of seven countries, the rates for university education fall below 10 per cent for women, with particularly low returns in Italy, Sweden and Switzerland' (OECD, 1998d, p. 69). We should add, however, that the dispersion of these results is rather high for all educational levels, as indicated in the bottom row of Table 5.4 (standard deviation).

1.6. Conclusions

Although there is widespread belief in a positive relationship between education, training and economic performance, the evidence provided so far is far from complete. Aggregate figures for the European Union suggest a clear hierarchical pattern in the labour market: 'Educational attainment is positively related to individual performance' (OECD, 1998d, p. 54). Those who are better educated and trained are, on average, more frequently in gainful employment; have higher earnings; participate more often in formal continuing training; are less often unemployed; are more often self-employed; have higher regional mobility; and work with newer and more high tech equipment.

Job mobility, on the other hand, is negatively correlated with the amount of human capital invested in a specific occupation, since investment increases the cost of switching occupations. The pattern seems to have been rather stable over the past few decades, although continuing skill-biased technological change provides a challenge for VET policy in Europe.

The review of econometric work in this chapter indicates that training is indeed beneficial for individuals.²³ These benefits are not negligible. The fact that training has positive effects is, however, no guideline *per se* for policy. There is evidence that self-selection may bias the benefits of training.

²² In addition, according to Becker (1964), firms will pay lower wages to those whom they train themselves (firm-specific training). This kind of opportunity cost is, however, difficult to measure because we do not know what this individual's wage would have been in the absence of training (Barrett, 2000). A comparison with other workers is subject to self-selection problems as discussed above.

²³ As well as for firms and society; see Parts 3 and 4 in this report.

Table 5.4: Annual rates of return to education in selected OECD countries by gender, 1995, %

	Upper secondary education	Non-university tertiary	University education	Upper secondary education	Non-university tertiary	University education
	Women			Men		
Australia	12.5	7.9	6.7	7.5	9.7	10.4
Canada	16.1	28.1	28.5	12.5	23.0	16.5
Denmark	11.8	5.1	9.2	10.4	5.2	11.0
Finland	8.1	12.2	14.3	10.4	10.5	14.8
France	14.1	20.1	12.7	14.2	17.6	14.1
Germany	5.5	8.7	8.2	5.7	16.6	10.9
Ireland ^(a)	28.8	8.2	17.4	18.6	11.7	14.0
Italy	9.5	—	4.6	10.4	—	9.9
Netherlands	24.4	—	10.5	14.1	—	10.8
Norway	17.3	7.8	13.3	11.3	9.4	11.6
Portugal	32.4	—	28.3	33.3	—	27.3
Sweden	9.9	4.2	5.3	10.9	6.5	8.2
Switzerland	22.1	17.7	5.2	19.0	27.1	5.5
UK	19.1	13.7	19.1	14.3	4.8	12.7
US	22.9	10.5	12.6	26.3	8.9	12.6
Average ^(b)	16.4 (0.44)	11.1 (0.68)	12.5 (0.56)	14.9 (0.46)	10.7 (0.89)	13.6 (0.30)

(a) Data refer to 1994;

(b) unweighted average (in brackets: ratio of standard deviation from the average).

NB: bold: above average.

Source: OECD, 1998d, Table A4.4.

The data present:

(a) the present value of an estimated future stream of additional gross earnings over a lifetime (age 16-64) as a result of more education;

(b) the present values of the total cost of graduating at a higher level of education, including foregone earnings.

No account is taken of the risk of unemployment over a working lifetime. It is assumed that annual average earnings grow at a uniform rate of 1% for all educational levels. (For more methodological details see OECD, 1998d, p. 113.)

In addition, non-negligible elements of observed differences in training outcomes such as earnings, wages, hours of work or career cannot be attributed to education and training alone. Innate abilities, heterogeneity of abilities and preferences, family background, political events, luck and economic and technological development are all factors which are important, too.

By and large, empirical results suggest that in structured training systems, with high investment in general human capital, and particularly in initial vocational training, individual returns

to continuing training tend to be lower. This seems to be the case in countries such as Germany and France. Conversely, in less structured training systems (such as the United Kingdom and the US) individuals yield higher returns to continuing training.

Some of the findings challenge the role of government in training. Obviously formal education and training are not omnipotent weapons against all storms of life for all people, but they may be very strong weapons when used at the right time, to the right extent and with the right

content. At other times in an individual's working life, other strategies such as non-formal learning, regional, firm or occupational mobility might be more helpful.

For support of VET policies, an adequate, systematic and regular research design *ex ante* is necessary to understand better the manifold relationship between VET activities and its results. Due to tight public budgets, the search for evidence of impacts and efficiency of training programmes will grow in the future. A research design that takes diversity of situations, heterogeneity of individuals, differences in training systems, governments, markets, etc. into account is, however, expensive and takes time.

VET research based on microdata is decisively improved by regular Europe-wide data sets, such as the Community labour force survey, the European Community Household Panel, the Continuing vocational training survey or the International adult literacy survey. Despite some remaining methodological problems, international surveys should define the most relevant human capital and training variables in a more comparable way. Furthermore, access to these datasets for research should be considerably improved.

Pfeiffer (2000) suggests that future research should be directed towards the following issues with strong policy implications:

- research on public VET programmes should be intensified to learn about impacts at individual level and efficiency of programmes. This type of research could be based on microdata if the programmes are not too large;
- research on public VET systems should be intensified. This type of research should evaluate the whole system and should take into account financial efficiency and labour market institutions as well. Research on this topic is usually based on aggregate time series data, individual panel data and official data on programme costs;
- research on returns to VET for non-participants in training programmes should be intensified. Should governments support non-participants and especially low-skilled individuals to participate in VET or CVT, or are other measures, for example wage subsidies, better suited for improving the labour market position of the low skilled?
- it is not yet fully understood, whether there are cumulative negative or positive relationships in public VET policies transmitted through labour

markets. Therefore more intensive research should be carried out on whether or not public promotion of higher education in the past 30 years has had negative impacts on wages and labour market prospects of individuals with vocational education. The results could help avoid negative developments in the future and improve coordination between educational and labour market policies.

- In addition to the benefits of education and training, more research is necessary on the calculation of private and public costs. Empirical evidence seems to show that private rates of return tend to be higher than social and fiscal rates of return because of higher public investment in initial education and training. This means that better educated individuals reimburse (via taxes) over their working life only part of what society has spent on their education and training.

2. Transition from the education system to working life²⁴

*The period of transition from the education system to working life has attracted the attention of researchers and policy-makers for well over ten years. The dynamics that underpin this stage need to be understood if policies are to be better targeted. This chapter reviews comparative research on transition.*²⁵

2.1. Young people on the labour market

'Education is the single most important determinant of occupational success in industrialised societies. Employers rely on educational credentials when selecting individuals for specific work tasks, and individuals, accordingly, invest in education in order to improve their competitive advantage on the labour market' (Shavit & Müller, eds., 1998, p. 1).

In comparison with adults, young people are at a relative disadvantage in the labour market in

²⁴ This chapter is based largely on the reference contribution of D.F. Hannan *et al.*, 2000, 'The effect of national institutional differences on education/training to work transitions in Europe: a comparative research project (CATEWE) under the DG12 TSER programme'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP. Vol. 3 (published 2001).

²⁵ Reference may also be made to the chapter on transition in the first research report (Tessaring, 1998b, pp. 136-145).

Table 5.5: Size of the 'youth' cohort and levels of education, EU, %				
15-25-year-olds as percentage of population: trends and projections ^(a)		Breakdown of people aged 25-29 and 55-59 by levels of education ^(c)		
Year	Age 15-25	Educ. level	Age 25-29	Age 55-59
1985	16.3	ISCED 0-2	25	50
1990	15.2	ISCED 3	50	34
1995	13.5	ISCED 5-7	24	16
1999	12.6			
2005 ^(b)	12.0			
2010	11.6			
2020	11.2			

Sources: (a) Eurostat, demographic statistics, (b) Eurostat, baseline scenarios, (c) Eurostat, Community labour force survey 1999.

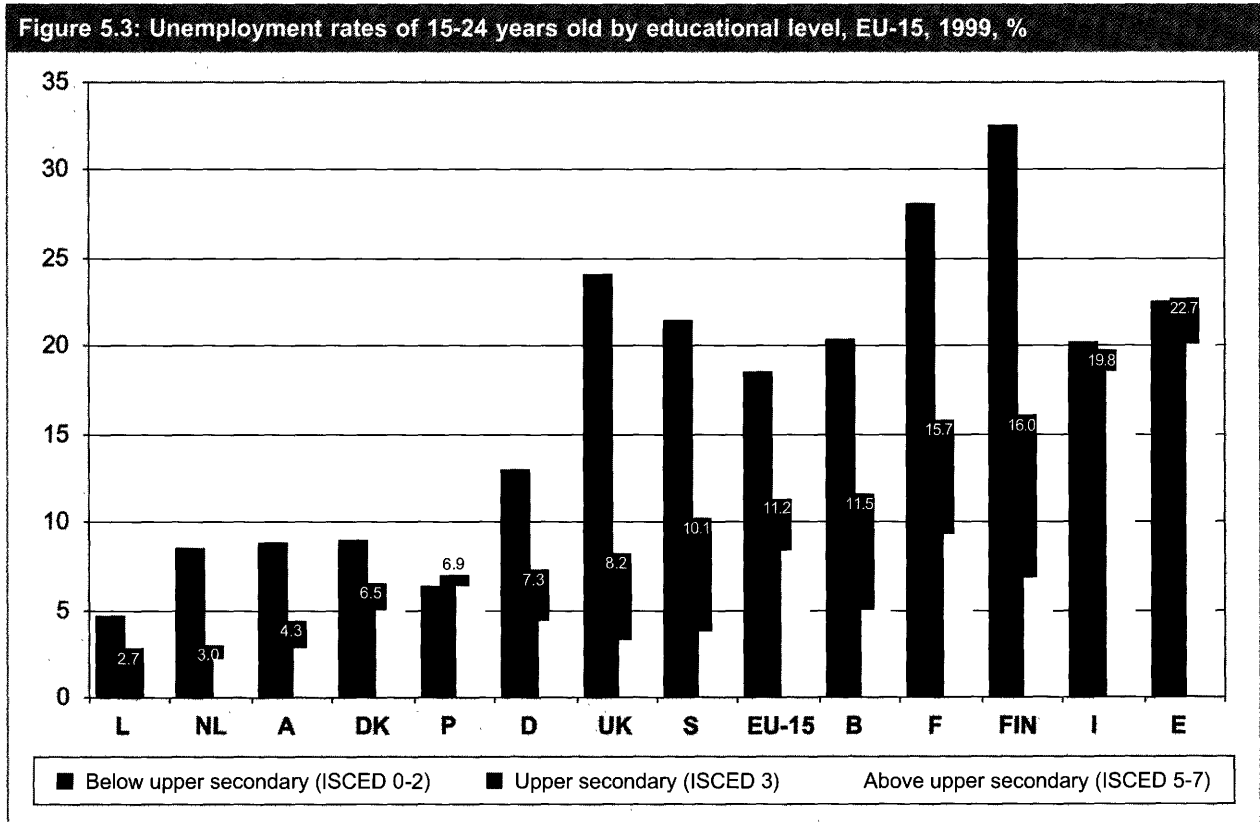


NB: Figures prior to 1995 refer to EU-12.

Source: Eurostat: Community labour force survey.

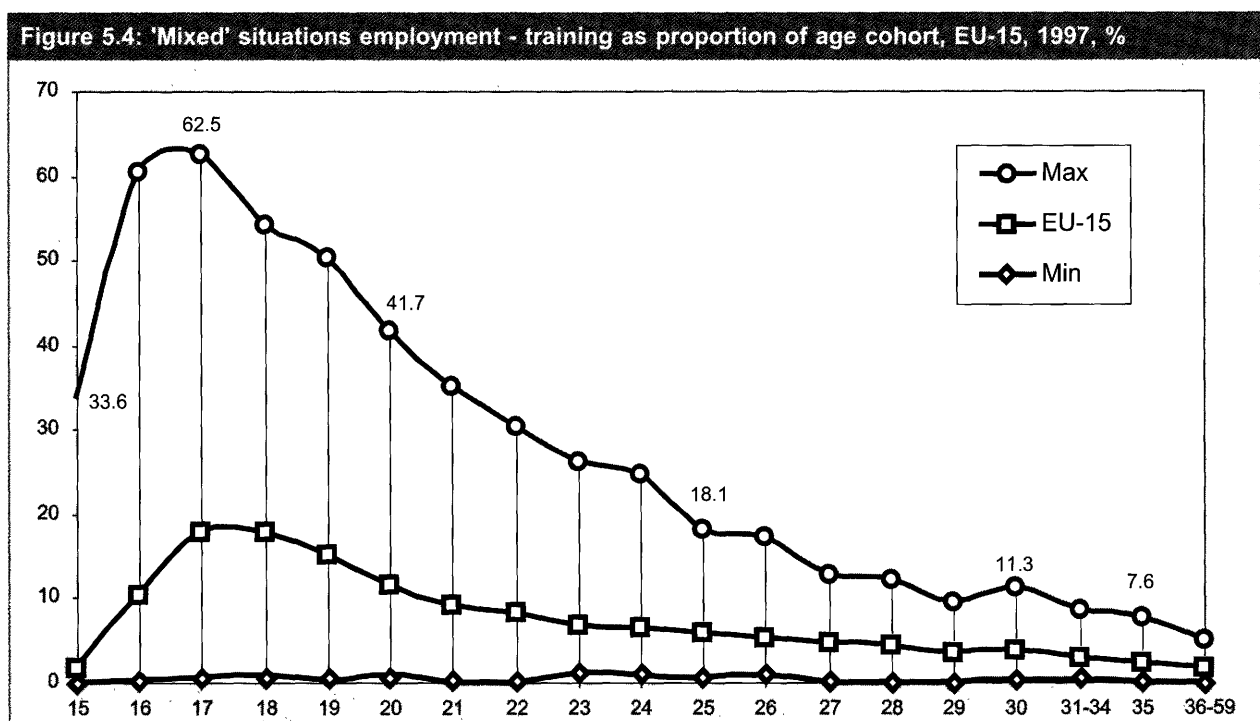
terms of both the volume and quality of employment, despite a number of parameters that are favourable in the short term (Table 5.5): gradual reduction of the size of the youth cohort, general increase in their educational attainment, longer schooling, larger relative growth in sectors recruiting a young labour force and introduction of active measures to help young people to gain a foothold in the labour market.

There is more unemployment among young people, especially the lower qualified, than among adults (Figures 5.2 and 5.3). Young people tend to occupy more precarious jobs and are experiencing increasingly long periods of transition between the education system and working life. In the European Union, there has been a significant increase in mixed situations (Figure 5.4) combining employment and education/training.



NB: No data available for Greece; data incomplete for IRL. Data sorted by upper secondary level (ISCED 3).

Source: Eurostat: Community labour force survey.



N.B.: Average participation in education/training in EU-15; Min: minimum at each age in EU-15; Max: maximum at each age in EU-15.

Source: CLFS, Eurostat (calculations by Cereq).

These mixed situations are not always linked to the alternance training model, but are also combining employment and education/training in a variety of new ways that reflect the extension of the period of transition.

Box 5.7: Definition of transition

From an individual point of view (school leavers), transition can be considered as a period of changing status, during which young people move away from full-time initial education towards a stable position in (or possibly a withdrawal from) the labour market (Hannan & Werquin, 2000).

It is difficult accurately to formulate criteria for the end of the transition period or for integration. The answer is not unequivocal and differs depending on the educational, economic and social context (Mainguet, 1999).

From the macro-economic point of view, and if an evaluation of a benchmarking type is chosen, the period of transition is complete when the unemployment rate of the youth cohort is the same as that of adults.

From an individual point of view, transition is complete when a stable job is obtained (see also Tessaring, 1998b, pp. 153-164).

The return (measured in terms of employment) on increased investment in education and training varies in different countries: it is high in Germany, the Benelux countries, the Scandinavian countries and France, moderate in the United Kingdom and Spain and much lower in Portugal (Hannan & Werquin, 2000).

Comparative research is a very valuable tool in studying determinants of transition and makes it possible to measure the differences and similarities between education and training (ET) in different countries, compare labour market integration processes and identify their determinants.

Box 5.8: TSER project 'CATEWE – Comparative analysis of transitions from education to work in Europe'

The main objectives of the CATEWE project are:

- to develop a comparative conceptual framework to study the transition from school to employment in the countries of Europe, which have different institutional systems;
- to apply this model both to comparative analyses of stocks, from the labour force surveys conducted in most of the European countries, and in comparative analyses of flows from specific surveys of transition in five countries (F, IRL, NL, Sco, S);

- to develop a set of variables, formulated in a comparable way, which take account of the complex nature of transition in the five countries studied.

This study is important for an analysis of the determinants of transition, as it covers both the structure and organisation of education systems and the predominant method by which the employment market operates. In this way, this study should make it possible to define a conceptual framework that integrates two of the main determinants of modes of transition from education to employment.

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E-mail: dhams@esri.ie;
Homepage: <http://www.mzes.uni-mannheim.de/projekte/catewe/Homepage.html>

Publications: see Homepage above and Box 5.15 below. For the methods applied see also Box 5.15.

2.2. Conceptual framework for comparative research on transition between the education system and employment in Europe

Several previous research works have highlighted our lack of knowledge of the mechanisms determining transition.

2.2.1. Division and regulation of the labour market

Some authors have studied the impact of the methods by which the labour market (LM) operates and is regulated. One of the main organisational features of the LM is the division between the external and the internal market.²⁶ When they leave school, young people enter the external market and try to gain access to internal labour markets (ILMs). This access depends on the information that employers possess about a person's skills; this information is provided by their qualifications and labour market experience. In a context of incomplete information, employers are likely to prefer workers who have already acquired some experience to young people who have not, and their selection criteria will also lead them to choose the best qualified young people.

In some countries or some parts of the labour market, a regulation system, called occupational labour mar-

²⁶ For a more detailed analysis of the segmentation of the labour market, reference should be made to Chapter 2 of Part 3 of this report.

kets (OLMs), has been introduced to make up for this lack of information about people's skills. OLMs are segments of the labour market where jobs are clearly defined in terms of their content, and are consistent between enterprises and industrial sectors. Employers can deduce what skills have been acquired directly from the qualifications awarded. They can then recruit people having the required skills without (to some extent) needing to look in further detail at experience or qualifications. Young people are then more readily able to gain access to internal markets.

A typology of countries has been drawn up on this basis. They are classified depending on whether, as in Germany for instance, there are occupational labour markets, or whether, as in France, internal labour markets tend to predominate (Marsden & Ryan, 1990; Eyraud *et al.*, 1990; Ryan *et al.*, 1991).²⁷

Box 5.9: Occupational and internal labour markets

In *internal labour markets* (ILMs), people are generally recruited from outside the enterprise only for unskilled jobs. Mobility towards more skilled posts occurs after a period of training. This training, which is often specific to the enterprise, takes place on the job and therefore provides skills that usually cannot be transferred to other enterprises.

In *occupational labour markets* (OLMs), jobs are clearly defined in terms of their content, and are consistent between enterprises and industrial sectors. Workers in OLMs then have skills and competences that can be transferred from one enterprise to another.

ILMs and OLMs are to be found in all countries, although their relative importance varies.

OLMs predominate in Germany and the Netherlands, but are not as widespread in France, Italy and Ireland. The United Kingdom is in an intermediate position as there are major differences from one sector to another. Even in countries where ILMs predominate, labour markets for higher skilled jobs, such as the professions, are chiefly of an occupational type.

2.2.2. Standardisation, differentiation and links between the education system and the labour market

Educational sociology provides an alternative to the approach studying labour market segmentation and regulation methods. This approach analyses people's socio-cultural characteristics, type and level of ET and the characteristics of occupations and careers (Allmendinger, 1989; Blossfeld & Shavit, 1993; Shavit & Müller, eds., 1998).

2.2.2.1. Degree of institutional standardisation of ET systems

Shavit & Müller (1998, p. 6) define standardisation as the degree to which the quality of education meets the same standards nationwide.

ET systems vary in terms of both the degree of centralisation and standardisation of curricula and national examinations, and the use that is made of them for progression to higher education and for entry into the labour market.

2.2.2.2. Degree and nature of differentiation within the ET system

The differentiation of educational systems refers to the extent and form of division between streams (and between syllabuses within a stream) in secondary education (Shavit & Müller, 1998, p. 6).

Differentiation within education systems relates to:

- the separation of general and vocational education, the degree of selection in the different streams and the age at which this selection takes place;
- the degree of formal differentiation at each level of education, the degree to which education results are hierarchically ranked and the nature and strictness of selection for transition to higher levels.

The various aspects of differentiation are to be found to a varying extent in different countries - with separation between the general and vocational being at a maximum in countries with the dual system and the Netherlands. In Ireland and, to a lesser extent, in France and the United Kingdom, the level of education and the results obtained are the most crucial factors for continued education and job recruitment. These macro characteristics of ET systems do not just have an impact on the decisions of students and their parents as to whether to continue their education, but also on the whole nature of the ET - employment relationship.

Shavit & Müller (1998, p. 9) separate out two ideal types of transition systems (based on Maurice, Sellier & Sylvestre, 1982): the qualification space and the organisational space.

Shavit and Müller (op.cit., p. 36) conclude from their study that the impact of education on people's chances of occupational success and employability are systematically shaped by the institutional context. The differentiation of the system (when the other variables are controlled) obviously shapes the relationship between educa-

²⁷ See also Chapter 2 of Part 3 of this report.

Qualificational space	Organisational space
<ul style="list-style-type: none"> • Specific vocational education: young people leave school with specific skills and a occupational identity • Differentiated education system: clear division between academic and vocational pathways 	<ul style="list-style-type: none"> • Chiefly academic or general education: occupational skills are learnt on-the-job or in courses attended after leaving school • Education systems differentiated to varying degrees²⁸
<p>The degree of standardisation is a further key and ranges from centralised and highly standardised education systems to systems where there are substantial variations between regions and between private and public schools.</p>	

tion and the prestige of the first job obtained. If vocational qualifications are specific, they promote access to skilled (rather than unskilled) employment; in countries where vocational qualifications are not very specific, no educational choice is likely to be able to improve the chances of finding skilled jobs. Despite this, standardisation cannot on its own (when the other variables are controlled) affect the relationship between qualifications and occupational status.

2.2.2.3. Links between ET and the labour market

Links between ET and the labour market affect the impact that the level and type of vocational qualifications have on employer's recruitment choices. These links do not therefore just have an impact on the chances of obtaining a job, and on its nature and level, but also on the immediate performance of people in a particular job.

On the basis of a typology drawn up by Hannan *et al.* (1996), it is possible to conceptualise a continuum ranging from direct and close links to an absence of links between ET and the labour market:

- *strong, direct and balanced links*, where employers and schools are both involved in the supply and provision of training and where employers and ET providers agree on the educational prerequisites for the various occupations (OLMs) – German-speaking countries and Denmark;
- *colinear links*, where ET prepares for specific vocational qualifications (OLMs) but where the

²⁸ For instance, Ireland has a relatively undifferentiated education system, while in Italy streams are strictly differentiated.

joint organisation of training schemes by enterprises and ET providers is small-scale or non-existent - Netherlands;

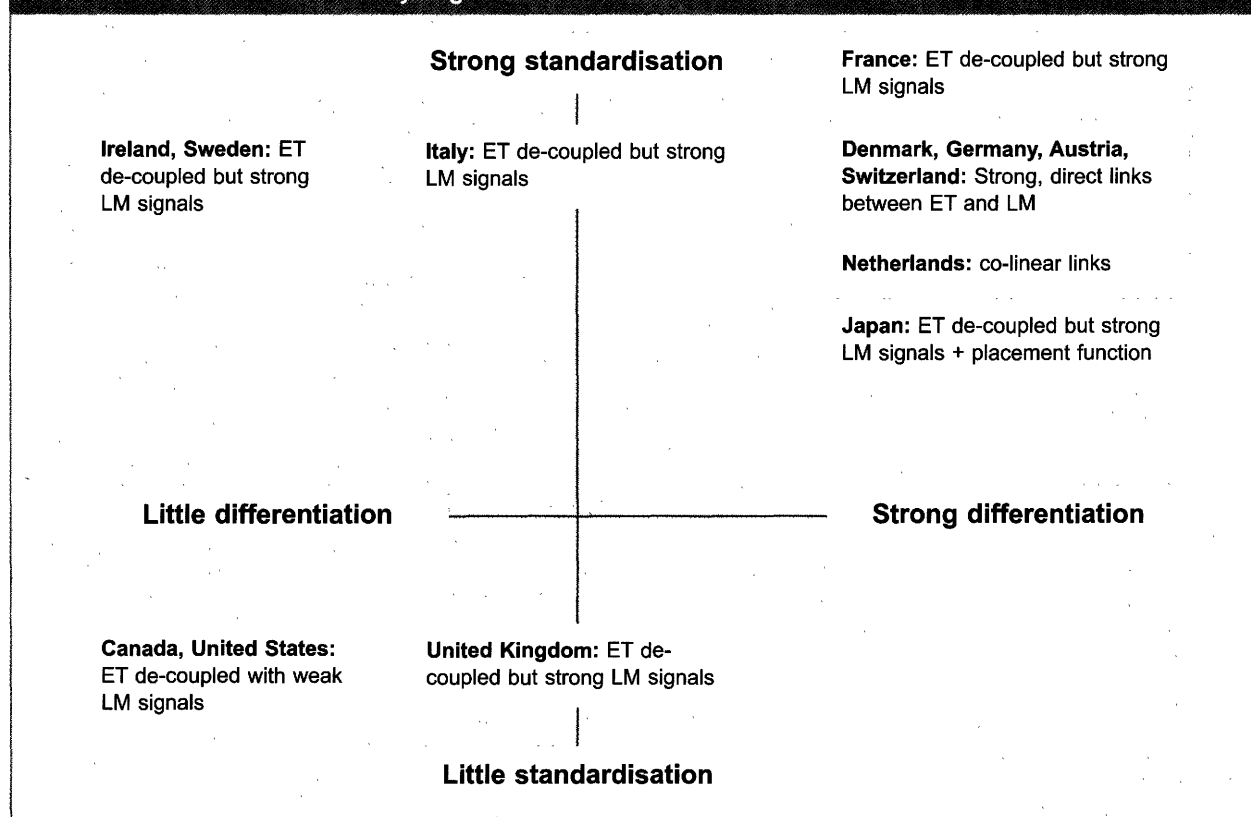
- *de-coupled, but strong labour market signals from schools*, where educational results are certified by the public authorities and used by employers in their recruitment decisions. The high level of consistency between educational outcomes and the labour market has less to do with content than with qualification levels – English-speaking countries, France and Scandinavian countries;
- *placement function performed by schools*, where employers may be directly associated with school guidance services which play a part in occupational placement in the labour market - Japan;
- *de-coupled with weak labour market signals*, where there is little consistency from the point of view of content or level – United States, Canada.

Figure 5.5 shows a classification of countries on the basis of the three dimensions examined above: standardisation, differentiation and links between ET and the labour market.

This typology has to be further refined as it is based on the main features of systems which may, however, have variants. It nevertheless highlights a convergence among the European countries from the point of view of the degree of standardisation of their secondary-level ET – in comparison with the North American countries at least. Most of the countries of northern and western Europe are in the 'standardised' category. Despite this, particularly at secondary level, there are major differences from the point of view of the degree of differentiation and of the relative weight of schemes of the apprenticeship/alternance type in closer links between VET and the labour market. Studying these institutional differences between countries is very helpful in analysing transition in the context of the EU.

For the most part, research in this field stresses the variety of both ET systems and labour markets in Europe and the links that unite them. Specific national institutional features obviously also have a significant impact on the way in which socio-economic inequalities are reflected in school success, labour market integration and individual paths.

Figure 5.5: Typology of links between education and training (ET) and the labour market (LM); classification cross-referenced by degree of standardisation and differentiation



Sources: Hannan *et al.*, 1996; Shavit and Müller, eds., 1998, p. 12, adapted by the authors.

2.2.3. Labour markets and employment decisions

The ET/LM relationship is also affected by the characteristics of the labour market – particularly the existence of ‘youth’ sectors and/or occupations in the labour market.

In this case, entry criteria are based on age and/or experience, leading to an over- (or under-) representation of young people in certain sectors or professions. The differences between youth and adult labour markets are more marked in some countries than in others. In some, young people are disproportionately concentrated in particular occupations, industries or types of enterprise. The dividing line may be in terms of:

- the main axes (occupation, industry, enterprise size);
- the existence of OLMs regulating access to ILMs.

‘At national level, the labour market therefore tends to be a space divided into different autonomous segments, where each type of organisation in practice

exists alongside the others. An enterprise may therefore practise different types of management: of the internal market type for its managers, of the occupational market type for transverse functions or some specific jobs and of a non-organised market type for less skilled jobs. The hypothesis is that, despite this division, one of the methods predominates to such an extent that it exerts a determining influence on the whole system of relationships between economic operators’ (Cedefop, European Commission, Eurostat, forthcoming).

The way in which the employment market is structured is not directly linked to education and training systems, but may well have an impact on young people’s transition from the education system to stable employment.

When ET systems have a relatively general orientation and the labour market is dominated by internal markets, labour market entrants acquire their competences largely on the job. Most young people therefore enter the labour market at low

occupational grades and are therefore at a disadvantage in comparison with those already in enterprises from the point of view of access to more responsible posts. In occupational markets, however, entrants have a good chance of finding a job that is in keeping with their particular occupational qualification.²⁹

The youth labour supply is differentiated by the following criteria: the type of ET that young people have attended, their qualifications and their socio-cultural characteristics. Employers base their decisions whether or not to employ young workers on these initial characteristics. It seems clear, therefore, that the recruitment method that employers use and the factors that they take into account are two further aspects that play a key part in any analysis of transition.

Box 5.10: Models of young people's integration

Garonna & Ryan (1989, cited by Cedefop, European Commission, Eurostat, forthcoming), separate out three models of integrating young people into the economy. The first two are shaped by the predominant forms of the LM and the third applies to skilled or unskilled jobs, in a context of high unemployment, where the active population is competing to obtain jobs.

Regulated inclusion

This kind of regulation occurs when OLMs predominate. Young people possessing a qualification are integrated without being downgraded; the link between training and jobs subsequently offered is very close. Young people with qualifications are therefore at more or less the same risk of unemployment as adults. Young people without certified training are, however, at a disadvantage. Wages are linked to individual qualifications (for instance Germany, Austria).

Selective exclusion

This type of integration occurs when internal markets predominate. Beginners are in a disadvantaged position for access to these labour markets since

they, by definition, lack experience. Access to employment is organised by competitive methods, which often excludes young people at the beginning of their careers. Ranking in waiting lists depends on qualifications and level of experience. Wages are linked to the job and not to the profiles of the individuals in this job (for instance France).

Competitive regulation

Here, it is short-term profitability that enterprises are seeking. In a context of high unemployment, they fully exploit competition between workers, whether experienced or beginners, by exerting downward pressures on wages and making use of flexible contracts. Enterprises may choose to recruit young people on lower wage rather than adult workers. There is a tendency towards this model in the United Kingdom and the United States.

In order to characterise the preferred method of integration in the various countries and therefore to target the most appropriate active measures, it would be necessary to base the replies to the following questions on research results:

- do LM beginners have particular problems in gaining access to employment in comparison with more experienced adults?
- is the employment of beginners polarised more towards certain types of enterprise or job?
- are the employment conditions of beginners different from those of experienced workers? (Cedefop, European Commission, Eurostat, forthcoming)

The category of beginners needs to be isolated from that of experienced workers in order to find out whether the phenomena observed affect only young people or the labour force as a whole, thereby highlighting either features specific to transition or problems of a general nature in the labour market.

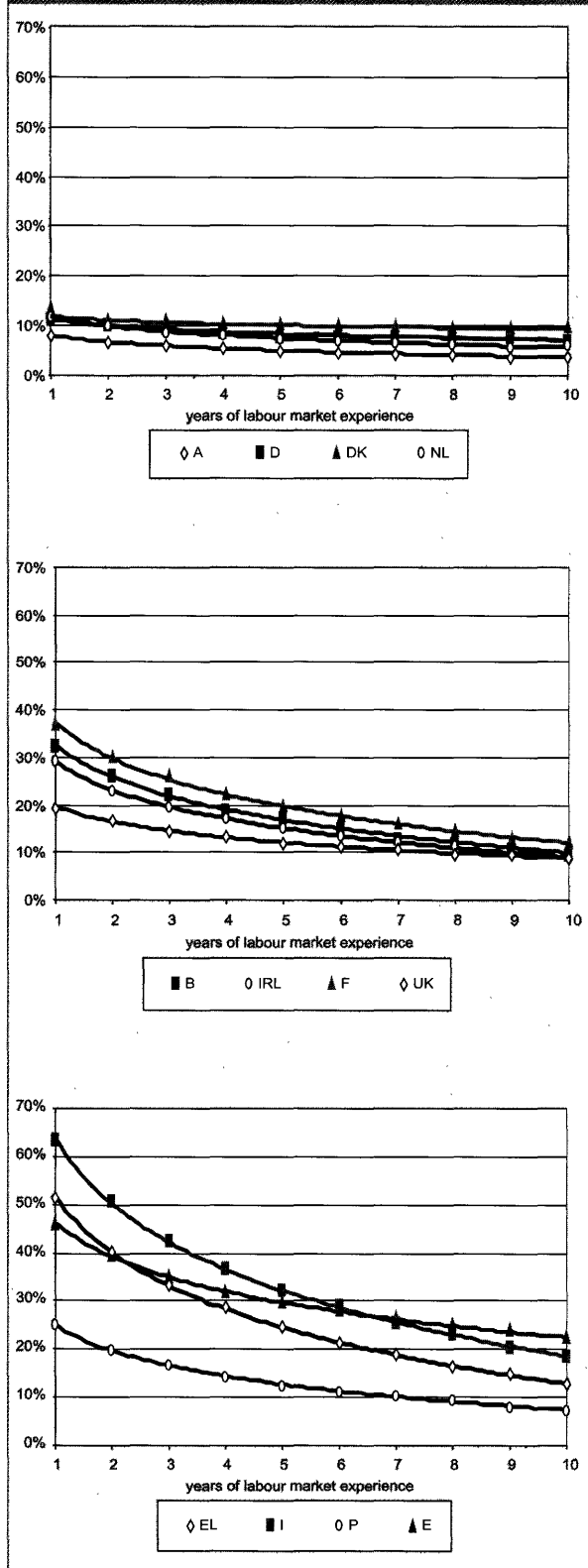
2.3. Results of some recent empirical research

Figure 5.6 shows the unemployment rates of young people leaving upper secondary education (ISCED 3) during their first ten years on the labour market (Gangl, 2000)³⁰. The data show major differences at the beginning of working life among the European countries which can be divided into three groups in terms of unemploy-

²⁹ It would seem from the debate on transition that education of a relatively general type for young people is not be preferred since they cannot then be employed on the basis of a specific vocational qualification. On the other hand, the increasingly rapid obsolescence of skills and the introduction of a policy of lifelong learning highlight the advantages of helping young people to acquire general and transferable skills and widely applicable vocational competences, so that they can be readily employable and remain so, while having a skill base that provides them with a foundation for their future learning (see Chapters 1 and 2 of Part 2 of this report).

³⁰ These data have been obtained by combining data from different years from the Community labour force survey (CLFS) in order to simulate cohorts.

Figure 5.6: Unemployment rate by potential labour market experience of upper secondary education leavers (ISCED 3)



NB: Markers indicate actual values, lines are trendlines (logarithmic trends).

Source: Gangli, 2000.

ment risk. Unemployment levels converge rapidly during the first ten years on the labour market: at the end of this period there are far fewer differences between countries.

Box 5.11: Community labour force survey

The Community labour force survey (CLFS) is the main source of data on employment and unemployment in the EU. The CLFS has taken place every year since 1983 and includes questions on the highest level of education and training completed or in progress. Since the 1998 survey, the standard module on ET has been revised and includes a question about the date on which the highest qualification was obtained. In 2000, an ad hoc module has gathered specific information on transition.

2.3.1. Labour market entrants

Before the 1998 survey, it was not possible to find out from the Community Labour Force Survey about the date of completion of education and therefore the age of starting the transition to the labour market by level of education. Without this information, it is difficult to define the target group of the analysis. To study transition in a more detailed way, it is therefore necessary to combine

Box 5.12: Target population for comparative studies of transition

The 'youth' category (based on age) was used for many years to study transition processes. Most international statistics are drawn up in this way. In researching transition, and particularly in the case of comparative research, this basis is inappropriate as the age at which this period commences may vary greatly depending on the context, education system and level of education achieved.

Studying transition on the basis of this definition is the same as postulating that the behaviour of people of similar ages is very comparable in terms of time spent in education and age of entry into working life.

Young people in a particular age group may, however, be in very different situations (further education, repeated years, military service, inactivity, working life). The definition of a category of labour market 'beginners' or of school 'leavers', based on level of education (and not simply on age) is needed for a direct study of the group actually in transition.

To define the group of beginners, the minimum information that needs to be collected from individuals is the date of completion of and the level of education. This makes it possible to start to characterise pathways.

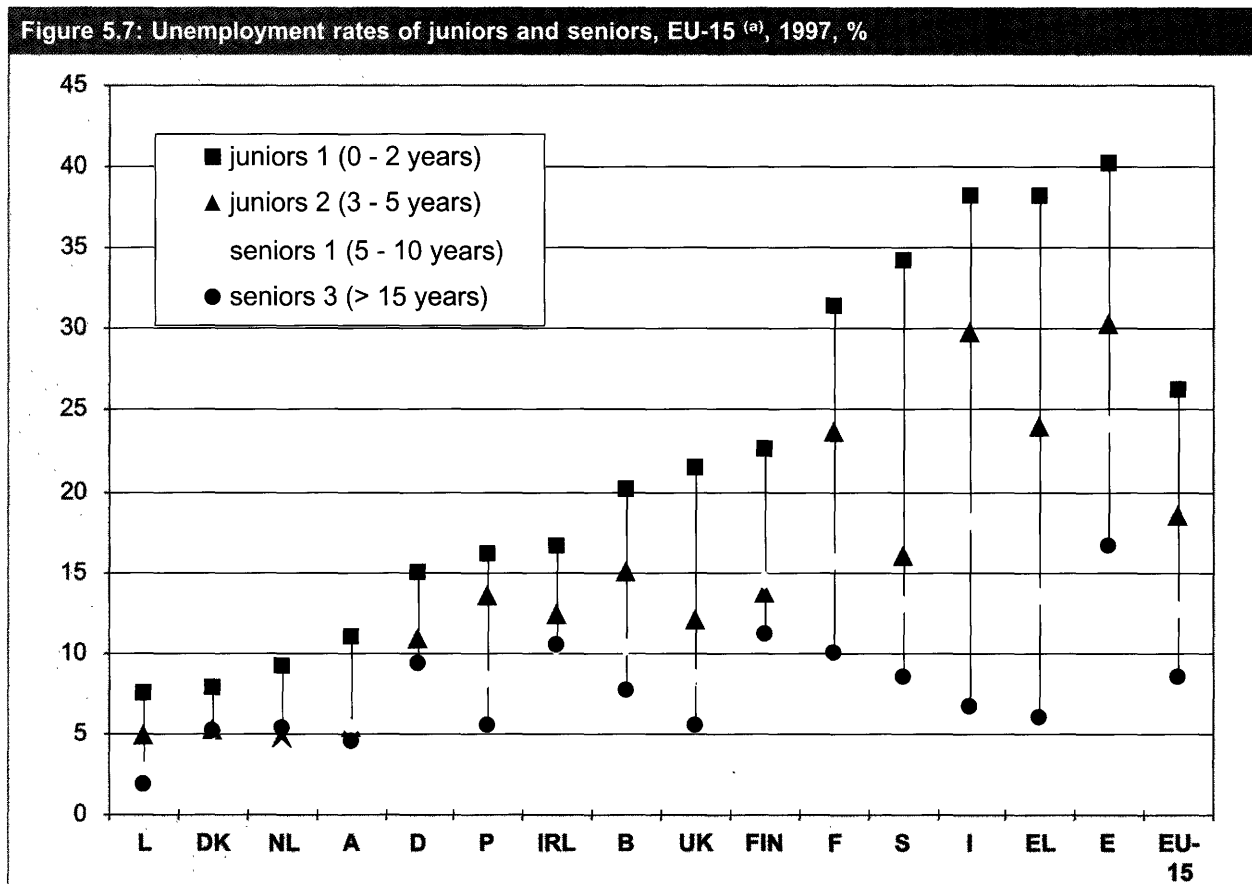
several survey years to simulate cohorts (as in Figure 5.6) or to take account of young people leaving ET and of an age similar to the typical age at which the qualification³¹ that they possess is obtained.

Taking national education systems as a starting point, it is possible to reconstruct the typical ages of certification on completion of each system's main education streams. The CLFS variables on the highest level of education achieved can be used to calculate the typical age at which the qualification was obtained by survey respondents. By cross-referencing this information with actual age, we can calculate the length of time that has in theory elapsed since obtaining the qualification. This helps to identify different groups of people: young people in ET, young people entering the labour market (juniors) and adults with some experience (seniors) (Box 5.13).

³¹ The highest qualification obtained (in the ISCED nomenclature).

Throughout Europe, the unemployment rate falls in parallel with length of time spent in the labour market (Figure 5.7). However, the rate at which it falls varies between countries. Juniors are comparatively more disadvantaged in Greece, Spain, France, Italy, Sweden, Finland, Belgium and, to a lesser extent, the United Kingdom. In the other countries, experience does not provide effective protection against unemployment, although juniors with less than two years' labour market experience are the worst affected.

Lower qualified young people are generally more exposed to unemployment, even in countries where length of time in the labour market has less impact (Figure 5.8). Qualifications provide the best protection against unemployment in Germany, Belgium, France, Ireland, Finland and Sweden. Only Italy and Greece are exceptions to this rule. In these countries, employers seem to give priority to experience over level of education.



(a) Without Luxembourg.

NB: 'Juniors' and 'seniors' are defined according to the number of years after having left ET (see Box 5.13 for the definition of categories).

Source: CLFS, Eurostat (calculations by Cereq).

Box 5.13: Young people in ET, juniors and seniors - definition of categories

(a) 'Young people in ET': people aged under 35 still in initial education and training (including alternance schemes) whether active or not (with or without employment).

(b) 'Juniors': people aged over 15 but less than 50 whose qualification was in theory obtained less than five years previously. This group can be subdivided into 0 to 2 years and 3 to 5 years.

(c) 'Seniors': people aged from 15 to 50 who in theory obtained their qualification over five years previously. There are three sub-groups: between 5 and 10 years, between 10 and 15 years and over 15 years.

These three categories make it possible to analyse a set of criteria in order to locate differences between the groups and characterise transition (Cedefop, European Commission, Eurostat, forthcoming)

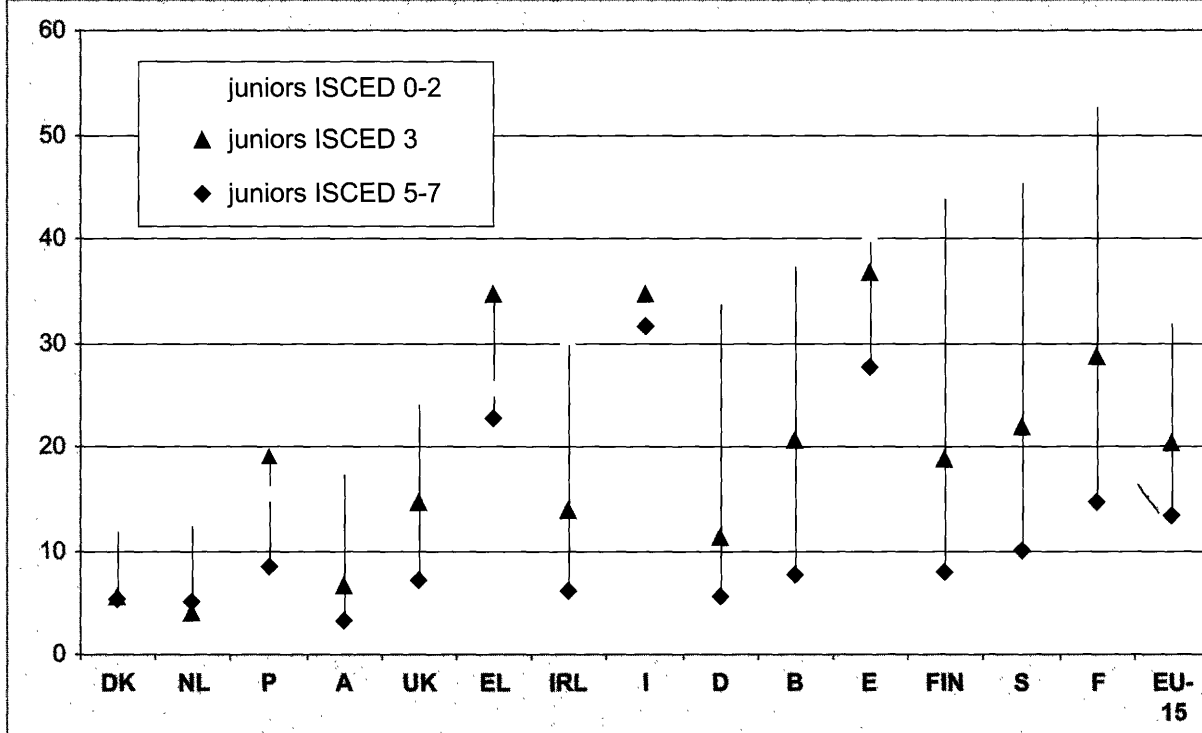
Young beginners are more likely to be offered a fixed-term contract. Is the fact that the jobs occupied by young people are more precarious

due to a lack of experience or a lack of length of service in enterprise? If this were the case, freshly recruited experienced workers would also be more likely to be offered fixed-term contracts.

Recent recruitment shows that seniors have a relatively small advantage in terms of employment status (except in Sweden; Figure 5.9). It is new recruits in general who bear the burden of flexibility, not just young people.

These few indicators show that it is useful to be able to isolate a category of labour market beginners in order better to understand the mechanisms by which a non-experienced labour force is absorbed into enterprises. However, these indicators do not allow us to look in depth at the transition process which precedes the acquisition of a stable job. This kind of analysis is possible only from longitudinal studies. The following section illustrates the results obtained when surveys of school leavers are processed.

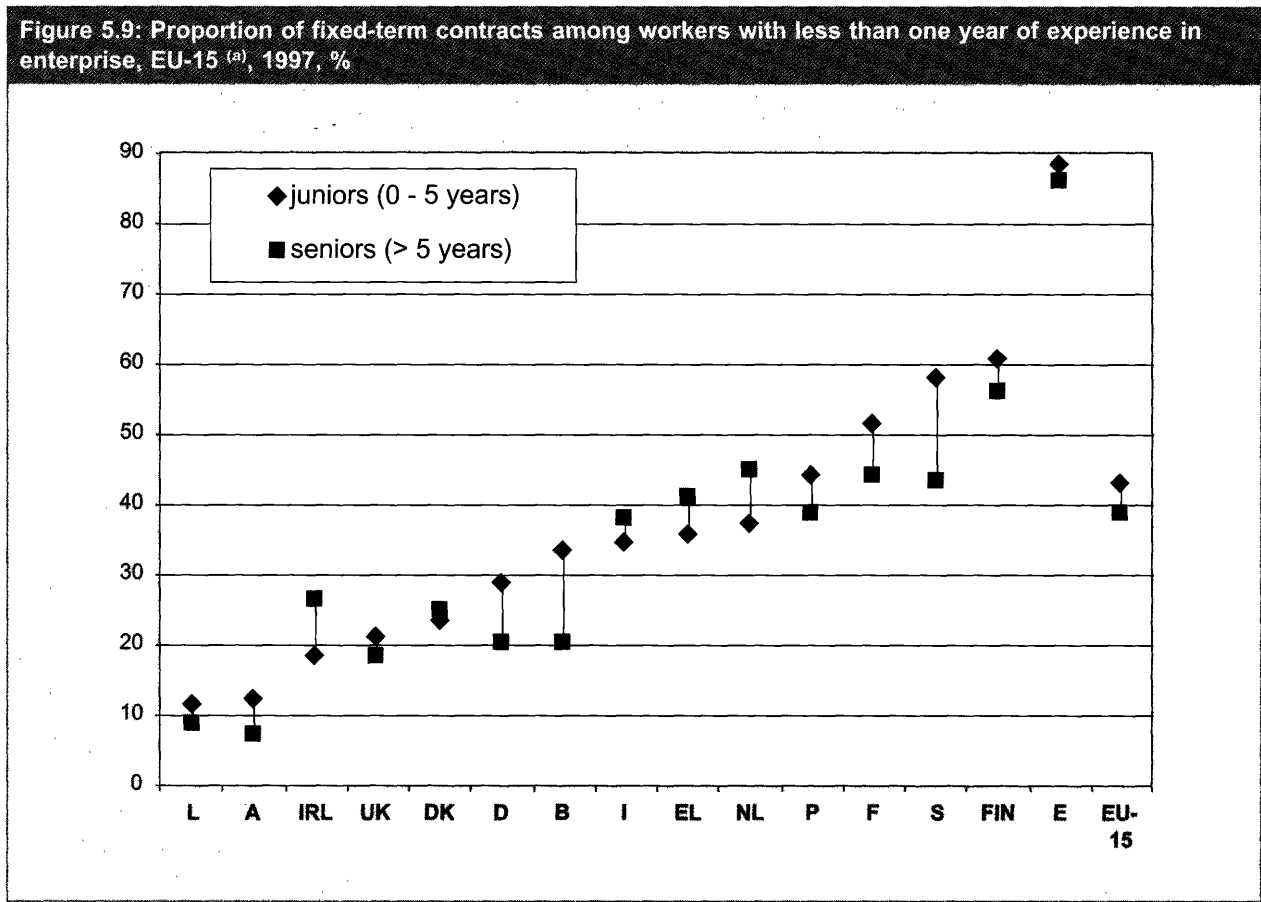
Figure 5.8: Unemployment rates of juniors by level of education, EU-15, ^(a), 1997, %



(a) Without Luxembourg.

NB: See Box 5.13 for the definition of the category 'juniors'.

Source: CLFS, Eurostat (calculations by Cereq).



(a) Without Luxembourg.

NB: See Box 5.13 for the definition of categories 'juniors' and 'seniors'.

Source: CLFS, Eurostat (calculations by Cereq).

A typology of data collection methods that may help us to understand transition is given in Box 5.14. Box 5.15 examines the method choices made by the CATEWE project.

Box 5.14: Typologies of methods used and sources of data for transition research

Once-only information collection

- *Cross sections*: the situations of young people of different ages questioned at the same time are compared (the data obtained do not make it possible to apprehend the transition process – they relate to a specific moment of the economic cycle).
- *Retrospective questions* which involve either questioning people at particular intervals (the data obtained then provide little information on people's situations between the two survey dates) or using event analysis to find out key dates or even retracing educational routes and the first years of working life month by month (calendar method).

Successive surveys

- *Trend studies*, where the same population groups (or the population as a whole) is questioned at regular intervals, and *simulated* or *pseudo cohorts*, where the simulation consists in relating the findings obtained for a sample of people aged X+1 at time Y+1 to the findings from another sample, independent from the first, of people of age X questioned at time Y.
- *Time series*, where the same sample of people (a cohort) is questioned on a number of occasions.
- *Panels* combine the advantages of both the methods described above as a sample of people (several cohorts) is questioned at successive intervals and a new cohort is included in the panel each time the survey is conducted.
- *Longitudinal surveys* may take the form of either times series (follow-up of a cohort) or panels (several cohorts are questioned at successive intervals).

Registers

The Nordic countries (FIN, S, DK, N – in particular), obtain data on transition by cross-referencing school registers and employment registers.

Source: Mainguet, 1999.

The school leaver surveys in the five countries studied and probably also in Belgium (FI) and Portugal, provide a rich comparative database for studying longitudinal aspects of the transition process.

Combined with the cross-section data, longitudinal data provide a comprehensive picture of transitions between the education system and working life in Europe.

Box 5.15: CATEWE - method conclusions

The CATEWE project (see Box 5.8) combines analyses of cross-section data from the labour force surveys with longitudinal data (flows) obtained from the transition surveys conducted in some countries (F, IRL, Sco, NL, S)³².

The labour force surveys provide largely comparable information on ET and labour market (LM) features at European level. They can therefore be used to study the ET/LM relationship. They are of limited use, however, for analyses of transition. In the first place, information on ET is relatively limited, and the categories may mask major variations between countries. Second, this type of survey generally supplies few (or no) variables on the first job of LM entrants, or on subsequent occupational pathways. Third, since the sample covers all age groups, there may be a fairly limited number of entrants each year, preventing any refined statistical analyses of this group. Lastly, these surveys generally provide little information on respondents' socio-cultural profiles.

Surveys of school leavers allow for a more detailed analysis of the relationship between social characteristics, ET and initial LM experiences. They can be supplemented by analyses of youth cohorts or by follow-up surveys. Longitudinal data are essential for an analysis of young people's complex biographies.

Method conclusions of the CATEWE project – prospects for transition analysis

The CATEWE project has shown that it is possible to construct micro-databases comparable between countries (from both labour force and school leaver surveys) which may be of major use to researchers and policy-makers.

The Community labour force survey (Eurostat) has shown the value of using variables that are more complex than those normally studied. For instance, using the theoretical ages on completion of education to define the group of new potential entrants and comparing it with older entrants (see 2.3.1. and the third edition of Key Data on Vocational Training in the EU – Cedefop, European Commission and Eurostat, forthcoming).

2.3.2. Results of the LDV project on vocational training and labour market transitions in Europe³³

The empirical analyses conducted under this project were based on a set of comparable data collated from surveys of school leavers in France, Ireland, the Netherlands and Scotland. The aim was to study the relationship between school performance and the qualifications obtained by young people leaving initial ET, and their subsequent labour market and ET outcomes. A particularly interesting feature of this project was that it also analysed early school leavers i.e. young people leaving school with few qualifications (lower secondary level).

The analysis was based on four hypotheses:

- (a) In a State such as the Netherlands which has the most differentiated and selective ET system of the countries analysed, factors of inequality (gender and social background) should have more of an impact on the type of education and the level achieved (Blossfeld & Shavit, 1993);
- (b) 'The educational qualification distinctions amongst early school leavers – in terms of examination grades or 'pass/fail' distinctions – will almost have the same effect on labour market entry as the distinction between lower and upper second level leavers.' (Breen *et al.*, 1995, cit. by Hannan *et al.*, 2000);
- (c) Controlling for the level of education and the marks obtained, the hypothesis is that those specialising in vocational/technical pathways would have a significant labour market advantage in comparison with those from general pathways (Shavit & Müller, 1998);
- (d) The impact of failure at school (early departure or failure in lower secondary examinations) on

³² These countries were chosen because they were already conducting a survey of this type and researchers of different nationalities were willing to work together to study the potential of variables for the purposes of comparison.

³³ Vocational training and labour market transitions in Europe – coordinated by ESRI, Dublin, with the CES of Edinburgh University, DESAN in Amsterdam and CEREQ in Marseilles. Project funded under the 'surveys and analyses' strand of the first generation of the Leonardo da Vinci programme (Hannan *et al.*, 1998).

labour market access should be more marked in the least differentiated systems and the least occupational labour markets – i.e. more serious in Ireland than in the Netherlands.

The following conclusions were drawn from this project:

- There were substantial differences among the countries studied from the point of view of the provision of and participation in post-school programmes for lower secondary leavers.
- The impact of the two factors of inequality studied (gender and social background) on the level of education achieved was much greater in Ireland than in the Netherlands and Scotland. In Ireland, early leavers, especially those with no qualifications, were mainly working class males with unemployed parents. The least differentiated system was therefore the system which gave rise to the most discrimination from the point of view of gender and social class.
- The four countries differed greatly as regards the level and quality of second-chance ET measures and active labour market. The nature and extent of State intervention to help early and lower qualified leavers to enter the labour market varied substantially in the various countries.
- ‘Passing’ the final lower secondary examination had a significant positive effect on employment chances in the four countries studied. The level of performance was almost as important for access to the labour market as for continued studies in upper secondary education. A policy to encourage young people to enter upper secondary education will undoubtedly fail unless care is taken at an earlier stage to improve basic educational performance at primary and post-primary level. There is little value in keeping young people who are failing at school in education to the age of 17 or 18 unless they are also offered major educational support measures.
- A qualification obtained in technical and vocational streams in most cases improved access to skilled manual jobs and the service sector, thus helping to avoid unskilled work and the most precarious sectors of the youth labour market.
- The relative impact of failure at school on employment chances proved not to be greater in Ireland.

2.4. Conclusions³⁴

It is not possible to conclude from existing research that one system is more efficient than another in generating high levels of human capital or from the point of view of labour market integration. The best European models are characterised, however, by a high degree of integration and coordination from the State, ET providers and employers. Constructing strong links between the ET system and the main economic actors would therefore seem to be crucial. This relationship may, however, take different institutional forms (for instance D, NL, Japan).

The recent OECD publication (2000c, p. 15) ‘*From initial education to working life: making transitions work*’ comes to much the same conclusion:

‘Countries in which the connection between pathways and their destinations [whether work or further studies] are embedded in solid institutional frameworks seem more likely to demonstrate successful initial transition outcomes, and are less likely to demonstrate poor transition outcomes, than are countries in which the connection is more loosely coupled. These features appear to be more important than the particular nature of the pathway itself’.³⁵

This conclusion is borne out by an observation: young people who choose vocational/technical streams at secondary level seem less likely to enter precarious and low-skilled employment (educational performance otherwise being equal).

³⁴ This section is based largely on the document produced by D.F. Hannan & P. Werquin (2000), ‘*Education and labour market change: The dynamics of education to work transitions in Europe*’, which summarises works on education/employment relationships under the 4th Framework Programme of the DG for Research. It was also intended to provide a starting point for the 5th Framework Programme ‘Improving the human research potential and the socio-economic knowledge base’. This document is published as a contribution to: Descy & Tessaring, eds. *Training in Europe. Second report on vocational training research in Europe 2000: background report*. Luxembourg: EUR-OP. Vol. 3 (published 2001).

³⁵ This review lists other characteristics of efficient transition systems:

- a healthy economy;
- widespread opportunities to combine workplace experience with education;
- tightly knit ‘safety nets’ for those at risk;
- good information and guidance;
- effective institutions and processes’ (OECD, 2000c, p. 150).

Some research has, however, reached a rather contradictory conclusion: the most general systems – offering the highest level of initial general education – provide a better foundation for further training during employment.

The hypothesis is nevertheless put forward in transition research (Hannan *et al.*, 1998, CATEWE), that social and economic exclusion is most severe in the most general systems. This hypothesis is based on two findings:

(a) differentiated streams with a strong technical/vocational orientation significantly increase the employment chances of young people from working class backgrounds;

(b) in general systems, there is more labour market competition between the different qualification levels for access to low-skilled jobs.

In Germany, for instance, the high level of differentiation of the ET system entails inequalities in educational performance, as a function of gender and social background. The fact that ET/occupational equivalence is institutionally recognised nevertheless seems to offer lower qualified entrants some protection when they are faced with competition from better qualified people in the labour market (Blossfeld, 1994; Arum & Shavit, 1995; Shavit & Müller, 1998). However, young Germans who do not possess an upper secondary qualification are also at a relative disadvantage when they enter the labour market (Cedefop, European Commission, Eurostat, forthcoming).

Few comparable data are currently available, making it impossible to explore these issues further.

Fields in which there has been little research and which probably have a relatively important impact on transition include employers' recruitment and promotion practices, organisational changes and the way in which the ever increasing level of human capital among entrants is absorbed and used. This lack of information on the demand reflects the current bias of research towards the individual and supply. This bias is due to the lack of available data and the concentration of those data that are available on individual performance.

A plea for comparable high-quality data

According to Raffe (2000, p. 1-3), data and indicators on transition should satisfy the following criteria:

- They should provide a satisfactory answer to researchers' and policy-makers' various ques-

tions. Education system professionals are interested in participation levels in the different streams, the skills acquired, LM outlets and the organisation of transition to promote lifelong learning. Labour market specialists are interested in the issues of occupational integration, youth unemployment and the availability of skills in the LM. Economists are interested in promoting the skills needed for competitiveness. Lastly, from a social point of view, integration is a stage during which inequalities may be diminished or exacerbated.

- They should be sensitive to the nature of transition (longer, more complex, more diverse). In an increasingly less stable LM, where permanent long-term employment is tending to disappear, it is increasingly important to assess the results of transition in terms of learning and employment.

- They should provide data comparable over time, so that trends can be monitored and the impact of policies evaluated. Comparability should also be possible between countries in order to provide a starting point for formulating national and Community policies and to enable each system to be situated in the context of global trends (which are increasingly transnational).

Although there is a long tradition of research on transition, no existing source satisfies Raffe's three criteria (*op. cit.*). The shortcomings of the data available do not make it possible to find answers to a whole set of research hypotheses and bias research by making it possible only to explore issues for which empirical information exists. This situation could be improved in various ways:

- by facilitating researchers' access to Eurostat's microdata;

- by improving the comparability and geographical coverage of national surveys by promoting exchanges of experience with other Member States³⁶; flow data (covering five years after departure from the education system) are essential for an analysis of transition;

- by continuing to formulate international collection tools and work to draw up common sub-questionnaires for Europe (the OECD and IEA generally include national modules which could be harmonised for the EU).

³⁶ Box 5.16 lists projects and networks working on comparative analyses based on national data.

Implications for policy and for research³⁷

Research should try to find solutions which will support and facilitate the transition between education and employment. The success of this kind of intervention varies between countries as they have been affected in different ways by recession and have not all reacted in the same manner.

The OECD review of transition (2000c, p. 10) sets out a number of fundamental policy objectives that have yet to be achieved:

- ‘a high proportion of young people completing upper secondary education with a recognised qualification allowing them to pursue work, tertiary education or both [dual qualifications, see Chapter 3, Part 1];
- a high level of knowledge and skills among young people at the end of the transition phase [see Chapter 2, Part 2];
- a low proportion of teenagers who are neither in education nor in employment;
- a high proportion of young adults who have a job upon leaving education;
- a low proportion of young people remaining unemployed for long periods after leaving education;
- stable and positive employment and training and educational histories after leaving secondary education;
- an equitable distribution of outcomes by gender, social background and region.’

The profile of the ‘youth’ population varies in the Member States, as do economic situations and institutional systems. Comparative research provides significant added value which helps us understand to what extent and why some policies can be introduced generally, while others can work only in some countries/institutional contexts.

The current research bias towards individual performance may cause policy-makers to err, by making them think that the main causes of unemployment relate to the individual worker and that measures should be limited to this level of intervention.

The shortage of jobs is due to macro-economic circumstances. Building up, refocusing and modifying individual skills does little more than modify the breakdown of unemployment. Nevertheless, the acquisition of solid skills together with significant occupational experience during training ensures better chances of employment. This will also enable young people to be ready when economic growth picks up.

It would seem from the debate on transition that young people should be steered away from relatively general types of education which do not allow them to be recruited on the basis of a specific vocational qualification. However, the increasingly rapid obsolescence of skills and the introduction of a policy of lifelong learning highlight the advantages of providing young people with a general and transferable skill base (providing a foundation for future learning) and widely applicable vocational skills (so that they continue to be employable) (see Chapters 1 and 2 of Part 2 of this report).

Measures to support transition from the education system to working life are an imperative. There is at present no solid basis of empirical research that the Member States and the EU could draw on to help them to decide which measures to introduce, although there are relatively sophisticated theoretical and conceptual models. These gaps need to be filled by studies focusing on the outcome of the measures adopted, with a view to improving their impact.

Given the complexity of the various national systems, the data currently available leave many key research and policy issues unanswered.

Priorities for research on transition (and for VET research more generally) should be as follows:

- developing sources of European data on relations between the education system and employment so that comparisons can be made with the United States (our main competitor);
- constructing European databases on the main policy and research issues.

³⁷ This section draws on the document produced by Hannan & Werquin (2000), ‘Education and labour market change: The dynamics of education to work transitions in Europe’.

Box 5.16: Comparative research on school/training – working life transitions using national data sources

Anglo-German Foundation (D, UK): qualitative interviews, longitudinal follow-up, monitoring of young people from Bremen and Paderborn paired with young English people from four economically contrasting areas: Swindon, Sheffield, Liverpool and Kirkcaldy. The main variables studied are the skills acquired in training, occupational experience, aspirations, attitudes, relations between education systems, labour market organisation, the context and plans and pathways (Heinz, 1993, 1994; Bynner 1992).

CASMIN (D, F, IRL, I, NL, S, UK [GB], CH, AU, JP, Taiwan, US, Israel): comparison of the results obtained from representative samples of labour market entrants. The main variables studied are the link between qualifications and first jobs, the comparative yield of qualifications, etc. (Müller & Shavit, 1997).

CATEWE (B-FI, D, F, IRL, NL, P, S, UK – Sco; all Member States for the labour force surveys): creation of a database incorporating information on leavers from different school levels (ad hoc surveys - longitudinal or other, labour force surveys). The main variables studied are the economic and demographic context, the operation of education systems, integration processes, individuals' social characteristics, etc. (Mansuy, 1998; Hannan *et al.*, 2000 and many other publications).

Furlong & Hammer (N, UK - Sco): longitudinal surveys to study the impact of schemes targeting lower qualified young people (Furlong & Hammer, 1995).

IARD (EU-15, N, Iceland, Liechtenstein): statistics on young people dropping out of secondary school, social characteristics, causes of dropping out, etc. (IARD n.a.).

IDARESA – Integrated documentation and retrieval environment for statistical aggregates - (IRL, NL, UK - Sco): establishment of a common reference framework for surveys of secondary school leavers, construction of a model. The main variables studied include school data, qualifications, continuing training, labour market positions, pay, habitat, leisure, etc. (Hannan *et al.*, 1994; Lamb *et al.*, 1997; Lamb *et al.*, 1998).

Diplomas and labour market - LIRHE (D, E, F, I, NL, UK): matching of macro-economic data from varying sources in different countries. Work covers qualifications, skills and the labour market: trends in the structures of different occupations by qualification and by age, etc. (Beduwé & Espinasse, 1997; Mallet *et al.*, 1996). This project is continuing under the TSER programme (EDEX, see Chapter 4, Part 4, Box 4.5).

Paths of the Generation Longitudinal Survey (UK, Russia and EE) uses longitudinal data to study integration as a function in particular of the streams attended (Bynner & Koklyagina, 1995).

The *OECD* has launched a number of projects connected with transition research (OECD, 1993a, 1996k, 'Education at a glance', 1997; Blanchflower & Freeman, 1996; Bowers, 1998), including a thematic review (OECD, 2000c).

Oskarsdottir (FI, S, N, Iceland, US) uses surveys of school leavers to study failure at school (drop outs), school paths, family characteristics, occupational pathways, etc. (Oskarsdottir, 1995; Oskarsdottir *et al.*, 1997).

Smyth & Surridge (IRL, UK - Sco) use surveys of school leavers to study labour market positions, occupations, sectors of activity, social classes, etc. (Smyth & Surridge, 1995, 1997).

VTLMT (F, IRL, NL, UK - Sco) analyses data on premature departures from secondary education (Mansuy, 1998; Hannan *et al.*, 1998).

The *Network on transition in youth* has the long-term objective of improving our theoretical understanding of young people's integration by means of a comparative analysis of regular and longitudinal surveys of this issue (contact: Patrick Werquin, e-mail: patrick.werquin@oecd.org).

Source: Mainguet, 1999.

Box 5.17: TSER project 'Schooling, training and transitions - an economic perspective'

Further to CATEWE (see Boxes 5.8 and 5.15), this TSER project is relevant to research on transition from education to working life.

The research is about schooling, training and transitions at various points of an individual's life cycle. Its aim is to exploit the wealth and diversity of European institutions and data to develop further an expertise in comparative analysis and a deeper understanding of the mechanisms which have shaped schooling and training systems, and labour market transitions (from school to work, and from job to job), differently across countries.

The research looks at the production of established knowledge and skills, their allocation to individuals and jobs, and how well they fit together in each society depending on its specific institutions and other relevant characteristics. Special attention is focused on the high school and undergraduate level.

The framework offers an aural way of understanding the interactions between the schooling system (supplier of education), the learning organisation (which demands specific skills and supplies training), and the individuals (demanding for education and supplying the skills) whose transitions reveal the costly adjustments that took place to match the supply of education and training with the demand for skills.

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Final Report: SOE2-CT95-2012 – C. Sofer, Schooling, training and transitions: an economic perspective, 2000.

3. Social exclusion and reintegration via training

Following the review in the previous chapter of the particular problems that young people may encounter during their transition from the education system to working life we will now examine people in the labour market.

This chapter reviews the situation of people whose pathways can be termed problematic and who are part of what are called 'risk groups', as they find it difficult to become integrated into the labour market or, more generally, into society; for this reason they are the targets of specific measures.

In addition, we analyse the role that training can play as a measure to promote social integration.

3.1. Introduction

The first part of this chapter raises three questions regarding the unemployed:

- (a) does unemployment lead to social exclusion?
- (b) what role can the social welfare system, active measures and VET play in the social integration of the unemployed?
- (c) do the various kinds of active measures have pernicious effects?

The second part looks at the specific case of lower qualified workers. The factors that exacerbate the pressures on this group and lead to their exclusion will be examined.

By way of conclusion, a study looking at the efficiency of programmes for the occupational reintegration of the long-term unemployed will be reviewed.³⁸

3.1.1. Populations at risk of social exclusion

The structural changes that have reshaped the economies of the industrialised countries over the last 20 to 30 years have also led to major changes in the structure of the labour market and the social classes. The situation of the 'working' classes has in particular deteriorated (especially among unskilled manual workers) while the situation of the middle and higher classes has improved. The fracture lines between social classes have slipped. Social exclusion in all its forms is now the lot of a much larger fringe of the population.

The list of groups affected by social exclusion is very long: elderly and disabled people, the homeless, people in psychiatric care or in prison, or living in ghettos, asylum seekers, the long-term unemployed who lack skills and, generally, people on low incomes. All these groups have an inadequate economic, social and cultural capital in one or more of the following areas: housing, health, social networks, income, education and work.

The term 'target groups' used in labour market policies refers to people who have far fewer chances of finding work. Although these people form a very heterogeneous group, they generally have a low level of education and skills and are therefore a target group for vocational training.

³⁸ The topic of unemployment is examined throughout this report and in particular in Part 4, Chapter 4.

3.1.2. Social exclusion and inclusion

Social exclusion may be defined in two ways:

- (a) as an issue of citizenship: exclusion is a denial or non-realisation of social rights such as the right to labour, to housing and to education;
- (b) from a normative point of view: exclusion is expressed in terms of the gap between situations or groups in one or more fields of social life. Exclusion in this case is defined with reference to a group or a norm.

Exclusion can be referred to the micro level (individuals and their networks), the meso level (groups, institutions) and the macro level (society). Reference points move, however, depending on the general economic situation and the evolution of the social structure.

The first level, that of individuals and their networks, refers to the relational 'fault line': exclusion comes about because the exchanges that go together with participation in social networks are lacking. Individuals lose their contacts.

The second point of reference is that of the group or of group phenomena. Social closure is the process by which social groups try to acquire, increase or maintain their privileges by limiting access to them to a circle of the happy few. Groups in competition place barriers in the way of the weakest. This competition brings about inequalities in resource distribution; it also isolates communities and curbs social relations.

The third or macro level is that of social structures and processes. Exclusion takes place along the dividing lines that fragment society, such as the segmentation of the labour market or the growing divide between income from pay and from social protection, in terms of power and status.

Social inclusion is a normative political objective (in contrast to exclusion which is a factual and real situation). Social inclusion is defined in terms of the four roles that each person should play in society: producer, consumer, citizen and member of various public social networks (such as associations). For each of these roles, there should be cultural, normative, communicative and functional inclusion.

3.2. Social exclusion, selection and vocational training for the unemployed³⁹

3.2.1. Unemployment and social exclusion

Unemployment does not affect the whole of the population in the same way: some groups are more exposed for various reasons (gender, age, health, educational attainment or nationality – see Chapter 4 of Part 4 of this report).

Gallie (2000) takes the findings of the various projects conducted under the targeted socio-economic research programme (TSER projects, see Box 5.20) as a starting point for studying the links between social protection systems, experiences of unemployment, chances of finding another job and social exclusion. He looks in particular at the impact of the financial assistance offered to unemployed people by the social protection system. The author thus provides a response to various questions linked to the impact of unemployment, and in particular its impact on social exclusion.

Box 5.18: TSER projects analysing unemployment

Projects studying the risk and the experience of unemployment

Gallie (2000) cites three projects:

- (a) 'Employment Precarity, Unemployment and Social Exclusion' (EPUSE): comparison of the situation of unemployed people in seven countries (DK, F, D, NL, IRL, I, S) on the basis of national data and the European households panel (Gallie & Paugam, eds., 2000).
- (b) 'Youth unemployment and processes of marginalisation on the northern European periphery' (YUPNEP): analysis of the situation of young unemployed people aged between 18 and 24 in six countries (FIN, Iceland, N, S, DK, Sco - Furlong & Hammer, forthcoming).
- (c) 'Youth unemployment and social exclusion: dimensions, subjective experience and institutional responses in six European countries' (YUSEDER): qualitative interviews with 50 people per country (B, D, S, EL, I, E - Kieselbach *et al.*, Report for DGXII).

³⁹ This Part draws on the reference contribution of J. Vranken & M. Frans, 2000: 'Selection, social exclusion and training offers for target groups'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 3 (published 2001).

Projects analysing the role of active policies in the labour market

Gallie (op cit.) cites two projects providing information on developments in B, DK, F, D, NL, N, P, E, UK:

- (a) 'Social integration through obligations to work?' (Loedemel & Trickey, eds., 2000);
- (b) 'Inclusion through participation' (Van Berkel, Report for DGXII).

Source: Gallie, 2000 (for a more detailed description of these projects, refer to Box 5.20).

The social welfare systems of different countries provide unemployed people with very different standards of living: we have on the one hand the countries of northern Europe where a large proportion of unemployed people obtain a relatively good standard of living and, on the other hand, countries such as Italy and Greece where jobseekers receive minimal financial assistance.

The relationship between unemployment and poverty is closely linked to the structure of the social protection system. The proportion of unemployed people who can be considered poor varies from 8% in Denmark to 49% in the United Kingdom (Table 5.6, EPUSE project).

Table 5.6: Level of poverty of unemployed people in the 'EPUSE' countries, mid-1980s and mid-1990s, % ^(a)		
Country	Mid-1980s	Mid-1990s
Mean ^(b)	26.5	32.0
DK	7.6	7.6
F	23.0	23.3
NL	11.3	25.2
S	27.3	30.4
IRL	37.3	33.4
D ^(c)	35.5	41.7
IRL	37.1	45.7
UK	32.9	49.4

- (a) Percentage of unemployed people with an income lower than 50% of the mean equivalised household income line;
- (b) non-weighted mean of the EPUSE countries as a %;
- (c) the data refer to West Germany.

Source: EPUSE calculations based on national data.

The YUPNEP project which analyses the financial situation of unemployed people by assessing the number of day-to-day activities that young unemployed people are forced to abandon, shows that the circumstances of most unemployed Danes are good. In Scotland, however, young people are more severely affected by financial problems than in the other northern European countries.

There does not seem, however, to be a link between the risk of poverty and the level of financial protection: this risk is lower in Italy, Spain, Greece and Portugal (where a large proportion of unemployed people do not receive any benefit) than in the United Kingdom where a broader band of the population receives protection (even though benefit levels are low). This result is explained to some extent by the fact that in the southern countries, young people, who are particularly badly hit by unemployment, live longer under the parental roof (more than two thirds of young people aged between 20 and 29 in I, E, P and EL in comparison with only 42% in the UK, 29% in D and 14% in DK) and are not therefore affected to the same extent by the financial problems that unemployment causes.

This hypothesis is borne out by the qualitative analysis conducted as part of the YUSEDER project: young people experience poverty more as a result of their family's socio-economic situation than as a result of unemployment benefit levels. Furthermore, undeclared work is much more widespread in the southern European countries (80% of young unemployed people say that they perform undeclared work in EL, I and E in comparison with some 30% in Germany and a negligible proportion in B and S).

Gallie (2000) continues his analysis of the impact of unemployment by analysing participation in social life. He reaches the following conclusions.

- Whereas unemployment does not seem to have a clear-cut adverse effect on the frequency of informal social contacts in the community, it does lower people's participation in associations (higher participation in the northern European countries). Participation in associations is often seen as important in helping people to hold on to the norms of citizenship (Almond & Verba, 1963; Kornhauser, 1958).
- If social exclusion is defined as a situation in which poverty goes together with social isolation, unemployment and the risk of social exclusion are linked in very different ways in the various European countries. In the southern countries,

where poverty is more prevalent than in the northern countries, unemployed people are protected from social exclusion by solid ties with family and friends. The risk of exclusion is much greater in countries such as the United Kingdom, France and Germany where benefits are widespread but occasionally low or irregular and where social ties are not as strong.

3.2.2. Labour market exclusion and unemployment and training traps⁴⁰

This section looks at various mechanisms, and in particular employers' recruitment practices, that play a part in excluding some groups of people from the labour market, and at other factors such as the existence of a social protection system – and therefore financial assistance – as a barrier to a return to employment.

3.2.2.1. Enterprise recruitment practices: the selection factor

As mentioned in other parts of this report, the labour market is segmented.⁴¹ The selection processes that bring about social exclusion take place chiefly in the internal or external secondary segment (Mok, 1994).

The internal secondary segment is made up of workers with few skills occupying operational posts whose competences are largely rooted in experience. This segment is very sensitive to technological progress, with the result that increasingly fewer skilled workers are now required. As the supply remains high, employers have a considerable margin of freedom in their choices.

The external secondary segment is made up of a population in an even more precarious position: marginal workers who do not possess specialist vocational skills and are stigmatised as a result of physical or social disabilities.

In addition to this division of the labour market into (internal and external) primary and secondary markets for different groups of people, various stereotypes and mechanisms have an impact on employers' choices:

- *statistical discrimination* describes the fact that employers do not employ some groups of workers who are felt to be less productive (or unable to fit into the expected production regime)

because of their nationality, gender or other features. These features then become stereotypes and are used as arguments for not employing immigrants or women (for instance) irrespective of their individual skills;

- *crowding* consists in systematically attributing negative, 'typically feminine' characteristics to women (over-sensitivity, inability to lead, lack of manual dexterity, overly moral behaviour).
- *employers' preferences for workers already in similar posts* is a third mechanism. The long-term unemployed are particularly badly affected by practices of this type.
- the *social closure* described above is a general phenomenon which may be embodied in the formal or informal conditions imposed by workers already in employment or by organisations.
- the *substitution effects* resulting from both technical advances (replacement of people by machines) and an abundance of qualifications (jobs occupied by overqualified people) are new developments (see Section 3.3 of this chapter and Section 4 of Chapter 4.2).

This rapid review of recruitment practices shows that it is not enough to improve the human capital of unemployed people to help them to gain a foothold in the labour market; some structural and institutional barriers have to be lifted if the divide separating those who are well integrated in the labour market from those who are not is to be removed.

3.2.2.2. Trapped between unemployment and training?

Unemployed people who find jobs do not necessarily improve their financial situation: the wage that they receive (for instance for a low-skilled or part-time job) may not necessarily be more than unemployment benefit, especially if additional costs are factored in (travel, child-minding, and other costs entailed by employment). People may conclude that unemployment is the better option. This is what is termed 'the unemployment trap'. A similar effect has been observed when people or target groups entering training find themselves in a worse financial situation. This can be termed 'the training trap'.

In both cases, the trap is all the more hazardous if unemployment benefit is supplemented by undeclared income. The 'training trap' nevertheless has a more pronounced impact, as jobseekers who

⁴⁰ Only training of a vocational type, provided by external bodies for people without jobs, will be examined in this section.

⁴¹ Chapter 2 of Part 3.

embark on training do not just have to make a financial outlay (transport, child-minding, course materials, etc.) but must also put off looking for a job. Training becomes a ‘risk’ activity whose (immediate) result is far from certain.

On the question of the unemployment trap, Gallie (2000) uses the findings of the TSER projects (see Box 5.18) to analyse the link between vulnerability to (long-term) unemployment and motivation to work and also studies the impact of the quality of the social protection system (especially the extent of financial assistance) on motivation to work. The differences mentioned above between the northern and southern European countries as regards unemployment benefit levels (see Section 3.2.1) should bring about major variations in jobseekers’ motivation and flexibility. However, the picture that emerges from the studies conducted seems somewhat different.

Motivation to work is high among unemployed people in Europe: 64% say that they are committed to work, leaving aside any question of financial necessity. Unemployed people want to work even more than employed people (Table 5.7).

Table 5.7: Comparison of the commitment to work of workers and unemployed people (leaving aside financial necessity), EU-15, %

Country	% committed unemployed	% committed workers
DK	82.8	76.3
NL	80.4	67.3
S	78.7	75.9
UK	78.3	53.0
I	75.6	42.7
EL	74.8	49.4
IRL	71.4	62.1
P	70.7	58.8
D (East)	69.0	61.2
A	66.7	54.0
B	60.4	44.4
F	59.4	36.9
FIN	57.5	55.2
EL	51.7	35.8
D (West)	48.7	43.2
EU-15	63.7	48.0

Source: Gallie, 2000.

This might be explained by the fact that the value of work can only be truly appreciated after an experience of unemployment. A high level of unemployment benefit does not seem to deter unemployed people from wanting to work.

The findings of the EPUSE project show that generous unemployment benefit systems do not make jobseekers less flexible. Indeed, in Denmark, the Netherlands and Sweden, which have the most generous benefit systems, there is more flexibility than in Italy and Greece which offer limited – or no – social protection to unemployed people.

Other studies (EPUSE, YUPNEP) show, moreover, that women are as motivated to find work as men: on average in the EU, 68% of women say that they want to work in comparison with 60% of men. They may not be as motivated, however, in countries where cultural differences between the genders are more pronounced (southern Europe).

We can therefore conclude from these empirical findings that unemployed people are no less committed to work than workers. An unemployment benefit system, moreover, does not weaken people’s desire to work⁴² (with the possible exception of women in countries where gender differences are culturally more traditional).

3.2.3. Exclusion from training programmes⁴³

People became increasingly aware in the 1980s that unemployment was structural and likely to exclude some groups with low levels of education almost permanently from the labour market. There is a structural divide between people in work, most of whom are (highly) qualified, and people in unemployment, most of whom are not. Training then tends to be seen as a way of plugging this gap, since it is able to improve people’s qualification levels.

People’s participation in training and their labour market integration are determined by the same factors. Some groups are therefore under-represented in training programmes (women, lower qualified people, elderly unemployed people, immigrants and the disabled). This kind of discrimination is creating a hard core of unemployed

⁴² This concept has, however, many facets; while some people may say that they are ‘committed to work’, they may lay down certain conditions or be unavailable.

⁴³ In this chapter, a ‘training programme’ is considered to be training of a vocational type, provided by external bodies, for people without jobs.

people who combine a number of disadvantages and who as a result are more likely to be excluded from training.

The mechanisms underpinning this exclusion can be studied from various points of view.

3.2.3.1. Institutional exclusion: who is eligible for training schemes?

Various groups of individuals can be identified in the labour market:

- full-time workers in the formal labour market;
- part-time workers in the formal labour market;
- workers in the informal (undeclared) labour market;
- unemployed people receiving benefit;
- unemployed people not receiving benefit;
- unregistered unemployed people.

Training full-time and part-time workers is traditionally the task of employers. Part-time workers nevertheless participate less in training. This is true for all the new atypical forms of employment (differing from the traditional model of the permanent, full-time contract of employment) for which employers offer less training. The State is not offsetting this shortfall.

In most European countries only *unemployed people receiving benefit* are eligible for training. The other three groups (unemployed people not receiving benefit or not registered, undeclared workers) seem to be ignored by the system.

Status as an unemployed person goes together with a set of administrative criteria which determine access to training, in particular including a *minimum period of unemployment*. Training currently tends to be offered after a short period of unemployment, in order rightly to prevent the vicious circle of chronic exclusion linked to a lengthening period of unemployment. This policy helps to mitigate some of the side effects (perception of image, loss of experience, obsolescence of qualifications, etc.), but also generates major dead weight effects as it is difficult to identify people who are likely to remain unemployed in the long term (see also Section 4.1.3.5 of Part 4 of this report).

If it is decided, moreover, to make access to training subject to a *continuous* period of unemployment, workers who alternate between short periods of employment and unemployment are penalised and may be deterred from looking for a job (see Bollens, 2000).

The current training system for unemployed people could be termed 'meritocratic': it is tailor-made for full-time, registered unemployed people receiving benefits (the counterpart of full-time, permanent workers) (Nicaise *et al.*, 1995).

In addition, organisations financed by the public authorities are gradually taking charge of training schemes.⁴⁴ The selection criteria which govern the *award of funds* are also barriers whose numbers may well grow when there are multiple sources of finance. Increasingly cut-throat competition between training providers for finance also has an impact on their creaming off practices.

3.2.3.2. Economic exclusion: the quest for efficiency

The result of public budget cuts is to place a greater emphasis on training programmes' economic efficiency, judged against the *results of these programmes*. This criterion is increasingly being used to calculate the resources to be allocated to the various providers.⁴⁵ For the training provider, the challenge is then one of integrating the maximum number of unemployed people into the labour market. The more the stress is placed on efficiency, the more programmes are targeted on those individuals most likely to achieve the set objectives with the result that people who are not felt to be as good are excluded. Creaming off may take extreme forms (medical, psychological and technical tests).

This problem can be resolved by setting differential objectives, i.e. by measuring the outcomes of programmes in relative and not absolute terms (taking account of participants' initial characteristics or comparing them with the outcomes of another group which has not attended training). Another solution is to link financing to the targeting of disadvantaged groups and to carry out a relative evaluation (mixed input- and output-based financing). When providers are unable to select, and at the same time have to guarantee an optimum level of results, the quality of the jobs accessible at

⁴⁴ In many countries, unemployment benefit is financed from workers' social security contributions. In some respects, this system does not seem to be fair: socially excluded people could be financed using various types of taxation revenue, which would be a slightly different approach and could have implications from the point of view of budget allocations.

⁴⁵ For a detailed analysis of this resource allocation mechanism, see Chapter 2 of Part 1.

the end of the training scheme is affected, as providers are looking for a maximum placement rate to the detriment of job quality. This collision of objectives has to be avoided by a clear-cut choice: placement levels or targeting of a priority group.

Output-based financing may therefore have pernicious effects and may influence the practices of training providers. Two further criteria are also crucial: *the period for which the subsidies are awarded and the way in which they are awarded*. For service providers, a policy in which priority is given to short-term financing is a handicap as it reduces planning margins, the ability to react to rapid labour market changes and time channelled into looking for personnel. Participants in training may also be disadvantaged when financing is limited to the training scheme and excludes allied services (guidance, etc.).

Budget cuts also affect training plans: only those ensuring the organisation's survival are chosen rather than those that might well be more in keeping with the needs of the unemployed.

Training providers spend a great deal of time conforming to the criteria defined by the public authorities, looking for new sources of financing and monitoring their expenditure. In general, integrating the dimension of economic viability into training changes the person into a 'product' that has to satisfy the requirements of employers.

3.2.3.3. Psychological exclusion: motivation

When they are not subject to the external constraints discussed above, 'motivation', in the meaning of the will to improve one's situation, is the criterion that seems to be paramount importance for the training provider in selecting trainees.

Various typologies of unemployed people's motivation levels have been drawn up (De Witte, 1992; Verdié & Sibille, 1992; Kroft *et al.*, 1989). They examine attitudes to work (and consumption), training, jobseeking (and the hope of finding a job), the way in which unemployment is experienced and the degree of frustration and resignation. Combining these parameters makes it possible to draw up different profiles of jobseekers and to assess the extent to which they are motivated to look for a job.⁴⁶ Trainers need to be

⁴⁶ For further details of the various typologies, reference should be made to the reference contribution of Vranken & Frans (2000).

aware of the specific characteristics of each profile and to manage them in different ways.⁴⁷

The motivation and the needs of unemployed people do not just shape their desire to participate and their success but also their access to training, the latter being defined as a path along which the needs of jobseekers can gradually be matched to the needs of the labour market.

3.2.3.4. Cultural exclusion

Another important question: does training reflect the culture of the target group or the culture of the labour market or does it try to build a bridge between the two.

The CASEL project (Darmon & Frade, eds, 1998) sets out four socialisation-acculturation patterns (SAP) based on the combination of three parameters: (1) the underlying philosophy (*ethos*) of the training provider, (2) the type of training and learner approach and (3) the reaction and the relationship of the individual to this philosophy (*ethos*) and type of training.

The first type of SAP aims to transform people's personalities to match an ideal employee model. In this 'identification' pattern, the labour market is idealised and forms a point of reference that is not called into question, the structural nature of unemployment is denied, and stress is placed on behaviour and attitudes rather than on skills and qualifications. This means that unemployment and social exclusion are considered to be the result of individual characteristics and not the consequences of external factors. In an 'assimilation' SAP, the aim is to shape people's attitudes and behaviour so that they are in keeping with a predetermined model required by the labour market. An 'inclusion' SAP aims to provide employable learners with techniques and tricks helping them to gain access to the labour market while preserving the mutual differences between individuals. Lastly, an 'adaptation-accommodation' SAP aims to provide the best possible match between accommodation of the individual to the labour market and adaptation to each learner.

⁴⁷ One criticism of these typologies is that they do not take account of contextual factors such as family situation (occupational situation of the spouse, number of children, etc.) which may bias an analysis of people's motivation and potential needs.

The stricter the financing system, the more likely it is that there will be an SAP of the 'identification' or 'assimilation' type. In general, it is preferable to treat learners' attitudes as a factor influencing the degree of success that they will have in adapting to the culture of the training agency and the labour market rather than as individual shortcomings. Unemployed people's motivations and attitudes should not therefore be analysed using psychological or attributive grids, but as components of a system that also includes the policy framework and the market with which these attitudes interact.

3.2.3.5. Political exclusion

Several political developments have recently had an impact on the training supply and on exclusion: pressures on national public *budgets* and the introduction of *active measures*, including training in particular.

Unemployment benefit accounts for a substantial proportion of the social security budget and passive measures (unemployment and other benefits) are subject to growing curbs. The introduction of active policies is intended to rationalise unemployment insurance expenses. Various rationalisation measures have been introduced to provide an optimum ratio between the expenditure committed and the results obtained: output-related funding, calls for tender, payment conditions linked to stricter criteria and various control measures (see Section 3.1.4 on economic exclusion).

The concept of activation, based on a policy of income support, welfare and control of unemployment, has a growing audience.

Supporters of this approach advocate measures for the rapid social reintegration of people excluded from the labour market and dependent on social welfare. In most European countries the introduction of active measures is felt to be of growing importance; there are still, however, some differences as regards whether or not these measures are compulsory and as regards which measures should be chosen for the purposes of reintegration. Under most programmes, this reintegration must take place via the labour market (Geldof, 1999).

Within the European Union, the budget channelled into active measures has increased. Gallie (2000) cites some figures: in the mid-1980s, Swe-

den spent 2.2% of its GDP on active measures in comparison with 0.2% in Greece and 0.3% in Spain; in the mid-1990s, Swedish expenditure had risen to 3.2% of GDP while there had been little change in Greece (0.3%).

One of the changes introduced into active measures during the 1990s was what can be termed 'workfare'⁴⁸ where unemployed people receive financial assistance only if they are prepared to accept employment. The 'social integration through work?' project (see Box 5.18) studied the impact of workfare which it defines as any 'programme or measure where people are required to work in exchange for social welfare benefits'. Sanctions that may go as far as total withdrawal of unemployment benefit may be imposed if they fail to comply.

The ways in which workfare is applied vary, especially as regards the severity of the financial penalties imposed in cases of failure to comply. For instance, approximately one fifth of benefit is stopped in Denmark and one quarter in Germany.

Various comments need to be made about the reintegration ability of this policy measure:

- social reintegration is shaped by the quality of the job obtained;
- workfare may worsen marginalisation by labelling and stigmatising the people taking part in it;
- the removal of one of the last safety nets places people who, for one reason or another, cannot take part in the programme, at greater risk.

The last point is nevertheless a sensitive and controversial issue: since unemployed people receive financial support from social security funds (and therefore from workers' contributions), it is socially acceptable to impose some form of labour force participation on them (Table 5.7 shows that on average 36% of unemployed people do not want to work).

Gallie (2000) concludes that an evaluation of the results of workfare needs to be based on a range of criteria and not just on the fact that a job has been obtained. Account needs to be taken of the characteristics of these jobs and of the future of people not taking part in the measure.

⁴⁸ The term is derived from 'work' and 'welfare'.

Training has for some years been seen as an active measure that is effective against unemployment, as shown by the European employment strategy which clearly advocates a shift away from passive to active measures and explicitly mentions training.⁴⁹

This approach has a positive impact for the most disadvantaged, since, in cases where the aim is to increase the number of participants in training, selection criteria become more flexible. Compulsory participation nevertheless has some risks.

The European countries are moving in the direction of what can be termed 'learnfare'⁵⁰: the beneficiary has to attend training to continue to receive benefits. Despite its emancipating nature, training then has a disciplinary connotation and exacerbates the risks of exclusion for those who do not play by the rules. The literature shows that compulsory programmes are often inefficient (adverse impact on service quality, reluctance of employers to employ a stigmatised group and demotivation of learners). Unemployed people therefore need to be offered training that makes them more employable (the risk of exclusion being greater in the case of non-participation), preceded by information explaining why this training is beneficial (in order to improve motivation and justify the compulsory nature of the measure).

Approaches that disregard the surrounding economic context are based on a model of individual deficiency according to which people are unemployed because they lack 'qualities'. This transfers responsibility for unemployment to the unemployed person.⁵¹ From this point of view, the role of the authorities is then to provide training opportunities and people who, despite these opportunities, continue to be unemployed are suspected of not wanting to work or to be incapable of working.

⁴⁹ The European Employment Strategy sets out guidelines and objectives to be achieved for each Member State.

⁵⁰ Applied to learning, this formula refers to the introduction of an obligatory system of education and training.

⁵¹ Unemployed people nevertheless become responsible for their position vis-à-vis society when they refuse to accept a job in keeping with the qualification and/or skills that they possess.

France is an example of a country where the stress has clearly been placed on combating social exclusion: as unemployment is considered to be structural, it is felt that the State has a duty to help people to become reintegrated. In Norway, on the other hand, it is felt that responsibility for unemployment lies mainly with the unemployed person. In general, policies that concentrate on combating social exclusion place the stress on skill acquisition; when it is felt that unemployment is largely the responsibility of the individual, the tendency is to concentrate more on compulsory work measures (workfare) (Gallie, 2000).

Lastly, the objectives set at European level, i.e. training for all young people before they have been unemployed for six months (12 months in the case of adults) work against the long-term unemployed, the most disadvantaged or those who have the most 'at-risk' profiles. They are not a genuine curative policy (Bollens, 2000 and Chapter 4 of Part 4 of this report).

3.3. Lower qualified workers: a group at risk of exclusion?⁵²

In a context of high unemployment and inflation of qualifications, a low level of education is increasingly synonymous with a precarious labour market situation. Lower qualified people would be further penalised if lifelong learning became a sine qua non for quality employment (especially in a context where training models geared towards developing workers' skills are not always to be found).

What handicaps do lower qualified workers face in comparison with the remainder of the population? Which labour market mechanisms are bringing about an increasingly marked selective exclusion? What form should training measures for this group take?

Before trying to answer these questions, we need to identify the characteristics of this group which is increasingly vulnerable to the risk of unemployment or downgrading of their labour market position.

⁵² This section draws on the reference contribution of J. Brandsma, 2000: 'Training and employment perspectives for lower qualified people'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP. Vol. 3 (published 2001).

3.3.1. Lower qualified workers in a changing and dynamic labour market

Using the term 'lower qualified' highlights the fact that education and training are a positional good. However the link between a particular level of education and particular level of employment may vary with time.

Box 5.19: Definitions of 'lower qualified' people

The group of lower qualified people is fairly wide-ranging.

On the basis of formal competences, Bock et Hövels (1991) include in this group:

- early leavers from lower secondary education;
- people leaving the education system with a lower secondary education certificate;
- people leaving the education system during upper secondary education (including VET);
- people failing the final upper secondary examination (including VET).

Researchers in the Newskills project (Murray & Steedman, 1998; McIntosh, 1998; Leuven *et al.*, 1998), considered that the ISCED classification was an acceptable measurement tool for describing people's level of education and defining the boundaries of the 'lower qualified' group.

Hannan *et al.* (1998) considered that the ISCED categories were too wide and imprecise and unable to capture the real meaning of the term 'lower secondary leavers'.

Under the ISCED classification, the lower qualified population corresponds to levels 0 to 2. These levels are highly heterogeneous, as level 0 corresponds to pre-primary, 1 to primary and 2 to lower secondary. They therefore include people with very different schooling. It is also difficult for ISCED to take account of all the forms of VET that are not officially recognised – especially workplace VET – with the result that it slightly overestimates the size of the 'lower qualified workers' reference population (Brandsma, 1999).

NB: The ISCED classification was drawn up by Unesco in 1976 and revised in 1997. The various categories of the new version of the ISCED are briefly reviewed in Box 4.1 in Part 4 (see also: Tessaring, 1998b, Annex 1; OECD, Education at a Glance, 2000 as well as Table 4.2 of Part 4 of this report for the initial data collected using the new classification).

Nowadays, the term 'lower qualified' is associated with the risk of unemployment and social exclusion or, at least, refers to those segments of the labour market where stability, pay and qualifications are low (Hannan *et al.*, 1998). The meaning given to this notion obviously depends on

policy objectives, national systems and recruitment practices.

The 'risk group' is therefore defined largely in terms of the socio-economic context. In a period of high unemployment, the boundaries of this group are broader than in a period of full employment.

There is nevertheless an emerging consensus in Europe that the upper secondary level (ISCED 3) has become the minimum needed for a good start in working life.⁵³ Protective measures are therefore being targeted on those not reaching this threshold level.

It should also be borne in mind that mechanisms of social reproduction play a part in the phenomena studied here. Premature departures from the system are shaped by socio-economic variables (for instance the family's financial situation) and individual characteristics (gender, nationality). Educational causalities are concentrated on the least advantaged families (Hannan *et al.*, 1998).

3.3.2. Employment prospects for the lower qualified: mechanisms at play in the labour market

Part 4 of this report analyses the labour market situation and labour market changes, in particular the interactions between supply and demand (Chapter 3) and labour market imbalances (unemployment and overqualification – Chapter 4). The main social repercussions of labour market imbalances will be analysed here.

Various hypotheses may explain the deteriorating working conditions of lower qualified people, whose numbers are also falling in proportional terms:

- the redistribution of employment between the sectors;
- the bias that the new technologies have introduced towards more highly skilled workers (skill-biased technology) and sectoral changes (trade shifts), which are being reflected by overqualification or deskilling (up-, deskilling; over-, underqualification);
- labour market substitution;
- labour market segmentation.

⁵³ The new ISCED separates three ISCED 3 (upper secondary education) groups. In future studies of the 'lower qualified', it might well be advisable to add level 3C programmes (leading solely to the labour market) lasting less than six months to the ISCED 0 to 2 category.

3.3.2.1. Redistribution of employment between the sectors

Formally low-skilled jobs are concentrated in the following sectors: agriculture, industry (textiles, mining, processing industries), transport, hotels and catering, sales and small repairs. Apart from the last four, these sectors are in decline. Lower qualified people are therefore more vulnerable to unemployment. It might also be added that the service sector boom is absorbing relatively few of the people discussed here.

3.3.2.2. Skill-biased technological change and trade shifts

The hypothesis of the bias introduced by the new technologies and the hypothesis of trade shifts have a common feature: wage gaps are used as proxy indicators of changes in the skill demand.

In the skill-biased technology hypothesis, technical advances are used to explain the increased demand for highly skilled workers. In the hypothesis of trade shifts, the emphasis is on the impact of movements of goods production – using a predominantly lower qualified labour force – to countries or regions where wage costs are lower. It would seem, however, that this development explains only a small proportion of the demand for lower qualified workers (Newskills, 1999). Nevertheless, there has been massive relocation in some sectors (for instance the textile sector).

Several factors have a combined impact (the skills available or to be developed, the organisation of work processes and the effects of introducing new technologies) and it is impossible precisely to quantify their respective impact.

It would seem that the impact of technological innovation on the skill demand takes place through the organisational structure of work (Carnevale, 1991; Brandsma, 1993; Stern & Benson, 1991; Tuijnman, 1993). Organisational changes and skill levels are complementary; restructuring is hampered by shortages of highly skilled workers (Newskills, 1999).

Choosing certain forms of work organisation, management strategies and market profiles may devalue skills and polarise the labour force: on the one hand, skilled workers operating in a new kind of work organisation (removal of hierarchical levels, integration of learning and knowledge into work processes) and, on the other hand, lower qualified workers for whom the content of work and working conditions are downgraded

(jobs are impoverished and always function along Taylorist lines). The new technologies may well exacerbate this trend.

3.3.2.3. Labour market substitution

While participation in education by disadvantaged groups has increased, the increase in the level of education is due to the middle and upper social classes who are moving towards even higher levels of education in order to maintain social differentiation. This development is increasing the general level of education and playing a part in the overabundance of people holding qualifications.

A number of studies show that the general increase in the population's level of education is not being accompanied by an equivalent growth in the occupations requiring these levels of qualification, leading to the problem of overqualification (Hannan & Werquin, 2000).

Structural changes in the occupations seem to be determined more by the supply than by the demand (Robinson, 1997; Robinson & Manacorda, 1997; Béduwé *et al.*, 1998; Hannan & Werquin, 2000; EDEX – see Chapter 3, Part 4). This seems to bear out the 'credentialist' hypothesis according to which educational credentials influence labour market selection and recruitment processes (in contrast to hypotheses according to which the increase in qualification levels is demand-driven: skill-biased technologies and trade shifts). When qualifications are abundant and unemployment is high, employers will opt for the highest qualifications. This causes a phenomenon of substitution (or replacement) as regards posts set aside in theory for lower qualified people who are then ejected from the market. It would seem, however, that this phenomenon is only of importance at the time of labour market entry, as higher qualified people become mobile after a few years and then obtain jobs in keeping with their level of education (Hannan *et al.*, 1998).

3.3.2.4. Labour market segmentation

The labour market is segmented into different sub-markets with differential access, and employment conditions are better in some than in others⁵⁴. The ease with which qualification holders gain access to the segment that rapidly offers

⁵⁴ For a critical review of labour market segmentation theories and approaches, see Hanchane & Méhaut, 2000, and Chapter 2 of Part 3 of this report.

them a skilled and permanent job depends on the value that the labour market attaches to their education and on other characteristics such as gender, age and nationality.

The definition of the number of segments making up the labour market has evolved with economic change. The actual existence of segmentation is currently being called into question. There has nevertheless been no loss of interest in this field of study: what changes are taking place in the structure of the labour market and what implications do they have for access to continuing training and for lifelong learning?

The distinction between a hard core (*core workers*) and a flexible core (*flex workers*, in the sense of *marginal workers*) of workers is central to segmentation theories. The former group is closely linked to the enterprise in which it works through stable and advantageous contracts. The latter group is recruited under fixed-term or temporary contracts. It is obviously made up of lower qualified people.⁵⁵

By way of conclusion, it would seem that the deteriorating situation of lower qualified people in the labour market is the result of a combination of factors whose respective influence is difficult to determine. It would seem however, that the impact of the supply (general increase in levels of education and overabundance of qualifications) is more important than the impact of the demand (growing complexity of occupations and of the skills needed), the cost of which may be an increase in overqualification.

For lower qualified people, the prospects are not – in any case – very good. They will have to cope with periods of unemployment interspersed with periods of participation in active measures and/or temporary employment. These workers, like enterprises, are not inclined to invest in training. When introducing a policy of lifelong learning, account needs to be taken of the risk of exclusion of this group of workers.

⁵⁵ A current criticism of segmentation theories has been shaped by the appearance of highly educated 'flexible' workers who move from one job to another and use this type of work to increase their experience and qualification. The tendency towards a more flexible employment relationship no longer therefore necessarily means that the labour market position of all workers in this group is weakened.

3.3.3. Training for the lower qualified

The probability of participation in training is not equitably divided between workers, and there seem to be ongoing inequalities in this area (Houtkoop, 1985; Tuijman, 1989; Brandsma *et al.*, 1995; Hasan & Tuijman, 1997; European Commission, 1999; Newskills, 1999). These inequalities are persisting in several fields: (a) the higher labour force participation of men is reflected by an under-representation of women in training; (b) young workers receive more training than their elders; (c) full-time workers receive more training than part-time workers; (d) workers in large enterprises receive more training than workers in small enterprises; (e) training is geared more towards the better qualified; etc. (see Pfeiffer, 2000, and Chapter 1 of this Part).

If the purpose of training, and especially 'life-long' learning, is to integrate the lower qualified or the unqualified into jobs and the cognitive economy, it must be preceded by a back-up policy (guidance, support) that prepares people to make the most of training.

Assessing and recognising non-formal learning may be a useful way of motivating the lower qualified, bearing in mind that the criteria that define the lower qualified group are based predominantly on formal education outcomes and do not take account of any skills acquired through experience or in other areas of daily life. Identifying a person's skills makes it possible to guide their learning and to anchor this learning to skills acquired beforehand (see Chapter 4 of Part 1 of this report).

In general, and in order to prevent lower qualified workers from being excluded from training, VET and employment policies must focus on strategies and tools that can help them to learn: targeted policies, intervention by the social partners, guidance and counselling, recognition and use of informal learning, etc.

Improving the situation and employment prospects of lower qualified workers is a must if European countries are to maintain their economic competitiveness and the marginalisation and exclusion of a significant proportion of the labour force is to be prevented.

3.4. Efficiency of programmes geared to the labour market⁵⁶

It is only recently that comparative research has started to look at the efficiency of training programmes. Increasingly accurate information is available on the upstream mechanisms that determine access to training and the downstream mechanisms that determine labour market integration. Less is known, however, about the processes (curricula, teaching methods and other educational choices) that have an impact on the effectiveness of training. It is therefore the content of this 'black box' that is beginning to interest researchers.

Nicaise & Bollens (1998) rightly note: 'Although there appears to be a substantial body of work on long-term unemployment and training of (long-term) unemployed, theoretical or empirical work concerning the relative contribution of the programmes' organisational, curricular, and instructional characteristics and the interdependencies between these characteristics is much less developed'.

The TSER programme has financed a project involving seven countries: Belgium, Denmark, Greece, Ireland, Netherlands, United Kingdom and Norway. The purpose of the research was to develop a model of efficiency (at several levels) for training schemes geared to the labour market⁵⁷ and targeting the long-term unemployed. The project had three stages: (a) an inventory of the main characteristics of the various labour market programmes in the participating countries; (b) comparative case studies in order further to develop the conceptual model; (c) a survey of training providers and prior learners. The results of training were expressed as outputs and outcomes. The outputs corresponded to educational results (the completion of training in this study) and the outcomes corresponded to labour market or further study outcomes (in this study, finding a – stable – job as a result of the course and/or transition to another education or training measure).

The following process indicators were selected: availability and supply of guidance and counselling, inclusion of practical training in enterprise (and its form), length and practical orienta-

tion of the course, enrolment procedures and criteria, and lastly, organisation and flexibility of the course.

3.4.1. Main results

One of the main problems that this study faced was to find a way of monitoring the range of programmes offered (systems and processes organised in very different ways). Some countries offer a wide range of training initiatives for different target groups, others have only a few large-scale programmes (leaving aside differences between regions). This diversity had to be taken into account when interpreting the results.

The lack of differentiation of outputs and outcomes raised a key problem, moreover, when the researchers tried to establish a link between processes and results. This study clearly showed, however, that participants' characteristics (age, motivation and length of preceding period of employment) did not affect either the drop-out rate or the chances of finding a job. Dropping out during the training course did not, moreover, seem to have a significant impact on chances of finding a job.

The closer practical training is to the reality of working life and the later training in jobseeking comes in the course, the more chances there are of finding a job (Table 5.8). The fact that these two variables also increase the probability of dropping out has to be seen against the fact that in most cases people leave because they have found a job. The effects of flexibility and guidance are not very clear and more research work is needed for a better understanding of the mechanisms involved in their effects on dropping out.

The study first highlighted the process of creaming off and its positive impact on the effectiveness of training schemes. This raises two basic questions: (a) should training schemes be open to all the long-term unemployed? (b) are the actual beneficiaries of training the same as those targeted at the outset ('genuine' long-term unemployed people)?⁵⁸

Motivation seems to be the most common criterion for creaming off at the time of registration for training. It is difficult to decide whether this bias, which is intended to optimise the match between learners (motivation, capacity and pref-

⁵⁶ This section is based on the final report of the project, financed under the TSER programme, on the efficiency of labour market training for the long-term unemployed (Brandsma *et al.*, 1999).

⁵⁷ Training in the form of active measures to promote labour market integration.

⁵⁸ Readers should refer to Section 3.2.3 for an analysis of the mechanisms involved.

Table 5.8: Processes influencing the efficiency of training

	Completion of the training course (outputs)	Probability of finding a job (outcomes)
Proximity with real work	– Finding a job is the main reason for dropping out during the training course	+
Flexibility of curriculum: optional modules and opportunity to choose one's own pace and sequence	– Premature leavers from the education system are probably less able to plan their own training	– The probability of finding a job increases when the length of the training scheme is fixed
Training in jobseeking	–	+ Efficient if organised towards the end of the course
Selection on entry into training	+	+
Guidance and counselling	–	+ Depending on the type, time and subject matter of the training

NB: +: positive link; -: negative link.

Source: Brandsma, 2000, adapted by the authors.

erences) and training (course level and content) should be seen as an adverse and pernicious effect. A mismatch between the two may demotivate and discourage participants and lead to dropping out and, more generally, an aversion to any kind of training. Excessive creaming off nevertheless steps up the exclusion of the most disadvantaged groups and has a high social cost.

Another important factor highlighted by this study was that over half of the participants felt in hindsight that the training scheme had not played a part in finding a job and that the content of the programme was not generally in keeping with the content of the job found.

3.4.2. Research into the efficiency of programmes: a route to be explored?

The research findings discussed in this chapter show the value of analysing those factors that determine the efficiency of training schemes and of developing more differentiated models in order to identify the specific nature of programmes.

The lack of experimental research methods – in Europe at least – and in particular of blind studies (random allocation of individuals to either a control group or a test group) means that extreme

care needs to be taken when evaluating the efficiency of training programmes (Ryan, 1996; O'Connell & McGinnity, 1997).

This research field is much less sophisticated, from the point of view of both methods and concepts, than the study of school effectiveness (process – product). When evaluating ET programmes, most works concentrate on developing elaborate statistical models – which attempt, for instance, to take account of selection biases and non-observed variables. Researchers are far less interested in the effects of curriculum, institutional and educational systems or the quality of institutions and services (O'Connell & McGinnity, 1997).⁵⁹

The efficiency of training programmes must also be evaluated by expanding the cost-benefit analysis approach that is generally used and that often neglects the social, socio-psychological and even educational impact of measures and focuses solely on labour market outcomes. If undue attention is paid to efficiency criteria, aspects of equity and equality may well be neglected.

⁵⁹ Readers should also refer to Nicaise & Bollens (1998) and to Tessaring (1998b, pp.164 ff.) for an analysis of measurements of training programme efficiency. External efficiency (success in employment) and internal efficiency (improvement of the outcome of learning, skills acquired) are analysed.

3.5. Conclusions

Social exclusion is reflected by fracture lines in society. Some characteristics (gender, age, health, nationality/ethnicity, and level of education) have a major impact on exclusion from the labour market and from training. A hard core of unemployed and 'untrained' people is now being formed.

Inequality in respect of employment or training can be explained by institutional, economic, psychological, cultural and political factors.

Training and employment are often indissociable from other key aspects of people's individual and social lives: habitat, health and participation in associations.

The current ageing of the labour force is likely to generate a higher labour demand; to meet this demand for labour, it will therefore be increasingly important to reintegrate the unemployed and non-workers – preferably after appropriate training – and to update the skills of all workers. If this demand is not met, the mismatch between supply and demand will lead to economic recession. Offering unemployed people training which does not lead to real qualifications, but instead is limited to immediate employability, may well undermine the prospects for integration when economic growth picks up. Training efforts therefore need to be supported and should lead to real vocational qualifications.

The increasing high level of qualifications is accentuating the exclusion of the lower qualified. Lifelong learning needs to be geared to the particular needs of this group.

Policy implications

Since it would seem that training cannot on its own provide an answer to the problem of unemployment, some policy conclusions need to be drawn.

The financial assistance offered by the public authorities should stop the unemployed from falling into poverty and free them from the daily problems of social and material 'survival' so that they can actively look for stable jobs in keeping with their competences and aspirations. Encouraging unemployed people to accept any kind of job worsens their chances of integration (under-skilled and unstable jobs, risk of return to unemployment).

Back-up measures should try to ensure that the unemployed continue to play their part in community life to reduce the risks of isolation and subsequent loss of social identity.

Introducing a strategy of lifelong learning requires detailed knowledge of the obstacles to access to training and learning: not all enterprises and individuals have the same wish to invest in training. Lack of knowledge of motivation factors may mean that inappropriate strategies are introduced.

From an individual point of view, motivation, the ability to learn and an assessment of the potential benefits of learning are crucial. Unemployed people want more than anything else to work. A sustainable policy to motivate and reintegrate unemployed people, under which employment and training can be combined, is preferable to compulsory training programmes (see the discussion of transitional labour markets in Box 4.2 of Part 4 and Tessaring, 1998b, p. 100 f.).

There are increasingly few vacancies for lower-qualified jobs. The level of education of the lower qualified therefore needs to be improved. Some active measures that aim to provide the unemployed with a job (and not a genuine qualification) at any cost may place the least advantaged in an even more marginalised position and force them to accept precarious employment. Policy-makers therefore need to make choices: should priority be given to general or specialised training? Should unemployed people be trained for emerging occupations? Are these new occupations accessible to people who are not highly qualified?

Legislative systems need to be coordinated. VET should promote people's integration not just into the labour market, but more generally into society.

Neither short-term labour market policies nor lower skilled jobs help to build up competences.

'Holistic vocational training is not just oriented towards the acquisition of technical competences. It seeks to actively encourage the self-determination of individuals, their social responsibility and democratic codetermination of the world of life and work' (Ott, 1999).

Box 5.20: TSER projects on social exclusion and reintegration by training

'Employment and exclusion' (thematic network)

The principal objective of this research is to compare results from various countries on the links between different types of employment and 'exclusion', to control for the effect of key variables, and to identify approaches that will assist policy-makers tackling social exclusion. It is very important to understand better how and why different types of employment, particularly precarious employment, lead to exclusion.

Access to social protection is at the heart of the process of exclusion. From this angle the research will examine the extent to which different degrees of access to social security systems relate to the employment contexts which range from the long-term unemployed to those in the most stable and best paid jobs. The same question is posed by issues of access to old age pensions.

Coordinator: P. Desmarez, *Université Libre de Bruxelles, Centre de sociologie du travail, de l'emploi et de la formation, Belgium.* E-mail: pdesmar@ulb.ac.be

'Labour demand, education and the dynamics of social exclusion'

The project will explore the post-1970s effects of technological change and market integration on the demand for labour with different levels of education and skill, and on unemployment and the process of social exclusion across Europe.

The proposed research has the following key objectives:

- to analyse the effects of technological change on the demand for labour in terms of education and skills;
- to develop new indicators of 'social exclusion' and new analytical techniques to explore the dynamics of exclusion for problem groups;
- to investigate how different labour market, educational, immigration and social policies have moderated this process;
- to suggest alternative policy directions.

New indicators will be designed to take full account of the multidimensional nature of social exclusion: these measures will reflect not only income and labour market outcomes, but also other aspects of exclusion such as housing, access to public services, crime and health.

Coordinator: K. F. Zimmerman, Centre for Economic Policy Research, UK. E-mail: syeo@cepr.org.

'Youth unemployment and processes of marginalisation on the northern European periphery'

The main aim of this project is to develop a clearer knowledge of processes of marginalisation affecting young people through comparative research among the countries within the northern European periphery. The research will highlight strategies and processes which protect against marginalisation, as well as trajectories which carry a high risk of subsequent unemployment. Countries involved are Denmark, Finland, Iceland, Ireland, Norway, Scotland and Sweden. The focus group is young people between the age of 18 and 24 who have been unemployed for a period of at least three months over the previous year.

The survey design will allow a comparison of young people with unemployment experience, some whom have managed to establish positions in the full-time labour market, others who have reentered full-time education and others who have remained unemployed, withdrawn from the labour market or become marginalised in some other way.

Coordinator: T. Hammer, Norwegian Social Research Institute NOVA, Norway. E-mail: t.h.a.@isaf.no.

Publication to be expected: Final Report: SOE1-CT96-3025 – T. Hammer: Youth unemployment & processes of marginalisation on the northern European periphery.

'Youth unemployment and social exclusion in Europe'

The main objective is to study how different welfare strategies and fiscal structures in different countries influence the risk of social exclusion among unemployed youth. The following research questions will be studied:

- do non-standard forms of labour force participation, such as part-time or temporary work or work in the informal economy, represent a step towards social exclusion and labour force marginalisation or can they be regarded as a step towards permanent work careers?

- what is the proportion of unemployed youth that returns to education, and what factors seem to influence such careers?
- how do different welfare strategies with mixes of public (insurance systems) and private (family) support influence job opportunity in relation to youth unemployment in different countries?
- to what extent do unemployed youths feel integrated in their society and how does this impact on the rights and responsibilities of citizenship? Are unemployed youths excluded politically in the sense that they do not participate or engage themselves in politics, and what kind of political attitudes do they have?
- previous research has revealed large differences in work ethics or work involvement between European countries; what is the relationship between stigmatisation, mental health, and work involvement and job search activity?
- the project will also analyse young people's experience with different measures in a comparative perspective, and assess the extent to which such measures increase job opportunities or return to education.

Coordinator: T. Hammer, Norwegian Social Research Institute, NOVA, Norway. E-mail: Torild.Hammer@isaf.no.

'Youth unemployment and social exclusion'

The project aims at empirical research on the causes and key mechanisms of social exclusion, especially unemployment. This project will focus on the vulnerability of specific groups of young people and on the processes and stages of social exclusion often associated with unemployment.

The project is carried out in three phases:

- (a) the definition of concept of social exclusion: analysis and description of the forms it takes in the six countries (B, D, S, EL, I, E);
- (b) empirical research (data analysis and qualitative interviews) with different socially excluded groups or groups at risk;
- (c) the identification and evaluation of innovative options of institutional and political intervention and counteraction.

Coordinator: T. Kieselbach, University of Bremen, Research Unit Work, Germany.
E-mail: kieselbach@weaap.uni-bremen.de.

Final Report: T. Kieselbach: Youth unemployment and social exclusion. SOE2-CT97-3051.

'Education and training, new job skill needs and the low skilled (Newskills)'

The project involves a clear analysis of what is happening to labour demand, as well as an understanding of why the pattern of supply does not always respond adequately. It will try to determine the most effective ways for developing the necessary skills - both in terms of curriculum and teaching methods (including the newest technology). The aim is to work towards producing a Europe-wide definition of the 'platform for learning' with which every European citizen should be equipped.

The programme of work consisted of four specific studies as follows:

- (a) the demands for labour by skill in the EU;
- (b) the factors determining the supply of and demand for labour by skill in the EU;
- (c) the profile of education and training provision at the basic level in the EU;
- (d) defining a minimum learning platform for the EU.

The relative significance of a number of factors influencing supply of, and demand for, skills have been analysed and assessed using, among other sources, data from the OECD adult literacy survey. The profile of educational provision at the basic level was investigated at the level of curriculum content, pathways and progression for young cohorts. Work on the minimum learning platform involves an extensive literature survey, consultation with governments, employer and employee representatives, and field work sampling of companies.

Coordinator: H. Steedman, London School of Economics Centre for Economics and Political Science, UK; E-mail: h.steedman@uk.ac.lse.

Final Report: S. McIntosh & H. Steedman. Low skills: a problem for Europe. SOE2-CT95-2006.

'Employment precarity, unemployment and social exclusion'

This project examines the processes that link employment precarity, unemployment and social exclusion. It involves comparative research in eight EU countries: Denmark, France, Germany, United Kingdom, The Netherlands, Ireland, Italy and Sweden.

The project focuses on three main issues:

- (a) the cumulative disadvantages associated with employment vulnerability;
- (b) the causal relationship between employment situations, economic poverty and cultural and social poverty, including household and social relations;
- (c) the relationships between the form of the welfare state provision and the extent of cumulative disadvantage/opportunities for reintegration in order to provide theoretical interpretation of the results of the statistical analysis.

Coordinator: G. Duncan, Nuffield College, UK. E-mail: Duncan.Gallie@Nuf.ox.ac.uk.

Box 5.21: LDV project 'Route counselling as a means of improving the access to, and effectiveness of, training and employment initiatives for deprived groups in the labour market'

Route counselling is conceived as a dominant movement in the area of training, guidance and employment measures towards an individualised, longitudinal approach. New forms of reintegration for the (long-term) unemployed have been developed in several countries. The common trend is that, far from being isolated, training and job placement activities are increasingly embedded in an integral scheme, aimed at reintegrating various disadvantaged persons or groups in regular jobs through an intensive, systematic approach known as 'route counselling'. It is increasingly seen as the key factor in reintegration strategies for disadvantaged persons or groups.

The analysis in this report is based on the current debate and state of the art in six Member States: Austria, Belgium, Greece, Ireland, Italy and the Netherlands.

Coordinator: L. Struyven & J. Mevissen. HIVA Higher institute of the labour studies. *Katholieke Universiteit Leuven*, Leuven, Belgium. E-mail: Ludo.Struyven@hiva.kuleuven.ac.be.

Final Report: 'Route counselling for disadvantaged groups in the labour market: explorative study in six Member States'. HIVA, Leuven, 1999.

Part six

VET research outside the European Union

This first chapter sets out to provide an overview of VET research in 11 countries of central and eastern Europe (CEECs): Albania, Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. We shall endeavour to assess the way in which research has responded to the major socio-economic challenges posed by the transition from a State-planned economy to a market economy. Our aim is to identify the main weaknesses and to make VET research in the CEECs more transparent by analysing its results and its failures.

Chapter 2 reviews VET research in a number of other non-EU countries: Australia, the US, Canada, Brazil, Argentina, Uruguay, Japan, the People's Republic of China and the Russian Federation. The role of international organisations (in particular, the ILO, the OECD and Unesco/Unevoc) in disseminating information and in cooperation is also analysed.

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1. VET research in the countries of central and eastern Europe¹

This first chapter sets out to provide an overview of VET research in 11 countries of central and eastern Europe (CEECs)². We shall endeavour to assess the way in which research has responded to the major socio-economic challenges posed by the transition from a State-planned economy to a market economy. Our aim is to identify the main weaknesses and to make VET research in the CEECs more transparent by analysing its results and its failures.

In global terms, research appears to have responded successfully to the major challenges posed in the transition period. In the past few years, national research has demonstrated increasing maturity; it has played an ever more positive part in the reform process. Nevertheless, its development is hampered by certain systemic obstacles (organisational, institutional and financial obstacles). Recommendations for action to remedy this situation will be made.

1.1. Introduction

This chapter covers an extensive geographical area.³ Countries were selected on the basis of common criteria (geographical region, membership of the former Eastern bloc, transition from a planned economy to a market economy, wish to join the EU – with the exception of Albania).

However, despite having these aspects in common, the situation in the CEECs was quite varied prior to implementation of reforms: while Slovenia belonged to Yugoslavia (the most open and

democratic of the socialist countries), the Baltic States were part of the Soviet Union, and Albania was virtually totally isolated. Each of the other countries had adopted its own form of socialism. These historical characteristics led to differences in the economic reforms implemented.

Furthermore, the CEECs manifest great cultural diversity, which represents a semantic challenge not only as regards defining VET, but also as regards delimiting the subject of VET research.

For these reasons, we shall restrict ourselves to making general comments on the region and to typologies which in no way exclude individual national characteristics.

In this chapter, 'VET research' means analytical research based on an appropriate methodology and focusing on one of the three following aspects: VET requirements, processes and results.

1.2. Context and challenges of the economic transition for VET in the CEECs

1.2.1. Recent socio-economic developments

The 11 countries studied experienced 40 years of a socialist regime whose end was signalled by the fall of the Berlin Wall in 1989. At that time the region belonged to the Council for Mutual Economic Assistance (CMEA), which was based on specialisation of the economies in the various countries. At the time of economic transition, the countries suffered from over-specialisation. VET, which was also closely linked to enterprises, reflected this over-specialisation, with narrowly specialised streams often leading to a job for life (ETF, 1999a).

No substantive market reform was implemented until 1991. From the start of economic restructuring, the progress achieved in transforming the economies into competitive and dynamic market economies has varied from country to country. However, the majority of the countries studied have recorded increases in productivity in the course of the past few years.

In 1998, the average employment rate in the CEECs (with the exception of Albania, for which no comparable data are available) was 63% (slightly above the European average of 61%), with the highest rates being seen in Romania (72%), Estonia (69%) and the Czech Republic (68%) and the lowest in Hungary (51%) (European Commission, 1999c).

As in the EU Member States, unemployment has fallen in most of the CEECs. However, it has risen in Estonia and the Czech Republic (although

¹ This chapter is largely based on the paper of O. Strietska-Iliina, 2000: 'Research on vocational education and training at the crossroads of transition in central and eastern Europe'. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP, Vol. 3 (published 2001). This report was produced with the assistance of ten contractors from the national observatories. The latter were established under the auspices of the European Training Foundation (ETF) in Turin as small structures responsible for compiling and updating information on VET and the labour market in partner countries.

² Albania, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.

³ The analysis is not absolutely balanced, since more information is available in some countries than in others. It would be valuable to carry out more detailed research in the future, for example in the form of a series of reports on specific VET research subject areas (to ensure that the field of analysis is not too broad).

at a lower level). In all the countries in transition, the rise in unemployment and the fall in the standard of living have resulted in an increase in poverty and a demographic crisis. Table 6.1 shows some employment and unemployment indicators for the region.

During the period of economic transition, youth unemployment has also increased in all the countries studied. The situation is gradually beginning to improve in Bulgaria, Romania and the Baltic States. Young people, like workers at the upper end of the age range, are thus at risk on the labour market; their vulnerability increases if they have low or inadequate levels of qualifications, leading to marginalisation and social exclusion.

In all the countries of the region, large numbers of young people leave the general and vocational education systems prematurely, with a low level of qualifications. It is estimated that this proportion may be as high as 53% (1997) in Poland for the 25-29 age group (Table 6.2; Cedefop, European Commission, Eurostat, forthcoming). In all the countries, the higher the level of education achieved, the lower the risk of unemployment.

Women (aged 25-49) are proportionally more affected by unemployment than in the European Union (European Commission, 1999c).

There has been a marked change in the distribution of jobs by sector since 1989, with a shift from the primary and secondary sectors to the tertiary sector. Thus in several countries the unemployment problem (not always declared) primarily affects the agricultural sector. Throughout the region, this sector is still suffering from overmanning inherited from the socialist regime. The percentage of the working population employed in the secondary sector (approx. 30%) remains above the European average in most of the countries (even rising to over 40% in the Czech Republic and Slovenia). Despite massive job losses, there has been growth in the tertiary sector throughout the region since the early 1990s. However, in 1998 it was still below the European average (European Commission, 1999c). It appears that the service sector's capacity for absorption can compensate for job losses in industry and agriculture.

In addition to the problems specific to economic transition, the CEECs must meet the same chal-

Table 6.1: Employment and unemployment indicators, CEECs and EU-15, %

Country	Percentage of working population aged 15-64 in employment	Percentage of working population in employment in the primary sector	Percentage of working population in employment in the secondary sector	Percentage of working population in employment in the tertiary sector	Unemployment rate (%)		Youth unemployment (15-24-year-olds, as % of the unemployed)	Long-term unemployment (as % of the unemployed)
	1998	1997	1997	1997	1994 ^(a)	1998 ^(a)	1997	1997
AL	—*	—*	—*	—*	—*	17.7	—*	—*
BG	55.2 ^(b)	11.6	36.6	51.7	20.5	16.0	26.1	56.3
CZ	67.7	5.7	41.3	53.1	3.8	6.5	28.6	31.5
EE	69.1	10.0	33.5	56.5	7.6	9.6	19.9	45.8
HU	51.4	7.8	33.2	58.9	10.7	7.8	27.5	55.3
LV	56.0	20.6	26.8	52.6	18.9 ^(c)	13.8	22.1	62.9 ^(d)
LT	64.5	20.5	21.5	58.0	17.4	13.5	26.0	25.2
PL	60.5	19.9	32.2	48.0	16.5	10.6	27.5	34.1
RO	71.8	39.0	30.5	30.5	8.2	6.3	46.5	51.8
SK	58.9	8.6	39.2	52.2	13.7	11.9	31.9	57.6
SL	65.1	10.2	41.6	48.2	9.0	7.7	33.6 ^(e)	54.9
EU15	61.1	5.0	29.5	65.6	11.1	10.0	25.6	49.0

* no data available; (a) ILO methodology; (b) 1997 data; (c) 1995 data; (d) 1996 data; (e) data for second quarter of 1998.

Sources: European Commission 1999c: Employment in Europe 1999; Eurostat (Newcronos); source Albania: European Training Foundation. Fact sheets, 1999.

Table 6.2: Educational level of 25-29-year-olds, 1997, CEECs and EU-15, %

Country	Below upper secondary (ISCED 0-2)	Upper secondary (ISCED 3)	Tertiary (ISCED 5-7)
PL	53	37	9
BG	24	59	17
HU	21	68	11
SL	18	68	14
LT	13	45	43
RO	12	78	10
LV	11	76	13
EE	8	56	36
SK	8	81	11
CZ	7	82	10
EU-15	30.5	48	21

Sources: ETF, national observatories, table drawn up for: Cedefop, European Commission, Eurostat (forthcoming); EU 15: Eurostat CLFS (Newcronos).

lenges as the EU Member States – globalisation of the economy, technological change and the advent of the information society.

The change of regime has profoundly disrupted the research community. Research was previously dominated by political rhetoric dictated by the regime. Applied research was ignored, since the regime felt no need to use empirical data to justify (or to question) its political arguments.

1.2.2. Initial education and training systems and future challenges

Under the socialist regime, primary and lower secondary education were free and compulsory in State schools. Upper secondary education (from 14 to 18) was organised into three main streams: general, technical and vocational. There was a tradition of a high level of participation in VET, which had a good reputation in most of the CEECs (except in Estonia and Lithuania, where the opposite was the case). VET had to train skilled and semi-skilled workers to meet the needs of State-owned industry and agriculture, in the context of rigid centralised manpower planning.

Weakening of public-sector enterprises and the economic restructuring process have shattered the links between enterprises and vocational schools. Enter-

prises, preoccupied with their own survival on the market, have closed their training centres and have lost interest in practical training contracts for apprentices. Consequently VET now takes place mainly in schools (Baltic Republics, Romania, Bulgaria). It has been possible to preserve some in-company apprentice training in certain countries, but its level is continuing to decline (Czech Republic, Slovakia, Poland). Only two countries (Hungary and Slovenia) have retained or reintroduced the dual training system for apprentices.

The communist heritage is still exerting an influence on the rates of participation in education – countries in which VET previously predominated still have a higher rate of participation in VET than in general education. However, both students and the labour market are beginning to express a preference for higher levels of qualifications. The limited capacity of general and higher education in the great majority of the CEECs means that this demand from the economy and from society cannot be met, and encourages the creaming off of part of each cohort on the one hand and, on the other, underskilling of those leaving the system prematurely.

Preparations for accession to the EU are presenting systems in the CEECs with new challenges: investment in human resources, diversification of training provision, bringing proposed qualifications into line with the new requirements imposed by the need to be competitive, and equal access for all to education and training.

The EU is stressing the need to improve the employability of the labour force, by reforming educational content and teaching and learning practices. Monitoring of the quality of education at the starting level must be replaced by monitoring of results, and specification of vocational qualification standards in close cooperation with the social partners must be encouraged.

The prospect of accession to the EU may increase worker mobility in Europe, and hence emphasise the need for a high level of qualifications in order to ensure that workers are employable. In this context, transparency and recognition of qualifications must also be assured within and beyond the CEECs.

1.2.3. Current situation

The CEECs have achieved widely varying degrees of progress during the transition period. The most economically advanced countries have already recorded an improvement in their economic situation and their labour markets.

The most important challenge facing the CEECs is to complete the transition to a market economy while at the same time creating enough jobs to avoid an excessive level of unemployment and non-participation in employment. These countries are undergoing a dual transformation – the transition to a free economy coupled with a more general change in the economic landscape, with a shift to employment in SMEs, de-industrialisation and changes in work organisation (emergence of new technologies and knowledge-intensive enterprises).

Provision of initial and continuing VET is becoming a key element of the integration of individuals into the labour market, and the part played by training in combating the undesirable effects of economic change is more important than ever. Not only must the State ensure initial and continuing VET provision, but it must also reorganise training provision, developing new methods and finding new sources of financing, while at the same time ensuring improved access to training at any age and increased harmonisation of training with market requirements.

VET and labour market research must be capable of analysing the changes triggered by these transformations, in order to guide future reforms.

1.3. VET research

From the outset of the period of economic transition, large numbers of research and development projects have been implemented with the assistance of foreign experts. No mechanical transfer of knowledge and skills was possible, nevertheless the projects were developed in accordance with conceptual models originating in Western Europe. Although researchers in the CEECs were dissatisfied with these models, they did not generally propose alternative local conceptual development frameworks.

It is essential to have a global understanding of the system and the dynamics of change. VET research in the CEECs concentrates on analysis of isolated elements of the system, with no attempt to acquire an overall view of it and so to understand the interactions governing its functioning. This fragmentation of research is reflected in the division of institutional structures, with each 'specialising' in research into one element of the system and largely unaware of results obtained in closely related fields.

1.3.1. Institutional framework of research

The institutional research management systems are still suffering the consequences of the collapse of the socialist regime. The upheavals

caused by the transition have led to the disappearance of many institutions and reorganisation of those that have survived.

As we have already said, the fragmentation of research is reflected at institutional level – some institutes specialise in research into the labour market and social affairs, others concentrate on initial training curricula, educational institutes focus on teaching, etc. In countries with no institutes devoted to VET, research of this kind takes place in educational research institutes.

Moreover, Csako (1998) reports a lack of sound theoretical research into the socio-economic context (in the broad sense) of VET.

Nevertheless, university research is still quite well developed in Lithuania and Slovenia, and to a certain extent in Romania and Poland. In Slovenia, applied research plays an active part in the development of projects of national interest. The University of Vytautas Magnus (Lithuania) has carried out both theoretical and applied research. In Poland, institutions of higher education play an active part in research into agricultural training and in the field of human resources management and development (mainly in economics institutes). In Romania, some 15% of the budget allocated by the State to the universities is dedicated to research.

Cooperation between universities and the various sectors of trade and industry is the exception rather than the rule, even in countries where university research is well developed. Only Romania and Slovenia appear to have established improved cooperation in this area.

The social partners are involved in research to only a limited extent. Private enterprises and non-profit-making organisations also play only an extremely limited part. The sector of research into civil society is still relatively inactive.

Private expertise (research and consultancy) has recently been developed, to an extent varying from country to country. In principle, analysis of VET by private bodies ensures independence from State structures and is thus a source of objectivity when these bodies cooperate with public institutions. However, if research is accorded a private status, this may hinder implementation of research findings and recommendations.

There seems to be a need for a massive programme of updating of knowledge in the CEECs, with assistance from foreign experts, but above all providing training for local researchers via visits to other countries.

1.3.2. Financing⁴ and coordination

The CEECs devote an average of 1% of their GNP to R&D activities (with a minimum level of 0.6% in Estonia and 0.7% in Romania). This percentage is considerably below the EU average (1.8%).

All research has been affected by financial constraints associated with the transition. All structures have reduced their staffing levels in an effort to achieve efficiency, since in the socialist countries, like other sectors the research sector was overstaffed and overspecialised.

Between 1990 and 1997, the most stable countries experienced a reduction in the number of research institutes (and their staffing levels). Scientific staffing levels have begun increasing slightly again since 1998. This trend is due to the need to invest in research owing to economic development. Nevertheless, expenditure in this field in the CEECs remains considerably below that of EU Member States.

The situation of researchers in these countries remains a difficult one, with poor working conditions, low wages and limited research funds. In some countries, the wages of scientific staff are actually below the national average (Poland, Bulgaria, Romania, Slovakia, Estonia and Latvia). The most highly paid researchers are found in Slovenia (followed by the Czech Republic). The worst-paid researchers are in Lithuania (Bobeva, 1997).⁵

This situation has led to a major brain drain. The survey carried out by the European Commission in 1997 in the context of the COST programme (Bobeva, 1997) shows that the most significant migration of scientists between 1989 and 1995 took place in Poland (15% of emigrants were scientists), Estonia (14%), and Bulgaria and Slovakia (11%) (scientists' wages are below the national average in these four countries). This report also shows an even more significant migration within these countries, to the private sector (salaried employment or self-employment), to take up jobs that are sometimes less skilled but are better paid.

VET research is financed mainly out of public funds, primarily distributed among the main insti-

tutes. Labour market research is financed mainly by Ministries of Employment and VET research by Ministries of Education. This system leads to a fragmentation of research and an absence of intersectoral collaboration and contextual perspectives, since the research fields are rigidly defined.

According to all the reports from the CEEC national observatories, mechanisms for coordination of VET research at national level are inadequate or non-existent.

1.3.3. Role of international activities

In a difficult period for the economy, it is essential for research to receive sponsorship from international institutions. Figure 6.1 shows the number of scientists involved in research projects financed by the EU or the US.

Cooperation in research is dependent on access to international programmes, but also on information and efficiency and the capacity of legislative and institutional systems to be integrated into an international programme. In more general terms, the effectiveness of the partnership depends on the scientific community's traditional receptiveness to cooperation of this kind.

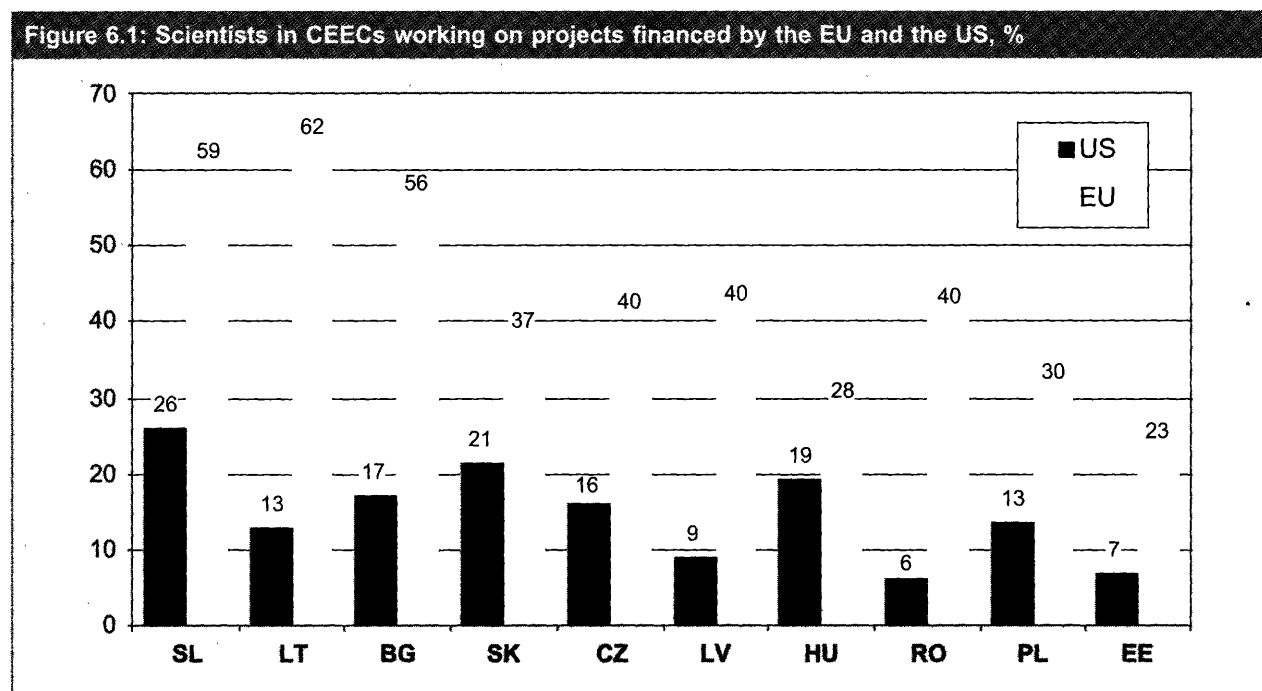
The EU's Phare programme has been the main source of financing in most of the countries. Since this aid is primarily intended to help the CEECs' preparations for accession, Phare has not given preferential funding to the countries with the fewest resources.

All the countries except Albania have stated that the Phare programme is an essential driving force behind innovation. This programme served as a catalyst for VET reforms implemented between 1990 and 1998 (curriculum development, particularly in the field of initial vocational training, teacher training, updating of learning materials; involvement of the social partners in policy definition and formulation of requirements, evaluation of programme results, and preparation of policy documents on future stages of the reforms).

Nevertheless, 'the model was imported from EU countries and, though ideologically attractive, paid little attention to the specific transition conditions of each individual country' (Parkes ed., 1999, p. 30). Insufficient account was taken of the extent of the socio-economic changes initiated by the transition, including those in the labour market. If the research findings are to be successfully implemented at national level, not only must all the players be involved in identifying the prob-

⁴ It is difficult to analyse aspects associated with financing of VET research, since very little information is available. Therefore general data on research and development activities have been utilised.

⁵ The data used here date from 1993, but wage statistics show that trends remain stable. No data are available for Albania.



Source: Bobeva, 1997, p. 21.

lems, but account must also be taken of the institutional framework, other parts of the education system must be reformed, attitudes must change, and financial resources must be provided (where they exist).

Another important contribution has been made by the participation of certain of the CEECs in OECD research studies. In the past six years, several countries have been involved in reviews of national education and labour market policies, and in analysis of the transition between school and working life (OECD, 2000c) and of the financing of lifelong learning. The OECD analyses are among the most comprehensive of those performed in the region at the beginning of the economic transition period. These studies perceived the VET system as a fully fledged element of the education system and of lifelong learning, in the context of a changing labour market. The comparison between the CEECs and the other OECD member countries constituted a very valuable benchmarking exercise.

The World Bank has also made a contribution to the funding of certain research. Its involvement began with a comparative analysis of systems in the region (Bogetic & Chattopadhyay, World Bank, 1995). Its loans programme has made a substantial contribution to updating of VET systems in some countries (e.g. Hungary). The World

Bank has been the major instrument of reform in countries where Phare financing was limited (e.g. Albania).

The European Training Foundation (ETF) has also helped to make VET systems more transparent. The creation of the network of national observatories in 1996 provided a common comparative perspective in studies of the main aspects of VET, a global approach to VET in the broader context of the labour market, and continuity in the annual monitoring of VET and labour market trends as well as the main VET and labour market indicators. In the past few years, the Foundation has, in particular, studied the role of the social partners, continuing training systems, employment policies, training of teachers and trainers, vocational education at tertiary level, VET in the context of regional development, etc. The ETF helped to prepare for the launch of the Leonardo da Vinci programme and participated directly in implementation of the Phare reform programme in the CEECs. However, it is not the ETF's aim to support research projects and infrastructures; research carried out under its auspices tends to be developmental or applied in nature.

Cedefop has maintained a lengthy collaboration, although one of limited scope, with research institutes or independent researchers (e.g. in the 'Scenarios and strategies for VET' project – see Box

4.18 and Section 5.4.2 in Part 4 of this report; see also Cedefop's 2001 work programme).

Lastly, the progressive opening up of EU programmes (Socrates, Leonardo da Vinci, Youth for Europe and framework research programmes) has represented a major step forward in the sharing of knowledge and methodologies.

The impact of international support for the CEECs, in the field of VET research in particular, is enormous. However, certain adjustments would make international aid more efficient and more responsive to national requirements. In particular, it should be concentrated on follow-up projects, with the aim of applying research findings and recommendations. At national level, the transparency of research projects already undertaken thanks to international support could be increased by means of coordination mechanisms, in order to avoid duplication of efforts and to ensure that national priorities are taken into account.

1.4. VET research topics in the CEECs

We shall now take a look at some recurring research topics, but this review does not claim to be exhaustive. Rather than giving a detailed list of projects, we shall attempt to show the types of questions asked by researchers, the extent to which these questions take account of the dimensions of reform in the CEECs, and how they incorporate global changes.

VET research in the CEECs focuses on two main areas: research into VET systems and contextual research.

1.4.1. Research into VET systems

In the 1980s, reform of systems (particularly of VET, which was overspecialised and had an inadequate infrastructure and poor-quality teaching) aroused a lively debate. The system was not in a position to respond to the demands made and skills required by economic change and the development of new technologies. Hence comparative analysis of VET systems became the most common research subject, focusing on a comparison with countries with developed economies, in order to define the stages of the reforms to be implemented. In parallel with this, international research endeavoured to analyse the progress achieved by the CEECs.

Initial vocational training was primarily organised in schools of two kinds – technical/vocational secondary schools, training technicians and white-col-

lar workers (four to five years of study), and vocational schools providing skills training for future blue-collar workers (one to three years of study). Thus a shared characteristic of restructuring processes for VET systems was the introduction of combined programmes, widening the choice within educational programmes and providing vocational programmes leading to a diploma on completion of secondary education (*matura*), opening up access to higher education. Consequently participation in programmes providing higher qualifications has increased (see Table 6.3).

Despite this positive trend, links between initial vocational training establishments and enterprises have remained limited, and only two countries (Slovenia and Hungary) have succeeded in retaining (or reintroducing) elements of the old dual tradition. Nevertheless, research has not concerned itself with a way of integrating learning and work, even though some studies have shown the need to provide adequate practical training in the workplace. Research carried out at international level on the evolution of the role of the school (which, having been a mediator of knowledge, is now becoming a mediator of skills) and on the changing role of the workplace (formerly a place for applying knowledge, now a learning organisation) has not influenced the research debate in the CEECs.

Table 6.3: Distribution of participants in the various education and training streams at ISCED 3 level, 1997-98, CEECs, %

Country	General education	VET with dual qualification	VET with vocational qualification only
BG	42.3	57.7	0.0
CZ	17.8	57.1	25.1
EE	72.7	23.9	3.5
HU	28.3	47.4	24.4
LV	53.6	19.6	26.8
LT	65.8	22.0	12.2
PL	32.4	41.8	25.8
RO	32.4	43.2	24.4
SK	19.7	53.9	26.4
SL	23.0	45.0	32.1

Sources: ETF via national observatories; Cedefop, European Commission, Eurostat (forthcoming).

For the two worlds – education and employment – to meet, there is a need for cooperation between the two systems and their structures, in order to provide a flexible and adaptable labour force for life. From the viewpoint of implementing a strategy of lifelong learning, it is important for researchers to clarify their vision of VET and to position their work in relation to the various elements of the education and training system. Hence multidisciplinary research must be encouraged, to prevent analyses – and practices – from being fragmented (as is characteristic of the reform process in the CEECs). Unfortunately this fragmentation is currently in existence, with initial vocational training (IVT) being studied separately from continuing vocational training (CVT) and the remainder of the system, often without special reference to the labour market or the socio-economic context. Moreover, each of these separate analyses is effected by a different institution, which reduces even further the likelihood of development of intersectoral and interdisciplinary research (Hennessey *et al.*, 1998).

Nevertheless, certain initiatives are to be welcomed; for example, in the past two years a series of research studies have been effected and a series of reports on them have been produced (see Box 6.1).

Box 6.1: Some research studies incorporating the dimension of lifelong learning

Initial VET in the framework of lifelong learning (Kofroňová, 1999).

The role of employment policy and employment services in the State education policy (VÚPSV, 1999).

Estonian education scenarios 2015 – research study (Jogi, 1999).

The model of integrated career guidance in Poland (Trzeciak & Drogosz-Zablocka, eds., 1999).

Restructuring alternatives for Albania's vocational/technical education and training subsector (Lamoureux *et al.*, 1999).

National strategy for human resources development (Birzea *et al.*, 1999).

Human resources in the Czech Republic (Hendrichova, ed., 1999).

Czech education and Europe (Čerych *et al.*, 1999).

OECD reviews of education and other policies.

Cedefop/ETF: Scenarios and strategies for VET.

1.4.1.1. Research into financing of VET

The CEECs recorded a steady increase in public expenditure on education (as a percentage of GNP) between 1990 and 1994, followed by a reduction or stagnation from 1995 onwards (except in Estonia, Lithuania, Poland and Romania). The percentage of GNP allocated to education (1997) ranges from 3% in Bulgaria to 7% in Estonia (Laporte & Ringold, 1997; ETF, 1999b).

In the past few years, studies have concentrated mainly on analysing financing of IVT and its mechanisms and trends. A recent OECD project studied alternative methods of financing lifelong learning in Hungary and the Czech Republic. This research showed, in particular, that the CEECs have not developed a concept or a shared understanding of lifelong learning, and that research needs to explore this area (OECD, 1998f).

The CEECs need to establish an education and training system which will ensure an increase in the participation of the social partners, which is still very limited. In particular, it is essential to encourage employers to participate in financing and organisation of training. This encouragement should include fiscal measures, a benefit system and more qualitative measures.

Research should also suggest solutions aimed at making VET financing more efficient in the CEECs. The ETF (1999b) raised an important question: do the resources allocated to VET need to be increased, or do other mechanisms for distributing funds need to be found?

1.4.1.2. Continuing vocational training and human resources development

There has been no systematic research into CVT. Of the many definitions of CVT suggested, the following can be accepted: 'learning which improves the employability of adults who have left the compulsory education system' (ETF, 1999c).

The CVT system (if one can actually speak of a system) suffers from a lack of transparency; there is insufficient information on training provision and training quality. While there has been a relatively large amount of research into IVT, there are no data or indicators available for CVT to attest the development of certain subsectors.

There has also been very little research in the CEECs into quality assurance and its links with CVT certification and accreditation (except perhaps in the Czech Republic, Žaludová *et al.*, 1997).

There are also very few research results available on in-company human resources development (HRD). Eurostat's second continuing vocational training survey (CVTS2), which this time includes many of the CEECs, and the Cranfield project on human resource management in Europe⁶ will provide data for this research field. The preliminary results available for the second Cranfield survey show that the level of participation in CVT is lower in the CEECs than in the EU Member States; furthermore, the majority of enterprises have no HRD policy and expenditure on CVT is lower than in the EU.

The International adult literacy survey (IALS – OECD), first (1994) and second (1996-99) waves, include several of the CEECs (Poland – 1st wave; Czech Republic, Hungary and Slovenia – 2nd wave). The results of the second survey should be available in the middle of 2000.

1.4.1.3. Teaching and learning

The learner's perspective has been somewhat neglected in the research carried out in the CEECs.

With regard to curricula, these countries are attempting to develop modular systems, skill-based. However, little research has been done in this field, especially as regards the methods and tools required if such an approach is to be implemented. Pilot schools have established a curriculum based on skills/competences within the framework of the Phare programme.

Following the reforms implemented in the context of the Phare programme, a very lively debate on modular training has been launched in the CEECs (certain countries having initiated reforms). Hence there seems to be a need for in-depth research into the impact of modular systems in the context of the CEECs.

The 'Cross country analysis of curricular reform' (Parkes, ed., 1999) has shown that in most of the CEECs, there is a clear division between theoretical education, provided in classrooms by teachers, and practical education, provided in workshops by trainers.

Decentralisation of the school system, which increases schools' independence, has led to research into assessment, with a view to establishing quality standards. Research into standard-

isation of assessment, which has begun in the past few years, should focus more strongly on alternative methods (examinations, portfolios, etc.) more appropriate to lifelong learning.

Research into innovative teaching methods (project work, group work, etc.) should be coordinated with work on training of teachers and trainers, which has recently been widely effected. The various elements of this training (transparency, standardisation, updating, etc.) cannot be dissociated from the changes affecting the entire education system (integration of education with the world of work, development in the function of teachers/trainers in the learning process, new flexible learning methods, opening up of schools to the outside world, and the role of the education system in lifelong learning).

Box 6.2: Some research into training of teachers and trainers

- ETF report on innovative practices in training of teachers and trainers (Oldroyd, 1999).
- Comparative review financed by the ETF, 'Reshaping the focus of vocational teacher and trainer training' (Nielsen *et al.*, 1999). The ETF and the Finnish and Danish governments sponsored the project on 'Reformulating the training of teachers and trainers' in Lithuania and Latvia (1999-2000).
- 'Trend and actors in education policies and reforms in Central Europe' (Nagy, 1998) includes the Czech Republic, Hungary, Poland and Slovakia.

1.4.1.4. Social partners

The role of the social partners is very limited in the CEECs. An analysis of the role of the social partners in VET appeared only very recently, thanks to a pilot project (still in progress) financed by the ETF. Involving as it does representatives of the social partners, the project itself is helping to improve the situation. The analysis shows that the countries have achieved varying levels of development in this area. A financing system based on training funds is strengthening the participation of the social partners in VET in general (Hungary, for example). Similarly, countries which have begun to develop a national system of vocational qualifications (e.g. Hungary, Lithuania, Estonia) and which are working with the social partners to put vocational standards in place (e.g. Slovenia, Estonia and Lithuania – in certain sectors) have been able to develop more systematic links with the social partners.

⁶ Cranfield project on European human resource management. Survey conducted for the second time in 1998, the longitudinal results of which should be available soon.

The rehabilitation of organisations of the civil society (NGOs, public and professional associations and trade unions), discredited by the previous regime, should be addressed by researchers from a broader sociological perspective.

1.4.2. Contextual research

This type of research involves the contextual aspects of VET, relating for example to the qualifications required on the labour market and various social aspects associated with education and employment.

1.4.2.1. Employment and unemployment: transition factors

All the countries possess better analytical and statistical coverage of unemployment than of employment. Unemployment, which emerged in the early 1990s, led governments to put in place a fundamentally new social policy, accompanied by an unemployment benefits and job promotion system. Thus it was natural for governments to finance studies aimed at assessing the effectiveness and efficiency of passive and active measures. Studies of this type are available for most of the CEECs. However, there have been relatively few impact analyses (e.g. labour market rehabilitation).

The labour force survey (LFS) launched in the CEECs between 1991 and 1995 makes it possible to obtain data on employment and unemployment. This survey has become the main source of data for researchers (see Box 5.11 for a brief description of the LFS).

In 1999, background studies on the labour market and employment were effected in Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovakia and Slovenia on the initiative of the European Commission (DG Employment and social affairs), and the ETF (cf. Beleva *et al.*, Munich *et al.*, Eamets *et al.*, Horvath *et al.*, Trapenciere *et al.*, Gruzevskis *et al.*, Sztanderska *et al.*, Lubyová *et al.*, Ciobanu *et al.*, Pirher *et al.*, 1999).

The publication 'Key indicators' is drawn up by the ETF every year, covering VET and the labour market in the CEECs. The data are obtained through the network of national observatories.

Only a few studies have covered the relationship between unemployment and employment as a stimulating factor in the economic transition. It would be useful to have supplementary analyses of unemployment and the impact of job promo-

tion measures, in order to have a basis for comparison in evaluating the changes that have occurred in the CEECs in the past ten years.

1.4.2.2. Human capital and social exclusion

The 'International Social Survey Programme' (ISSP) (see Box 6.3), the 'Social inequality survey' (1992, 1999), and the 'Work orientations survey' (1997) show that following the fall of the socialist regimes, education gradually became a major factor in occupational success. Thus the transition period was characterised by the increasing value of human capital, the rehabilitation of career prospects, and the introduction of mobility for workers (a major change in comparison with the stability characterising the old regime).

The longitudinal survey 'Returns on human capital under the communist wage grid and during the transition to a market economy' (Munich *et al.* 1999) showed that in the Czech Republic, the rate of return on education, which was extremely low under the socialist regime, increased spectacularly in the transition period; moreover, there was also a major change in the wage structure in the industrial sector following the transition from a centralised economy to a market economy.

Box 6.3: International Social Survey Programme

This annual programme of transnational collaboration is based on surveys of importance to research in the field of social sciences. Its aim is to compile research studies and coordinate their objectives, thus adding a transnational and transcultural perspective to the national studies. Thirty-four countries participate in this programme, including Bulgaria, Hungary, Latvia, Slovakia and Slovenia. <http://www.issp.org>.

Social exclusion, a new phenomenon in the CEECs, is a research topic currently receiving little attention. Under the socialist regime, social exclusion and poverty were not recognised, and marginalisation was perceived as an individual choice. Hence these phenomena were not studied either scientifically or empirically. At the beginning of the period of economic transition, the countries themselves and the international community endeavoured to study poverty, although this was confined to measuring incomes and consumption (defining poverty). The educational and occupational aspects of poverty have been neglected (cf. in particular Szalai, 1999).

Atal (1999, p. 6) notes that 'careful sociological investigation is needed to understand the phenom-

enon of poverty in these countries [the CEECs]. Is it a new form of poverty that is emerging, or is it suppressed poverty that is resurfacing?

Generally speaking, research has not taken sufficient account of social exclusion. To date it has favoured either a sociological or an economic perspective (for example, Svetlik, ed., 1996; Vercenik, 1991; Sirotvaka, 1997). The role of VET as a promoter of social inclusion was recently analysed (Trbanc, 1999). This study underlined the importance of certain factors, such as access to education, flexibility and permeability on the part of systems, and financial measures designed to promote participation in education (particularly for disadvantaged groups), as well as the way in which teaching content can encourage participation, the acquisition of qualifications, and harmonisation of the education system's results with labour market requirements. Follow-up studies and an analysis of poor educational results (dropping out, low participation rate) can serve to guide political decision-makers in defining strategies promoting access to education and lifelong learning. Such research is virtually non-existent, even in countries where the educational failure rate (dropping out) is high (over 10% – Hungary, Slovenia and the Baltic States).

Box 6.4: Human Development Report

This report, commissioned in the context of the United Nations Development Programme, has been investigating subjects of general interest since 1990. It goes beyond measuring human progress by income per inhabitant and also assesses factors such as average life expectancy, literacy and general wellbeing. The report for 2000 is devoted to the positive and negative effects of globalisation. <http://www.undp.org>.

1.4.2.3. Transition between the education system and working life

The employment statuses of those emerging from the education system are more varied in the CEECs than in the West. The variety of employment conditions has been increased by the emergence of the private sector and 'Westernised' forms of employment (branches of Western companies, with wages much higher than the national average). According to Roberts (1998, p. 236), the following categories are the most suited to research into the transition between the education system and employment in the CEECs: 'Westernised' employment, public sector, self-employment, part-time work and unemployment.

Box 6.5: Thematic review of the transition between initial education and working life (OECD)

This review was carried out between 1997 and 1999 and covered 14 countries, including two of the CEECs – the Czech Republic and Hungary. National reports are available for each country, and the final comparative report focuses on an analysis of the transition in the context of lifelong learning and on the most effective policies (OECD 2000c).

The review of the research on the transition conducted by Strietska-Ilina (2000) shows that this research is, without a doubt, too limited to the dimensions of the school/work transition and neglects other aspects, such as the transition between unemployment and employment, between types of employment, between occupations, etc.

1.4.2.4. Labour market demand and inadequacy of skills

There have been few studies in the CEECs analysing employers' needs in terms of qualifications and skills, and hence of their impact on education and training, mainly because of their high cost. Studies carried out in the CEECs either take the form of surveys of employers, or cover a wider field and are more proactive, involving the social partners in the discussions. This second approach could help to promote the involvement of the social partners in developing and modifying VET provision in the various sectors. Most of the studies on employers' demands are organised at sectoral or regional level.

Box 6.6: Surveys of the demand for skills

The survey 'Graduates on the labour market: what do employers expect?' was carried out in the context of the OECD's INES project. Its aim was to measure the demand from employers in terms of vocational skills and of competences. Eight hundred and twenty Czech enterprises with more than five employees took part in the survey (Št'astnová *et al.*, 1998).

In Latvia, a sectoral study in the wood industry (1999) made it possible to study the importance of factors influencing development, and to clarify the labour force situation and requirements, including future training needs. The questionnaire covered 165 SMEs (PW Partners Ltd., 1999).

'VET in the context of regional development' is a project launched by the ETF in 1998 and entrusted to the national observatories of four countries (Czech Republic, Hungary, Poland, Slovenia), which studied education provision and institutional and labour market trends in certain regions.

The economies in transition are characterised by job profiles which are changing faster than vocational standards. Many jobs are new or have evolved to such an extent that the competences required no longer correspond to formally acquired qualifications. Hence simple measurements of job shortages or surpluses, or surveys of recruitment problems, are no longer enough. The added value of research into know-how or particular competences is clear, as is revision of current job profiles in order to update vocational standards.

At local level, supply and demand are better matched. In the context of pre-accession to the EU and access to structural funding (ESF), research at regional level makes even more sense. Furthermore, research of this kind, effected on a partnership basis within the region, can constitute an instrument of regional development.

1.4.2.5. Forecasting research and strategies

Forecasting research (covering future labour force training requirements and demand) may take different forms and may establish longer- or shorter-term predictions or strategies. In the CEECs, short-term forecasts are more common than medium- and long-term anticipation. However, the need for longer-term anticipation of the demand for qualifications and competences, going beyond the cycle of education, is beginning to be recognised.

Traditional quantitative planning methods are difficult to apply in a changing environment, since they consist of extrapolating previous trends to the future. On the other hand, scenario methods appear to offer a satisfactory solution.⁷ This approach was used by Estonian researchers in 1997 (Education scenarios 2015, Jogi, 1999). Another example of research of this kind is the ‘Scenarios and strategies for VET’ project, implemented by Cedefop and the ETF in collaboration, and coordinated by the Max Goote institute at the University of Amsterdam (see Box 5.18 and Section 5.4.2 in Part 4 of this report). This project includes five of the CEECs: Estonia, Czech Republic, Hungary, Poland and Slovenia. Whatever the scientific debate on this type of method, it offers the undeniable advantage of bringing players of various kinds together to tackle the problems and suggest solutions.

Forecasting of requirements as regards qualifications is still in its very early stages in the CEECs.

⁷ For a presentation of various methods, see Part 4, Chapter 5.

Trials have been carried out in Hungary and Poland, and there have been feasibility studies in Estonia (Corcoran, 1997) and Latvia (Guegnard & Perier-Cornet, 1997). The Czechs have established a methodology based on the predictive human resources management approach in the context of the project ‘Regular forecasting of training needs: comparative analysis, elaboration and application of methodology’ (Czech National Observatory in collaboration with the Centre for economic research and graduate education – CERGE, Charles University).

1.5. Conclusions

Research implications

Despite the fact that all the CEECs are at different stages of the transition process and have different VET and research traditions, research content is determined by the main characteristics of the economic reforms.

- The national reports have confirmed the need to analyse labour market requirements. However, research in this field appears to be well developed in the CEECs, particularly in Poland, Hungary, the Czech Republic, Slovenia, Estonia and Latvia. More work still needs to be done on research methodology.
- VET research in the CEECs has responded quite well to the challenges posed by socio-economic changes and is gradually attempting to provide a response to the following problems: rapid increase in unemployment and social inequalities, growing requirements for and inadequacy of skills/competences, insufficient diversification of VET programmes, inefficient financing, inappropriate teaching methods and teaching qualifications, overspecialised streams, insufficient innovation in curricula, standards and quality. VET research must continue to be involved in the reform process, adopting a proactive approach and participating enthusiastically in development projects.
- To date the most convincing research outcome has been the elaboration of a concept for a system of human resources development at national level, in the context of lifelong learning.
- However, VET research still suffers from certain weaknesses, namely a field of investigation that is too limited, insufficient quality, inadequate methodological approach and inefficient organisation in some research fields:

(i) the global challenges posed by the development of knowledge-intensive enterprises; the service sector; SMEs; and issues of access to knowledge, information and ICTs;

(ii) researchers and practitioners tend to 'borrow' solutions from Western models;

(iii) despite having their own context, major research topics in the CEECs are identical to those in the EU and are also not always dealt with adequately; the CEECs must find rapid answers to the most urgent questions raised by the reform process;

(iv) the national reports have underlined the predominance of analytical studies of labour market demand in comparison with conceptual and theoretical research into VET processes and outcomes (although this is fairly well represented in Lithuania, Hungary, Poland, the Czech Republic, Slovenia, Romania and Bulgaria);

(v) research has neglected the individual dimension, confining itself to measuring labour market integration; more account needs to be taken of the needs of learners in the context of in-company CVT and HRD;

(vi) there are few specific projects aimed at disseminating and implementing research results; such projects need to be encouraged;

(vii) VET research is very fragmented, with each subsector or specific field of VET systems constituting a separate research subject; multi-disciplinary research and collaboration between institutions need to be promoted;

(viii) research funding sources are very limited in the CEECs, and this creates many problems: fragmentation of research, brain drain, concentration on urgent problems, adoption of over-simplified responses to complex problems, dependence on external sources (subject to restrictive rules); to make research more efficient, there is a need to increase inter-institutional cooperation, coordination of efforts, diversification of funding sources, and the participation of the private sector and civil society; nevertheless, international financial assistance is essential in order to look beyond short-term prospects and conservative research models;

(ix) virtually all the CEECs wish to develop research in the following fields: labour training market, analysis of requirements as regards qualifications, competence-based qualifications,

broadly applicable vocational qualifications, innovative teaching methods, teacher training and staff development in vocational schools, assessment and quality assurance, financing of VET, the transition between school and working life, systematic follow-up of graduates, modular training, the role of VET in strengthening social cohesion, in-company CVT and HRD; and last but not least, research methods need to be developed in these various fields;

(x) a final important aspect is the absence of tools for collecting appropriate information and data for research.

- Involvement of the CEECs in the processes of developing a common terminology in the field of VET, facilitating improved communication, will make it possible to improve dissemination of comparative analyses and to put a benchmarking strategy in place.

Policy implications

- The research fields which manifest certain weaknesses, as mentioned above, need support. Similarly, assistance needs to be provided to research fields which, although better covered, have not been sufficiently conceptualised and do not have adequate methodology. The collection of information is also a priority, particularly for countries where the lack of data hampers the work of analysts and represents an obstacle to conceptualisation of strategies.

- Certain measures are to be recommended, in order to generate effective research: promotion of intersectoral collaboration and of structures for allocating research grants, establishment of national priorities, achievement of a balance between sponsored research and research emanating from the research community, dissemination of existing results and, lastly, diversification of research funding sources.

- International organisations (OECD, European Commission, World Bank, ETF and Cedefop) should extend the criteria for eligibility for international research programmes and ensure that existing programmes are harmonised better with national priorities and needs, and should also support multidisciplinary projects, international comparative analyses and thematic research networks at international level.

- To increase the relevance of the research and diversification and dissemination of its results, there is a need to promote:

- (i) university and academic research (in collaboration with the world of work and political decision-making structures);
- (ii) private research with the involvement of public and academic counterparts, inter- and multidisciplinary research;
- (iii) applied research based on a sound theoretical framework;
- (iv) integrated research covering the entire system from the viewpoint of lifelong learning;
- (v) preparatory research (serving to identify needs and generate research projects);
- (vi) and prospective research.

2. VET research in other non-EU countries⁸

This chapter provides an overview of VET research in a number of non-EU countries. However, to present a comprehensive and all-embracing study is almost impossible because of the difficult demarcations between VET research and corresponding research activities, the multi- and interdisciplinary orientation in various countries and the heterogeneity of the institutions, associations and researchers involved.

In general, there is an increasing trend to focus VET research on the interrelationships between economic development, labour market needs and vocational training. Another research field is pragmatic or policy-oriented research concerning the evaluation or development of system reforms. The main fields are curriculum research, didactics, methodologies and media in training.

The support of thematic networks and the provision of information (databases, research results, etc.) is of increasing importance. Cooperation and taking on board experiences and suggestions from other countries rank high in the promotion and development of national systems of vocational training. Equally, international organisations (in particular ILO, OECD, Unesco/Unevoc)

are important providers of information, documentation and cooperation.

2.1 Introduction

The first report on vocational training research in Europe illustrated the shift of comparative VET research from more descriptive comparisons to a more comprehensive understanding of the similarities across countries, increasingly taking into account the social and cultural background of different countries (Tessaring, 1998b, Part 5, Chapter 1).

In this section we will focus on the following questions:

- which scientific institutes and university departments carry out VET research?
- what is the particular focus of VET research in the national research landscapes?
- which associations, societies and networks are primarily involved in VET research?

In general, the subject of vocational education and training is not clearly defined in many countries. Often no distinction is made between VET research and educational research. While in the US, Japan, Canada, Russia and Switzerland VET in a broader sense has since long been the subject of research, the same cannot be said of Australia, Turkey, or the Latin American countries. Here VET has just become an important factor in the development of national economies.

Analyses of national and international VET research are thus facing several problems:

- VET research differs across individual countries. In some countries – such as the US – federal/national, regional and local activities run alongside the research interests of ‘independent’ researchers from a multitude of disciplines;
- VET research in countries with a democratic research tradition and a corresponding infrastructure is different from countries which cannot provide the necessary technical facilities or are in the process of social and economic transformation;
- For reasons that have been described in the first research report (Tessaring, 1998b) comparative VET research has not thus far been able to establish itself as a scientific discipline.⁹

⁸ This chapter summarises the paper of U. Lauterbach *et al.*, 2000: ‘VET research in other European and non-European countries’. Contribution to: Descy & Tessaring, eds. Training in Europe. Second report on vocational training research in Europe 2000: background report. Luxembourg: EUR-OP. Vol. 3 (published 2001). This contribution also provides a detailed list of addresses of institutions and organisations referred to in this chapter.

⁹ See for more information the international journals *Comparative Education* and *Comparative Education Review*.

2.2 Background of VET research

The different definitions of VET and of VET research across countries are highly dependent on the national cultural and systemic context. Furthermore, VET research is carried out in different research areas such as research into teaching and learning, assessment research, curriculum research, economics of education or labour market research. These call for a multi-disciplinary and interdisciplinary nature of VET research.

2.2.1 National VET research

Vocational education and training became of general interest in almost all countries included in this chapter. Increasingly, countries recognise the link between skills and economic development and look for policies that can help to ease tensions in the labour market. VET research is very closely related to what happens in practice, and tied to the broader contexts of educational, economic and labour market policy.

This correlation between the activities of VET policy, the development of VET and the founding of central national or regional research institutes also applies to the subjects of research.

Research efforts are shaped by the respective political framework conditions and system development. In Japan and the US, for example, national VET policy leaves relatively little room for manoeuvre. Research bodies or organisations carry out their work within the given framework of the existing VET system.

On the other hand, research activities in the People's Republic of China, Russia and Latin America, have taken on systems development as one of their subjects. This approach is also influenced by prevailing conditions, such as the transformation of economic and social systems, reforms in VET and a relatively less developed system of vocational education and training.

2.2.2 International VET research

The remarks above could give the impression that VET research is shaped nationally, and that it is therefore the political framework conditions which also determine the focus of research activities. However, VET research also has a strong international component.

This can be briefly illustrated by using the example of comparative education. Here cooperation began between the scientific communities of large industrialised nations, and, later on, academic or

scientific societies and international organisations were founded. However, independent comparative research on education and training has lost its influence. International organisations have taken over many of the roles of the scientific community.

The OECD has taken over a good deal of comparative research, such as educational achievement, adult literacy, educational indicators and statistics. Similarly, the ILO is also running a series of promising research projects, e.g. *Evaluation of training* and *Training policy analysis*. For its part, through the Unevoc, Unesco is also beefing up its activities in support of VET research.

2.2.3 Transfer of VET research into policy

The transfer of national research results into policy could be ensured by the setting up of national research institutes and of networks. Whether or not VET policy actually uses the results of VET research cannot be answered definitely. Such a dialogue between research and policy does exist in Australia, the People's Republic of China, Canada, the Mercosur area (see below), Russia and the US.

As far as comparative education and VET research are concerned, the transfer between policy and research represents the following priorities:

(a) *Using the aims, experience, and experiments of other States*

It is difficult to conclude whether or not national policy draws on 'positive' examples from other countries in order to shape national VET policy. This is to a certain extent the case with several central and eastern European Countries (see Chapter 1 in this Part) and the People's Republic of China, which all are involved in the framework of cooperation on vocational training with other countries. Similar examples of cooperation are also to be seen in the Mercosur area (see below).

(b) *Similar problems in different countries*

Unemployment, including youth unemployment and school-to-work transition problems, and the responsiveness of VET are increasingly becoming research subjects in different countries. The link between technological development, globalisation and workers' skills is a common credo of VET research and policy. It is not only through the international organisations that equivalence in

mutual recognition of diplomas is coming to the fore, but also through common markets (e.g. Mercosur).

(c) Contribution to the theoretical understanding of VET and its development

At national level, pragmatic research rather than theoretical developments and contributions towards future development tends to dominate. However, international organisations are increasingly involved in theoretical work, since classification and indicator systems as well as assessment and policy studies require a theoretical basis.

2.3 Patterns of national VET research

In the following sub-sections we will describe some basic features of VET research in different non-EU and non-CEE countries or regions.¹⁰ VET research is always embedded in the specific national systems of education and training and, furthermore, in the prevailing political systems and the different responsibilities of national/regional actors, social partners and private organisations for vocational training. This background information cannot be described here in detail. For more information we refer to the contribution of Lauterbach *et al.* (2000), to the loose-leaf edition of the DIPF (German Institute for International Pedagogic Research) on VET systems (Lauterbach, regularly) and the references given there.

2.3.1 Australia

The responsibility for education and training falls largely to the State and Territory governments but with significant funding and policy guidance from the Commonwealth. About 80 % of VET is delivered through the public system. At national level, the funding and development of VET is coordinated by a joint federal-State body, the Australian National Training Authority (ANTA).

Since the early 1990s, reforms of the Australian VET system have aimed to create a more unified national system for vocational education. This process has involved the implementation of competence-based training for VET programs, the creation of a national system of vocational qualifications (the Australian Qualifications Framework), measures to open up the training market to private providers and the introduction of New

Apprenticeships. During this period, the VET system has expanded considerably with enrolments in VET climbing from 1 million in 1992 to over 1.6 million in 1999.

The reforms to the VET system have been accompanied by a significant expansion of VET research. ANTA funds the collection of statistics on VET as well as a large number of research projects and research centres. Much of this work is managed by the National Centre for Vocational Education Research (NCVER), established in 1981.¹¹

NCVER has produced a first national VET research strategy covering the period 1997-2000. The following broad areas for training research were identified:

- economic and social implications of VET;
- employment and the workforce;
- pathways from school to work;
- outcomes of the VET sector;
- the quality of the provision of VET.

ANTA also funds four national Key research centres in VET dealing with vocational learning, economics of VET, rural/regional VET issues and the economic and cultural benefits of VET (for further information see Lauterbach *et al.*, 2000).

The explosion in training research in Australia since 1990 is closely linked to the training reforms that have taken place during that period. State and federal governments in Australia are as keen to pursue the goal of lowering unacceptably high levels of unemployment, particularly youth unemployment. Training is viewed as an acceptable solution to these problems in the absence of a consensus on more direct means of stimulating the economy. Research provides a tool for evaluating the impact of policy and devising further reforms to the system.

2.3.2 United States of America

There are various reasons why it is difficult to identify where the emphasis lies in VET research in the US and to make general comments on VET research. As in most countries, vocational education and training is a research subject for the whole range of social sciences. There is no spe-

¹⁰ Note that VET related research in Norway has been reviewed throughout the whole report in the context of specific research issues.

¹¹ More information: www.ncver.edu.au. NCVER has also established an international database VOCED to find the latest technical and VET research information: www.ncver.edu.au/voced.htm.

cific institutionalised scientific discipline for labour, vocational and economic education.

The way in which the federal system in the US is organised politically makes it rather complicated to describe the state-of-art in VET research, since responsibility for the education system lies with the individual federal states. Furthermore, there are some 15,500 school districts at local level with local boards of education all having various competences of their own.

Basically, the American constitution does not provide for any federal legislative powers on matters of education. However, it may intervene in matters of race integration or discrimination against certain population groups. The federal government can exert influence through the constitution's 'welfare clause'. Through target-related grants in aid the central administration has a means of shaping the education system in the individual states. They mean that binding minimum standards are respected, which makes comparison possible within the federal system. In vocational education and training, however, these mainly take the form of programmes for the 'disadvantaged'.

Programmes such as career education, initial vocational education (occupational education, vocational education, cooperative education, adult education) and various promotional measures for disadvantaged groups are handled by the Department of Education.

Company-oriented measures (on-the-job training, apprenticeship programme), promotional programmes, anti-unemployment measures through companies, trade unions and other institutions and programmes such as the Job Training Partnership Act come under the Department of Labour and the Employment and Training Administration.

Actual vocational and technical education as such is provided in community colleges, technical institutes, etc., which come under the aegis of the states or school districts, though it must be said that vocational and technical education is not very highly regarded when compared with 'general' education.

Concerning VET research at national level, the National Centre for Research in Vocational Education (NCRVE, <http://ncrve.berkeley.edu/>) at the University of California, Berkeley, is the largest national establishment in the US dealing with research, development and diffusion of subjects related to VET. It has played a key role in working out new concepts in the field of qualifications

for the workforce. The centre focuses on finding new and innovative ways of linking education and work. Amongst other things, the centre provides information about pilot projects, curriculum development, qualification standards, further training of teachers and the integration of curricula. Typical projects are¹²: curriculum integration; academic skills; performance at the workplace; and development of work-related technological skills.

The centre comprises a consortium of professors from different regions in the US. The presence of the NCRVE or one of its members in virtually every region of the US facilitates contacts with the various education and training establishments and the labour market.

2.3.3 Canada

Because Canada is a country of immigration, and also because it is involved in numerous development projects, international VET research, cooperation and exchange of researchers is an important pillar of Canadian VET research.

Vocational education in Canada is provided primarily by the community colleges. These post-secondary institutions appeal to a wide range of individuals through the courses and subjects they offer. In the secondary sector (pre-) vocational education and training is provided by the senior high schools.

Thus, any research which aims to analyse the effects and development lines of these institutions is to some extent always a form of VET research. This type of research is largely carried out in the Canadian universities, particularly by the faculties involved with teacher training. Apart from the usual teaching and research activities, bigger projects are, on occasion, also carried out in the universities, as with, for example, the networks for VET research.

Depending on their size, some of the community colleges also have their own research and evaluation departments. In particular, they carry out evaluation research, with the aim of helping the colleges to better tailor their programmes to students' needs, or to recognise factors influencing success or failure. Since drop-out rates are at their highest in the first year of the community colleges, this type of research tends to trade under the name 'first year experience'.

¹² For update information on NCRVE's work programme see the website given above.

Some features of topical Canadian VET research are discussed in Lauterbach *et al.*, 2000. These are, for example:

(a) school-to-work-transition research; because of the relatively high school drop-out rates and the range of alternatives in terms of contents and institutions in VET, the role of school-to-work-transition research is as important as in other countries. A considerable amount of research is done in university faculties;

(b) change and reform of vocational education and further training, carried out or supported by the Human Resources Development Canada (HRDC, www.hrdc-drhc.gc.ca) and by Sector Councils, i.e. branch organisations which also provide room for numerous research and development activities within this area;

(c) skill standards, which are often established by the relevant Sector Councils or by private consulting firms. The basis for creating these skill standards is provided by sectoral studies which look at the general requirements for educational and staff development in a given sector. These are then followed by occupational analyses.

(d) HRDC also has its own research department, the applied research branch, as well as an evaluation department. The former draws up at four-yearly intervals, for example, transition and location studies of secondary school leavers, and community college and university graduates.

(e) political and industrial-sociological labour market research into vocational education and further training is carried out within the field of political science and industrial sociology (Gunderson, & Sharpe, 1998; Sharpe & Haddow, 1997).

(f) the last report of the Canadian Policy Research Networks on vocational education deals with essential questions related to qualifications in the face of the challenges raised by the future world of work (Betcherman, McMullen & Davidman, 1998).

(g) Research networks in the field of vocational education and further training, supported by the Social Science and Humanities Research Council (SSHRC, www.sshrc.ca). Cooperation with vocational education practice also represents an important aspect in the work of these networks. These networks are:

- NALL deals with lifelong linking of formal, non-formal and informal learning;

- Training Matters: education and training for new forms of work;
- EvNet: network for the evaluation of education and training technologies;
- The Western Research Network on Education and Training: a link between educational provision, processes and outcomes;
- *relations formation emploi* (Training-employment relations): analysis of methods of cooperation between the players in the training world, the impact on their organisation and results for students;
- a relatively new network in VET research is the Unevoc Canada Network founded in close cooperation with Unesco's Unevoc project.

2.3.4 South America¹³

2.3.4.1 Vocational training in Brazil, Argentina and Uruguay¹⁴

In *Brazil*, most vocational education and training is organised on a private basis through several sector-related and decentrally organised VET institutions which are financed through a form of income tax. Coordination of the various public and private providers of VET, which since 1976 have been brought together under the National Manpower Training System (*Sistema Nacional de Formação de Mão-de-Obra* – SNFMO), is the responsibility of the Federal Manpower Council.

High drop-out rates and the fall in the numbers of secure jobs led the ministries for labour to become increasingly involved in the shaping of VET. Essentially, programmes are provided for school drop-outs and for the unemployed.

The Brazilian government is struggling with the problems affecting all the South American countries. Most young people have no chance of finding a regulated training place or job. What is more, even completion of vocational education is no automatic guarantee of finding a well-paid job. There is also a negative attitude towards practical training, with an academic training being preferred wherever possible. Over the next few years the Brazilian government aims to create a national system for technological training to over-

¹³ This section focuses on cooperation in South America and presents some examples of national VET research in Brazil, Argentina and Uruguay.

¹⁴ For a more detailed description of training systems and current problems in these countries see Lauterbach *et al.* (2000).

come the shortage of training places, to improve cooperation between companies, training centres and the government, and to bring the VET system into line with recent technological developments. (see Lanzendorf *et al.*, 1996)

In *Argentina*, unlike in other Latin American countries, no VET institutions based on private economic initiative have developed alongside the public education system. Initial vocational education was, and still is, an integral part of the State system. Vocational and technical education in Argentina is, therefore, marked by the predominant steering role played by the State. Neither employers nor the trade unions have any formal responsibility or take any initiative.

Although the vast majority of Argentina's active population completes compulsory schooling, only a minority goes on to vocational education. Because of increased international competition, this level of qualification no longer satisfies firms' requirements. People have realised that, in particular given the context of the Mercosur¹⁵ integration process, only an extensively trained, technically qualified and flexible workforce can guarantee competitiveness in the long term. Measures such as the decentralisation of competences in the secondary education sector, should improve the situation. There is also an approach which aims at involving the social partners in VET in order to improve the alternation between school and firm (Lanzendorf, 1997).

Education and training in *Uruguay* are highly acknowledged. Occupations which require study are held in greater esteem than manual professions, even though the latter are often better paid. The illiteracy rate in Uruguay (0.4%) is low not only in comparison with other Latin American countries, but also in international terms, and it is still falling thanks to virtual blanket coverage, particularly in the primary sector.

There has been a noticeable shift in the competence for VET from the Education Ministry to the Ministry for Labour, through the creation of the National Directorate for Employment (DINAE) and the National Employment Board (JUNAE). Their role it is to advise the Ministry for Labour on labour market policy, and to provide guidance programmes for the labour market as well as training programmes. DINAE's work has led to a process of decentralisation and diversification in

the VET field. More and newer organisations – under State control – have become involved in vocational education and training.

Apart from formal training provision, there is also a whole series of State-run, non-formal training possibilities, which mainly target socially marginalised young people who have dropped out of the formal training and vocational education system.

2.3.4.2 Themes and trends in VET research in South America

VET research in South America is marked by interdisciplinary research approaches in the fields of sociology, economics, psychology, and to a lesser extent in education science. The institutions involved in VET research are located in very different fields with little institutionalisation. Thus, departments in the ministries for education and labour, universities, non-governmental organisations, and both public and private research establishments all deal with VET research amongst their other research topics. Most research work deals with application-oriented issues intended for political decision-makers.

Whereas, in the past, training was predominantly not geared to practical work or labour market needs and formed part of general education policy – this applied in particular in Argentina and Uruguay – training policy has recently tended to be seen increasingly as an active labour market policy. The reason behind this new line was both the general effects of globalisation on the markets and high unemployment figures and drop out rates from the formal education system. So, apart from the departments in the education ministries, labour ministries are also becoming more heavily involved in shaping and assessing vocational education.

The following issues are increasingly being taken as the subject of research: qualifying micro-enterprises and workers in the informal sector; coordinating technical education and practice-oriented qualifications; coordinating formal and non-formal learning taking local and regional requirements into account; the social implications of VET; the influence of new technologies on vocational qualification requirements; the needs of disadvantaged groups; and the integration of marginalised people, particularly young people, in VET programmes,

In *Brazil*, the International Centre for Education, Labour and the Transfer of Technology (CIET,

¹⁵ Mercado Común del Sur (Common Market of the South), founded in 1991, covering a population of almost 200 million.

www.ciet.senai.br), founded in 1993, acts at national and international level as a centre for observing and documenting the effects on, and changes to, vocational education and training brought about by the development of new technologies. The aim is to improve the understanding of the fact that the effects of development of new technologies, with the resulting changes in the labour market and the appearance of new qualification standards, have had substantial impact on national industries. Vocational training plays a key role in positive adaptation.

The centre researches, forecasts and formulates proposed solutions in the fields of information, technology, employment, and education in order to provide positive backing for the process of adaptation. The CIET is involved in developing a number of attributes: an information system about international experiences in VET, life-long learning and the reintegration of adults and young people; research into the link between education and work and the influence of new technologies on employers and workers; the development of an advisory centre for companies which want to provide vocational education and further training; and tracking political discussion of vocational education and training in Brazil.

In *Argentina*, the National Research Centre for Human Development (*Centro Nacional de Estudios Población - CENEP*, www.undp.org/region/latam/argentina/cenep) plays an important role in national and international VET research. Amongst other subjects, the CENEP researches population growth, mobility, labour markets, education and work, pension systems, social security and health systems and domestic and family development. The FIEL (Economic Research for Latin America Foundation, www.fundacionkonex.com.ar/fiel.html) conducts individual projects on questions related to education and VET. The centre mainly employs researchers from the social sciences and conducts research in the areas of human development, information technology, technical assistance and the distribution of information. The centre follows an interdisciplinary approach, develops and supervises projects in cooperation with institutions and organisations, governments and private establishments.

The Inter-American Centre for Research and Documentation on Vocational Education (*Centro Interamericano de Investigación sobre Formación Profesional - Cinterfor*, www.cinterfor.org.uy) founded in 1963 in Montevideo, Uruguay, is an offshoot of the International Labour Organisation (ILO). The objectives were guided by the demands

of member states, i.e. to see a general rise in the level of vocational education and training, in order to improve living conditions for workers, and to improve the quantitative and qualitative performance of firms. Since its creation the aims and role of Cinterfor have been extended. The promotion and strengthening of cooperation in the context of the development and modernisation of VET, the development and spread of a regional network for VET within the member states, and the conduction and promotion of VET research are some examples.

Cinterfor also runs and organises the Latin American Information and Administration Network for Vocational Education (Cinternet) on the exchange of information in the field of vocational education and training. The network documents the current situation and offers rapid access to questions of VET in Latin America.

2.3.5 Japan

Since 1989 labour market research, occupational research and VET research have come under the Japanese Institute of Labour (www.jil.go.jp), a body within the Ministry for Labour. To a certain (limited) extent the new Japanese Institute of Labour is also charged with responsibility for VET research. The Institute carries out extensive studies of its own, has a broad-ranging database covering the field of labour, labour market and occupational research, and supports the governments in the prefectures within the framework of regional labour market policy.

The Japanese Institute of Labour's most important fields of research are, among other things:

- economic aspects of work (wage increases, employment figures, working hours, female labour);
- vocational and employment structure (unemployment, mobility and change of company, technological change and changes in the labour market);
- labour market and forms of employment (worker supply and demand, types of employment conditions/contracts);
- working life (occupational biographies, the work and everyday life of employees);
- vocational education and training (developing work skills, in-company training and further training);
- occupational guidance, careers advice and information.

Another VET research institute is the Polytechnic University which comes under the aegis of the Ministry for Labour. Until 1989 it worked in the most important fields of research in VET, but now concentrates its activities on staff training for vocational education and on research into teaching and learning, e.g. developing curricula, audio-visual teaching materials, text books, and on distance learning courses.

The National Institute for Educational Research (NIER, www.nier.go.jp) was set up in 1949 as a body of the Ministry of Education, Science, Sports and Culture (*Monbushō*). The main aims of the institute are to carry out basic and applied research in the educational field as well as providing a range of information and advisory services. Vocational education is dealt with by part of the Department for Educational Content.

2.3.6 People's Republic of China

Since the early 1980s the political leadership in the People's Republic of China has carried out comprehensive reforms. The transition from a centrally managed economy to a 'socialist market economy' has brought about change in virtually all the socially relevant areas in the (vocational) education system in particular.

The vocational education system is facing new challenges. During the cultural revolution (1966-76), general education was expounded as being the best vocational qualification and many vocational schools were shut down. Thus there was virtually no systematic provision of VET. Only in an informal way does the transfer of knowledge acquired through experience continue to play an important role today. Small workshops and traders employ 'apprentices' who are instructed by experienced workers rather than undergoing any structured form of training.

Since the early 1980s priority has been given to extending and improving the quality of vocational education and training. However, there are still marked differences in the provinces. Generally speaking, an academic education is still the 'one best way'.

The reform of vocational education and training in the late 1970s sparked a major increase in the demand for VET research. VET research is intended to work out the scientific bases for macro-steering and needs planning, concept development, reform strategies and measures. Special research institutes for VET were set up. Nowadays there are research institutes at State

level, in the provinces, towns and autonomous areas as well as in the technical colleges, colleges and universities. Vocational education and training is becoming a discipline in its own right within the field of educational science.

Some of the most important research institutions at State level are the Ministry of Education's Central Institute for Vocational Training (CIVT), the Occupational Skill and Testing Authority (OSTA) under the Ministry for Labour, various vocational education societies and associations, and research bodies in branch ministries and commissions. For an overview of national and provincial societies and associations for VET, and their research subjects, see Lauterbach *et al.*, 2000.

At first sight the large number of research bodies suggests a broadly institutionalised and established VET landscape which varies in terms of its content. It should be noted, however, that there are only a relatively limited number of people working in the institutions, although noticeable progress has been made in development and expansion.

It is similarly felt that the theoretical principles and research methods are not yet broad or deep enough. However, as yet there are no systematically established theories of vocational education and training. Theoretical education tends to take a rather philosophical stance, and only gradually is a social science oriented type of VET research starting to emerge. Moreover, links between research into principles and the shaping of theory and applied research are somewhat lacking.

Applied research is the most highly valued. Virtually all the institutions carry out applied research only. Even within the academies and university institutes, applied research takes place alongside basic research. Tang (cit. in Lauterbach *et al.*, 2000) mentions four priority areas in applied VET research:

(a) *Vocational education and social and economic development*. This includes research into the strategic importance of vocational education in the development of China, the regions, macro planning, systems development, standardisation and the funding structure, as well as legislation governing vocational education and the financing of vocational education.

(b) *Curriculum development and teaching processes*. Research work is conducted concerning pupils' moral education, educational aims and models, course development, tailoring of

subject areas, teaching content, teaching methods and the assessment or evaluation of the quality of learning and the learning process. Pilot models are also included in this research work, e.g. on the introduction of the dual system or of competence-based education.

(c) *Educational management and organisational development.* These studies look at management systems, organisational structure and development, the distribution of competences and evaluation. Such studies mainly present successful models and reports from experience. They provide important impetus for practical reforms although their theoretical basis is deemed inadequate.

(d) *Development of information and support systems.* A great deal of attention has been paid to the systematic development and expansion of information networks on VET through the Internet and networked communication structures, databases, e.g. on subject-related research work, legal bases, text books etc. Research in such areas tends to be the exception, however.

A lack of a theoretical basis for applied research is not only seen in the area of educational management, organisational development and the development of information and communication systems, but also in other areas. On the one hand, the issues examined appear to rather restricted and related to the direct implementation of policy matters. On the other hand the transfer from the theoretical to the applied level has still not been ensured. Evaluation research, which could provide the cornerstone for both the reform process and theoretical education, is not very highly developed.

2.3.7 Russian Federation

Russia has a long tradition of what is known as 'occupational education', which sees itself as a scientific discipline and which, as a branch of education, fulfilled the well-known functions of socialist educational doctrine in the field of vocational education and training. The theoretical principles were largely laid by the former Academy of Educational Sciences in the USSR (nowadays the Russian Academy of Education; RAO). Its scope was (and in fact still is) predominantly the training and further training of teaching staff for the VET sector.

A form of VET research was also developed which initially concentrated on the development of teaching methods within the scope of the

framework plans for the vocational schools, while also becoming increasingly involved with matters of policy advice. It is these functions which have come particularly to the fore since the switch in system in the early 1990s.

It is important to note in this context is that VET research was, and continues to be, predominantly tied to the various levels of vocational education in Russia which evolved historically, each with its own respective administrative 'superstructure'. Thus, even today there are still different research structures for the levels of 'basic vocational education' and 'middle-grade vocational education' (technical secondary schools, schools of technology, and more recently also colleges).

Research and development structures, particularly in the area of curriculum development, are to some extent also to be found within specialised departments; corresponding practice-oriented centres were developed, particularly by the regions.

Projects and subjects related to the development of VET and VET policy are also worked on in other research contexts, such as economic (including the economics of education) and sociological research (e.g. youth sociology), mainly within the respective institutes of the Russian Academy of Science.

When the system started to change, numerous associations and networks came into being which have in common the fact that they are in reasonably close proximity to the 'official' structures of the Ministry. From the point of view of VET, the first bodies to be noted are:

- the Academy for Vocational Education¹⁶ which brings together the broad field of research and practice (particularly school heads and regional managers) and gradually intends to build bridges with the social partners;
- the Vocational Education Association which also provides specialist services;
- the *Rosproftech* (Russian technical vocational education) is made up principally of workers in the field and is closely linked to the ministry.

2.3.8 Switzerland

Vocational education – insofar as it is regulated by the Vocational Education Act – falls within the scope of activities of the Federal Office for Voca-

¹⁶ Not to be confused in either organisational or functional terms with the RAO – see above.

tional Education and Technology (*Bundesamt für Berufsbildung und Technologie* – BBT, www.admin.ch/bbt), founded in 1998.

The Swiss Institute for Occupational Education (*Schweizerisches Institut für Berufspädagogik* – SIBP, www.sibp.ch) – a department of the BBT – deals first and foremost with the training and further training of teachers at vocational education schools.

In the whole of Switzerland there are some 125 mostly small-scale institutions working in the field of educational research and school development.

The Swiss coordinating unit for educational research (SKBF, <http://agora.unige.ch/skbf>) promotes cooperation between educational research, practice, administration and policy. Within educational research, the SKBF coordinates between the various disciplines and institutions, as well as between the university institutions and teaching sections of the Education Department. The SKBF provides information about research and development projects within the Swiss education system, about development trends in education and about the institutions for educational research and school development.

The SKBF is linked to the Swiss Society for Educational Research (*Schweizerische Gesellschaft für Bildungsforschung* – SGBF, <http://www.sagw.unine.ch/SGBF>). This body pursues its aims through the organisation of annual congresses, standing working parties, and through publications. The SKBF is also linked to the Swiss Society for Applied Vocational Education Research (*Schweizerische Gesellschaft für angewandte Berufsbildungsforschung*).

In spring 2000, the BBT published a report of the project group ‘application-oriented vocational training research’ which analyses major changes in vocational training which are of importance for VET policy and research, too (BBT, 2000). Based on this analysis, a number of research fields will be promoted and funded in the period 2000 to 2003 (more information: www.sibp.ch/kti):

- system and context of VET;
- comparison of systems in initial and continuing training;
- occupation-related research on continuing training;
- costs and benefits of VET;
- flow processes and transitions;

- evaluation, steering, quality assurance and innovation;
- guidance on occupations and adults;
- occupational research and new occupations;
- ICTs within VET;
- learning and teaching in VET;
- support of low and high performing young people in VET;
- research on gender and on disadvantages in education.

2.4 International societies and organisations

2.4.1 Societies in comparative education research

Comparative education research has a long history, starting in the second half of the 19th century. Numerous national institutes and international organisations are involved in comparative education research (for an overview see Lauterbach *et al.*, 2000, Chapter 3). Apart from the national and international documentation centres and research establishments in individual countries, chairs and institutes for international and comparative education have also developed within universities.

Furthermore, there are scientific societies, such as the Comparative and International Education Society (CIES); the Comparative Education Society of Europe (CESE); and the World Council of Comparative Education Societies (WCCES) founded in 1970.

After the second world war a series of independent research institutes were established outside universities. They are mainly financed through national public funding or by international organisations. They are either very empirically organised and provide services for the education administration. Examples are: the *Centre International d'Etudes Pédagogique Sèvres* (CIEP), the *Deutsche Institut für Internationale Pädagogische Forschung* (DIPF), or the Australian Council for Educational Research (ACER).

The International Association for the Evaluation of Educational Achievement (IEA, <http://uttou2.to.utwente.nl>) was founded in 1959 and is a non-governmental international association based in The Hague in the Netherlands. Its role consists of conducting international comparative school achievement studies and thereby

developing indicators for learning processes and, in particular, for the outcome of learning.

2.4.2 International organisations

2.4.2.1 World Bank Group

In the human development field the World Bank Group¹⁷ provided around 1 million US\$ for 18 education projects in 15 countries in the 1997 tax year (1995 – US\$ 2.1 million; 1996 – US\$ 1.7 million; World Bank Annual Report, 1997, p. 18). Loans for education again rose significantly in the 1998 tax year. However, only one project in Hungary¹⁸ and one in the Lebanon¹⁹ dealt explicitly with vocational education and training in 1998 (World Bank Annual Report, 1998, p. 69).

The role of VET in the World Bank has changed since the early 1990s. While in the 1970s and 1980s it was projects in this field that were promoted in particular, nowadays the view is that ‘vocational and technical skills are best imparted at the workplace, following general education. The private sector should be directly involved in the provision, financing and governance of vocational schooling’ (quoted from Watson, 1996, p. 47).

Watson interprets this statement in relation to the real drop in loans to vocational education in the following terms:

‘Because VOCED²⁰ has generally proved to be expensive it is far easier for the Bank to suggest that private employers should take on this role themselves: it excuses the Bank from becoming too heavily involved in that costly area again’ (Watson, 1996, p. 53).

The World Bank Group acts first and foremost as a bank, i.e. research, if done, is always conducted from an economic point of view. The importance of the World Bank in terms of VET research tends therefore to be restricted to its role as a publisher, or in the transfer of knowledge. The (major) World Bank projects are documented on the Inter-

net (<http://wbln0018.worldbank.org>). Pdf documents about the vocational education systems in individual countries can also be called up.

2.4.2.2 United Nations Educational, Scientific and Cultural Organisation (Unesco)

Unesco is the only specialised agency of the UN to have a mandate in the education sector. Unesco’s work in the field of vocational education is essentially of a statutory nature. With a budget that is actually no bigger than that of a sizeable university, Unesco supports projects in 180 countries (<http://www.unesco.org>). More than 35% of Unesco’s funds go into the education sector.

Current priorities in Unesco’s work are lifelong learning²¹, learning in the 21st century²², literacy and *e-learning*. Unesco publishes a World Education Report annually.

In 1992 the Unesco technical and vocational education project (Unevoc) was created. The task profile of the Unevoc project is as follows:

- international exchange of ideas, experience and studies on policy issues;
- strengthening of national research and development capabilities;
- facilitating access to data bases and documentation;
- strengthening of the Unevoc network.

With the International Standard Classification of Education (ISCED) Unesco has created an instru-

¹⁷ The group comprises the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Agency (MIGA) and the International Centre for Settlement of Investment Disputes.

¹⁸ A programme against youth unemployment. Young peoples’ opportunities in the labour market are improved by improved training possibilities.

¹⁹ Under the World Bank’s reconstruction work US\$ 68.86 million is being invested in the vocational education system in the Lebanon, to bring it up to market requirements.

²⁰ Vocational education

²¹ Subject areas are: Education for all forum, Alternative education for marginalised youth, Learning without frontiers, Early childhood and family education, Special needs education, Preventive and health education, Information in the field of drug abuse prevention, Unesco programmes and activities for women, Promoting girls’ and women’s education in Africa.

More information:
http://www.unesco.org/education/educprog/prog_idx.htm.

²² Subject areas are: World Conference on higher education, Unitwin Unesco chairs programme, Academic mobility and recognition, Civics education and human rights education, Linguapax, Associated schools project network, General secondary school curricula and teacher training materials, Science and technology education and project 2000+, SEMEP – south eastern Mediterranean sea project, Unevoc – international project on technical and vocational education, World teachers’ day 1998, Unesco and the elimination of illiteracy, International literacy day, Minedaf VII, Working group on education sector analysis (WGESA), Environmental education.

(More information:
http://www.unesco.org/education/educprog/prog_idx.htm).

ment 'for assembling, compiling and presenting statistics of education both within individual countries and internationally'. The ISCED classification was revised in 1997 (download: <http://unescostat.unesco.org/uisen/pub/pub0.htm>).

Materials that are relevant to vocational education can be consulted using the following databases:

- Innodata: reports on innovative concepts and projects in the primary and secondary sectors; <http://www.software-engineering.ch/Infobases/IBE/InnoData/>;
- Unesbib: Bibliography of Unesco printed documents and publications (reference database); <http://unesdoc.unesco.org/ulis/unesbib.html>;
- Unesdoc: documents from Unesco bodies (General Conference, Executive Board, Director etc.) <http://unesdoc.unesco.org/ulis/>;
- World Data on Education: database on country profiles; http://www.ibe.unesco.org/Inf_Doc/Nat_reps/natdb96.htm.

2.4.2.3 International Labour Organisation (ILO)

The International Labour Organisation (ILO) (www.ilo.org) was founded in 1919 and is the only UN Organisation whose bodies are composed on a tri-partite basis of representatives of governments, employers and workers. The ILO lays down statutory requirements in conventions and recommendations in the field of labour law, contractual and organisational freedom, abolition of forced labour, etc. Training is one of the organisation's main priorities. But it also provides concrete support in the fields of vocational education, rehabilitation, labour market policy, labour administration, working conditions, labour law, etc.

Field programmes, technical programmes and action programmes are carried out. The field programmes are represented by continental/regional institutes. The South American region is one of the most active here with the Cinterfor research and documentation centre and Mercosur (see above).²³ The technical programmes are thematically structured operational units. The units

²³ Seapat is the Asiatic counterpart of Cinterfor, although it has not yet achieved the level of professionalism and quality of the latter. (<http://www.ilo.org/public/english/mdtmanil/index.htm>).

include the International Institute for Labour Studies, dealing with international labour market research, and the International Training Centre, which provides, amongst other things, (further) training for officials from educational administrations, trade unions, etc.

The ILO's main task in the field of VET is that of '[...] developing the policy-making capacity of governments, employers' and workers' organisations and strengthening dialogue and cooperation in the field of training. These activities took the form of the dissemination of information to constituents, policy dialogue and the provision of advisory services.'²⁴ ILO's 1998-99 World Employment Report deals explicitly with employability and training issues (ILO, 1998).

A survey was conducted in cooperation with the World Bank, looking at the 'best practice in training policies' in 15 countries in the process of transformation. Plenty of advice and technical support was also offered to the implementation, further development and assessment of national training systems.²⁵

The Employment and Training Department (EMP-FORM) with its Training policies and systems branch (Polform) has overall responsibility for vocational education and training. The following projects were amongst those implemented (in partial cooperation with the regional bureaus):²⁶

- training policies and systems;
- training policy reforms;
- management of VET;
- evaluation of training;
- strategic partnership in training;
- training policy analysis;
- skills training and employment in conflict-affected countries.

Furthermore, the ILO provides basic labour statistics on the economically active population, unemployment and underemployment, average earnings and hours of work, time series of wages and normal hours of work, labour cost, consumer price indices, household expenditure and house-

²⁴ Constraints and innovations in vocational training reform (a joint World Bank/ILO publication, in preparation).

²⁵ Additional programmes: Employers activities, Enterprise and cooperative development. Equality for women, Multinational Enterprises, Statistics etc. (<http://www.ilo.org/public/english/depts/depts.htm>).

²⁶ For references and more details see Lauterbach *et al.*, 2000.

hold income, occupational injuries and occupational diseases, and industrial disputes as well as forecasts of the labour force.

Analogous to the ISCED classification, the ILO provides the following classifications:

- International Standard Classification of Occupations (ISCO);
- International Classification of Status in Employment (ICSE);
- International Standard Industrial Classification of all Economic Activities (ISIC);
- Classifications of occupational injuries (formerly industrial accidents).

Materials which can be of relevance to VET can be called up via the following online databases (OECD Annual Report, 1999f):

- ILODOC (database containing more than 50,000 files, monthly update);
- ILOTERM (glossary for English, French, Spanish and German specialist terms from the vocational sphere);
- NATLEX (ILIS; database on national labour law);
- LABORDOC (database, which contains all the material from the ILO's documentation centre, including non-ILO documents).

2.4.2.4 Organisation for Economic Cooperation and Development (OECD)

The Organisation for Economic Cooperation and Development (OECD, www.oecd.org) was founded in 1961. Its 29 member states are amongst the richest countries of the world. OECD's role is to promote economic development, employment and living standards and to contribute to the development of the world economy and world trade.

The organisation sees its main tasks in planning, coordination and intensification of economic cooperation and development, encouraging economic development with full employment and monetary stability. Overall there are more than 200 committees, working parties and expert groups which ascertain statistical data, collect, assess and make it available to the public in cooperation with the Secretariat in Paris.

Unesco, Eurostat and the OECD cooperate to achieve international comparability. Questions on general and vocational education and training are mainly handled in the Department for Statistics

and Indicators in the OECD's Directorate for Education, Employment, Labour and Social Questions. Promotion and support for the development of research activities and the introduction and testing of innovations in the education sector is carried out by the Centre for Educational Research and Innovation (CERI, www.oecd.org/ceri/).

OECD activities related to educational development and research are concentrated in particular on the areas of educational statistics, developing a framework concept for international comparisons of education systems, reviews of education policies and the international comparative measurement of student performance. In addition, OECD jobs studies touch upon central questions of the links between education, training, labour markets and economies. Since 1992 the OECD has been producing a series of educational indicators - 'Education at a glance - OECD indicators' - on a yearly basis, as well as investigations into particular questions on the indicator table as 'Education policy analysis'.

Within the INES network (indicators of education systems) the individual member states work on and support the drawing up of indicators for central areas of the education sector.

Some current research activities of OECD/CERI include:

- lifelong learning;
- analyses of the International Adult Literacy Survey (IALS);
- transitions to work;
- school failure;
- adults in training;
- programme on educational building;
- knowledge management and the role of R&D;
- innovations and futures for schooling;
- social inclusion;
- educational software and multimedia.

2.5 Conclusions

International comparisons of VET research are hampered because education and training systems are different between countries, due to different historic, cultural and political frameworks. In addition to these systemic differences, there is often no distinction made between research on (general) education and research on vocational education/training. Also, research on vocational education and training, which is at the interface between (lifelong) learning, work, labour market and social/economic developments, is carried out in a number of disciplines which often have different approaches and priorities. Further, a review of state-of-art VET research is difficult because of manifold – and increasing – research activities carried out at regional, local and sectoral levels.

For a number of reasons an overview on VET research in this chapter could only cover a selected number of countries. Common to most of them – reflecting similar problems worldwide – is the investigation of the links between learning, training and acquisition of skills and competences on the one hand, and the changing requirements of work in an environment of structural change, rapid diffusion of technologies and social challenges on the other.

Financing VET, cooperation between the different actors – in particular State, social partners and individuals –, curriculum research, management and development of human resources within enterprises, and networking are some further, equally important issues.

In particular, in those countries exposed to transformation from planned to market economies, evaluative, policy-oriented and pragmatic research are at the top of the research agenda. These and other issues have also been discussed in the previous chapter on central and eastern European countries (CEECs). Research in these and other countries more and more reflects new needs and challenges raised by increasing international competition. This refers not only to most issues mentioned above, but also to questions concerning the imparting of basic skills and the upgrading of the skill level of populations. To make people ‘competitive’ in selective labour markets and ensure their employability in the longer run are among the most essential issues VET policies are facing today – and where VET research is expected to give appropriate answers.

However, a number of related research issues have a long tradition in many other countries. This applies, for example, to the theoretical and methodological foundations of research on education and training, to the links to labour markets, new forms of learning, the use of new technologies in learning and teaching, and research on cooperation between different actors and different training venues in a framework of lifelong learning. Countries where these issues are emerging should not reinvent the wheel but capitalise on existing knowledge and proved practices elsewhere with a view to transferring this knowledge to their own countries.

This calls for a reinforced exchange and closer cooperation, in particular between research communities in different countries. Existing networks should open up to researchers all over the world – supported by electronic means –, and access to documents and data (in particular run by international and supranational organisations) should be facilitated. One example is the ‘electronic training village’ run by Cedefop (www.trainingvillage.gr) which gives information on VET-related publications and events, provides links to external organisations and networks and also contains a special website for VET research (www.trainingvillage.gr/etv/research/index.asp)

In addition, for international comparisons, national empirical research and statistics should take – in parallel or complementary to country-specific characteristics and definitions – international classifications of education and training, occupations and sectors into account.

Given the limited information value of traditional formal qualifications and their limited role for recruitment and professional career, empirical/statistical research should extend its scope towards a broader notion of skills and competences, such as generic skills and knowledge acquired through non-formal learning inside and outside from the workplace. This would reflect the trend of an increasingly blurred demarcation between education, initial and continuing training and contextual learning. It is also true for the indistinct notion of ‘services’: services transcend the classical assignment to economic sectors and increasingly refer to work functions performed within almost all productive activities in developed countries.

The anticipation of skill supply and skill requirements at national, regional and enterprise

levels is an issue of permanent concern for some countries, and of new importance for others. If designed properly, and if considered as a tool of information for decision-making – and not as a description of ‘inevitable’ developments in a deterministic sense – the awareness of decision-makers on future possibilities and risks appears to be a prerequisite for an active and future-oriented shaping of VET systems and contents. Anticipation of trends – by quan-

titative forecasts, scenarios, benchmarking studies and the like (see also Chapter 5 in Part 4 of this report) – should always consider the different time-scales between the generation of skills, their utilisation at work and issues of long-term employability of individuals. A *conditio sine qua non*, however, is that all actors in VET and the labour market participate in such an exercise and make use of the results in a responsible and careful way.

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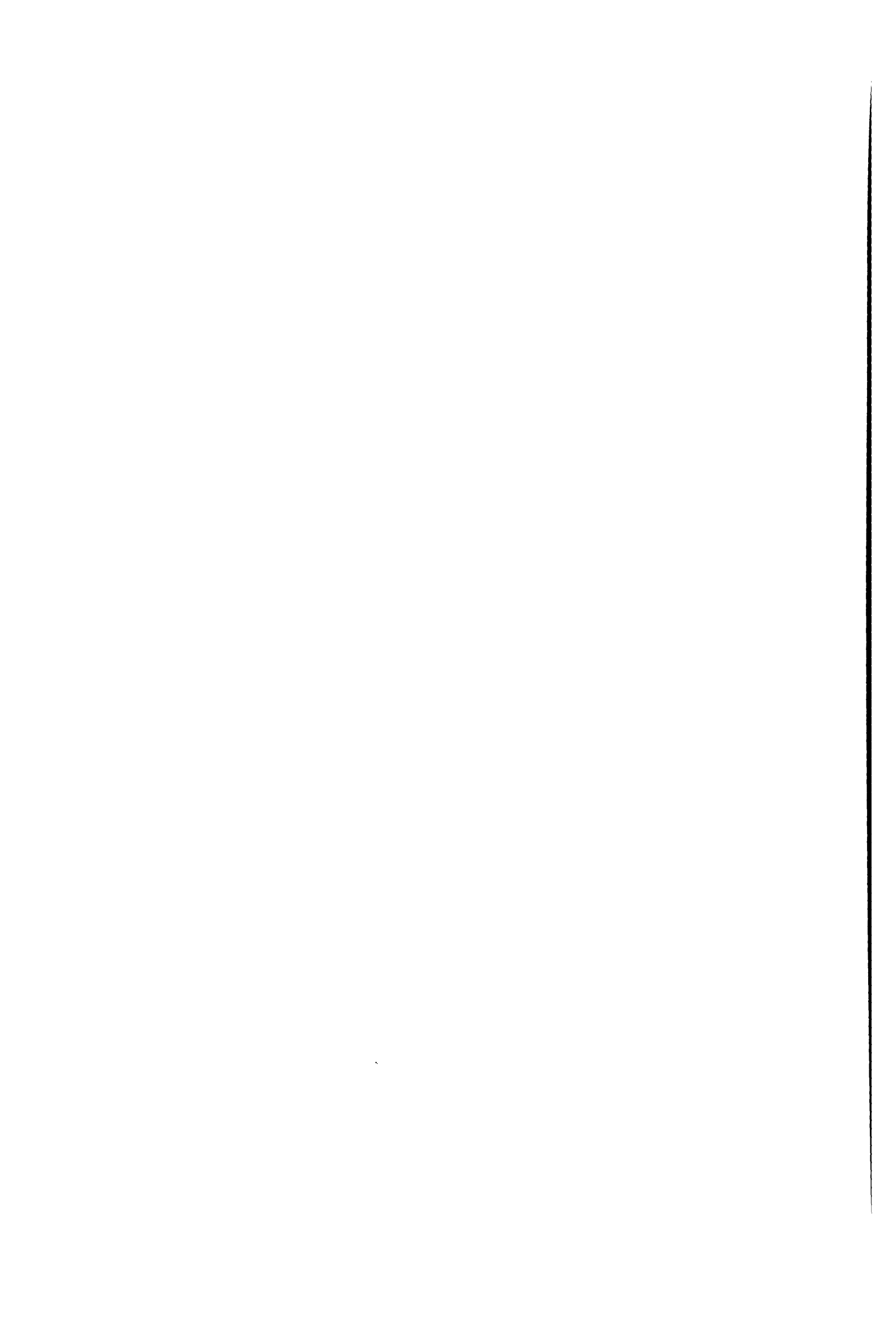
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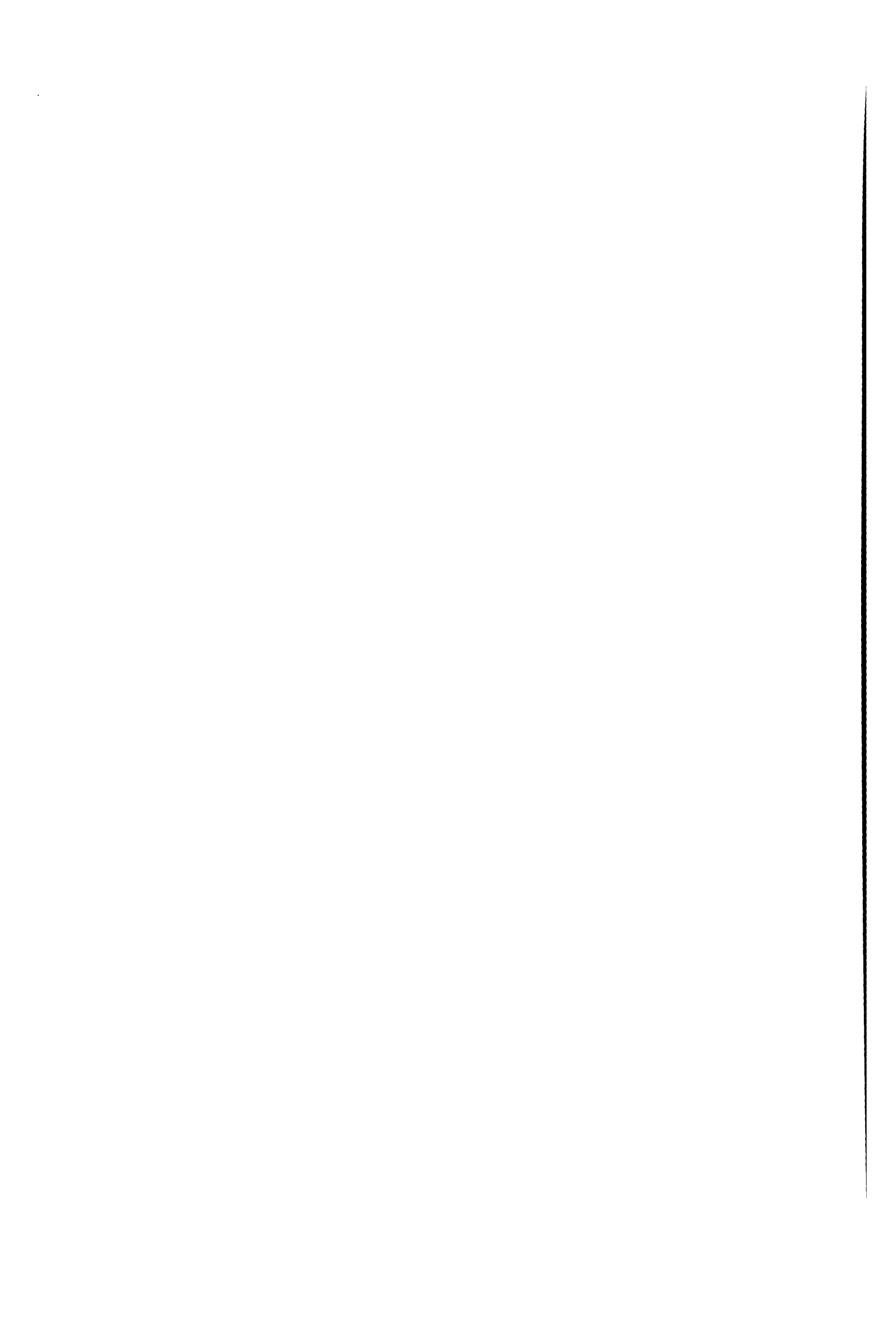
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