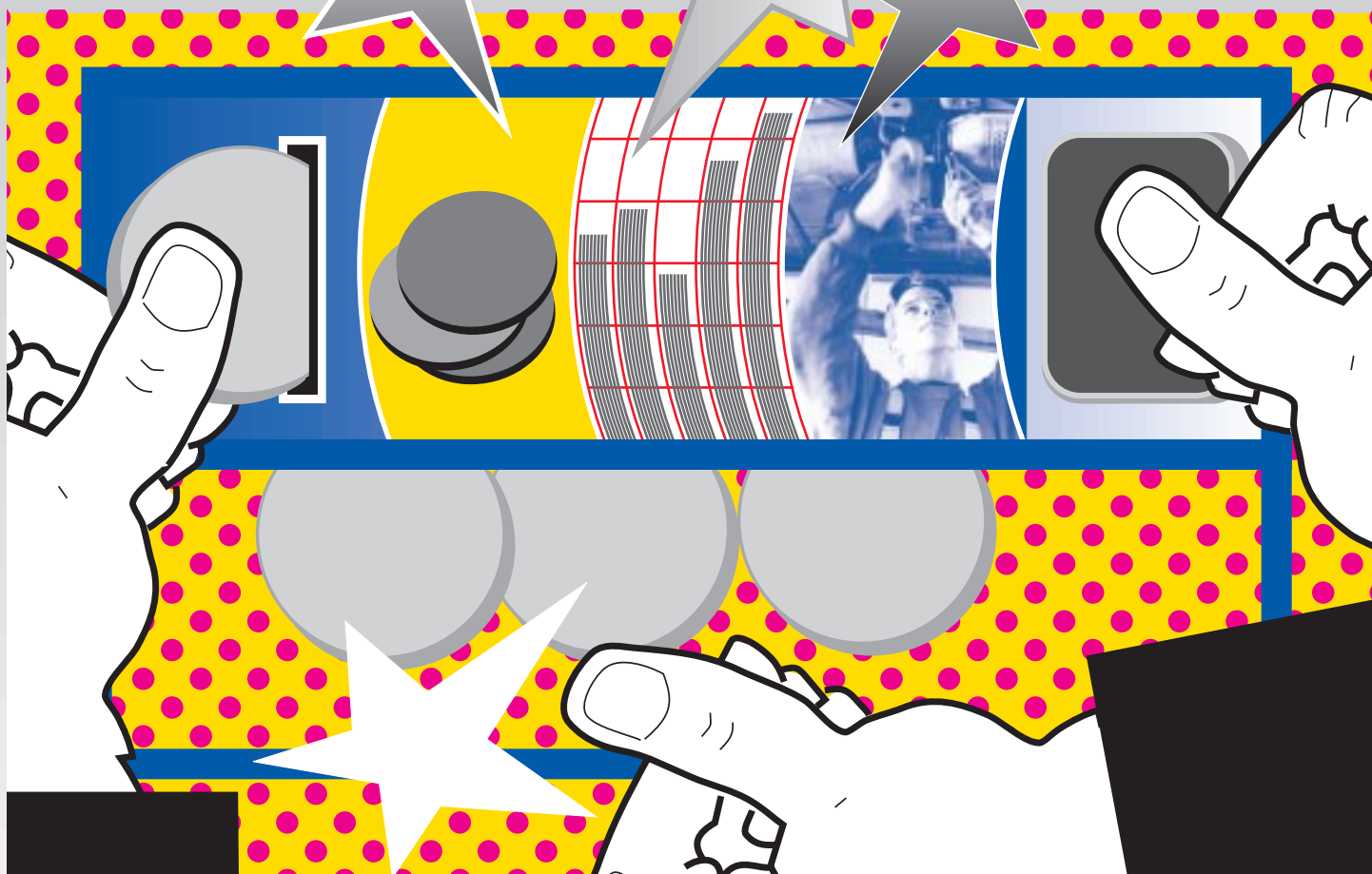


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What's it worth? The problems of measuring the benefits of investment in human resources





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The competence of computing the capital value of competence

The 1960s witnessed an intellectually aggressive controversy over the nature and measurability of aggregate capital. The most prominent combatants were Joan Robinson (1964) of Cambridge, UK and Robert Solow (1963) of Cambridge, Mass., USA. The key issues were whether capital had any meaning independent of its income and whether aggregate capital stock was at all a meaningful concept. Put more bluntly; does it make sense to compute the rate of return on capital or estimate educational production functions, as neoclassical economists like Zwi Griliches (1977, 1988) have done?

No unanimous agreement emerged from the controversy, and some around the Cambridge, Mass. stronghold have continued with educational rate of return and production function econometrics as if nothing had happened. The answer that eventually emerged as the intellectual winner was the argument of Joan Robinson which was; of course not. Capital value is the discounted future income stream from capital, and its value depends on its allocation, which is in turn guided by its prospective incomes. All capital stock measures are more or less influenced by their income flows. This reduces the neoclassical story to an approximate measurement technique. The difficulty is to understand what the errors of measurement mean for the conclusions.

The 1970s witnessed an equally intellectually disruptive controversy among educators and economists about the nature of schooling. Does school educate and build knowledge in students (the investment hypothesis), as Jacob Mincer (1958) and Gary Becker (1964) argued, or are sorting and quality labeling an equally important task of school, as Joe Stiglitz (1972), Kenneth Arrow (1973) and Mike Spence (1973) suggested.

The controversy over *filtering* has not yet been resolved, but if you want to measure human capital and the returns to schooling you encounter great interpretation problems if you do not ignore the filter and the disturbing questions of Joan Robinson, Cambridge, UK.

So how do we deal with this, looking at the 7 articles in this issue of the Journal on the measurement of human or firm intellectual capital and the returns to the same capital? With two interesting exceptions they do not hint of any awareness of either the filter problem, or of the Cambridge controversy.

Let us start from a positive point. Knowledge is an important income generating attribute with the individual, and capital in production. Nobody would disagree on that. Without supporting knowledge the productivity of labour and machines would be nil. Without a satisfactory return on knowledge capital the incentives to accumulate more knowledge capital would vanish. No disagreement here. We don't have to measure anything to conclude that.

Being on the threshold of the knowledge-based economy, Guerro observes in her article, that it would be useful to know the size of knowledge capital employed and compare it with other forms of capital. This is a reasonable request considering the fact that, as observed in Johanson's article, investment in intangible goods is on a par with investment in tangible goods and that education and training are probably a significant part of that investment in intangible goods.

This evidence, however, is not sufficient to support Brandsma and Kohler who argue in their respective articles that more education is needed to build economically



needed competence. This is especially so considering the large resources already going into education and training: at least 20 percent of GNP in Sweden (Kazamaki-Ottesten 1994). Both also admit that science and systematized experience provide little insight on *what* (the content of education) and *how* (its teaching). This goes for school as well as training. While a host of studies show the length of schooling to significantly increase earnings, others suggest that school might not matter much and the implications ultimately depend on the definitions of the educational and training variables (see Eliasson 1994b). When it comes to the benefits of training Barrett-Hövels observe in their interesting, but somewhat selective survey, that we have to measure training *per se*, and not length of experience or seniority, to capture the productivity effects or returns. But this is easier said than done since we have a case of joint production (Rosen 1972), and, as Barrett-Hövels point out, selection (!!!!) may be at work, making the effects of efficient allocation of talent through school and the labour market appear as the results of training. Depending on the story, interpretation and policy advice are radically different.

Similar problems relate to Brandsma's argument outlined in her article, that we may suffer from an *under-investment* in human capital. Again, we need to know what we are under-investing in. The prevalence of poor quality jobs (signaling lack of education) may be the result of badly functioning labour markets that have discouraged people from going to school and prevented young people from obtaining a varied work experience through work mobility. Another reason may be that school grades and certificates are poor indicators of talent and competence, thus contributing to an inefficient allocation of competence in the economy. I was happy to find a discussion of this problem in the Béret-Dupray article comparing the French and German education and training systems. This is very difficult stuff. Omitting family background or talent variables (Lam-Schoeni 1993, and Mellander 1998) in earnings equations is likely to raise the estimated returns to schooling, and suggest that school is more important than it really is. This would be the case, for instance, if talent and family background raise the intellectual capac-

ity of the individual to benefit from schooling (*receiver competence*, Eliasson 1990, 1994 b). On the other hand, if school is an important path (a filter) that channels talent to the talent demanding jobs, school is profitable, but it has little to do with education. Only when talent and family background are uncorrelated with the efficiency of education will the earnings equation estimates be unbiased, but this requires, as Mellander (1997) shows, that education be properly measured as to content.

Except for Barrett-Hövels and Béret-Dupray there is little discussion of the many technical interpretation problems associated with estimating educational earnings and rate of return functions. One result, however, is crystal clear. Under reasonable prior assumptions, the filter explanation stands out as a partial explanation to the rate of return to schooling. This makes the allocation of talent through school and over the labour market critical for the returns investment in education by individuals and firms, as well as society at large. The filter, hence, should not be ignored by assumption in empirical analysis. (This is so, even though there is no way to econometrically determine the relative importance of the two (Albrecht 1981)). More to the point, the policy implications change radically if you include the filter in the hypothesis, and recognise the importance of the market. Being aware of these problems Beret and Duprey explicitly identify the prior assumptions they use to conclude that the German vocational training system appears to be based on the investment hypothesis, while the French seem to bias the allocation of training to those talented and thought to be capable of benefiting.

All statistics, not least the accounts of firms, rest on prior classification systems structured on production processes of the past. Thus, national statistics are very detailed on the agricultural sector and the composition of livestock and harvests, and empty on service production. Similarly, manufacturing statistics reflect hardware machinery at work, even though costs related to intangible capital (Eliasson 1990) like marketing, R&D and internal education account for more than 50 percent of resource use on capital account



in the average manufacturing firm. Obviously such statistics are not very informative for top management, not to say directly misleading. Thus, for instance, data on total resource use for internal education, training and related activities are rarely available at corporate level, and at best exist at divisional and lower levels. It is virtually impossible at that level to assess the relative returns to corporate performance of shifting more or less resources into internal education or training. The data are not put together for such evaluations, and there are formidable definition and interpretation problems. Above all, doing something requires radical rethinking among accountants, middle managers and executive staff. Suppose an intelligent top level person in a big company wants to do something about the situation, What should he do?

Johansson asks this question and dives right into the Cambridge controversy without watching out, but he can swim. Johansson's argument is that investment in intangibles makes up a large, perhaps a dominant part of total investment. Hence, there should be a concern about managing these investments, a concern that appears to be lacking in firms, perhaps because the intangible assets are not measured and therefore not visible. (The ambition to measure intangibles has been around for years in the *human resource accounting* (HRA) literature, but keeps popping up under new and more selling labels like the "balance score card" approach and the firm's "intelligence capital"). If you try to get intangible capital on the balance sheet you are squarely into the capital controversy. But that's alright because you are already involved in the controversy if you have a balance sheet. The problem lies in the interpretation.

Johansson observes that most studies on intangible inputs are based on costs (flows) and are partial, and only a few attempts to estimate the impact on overall company performance of the use of intangible capital stock data can be reported on. But capital stock data of almost the same quality as for machine capital are available for intangible capital if you have the corresponding investment flows. Also, because intangible stocks are unfamiliar concepts, data will be used with the caution all capital stock meas-

ures should be used with. The problem is again that the exact measurement definitions depend on your problem. Therefore I am sceptical about the accountants' (and Johansson's) ambition to find a general, recommendable measure on intangible capital stocks to include in the balance sheet. Would an EU standard (as referred to by Guerrero) or a standard imposed by the International Accounting Standards Committee improve the state of information (for insiders and outsiders) compared to the odd variety of proxies firm managers have devised for their own purposes? I am not enthusiastic about the accountant's approach and prefer the proxy measures. I have more sympathy for the argument in the article by Felstead, Green and Mayhew, that we first of all need better data on investment (flows) in intangible assets. Corporate executives are completely unaware of the Cambridge controversy, but not of the problem, and they prefer good flow data when it comes to serious business decisions.

When we finally try to bring the market selection and educational investment problems together the question arises; Who pays? Who benefits? The question is mentioned here and there in the articles but not properly addressed.

Brandsma is very clear about the need for a platform of general education for the individual to be a capable learner on the job, and that the disadvantaged may need extra (financial) support. But she cautiously sidetracks the tricky and politically sensitive problem of how individual incentives, efforts and performance relate to costs and forms of financing. She is not particularly keen on looking at education as a market place. But what would education be worth without a functioning job market that begins in school and helps you find the employer who pays the most for your competence. It is easy to be critical, but also easy to misread evidence. Let me, therefore, try to tie the strings together. Four conclusions emerge from this discussion of articles on the return on investment in intangible capital.

First, education and training depend on one another, general education providing a platform for efficient future learning. There is no disagreement.



Second, studies on investment in education and training have to recognize the filter effect, and, hence, the importance of both school and the labour market as allocators of individuals with competence to jobs. Without functioning markets for human embodied competence private and social returns to education and training would be low, and here Europe has a lot to learn from the United States.

Third, the value of human capital (embodied in individuals or groups of individuals in a firm) in production depends on its allocation. General standards for assessing the individual will always be inferior to individual and firm management evaluations. This is close to obvious, but the same conclusion derives naturally from the capital controversy and the filter theory combined.

Fourth, even though the value of human capital and its return depend on the markets for competence nothing is gained if the receiving individuals do not contribute with considerable effort, interest and attention of their own. The investment is wasteful and little economically valuable human capital is accumulated and allocated. This carries clear policy implications. Furthermore, educational science apparently knows little about how and what to instruct, and the reason is that the content of useful knowledge cannot be specified (the Cambridge problem) with the filter significantly at work. Consequently there is much to say in favour of removing responsibilities for educational product development from central school authorities to the market i.e. to the teachers and students. And students, probably, will not take that responsibility seriously if they (and their parents) do not have to put up more of the financing than is currently the case. With responsibilities of choice with the individuals in the classroom the input of individual competence, concern and attention will be maxi-

mized. Perhaps we can learn something from Bernheim, Garrett, Maki (1997). They report on the outcome of mandating, in some US high schools, the introduction of instruction in topics related to household financial decision-making (budgeting, saving-investment and wealth creation and so forth). They find that "mandating significantly increases exposure to financial education, and ultimately elevates the rate at which individuals save and accumulate wealth during their adult lives". Understanding the nature of compound interest and the pay off to waiting a while with consumption has helped family financial capital accumulation in the long run.

Education, if well organized and efficiently received is **the** important form of private wealth creation in society. If students understood better the benefits of their efforts at school, for the future accumulation of useful human capital and the creation of job opportunities, not only would their incentives increase, but their educational choices would be more informed and they would allocate their talent better. Economically useful human capital certainly elevates future incomes and the capacity to save. Since we do not have the information to prescribe and since the outcome is strongly dependent on individual incentives and efforts, why not mandate the introduction of the economics of education on the high school agenda as well. It should elevate individual efforts at school, improve the allocation of talent in school and in the labour market, as well as raise demands on performance of school at the "classroom floor" level and the quality and the variation of educational services offered. The market would guide the orientation of educational product development at school and school authorities and researchers would not have to worry as much about *what* school should do and *how* it should do it.

Gunnar Eliasson



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Funding lifelong learning: key issues¹



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Introduction

Continuing training and lifelong learning are high priority issues. Although not new, they seem to be fixed at the centre of (political and public) attention more strongly than ever before. Publications like the European Commission's White Paper "Teaching and learning: towards a learning society" and the OECD's report "Lifelong learning for all" (both published in 1996) reinforce this impression. Debates on arrangements and incentives to increase the investment in training are on many political agendas and various countries, for example the UK, Norway, Iceland and the Netherlands, have recently set up national committees or national action programmes, aiming to enhance, if not actually to establish, some sort of "system" for lifelong learning, or to establish a 'learning society'.

Looking at the various policy initiatives, it becomes clear that the belief in the need to increase investment in training and human resources is based on a broadly shared perception of the challenges economies and societies are facing. Challenges such as demographic change, globalisation of economies and societies, the widespread use of information and communication technologies and the changes in labour and labour market structures. Nevertheless, the various attempts to find ways to increase investment in training also outlines some of the basic problems policy makers, as well as researchers, are confronted with. A core problem is how to show that such investment does pay off.

This assumes that people - individuals or enterprises- will only invest in training if they benefit from it. Although such strict rationalism in making choices can be doubted (there are sufficient examples of people just learning 'for fun'), it cannot

be denied that the question of returns on investment in training is an important issue, certainly if 'scarce' resources have to be allocated among competing priorities. It also becomes an important issue as soon as the question is raised: who is going to pay for what? Increases in the investment in training and human resources are most unlikely to come from public funds alone, given the budget constraints many a public authority is confronted with. However, given the relatively scarce knowledge about the returns on investment in training, it is questionable whether (private) enterprises or households will be eager to increase their investment.

Key issues in the debate on increasing the investment in human resources and funding lifelong learning therefore are:

- ❑ who has to pay for what training?;
- ❑ what are the returns on the investment in human resources?;
- ❑ are adequate alternative approaches available for determining the returns on the investment in training and human resources?

Before addressing these questions, however, it is necessary to briefly discuss the wider context of the learning society, on the basis that the issue of investment in human resources cannot simply be reduced to financial investment and the returns on this investment.

Who has to pay for what training?

A central question with regard to the public and private investment policies for vocational education and training concerns the issue of who is responsible for

The belief in the need to increase investment in training and human resources is based on a broadly shared perception of the challenges economies and societies are facing. Attempts to find ways to increase investment in training highlight that a core problem is how to show that such investment does pay off.

"A central question with regard to the public and private investment policies for vocational education and training concerns the issue of who is responsible for the investment."

1) This article is a revision of the synthesis report written on the White Paper Thematic Conference 'Objective 5' "Treat capital investment and investment in learning on an equal basis", initiated by Mrs. Cresson and organised by the European Commission, DG XXII. This article, however, expresses the views and opinions of the author.



the investment. The core question is, where does the responsibility of public funding stop? It certainly is a complicated question and, though politically of great interest, not an easy one to answer.

From the point of view of the enterprise, investment in training and human resources is not only necessary to survive and continue operating in a very competitive market and to develop the necessary (innovative) skills and competencies, but also to turn the organisation into a learning organisation. Enterprises have to shift their emphasis from saving skills to building skills which underlines that becoming a learning organisation requires more than investment alone (Drake, 1996). It requires organisational changes and a re-organisation of the work processes. Investment in human resources was for a long time focused (though not solely) on individual development. A learning organisation requires more than the increase of individual knowledge, skills and competences. It requires the development of 'collective' learning which implies a re-organisation of work processes towards an organisation that stimulates and rewards mutual learning.

A major implication of the implementation of the learning society for individuals, is the acknowledgement that "good" initial education and training - be it general or vocational - is no longer sufficient for working life and lifetime employment. People have to realise that retraining is unavoidable and probably necessary several times during a working life. This puts the individual or private (household) investment in a completely different perspective; on the one hand, it indicates that flexibility is one of the new key requirements of individual workers, and on the other hand, it stresses, to a certain extent, the individual responsibility for developing knowledge and skills. This responsibility has a 'preventive' connotation (Brandsma, Kessler & Münch, 1995); investing in developing knowledge and skills is necessary from the point of view of preventing obsolescence and unemployment, or to be prepared for calamities such as the close down of a company or major economic sector restructuring. Nevertheless, it will be very difficult to foresee whether or not such a 'preventive' investment will turn out to be a

fruitful one. All the more so, since the 'necessity' of this investment, and the returns on it from the individuals' point of view, will also depend on exogenous factors like fluctuations in the labour market and economic cycles (Kodde, 1987). In this respect, an investment in training is a 'risky' investment.

However, it is difficult to expect individuals to cope on their own. Support structures and incentives are needed, certainly for those groups which, either through the obsolescence of their skills, or through their (long-term) unemployment, are threatened by, or suffer from, marginalisation.

Existing funding mechanisms

If existing funding mechanisms are taken into account, it appears that there is a sort of "mixed funding", in the sense that both individuals, enterprises and public funds (governments) contribute to the financing of vocational education and training. However, the division of funding responsibilities appears to be differentiated and is not static. Initial vocational education is, by and large, financed out of public funds, with the exception of apprenticeship systems, which are co-financed by employers (in some cases to a large extent). This co-funding of apprenticeship training, at the same time, makes it vulnerable. The number of pupils in apprenticeships systems seems to vary with economic trends. In a recession, with other strong pressures on cost reduction, enterprises tend to reduce training costs, and the number of apprentices. Certainly, in countries where publicly funded full-time vocational education and co-financed apprenticeship training or enterprise based ones co-exist, such cyclical swings in the enrolments in apprenticeship training often put public vocational education under pressure to absorb surplus trainees (Brandsma, 1997a; Schedler, 1996). Regarding post-initial (or continuing) vocational education and training, one might expect that private investment would be the main source. Nevertheless, the contribution of public funds in this area is substantial.

The size of the investment by individuals and public funds in vocational education and training are not known, partially due



to the fact that specific funding mechanisms -such as tax relief or tax reduction- do not easily allow for an accurate calculation of the amount allocated to training. Nevertheless, the estimate is that this investment is substantial and that the share of public funds increases where specific training (courses with a long(er) duration) or specific target groups (the least qualified) are at stake.

As for public funding, the question of its function or target is very important. Should public investment:

- function as a kind of 'safety net' for those who would otherwise be deprived of training; or
- be focused on enhancing private investment in training? This raises the issue of how to stimulate private investment, while ensuring that everyone can benefit from vocational education and training.

Dispersion of the "investment responsibilities"

The question of who should pay for what training inevitably raises the issue of the dispersion of investment responsibilities, which is a complex one. Questions concerning who has to pay for what and to what extent, are political in nature. Nevertheless, establishing a learning society requires a co-operative effort from individuals/households, enterprises and governments (Schedler, 1996).

The question regarding the dispersion of investment responsibilities draws attention to two issues.

The first concerns the under-investment in human resources in small and medium-sized enterprises (SMEs). It can be assumed that financial as well as organisational aspects (for example: difficulties replacing employees on training, lack of knowledge, insufficient expertise concerning training as a tool for solving specific problems within the organisation) cause this under-investment. Apart from these organisational and financial barriers, a major impediment for SMEs to invest in human resources is probably that they cannot foresee the benefits of investment in training. In a situation where there is sufficient supply of qualified labour in

the labour market, or where it is possible to 'poach' qualified labour from other enterprises, it might be more attractive for SMEs to recruit qualified and recently trained labour instead of investing in the training of its own personnel. This indicates that the most important issue regarding the enhancement of human resource investment in SMEs might not be of a financial or fiscal nature, but rather implementing a training culture.

The second issue concerns the position of the poorly qualified. Investment in the training of the poorly-qualified workers is rather unattractive for enterprises, as the return might (in the end) appear to be (much) smaller when compared with investment in training other groups of workers. However, the fact that there are, in the EU Member States, substantial numbers of unskilled and semi-skilled manual workers and that there are substantial groups without any proper (vocational) qualifications, makes it clear that non-investment in the training of these groups will lead to their marginalisation. The efforts needed to bring these groups up to a satisfactory level of training are, however, tremendous. This raises the question of where the emphasis should be; on training those already well qualified workers, or on training those with obsolete skills and threatened with marginalisation?

New funding mechanisms in general education

Though it often seems that the investment issue is closely linked to discussions on the necessity of training and human resources development, similar discussions play a role in the funding of general education. Good general education is a necessary precondition for building up a learning society.

All European countries seem to be faced with a (more or less) considerable expansion of general education and especially higher education. The expansion of general education raises new issues. Given that general education is largely financed publicly and that public funds are diminishing or at least under substantial pressure, the question is not only how public funds can be spent as efficiently and effectively as possible, but also to what extent govern-

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“(...) new funding mechanisms are being developed and implemented which either try to increase the individual responsibility for (or even investment) in general education, or aim to increase the responsibility and accountability of schools and educational institutions (...).”

ment should be responsible for funding general education. Existing funding principles are under discussion, while new funding mechanisms are being developed and implemented which either try to increase the individual responsibility for (or even investment) in general education, or aim to increase the responsibility and accountability of schools and educational institutions (West 1996).

Examples of such new funding mechanisms can be found in higher education, where attempts have been made to increase individual investment through the implementation of changes in student support schemes (for example, loan schemes) in combination with an increase in tuition fees. Such loan schemes seem to provide students with an incentive to finish their courses within the nominal time. However, indirectly the side-effect of this might be that on the one hand, certain groups of students are discouraged (for example, students from less well-off families that fear the financial risks), and, on the other hand, study choices are influenced (students choosing for “easy” studies or those that guarantee a well-paid job), which will also indirectly influence the functioning of the labour market.

Other examples are the introduction of vouchers, and “unit-funding” or “output-funding”. Vouchers appear to aim at both making individuals critical and conscious consumers of education and installing some competition between schools and educational institutions. It is sometimes expected that this will actually increase the quality of education, assuming that individuals (parents, students) will opt for the best quality and thus, will force schools to constantly improve their quality. The latter, certainly where output-funding is concerned, can be placed in the context of increasing the responsiveness and accountability of schools. The introduction of such funding mechanisms is often accompanied by measures aimed at decentralisation and increased autonomy of schools and educational organisations. Increased autonomy is perceived as a necessary precondition for making schools more responsive and accountable.

Funding mechanisms like vouchers and output-funding do, however, raise new questions if not problems. With regard to

vouchers there are, apart from the administrative problems of such a system, two more fundamental problems.

First of all, the use of vouchers implies the introduction of market principles in education, while at the same time assuming that the educational system as a market is not tenable. With national curricula, national qualification structures, or (legally-backed) professional standards (for doctors, nurses, etc.), most school or educational institutions offer more or less the same programmes or products. While schools might differ in certain aspects, such as non-prescribed subjects, instructional methods, materials, and, of course, performance, it is still questionable whether education is a real market in economic terms, being characterised by full competition (homogeneous goods, a transparent and a flexible market) (Brandsma, 1993). It is clear that the education system does not meet this ‘criteria’. Even if, like in the UK, figures concerning schools’ performances are public, information on other characteristics are often not readily available for the whole ‘market’, or difficult to obtain or assess (Boyd & Crowson, 1981). Secondly, being an imperfect market, the introduction of market principles such as vouchers in education, might result in differential benefits for different socio-economic groups, thus threatening equity. Factors like financial means, transportation facilities, autonomy and the capacity to locate the right information (which are often related to parents’ educational and occupational backgrounds) might limit choices for some groups and extend them for others.

As output-funding is often closely related to increased autonomy, it is difficult to evaluate the benefits of these new steering mechanisms (Van Amelsvoort c.s., 1995; Fracchia, 1996). There are indications that the increased autonomy of schools is connected to increases in efficiency. However, the evidence for this is not yet convincing and it is questionable whether it will be possible to prove a causal relation between the two phenomena.

However, there are indications that funding mechanisms like output-funding, have undesired side-effects. It can be stated in



general terms that output or output-related funding can trigger 'risk avoidance behaviour'. Schools fearing negative financial consequences of such a funding mechanism, might try to avoid these consequences, either by being more selective at the entrance stage, selecting those pupils with an (estimated) higher chance of good performances (known as "creaming" or "cream skimming"), or at the exit stage by lowering their standards in the cases where they are responsible for the assessment (or partial) of the performance of their students. Even though such 'risk avoidance behaviour' might have negative side-effects, or at least effects that are at odds with the intentions of output-funding, it cannot be denied that the behaviour as such is (partially) due to context factors beyond the school's control with which they have to deal. It is known that one of the major 'causes' of variance in school performance is the different background characteristics of pupils (intelligence, previous achievements, race, socio-economic background). For most schools, the reality is (certainly for publicly funded schools) that the population of the neighbourhood or district where the school is located determines the school population. It is also known that, even though there is a consensus about the fact that schools do matter, there is still relatively little (consistent) evidence about the specific characteristics that makes some schools more effective than others. In other words, we still know very little about what makes some schools more efficient and more effective than others (Van Amelsvoort c.s., 1992; Bosker, 1992; Brandsma c.s., 1994).

Both the overall increase in participation in general education and its extension (especially the increased enrolments in higher education), put the funding of general education under severe pressure. This has raised the issue of whether or not the government should be responsible for the funding all general education, or only compulsory education.

Basically the above are market approaches. However, it has already been argued that the implicit assumptions about whether education and training can be treated as a market, might not be tenable. Such a market approach raises the issue of the desirability of turning education and

training into an economic system. Certainly where compulsory education is concerned or any other socially desired minimum of schooling (which may go beyond compulsory education age) this can be questioned. From the point of view of ensuring equity within education, and the 'merit-good' character of general education, it could be argued that responsibility for general education should reside with public authorities (Brandsma, 1993, 1997b; Ritzen, 1989).

The costs of general education, are not transparent, nor are the outcomes or productivity of general education even though it is mainly publicly funded. At the same time it is difficult for those who contribute to public funding to assess the quality of the product as such, or the value they are receiving for their money.

Benefits and returns

The issue of investment in human resources and especially its returns, is of crucial importance. Certainly in the context of increasing human resource investment, the issue of enhancing (private) investment and evaluating the corresponding benefits must be addressed.

With regard to the beneficiaries of investment in training or human resources, major difficulties are encountered in trying to state clearly and unambiguously who is benefiting from what training. This does not concern the question of whether investment in training has any benefits, as such. There seems to be evidence that investment in education and training does pay off in various ways (cf. Coopers & Lybrand, 1996; Gelderblom & De Koning, 1994; Groot, 1994), but there is also scepticism. Tessaring (1997) states that since the 1960s various analyses in the field of economics of education have shown that there are substantial individual and social benefits derived from investment in education, in the sense that education contributes considerably to income and economic growth. Current analyses of endogenous growth confirm this. However, as Tessaring stipulates, the findings mainly concern general education and not (vocational) training, the effects of which -as far as evidence is available- appear to

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“This question of the extent to which benefits are derived, (...) raises the issue of the measurement problem. If it would be possible to capture the returns on investment in training or human resources, can they be measured in quantitative or economic terms ?”

be much less substantial. Tessaring furthermore adds:

“Determining the returns of vocational education and training is very definitely a research field which, in my opinion, has not been adequately addressed yet and which should be at the top of research priorities. The same applies to the immaterial returns to education and training.”

This seems to imply that the issues which need to be addressed in greater depth are:

- who is investing in training and how much?;
- who is benefiting from this investment and;
- to what extent?

This question of the extent to which benefits are derived, as Tessaring also indicates, raises the issue of the measurement problem. If it would be possible to capture the returns on investment in training or human resources, can they be measured in quantitative or economic terms ? If so, would it be possible to attribute causal relations between the investment and the output or return ? This measurement problem is substantial and that of causal attribution appears to be very difficult to solve. Nevertheless, evaluating the return on investment in training or human resources appears to be crucial in the investment discussion, certainly, in considering that establishing a learning society requires major efforts from both individuals (households) and enterprises.

Although there appears to be a general consensus that vocational education and training does bring about substantial benefits (with an increasing level of educational attainment and training, the risk of unemployment decreases and with an increasing level of education, while wages and lifetime earnings increase, etc.), there are still many uncertainties regarding the benefits. The main questions in this respect concern:

- who exactly benefits (and from what kind of training)?
- what is the extent of the benefits?

in what time scale can benefits be expected to materialise?

- what is the nature of the benefits? and
- what are the barriers to investment?

Some examples may clarify these issues.

Benefits for individuals and society

Similar issues come up where private investment by individuals or public investment are concerned. It is very difficult for individuals to foresee and quantify the benefits of their private investment. Considering that, individuals cannot, like large firms, spread financial risks and that it is nearly impossible for them to identify the optimum level of investment - the Pareto optimum, after which costs exceed benefits - investment in training is an even more risky undertaking for them than for enterprises (Brandsma, 1993; Ritzen & Stern, 1991).

Although there is sufficient evidence to conclude that both the individual and society benefit from investment in initial vocational education, it can be argued that, in the end, enterprises benefit from this investment as well, through qualified personnel. It is, however, impossible to state to what extent a specific enterprise benefits.

Benefits for enterprises

Regarding investment in corporate training, in principle, both the enterprise and the employees benefit. It is, however, very difficult to say what proportion of the benefits go to the enterprise and the employee respectively. Apart from this, there are other problems that might prevent the firms from investing in training.

The first problem concerns “poaching” or “free-riders”. If an employee leaves the firm after being trained, the enterprise does not benefit from the training; on the contrary, the competitor benefits, certainly if transferable skills have been acquired. This problem could be overcome by means of an agreement between the enterprise and employees, concerning repayment of (part of) the costs of the training if an employee leaves the firm within a given period of time after training. It



should be taken into account nevertheless, that “poaching” might be a consideration for employers deciding not to invest in training (Ritzen, 1991).

A second problem concerns, which employees to invest in. Enterprises tend to invest in training employees who are already qualified. Investment in training for the least-qualified workers seems to be less beneficial for employers. From the perspective of an enterprise which wishes to ensure its competitiveness and guard its profits, this appears to be a rational strategy. Nevertheless, it might result in the exclusion of large groups of workers which, due to their low educational attainment and lack of recurrent training, end up with obsolete skills. From a social point of view, this is not a desirable outcome.

The third problem concerns the time-scale within which the benefits of training can be expected to emerge and the extent to which these can be quantified. Apart from very specific and targeted training (for example, learning to use new computer software), the returns on training investment often have a medium to long-term character. In addition, returns on such investment is very difficult to quantify. This might result in the situation where managers are less inclined to consider training as a worthwhile and profitable investment.

The nature of the benefits

Regarding the nature of the benefits, the preceding has (implicitly) mainly focused upon benefits in a strict economic sense (monetary benefits, productivity gains, etc.). Although such economic benefits are of major importance, it is questionable whether these are the only benefits from investment in vocational education and training. Other benefits might be: increasing the quality of life, reducing the crime rate, increasing the health of the population and, in the broad sense, enhancing lifelong learning (Coopers & Lybrand, 1996; Haveman & Wolfe, 1984).

In a discussion on cost-effectiveness with regard to investment in vocational education and training, such benefits should be taken into account as well, even though this is not an easy matter. The

determination and quantification of economic benefits is already a major problem and the non-economic benefits will probably be even more difficult to calculate, let alone quantify. In this respect, how far one should go in trying to quantify the benefits? Some of the benefits may be mainly qualitative in nature, quantifying these benefits will be important to prove a causal relation between investment in training and the presumed benefits. It is questionable, however, whether proving such a causal relation is possible, given the complex environment in which such investment takes place.

Returns on investment in human resources are difficult to capture in monetary terms, both in the medium and long-term. However, that does not mean that attempts to show or quantify them, should not be undertaken. If investment in human resources are not, one way or the other, included in the accounting systems of enterprises, they will never get onto the “political agenda” of the decision-makers in companies (Dercksen, 1996; Johanson, 1996; Guerrero-Barnay, 1996).

The issue of accounting systems must not be overlooked. One of the major problems confronting enterprises nowadays, is that they try to change with obsolete tools - management accounting systems being one of them (Drake, 1996). Existing accounting systems still focus too much on tangible assets, insufficiently taking into account intangible assets, such as human resources (see the section on human resource accounting below). The importance of including human resources investment in the accounting systems, is underlined by the evidence for many companies that their book value is exceeded by their market/share value, which indicates that key attributes contributing to the value of the company are not included in the books.

Incentives

The problems and challenges outlined, logically draw attention to the question of which incentives can be used effectively to meet the changes encountered and to stimulate investment in human resources. There are various examples of

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“Some of the benefits may be mainly qualitative in nature, quantifying these benefits will be important to prove a causal relation between investment in training and the presumed benefits. It is questionable, however, whether proving such a causal relation is possible, (...) However, that does not mean that attempts to show or quantify them, should not be undertaken.”

“There are various examples of financial incentives, such as grant/levy schemes, or obligations on employers to divert a certain percentage of their total wage bill for training (...). Experiences with such incentives are, however, not very encouraging.”



“However, if a person or an enterprise does not see the importance of investing in training, would the prospect of a tax deduction change this attitude?”

“The most important issue is how managers can be convinced of the importance of training and investment in human resources as a tool for enhancing the enterprise’s competitiveness. This might have implications for the training of managers (...). It also indicates the necessity to devise effective human resource accounting systems.”

financial incentives, such as grant/levy schemes, or obligations on employers to divert a certain percentage of their total wage bill for training (Casey, 1995; Aventur & Brochier, 1995). Experiences with such incentives are, however, not very encouraging. They do not appear to increase investment in training, at least not substantially, and likewise do not seem to influence enterprises’ investment behaviour. There is also evidence that the resources available in funds built up by the obligatory contribution of enterprises (in the form of a certain percentage of their wage bill), are often only partially spent on training, leaving the remainder to accumulate. In this respect, it is questionable whether it is actually possible to design a (financial or fiscal) regulation that will be able to cover more than a minimum amount of training and that will be able to cover the specific needs of the different enterprises. Such regulations often turn out to be bureaucratic tools, that discourage rather than encourage companies to invest in human resources.

If financial incentives do not work, what are the effective policies and incentives? Some proposed solutions remain in the financial area. One possibility is a change in the tax relief system, to treat investment in human resources like capital investment, through a tax deduction for these investments (Schedler, 1996). Another alternative is to oblige employers to ‘match’ their employees’ investment in training, so as to double the investment. However, if a person or an enterprise does not see the importance of investing in training, would the prospect of a tax deduction change this attitude? And obliging employers to ‘match’ their employees’ investment at least requires employees to be motivated.

The question is whether more adequate information, both on the relevance of training and on the probable returns on investment in training, would be a way out of the dilemma. One could assume that employees and enterprises are the ones who best know their training needs. Even if this assumption holds, knowing what training is needed will not result in effective investment in training, if individuals or enterprises are not able to find their way around the training market, or are not able to translate their need into a clear training

demand. This applies to SMEs, but, possibly larger firms too. It appears that many enterprises do not plan their training in a strategic way or use it as a tool as part of the company development strategy (Brandsma, Kessler & Münch, 1995). This might, in part, be due to the lack of clarity and uncertainty concerning the returns on investment in training, but may also be due to a lack of expertise in using training as a means to solve specific problems in the organisation or production process, or as a means to enhance the well-being and motivation of employees.

The most important issue is how managers can be convinced of the importance of training and investment in human resources as a tool for enhancing the enterprise’s competitiveness. This might have implications for the training of managers (for example, paying more attention to the importance of training and its possible benefits). It also indicates the necessity to devise effective human resource accounting systems.

Various suggestions could be put forward, drawing upon initiatives like ‘Investors in People’ (in the UK) and experiences with a “supply-chain” approach. However, such initiatives often are not yet thoroughly evaluated. It would be worthwhile to study the various approaches and initiatives in various countries and to evaluate their outcomes and effects, to acquire a better understanding of the more effective incentives (in different cultures).

The impact of financial or fiscal incentives for individuals must be called into question. If someone is not inclined to invest in training, it is very questionable whether tax relief will change the matter. Vouchers, as already discussed, imply the introduction of market principles, and assume that all individuals have the same opportunities and capacities to purchase their training in the market.

An alternative might be to subsidise people instead of training providers. Subsidies going to providers or institutions often do not reach their intended target groups. If training is taken as an example, it is known that the groups least in need of it benefit the most, undertaking training activities which they would have enrolled in anyway, subsidised or not (Brandsma, 1997b).



However, such an approach must be accompanied by targeted incentives and support systems. The groups most in need of training, will need substantial guidance and counselling to find their way in the education and training market.

One specific issue concerning public, but especially private investment policies, is the role of informal learning. It may be assumed that a lot of informal learning takes place within organisations. Informal learning is often not transparent, but can be of crucial importance for an enterprise (Barron, Black & Loewenstein, 1989; Mincer, 1974, 1991)². It would be worthwhile to develop strategies and tools to make informal learning more visible and to try to measure its returns. If informal learning could be taken into account, it might appear that investment in training is much higher than presumed, however, it could increase our understanding of the contribution of training (perceived here as including both formal and informal learning) in increasing the productivity of enterprises.

Human resource accounting and reporting within enterprises

There is a question as to whether it is really (im)possible to determine the returns on investment in training and human resources. The attempts thusfar - considered by some to have been not very successful - have aimed at a quantification of these returns in monetary and economic terms (productivity increase, growth, etc.). If the scepticism with regard to this approach is justified -and one has to conclude that research results are not always consistent in this area- to what extent do the attempts thusfar represent an adequate approach? Can returns on the investment in training be quantified in monetary and economic terms?

The emergence of knowledge-based or knowledge-driven economies underlines the importance of knowledge and human resources for enterprises. The substantial and growing investment in training by enterprises reflects this to some degree, even though there are large differences between the different sectors/branches of industry and between big and small com-

panies. Nevertheless, training still quite often tends to have an 'ad-hoc' character, rather than being a strategic tool in company development. This is reflected in the fact that it is sometimes difficult to get reliable figures from enterprises concerning their investment in training and indeed most enterprises are not able (or only with great difficulty) to put a value on their human resources (KPMG Bureau voor Economische Argumentatie, 1996). The question is, does this make human resource investment less efficient and effective than it could be?

Where physical capital investment is concerned, most enterprises are able to state its benefits and the costs involved. If knowledge and human resources are crucial for enterprises, arguably, they too should be treated as seriously as investment in physical capital, particularly since investment in human resources appear to be subject to economic fluctuations. Putting a monetary value on the returns on these investments by means of human resource accounting, is an attempt to address this imbalance.

Human Resource Accounting, as such, is not a new issue (KPMG Bureau voor Economische Argumentatie, 1996), but given the importance of establishing a learning society and learning organisations in to-day's context, it has renewed relevance. The key issues concerning human resource accounting can be summarised as:

- the importance of inclusion of human resource investment in accounting systems;
- the question of whether or not it is feasible to include human resource investment in the present accounting and reporting procedures (more specifically the balance sheets); and,
- the alternatives that are available or can be developed.

The argument for human resource accounting

Investing in human resources or human capital, as already stated, is a decisive factor for the competitiveness of enterprises. Evaluating firms' performances solely on the basis of its tangible assets,

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² See also European Journal N° 12/97



“One of the major reasons for considering the inclusion of human resources in the accounting systems, is that financial accounting and reporting practices have a crucial influence on a company’s capital decision making. What is reported in the balance sheets is visible and therefore, something which managers can and will be expected to react to.”

“It is not the inclusion of the investment in human resources, as such, that causes the problems, but rather the quantification of the competence development and the competences gained as a result of the investment. Stated otherwise, it is the validity and reliability of the information on the “value-added” provided by the human resources, which presents a major problem.”

does not give a proper indication of its competitiveness nor its value. The existing accounting and reporting systems present a ‘distorted’ value of enterprises, which is reflected by the fact that there is substantial evidence that the share or market values of (large) companies exceeds their book value, as both Johanson (1996) and Dercksen (1996) show. The difference between this share value and the book value can, to a large extent, be explained by the enterprises’ intangible assets, such as tacit knowledge and human resources available within the firm, which are not represented in the firms’ balance sheets.

One of the major reasons for considering the inclusion of human resources in the accounting systems, is that financial accounting and reporting practices have a crucial influence on a company’s capital decision making. What is reported in the balance sheets is visible and therefore, something which managers can and will be expected to react to. Current accounting systems treat investment in training as an operating cost (and not as a revenue expenditure item like other intangible investment, such as investment in R&D), and thus are not able to evaluate or take into account the benefits of this investment. This contributes to the problem of managers justifying their expenditure on training and in dealing with the dilemma of reducing costs and increasing profits and investing in training. Reporting on a company’s intangible assets, among which human resources, can both give important information to a company’s management and contribute to improving the efficiency of the allocation of resources, through providing an insight in the “costs” and benefits of intangible capital.

Human resource accounting is not only important from an internal perspective. External reporting is relevant as well, since this can provide capital markets, shareholders and consumers with a fair, undistorted picture of the value and competitiveness of a firm.

Including human resources in current accounting and reporting procedures

Can investment in human resources be treated in a similar manner to physical capital investment and recorded on the enter-

prises’ financial statements or balance sheets? Johanson (1996) points out that there are both advocates and opponents with regard to the issue of including human resources in the firms’ balance sheet.

Advocates argue that an inclusion of investment in human resources in the balance sheet provides a more correct picture of the value of the company. They do argue that inclusion of investment in human resources in the financial statements of enterprises would be powerful since such documents are of central importance for financial decision-making and behaviour within organisations (Johanson, 1996).

Opponents point to the fact that balance sheet valuation is not practised and that the balance sheet is regarded already as an insufficient instrument to show the true value of a company.

Dercksen (1996) concludes that inclusion of human resources in the firms’ balance sheet is not possible since inclusion would require that human resources meet the three characteristics of an asset, which are:

- the capacity to generate future earnings;
- measurability of an asset’s value;
- ownership.

These three characteristics clearly delineate the problems concerning the inclusion of human resources on the balance sheet. It is not the inclusion of the investment in human resources, as such, that causes the problems, but rather the quantification of the competence development and the competences gained as a result of the investment. Stated otherwise, it is the validity and reliability of the information on the “value-added” provided by the human resources, which presents a major problem.

Considering the characteristics of an asset, it is clear that estimating the capacity of an investment in training to generate future earnings is very difficult. Investment in human resources tends not to have returns in the short-term but rather in the long-term; the measurement of these returns, especially in monetary terms is difficult.



Where the “ownership” is concerned, employees can leave the firm taking their human capital with them, and therefore the benefits which a company should expect to gain from its investment.

Even though it is possible to include some training expenses on the balance sheet of companies (Guerrero-Barnay, 1996), the question is whether it is worthwhile to do so. Financial statements as such, are limited in the information they can provide to financial markets and should, in the end, be simple and basic (Johanson, 1996). Inclusion of human resources on the balance sheets might make these financial statements unnecessarily complicated. Accounting for investment in training as such is one thing, but putting a value on the growth and accumulation of knowledge and human resources, or the ‘value-added’ to the firms’ profitability and competitiveness, is much more difficult. In addition, the fact that there are signals that the balance sheet as such is regarded as an insufficient instrument to show the true value of a firm, makes the effort of going through all the pain of trying to include human resources in the balance sheets even more questionable.

Alternative approaches

Based on the fact that putting human resources on the balance sheet is problematic, alternative approaches have been put forward. There are various examples of companies which try to report on their intangible assets, especially human resources, in different ways, both internally and externally, most of them at present non-standardised. Dercksen (1996) mentions three groups of alternative approaches:

- standardised human resource management, which might either detect the performance of the company (through business score cards) or the individuals’ contribution to the performance of the company and the individual targets to improve this contribution (through individual score cards);
- effect studies on training programmes, which concern both costs and monetary benefits of training;
- satellite balance sheets which are annexes to the annual report primarily ad-

ressed to the capital market and the consumers, but are also relevant for other stakeholders (Dercksen, 1996).

Where Dercksen’s conclusion is that it is not possible to include investment in human resources in the firm’s balance sheet, Johanson (1996) points out that it is difficult to come to a final conclusion. Inclusion on the balance sheet has both advantages and disadvantages. He discusses four possible channels for reporting on human resource investment:

- information in the balance sheet and profit and loss account;
- information outside the balance sheet and outside the profit and loss account;
- information outside both the balance sheet and the profit and loss account but inside the annual report;
- information outside the annual report.

Certainly where the inclusion in the balance sheet is concerned, feasibility of such an approach might be difficult given the opposition to this approach. As Johanson (1996) outlines, the more powerful the instrument, the bigger the resistance against implementation can be expected to be. The least powerful instrument (information outside the annual report) might likely elicit the least resistance. As Johanson states:

“Probably a balance sheet valuation creates more resistance, but is perhaps more powerful than non-mandatory and non-monetary information outside the annual report”.

A particular approach mentioned by both Johanson (1996) and Dercksen (1996) concerns benchmarking. The principle underpinning such a strategy is that an independent institute collects data among firms with regard to predetermined indicators concerning human resource investment which, on the one hand, allow for detecting general trends, and on the other hand, enables firms through private reports to measure their own efforts and outcomes in the area of human resources against the average of their branch of industry.

It is still too early to draw any conclusions concerning the most appropriate



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and effective way of human resource accounting and reporting. Deciding on the most effective procedure depends on factors such as the target group of the report; is it mainly intended as an internal management tool, or as a means of providing external information? If so, for which stakeholders? Human resource accounting can be perceived as an instrument or a tool to influence the decisions and behaviour of both managers and stockholders. If human resource accounting and reporting is to contribute to raising the profile of human resources investment and promoting more effective investment decisions, the likely impact of the accounting and reporting procedures and their acceptability, should be given due consideration.

At the moment, there is little insight into the impact which the various forms of reporting have on this behaviour; nor is there much knowledge concerning the usefulness of various forms of reporting for different stakeholders or the ‘effects’ of various forms of reporting in terms of improving and stimulating investment in human capital. In this respect, it would be very useful to stimulate research concerning the issues mentioned above and to try to guide and monitor the voluntary disclosure of information on human resource investment in a more structured way.

Concluding remarks

There seems to be a general consensus concerning the necessity to increase investment in learning and human resources, if the learning society is to be brought about. Two crucial questions, which have been the focus of this article, are:

- which are the effective policies, strategies and incentives for promoting investment in human resources?; and
- who is going to pay for the different forms of education and training?

These two questions are closely related. Discarding the political connotation of the latter question, and assuming that co-operative funding is inevitable, basically the issue concerning funding the most effective policies and incentives to stimulate

the various actors to actually invest in education and training.

Obligatory approaches, such as grant/levy schemes and obligatory contributions from employers, or tax relief regulations do not appear to produce the necessary results. Even in the case of voluntary arrangements, it appears that the accumulated training funds often are only partially used. And if an enterprise or an individual is not convinced of the value and benefits of investing in education or training, it is questionable whether one will change this attitude and the corresponding behaviour because of a tax relief incentive.

If one accepts the above assertion, the question to be answered is what alternative policies and incentives will be effective? The fact that there is still a major lack of investment in human resources and that an individual’s investment in education and training is “risky”, obliges one to conclude that establishing a learning society will require a substantial effort on the part of policy makers.

Establishing a learning society requires that individuals, households and enterprises are convinced of the need and necessity to invest in education and training, or, in more general terms, in the development of knowledge and competences. This conviction in itself, however, is probably not enough. It is also necessary to demonstrate that there will be a return on their investment and efforts.

Therefore, although there is evidence that investment in human resources does pay, our knowledge concerning the nature of these returns is still rather fragmented. Within Europe, there is still little research undertaken in this area and as far as research has been performed, some, from a methodological point of view, is not sufficiently sound to allow causal attributions. The further development of our knowledge in this area would probably benefit from a thorough analysis of the research work already undertaken, from the point of view of constructing and refining conceptual models as well as building sound methodological frameworks for this research.

Initiatives concerning the development and implementation of feasible proce-



dures for human resource accounting and reporting could be placed in this context as well. It has become clear that human resource accounting is important, both as an internal management tool and from the perspective of external reportings to private and public financial commentators. It has also become clear that current accounting perspectives do not favour the placing of human resources

on a company's balance sheet. The development of alternative standardised procedures for voluntary human resource accounting might not only prevent the situation that each firm tries to report in its own and non-standardised way, but might also begin to provide information on how investment in training function pays off in terms of productivity and competitiveness.

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Investment in human resources - a dilemma?

*“What is money?
Money is round and rolls away,
but education endures.”
Heinrich Heine*

It is possible to see expenditure for developing human resources as an investment where agreement of interests can be reached. This means agreeing on the actual potential responsibility of the various parties involved in tangible and intangible investments in education and training and agreement in relation to the manifold benefits of investment in human resources. Education and training researchers are therefore called on to provide education and training policy-makers with the necessary basis for argumentation.

An imperative of technological progress: the promotion of human resources

A recurring demand, an imperative, pervades the discourse on education and training policy: the promotion of investment in human resources. Politicians and researchers agree on the positive effects of investing in the education of people, agree less about how this should be done and are mostly unaware of the implications connected with the concept of investment in the area of human resources.

The importance of education and training and thus of their financing has been seen in a new light in recent years. The attempt to provide comprehensive basic education and training as preparation for working life has given way to the goal of making lifelong learning in the form of targeted occupational preparation and ongoing continuing training possible and providing the financial means required for this through public and private resources.

The factor 'knowledge' within production processes has widely replaced physical labour. New technologies and permanent innovation lead to competing ideas, a phenomenon that transcends traditional markets. This puts companies under enormous pressure to produce products and services economically in compliance with actual market demands and to differenti-

ate them by applying the appropriate know-how. 'Knowledge' has therefore become the decisive added value. The creation of this added value demands continual investment in education and training.

Enterprises are now confronted with coordinating effective long-term strategies for promoting human resources with those short-term company strategies which result from their increasing dependency on technological developments and financial markets. Additionally, the fact that the accumulation of knowledge is not reflected in companies' balance sheets distorts the evaluation of the enterprises' real substance. Thus arbitrary assessments serve more than ever as the basis for decisions on investment in human resources and also for the way financial markets assess companies.

Rationalized production systems and flexible labour markets also lead to the individualization of training and continuing training. Individual employees, however, are under increasing pressure to distinguish themselves from others with their vocational and demand-oriented competencies. Education therefore becomes more and more a personal asset, which contributes not only to shaping the individual's personality but also secures personal competitiveness. In response to this, concepts for developing competence portfolios aim at assessing knowledge and abilities in keeping with market requirements.



We therefore need an educational and training policy whose principal aim is to promote investment in human resources and which fulfils the following basic requirements:

□ The combination of horizontal qualifying initial training with long-term demand-oriented vocational training which requires investment in alternating vocational training opportunities.

□ The guarantee of access to continuing training throughout working life, which in view of limited budgets means that resources need to be reorganized and redistributed to create coherent structures for continuing training.

□ The distinction of products by the added value of 'ideas and knowledge', which must lead to greater fiscal and accounting incentives for investment in competency promotion.

□ Readily accessible and fast-changing economic structures and more flexible working relationships, which require a redefining of responsibility for the various parties involved in promoting competencies.

Money is still being spent on education and training without investment being made

If educational and training policy demands equal treatment of investments specifically in education and training, what is really meant is expenditure on education which does not yet have the nature of an investment. In the fiscal sense, expenditure on the provision and promotion of human resources is a one-off periodic investment.

At the same time it is difficult to discuss the distribution of the meagre funds available for training and continuing training and the responsibility involved as long as little clarity is available on:

□ The amount of monetary and non-monetary resources the various parties make available for education and training;

□ Which course financing channels specifically for education take within the different infrastructures for training and continuing training;

□ Which financing mechanisms are especially effective in the different contexts; this requires an evaluation of the tangible and intangible returns on invested resources.

Education and training statistics in the past decades have restricted themselves to presenting the volume of public expenditure and documenting its allocation to training at primary, secondary and tertiary levels. Here at least it can be ascertained that public investment by EU Member States in education and training varied very little over the past two decades and only slight differences exist between the Member States (with the North European countries investing minimally more). Public spending on education and training in 1993 averaged around 5.5% of the GDP, which corresponded to around 11% of the state budget. In this context it should be noted that the investment levels of future Member States (e.g. CZ, H) match up well in comparison.

Although European statistics may give information on investment levels at a macroeconomic level, they do not permit the disaggregations important for political decision-making. The distribution and course of finances, especially at sub-national levels, (regional and local authority levels) are only ascertainable in isolated cases and offer little scope for comparisons with other countries. For a long time there has been no doubt as to the importance of contributions by private financial sources (enterprises and private persons) to training and continuing training, even if this information, too, is based solely on estimates.

The first attempts to quantify the volume of expenditure by European enterprises for company-related continuing training were made during the Continuing Vocational Training Survey in Enterprises (EUR 12 for 1993). A project of this kind demonstrates the methodological problems involved in recording the amount of resources utilized for company training and indicates several obstacles in treating education and training expenditure as an investment:

If educational and training policy demands equal treatment of investments specifically in education and training, what is really meant is expenditure on education which does not yet have the nature of investment. In the fiscal sense, expenditure on the provision and promotion of human resources is a one-off periodic investment.



The evaluation of the benefits of investing in education and training is (...) closely connected with the question of allocating the earnings. Although an enterprise may be convinced that promoting demand-oriented qualifications will increase earning power, it is still essential to determine whether these qualifications can also be put to use externally.

□ A number of different types of costs, especially the labour costs of employees undertaking continuing training, are not registered separately or added to continuing training costs.

□ The extent of informal continuing training and consequently its costs can only be estimated.

□ Not every in-company continuing training programme is financed directly by an enterprise; public funding might also be involved.

□ For various reasons, companies are loath to provide information on their continuing training programmes and strategies and as such on their investments in human resources.

In a number of studies investments in training are compared with effects achieved (see in particular the synoptic presentations of G. Psacharopoulos). At a macroeconomic level these investigations are usually based on economic growth, productivity, income and social welfare as revenue indicators and in most cases conclude that learning and education examined retrospectively, are worthwhile investments and if not causality, then at least correlation does exist between the expenditure and the indicators mentioned.

At microeconomic level (i.e. for enterprises and households), evaluating the benefits of educational programmes is far more complex, firstly because of the difficulties in specifying objectives and expectations and secondly due to the problem of classifying future earnings.

Objectives and expectations can usually be clearly defined, at least for short-term training programmes. They can, e.g., be determined by the current qualification requirements of the labour market. Long-term effects and consequently strategic targets are, however, more difficult to specify, their timeframes uncertain, and they are subject to interference from other socio-economic factors. Due to uncertainty about their long-term effects, education and training run the risk of becoming mere status symbols and of being neglected thoughtlessly in times of weak economic activity.

Educational and training researchers and policy-makers pay insufficient attention to the strategic importance of integrated personnel development beyond the annual continuing training planning by enterprises. In addition, each member of society should be encouraged to invest more in developing personal competencies. This can be achieved by increasing individuals' decision-making skills, and by improving information on what personal benefits might be expected.

The evaluation of the advantages of investing in education and training is, as already mentioned, closely connected with the question of allocating the earnings. Although an enterprise may be convinced that promoting demand-oriented qualifications will increase earning power, it is still essential to determine whether these qualifications can also be put to use externally (i.e. by competitive companies). Promoting horizontal, transferable qualifications can indeed be of benefit to an individual enterprise but there is also a risk of not being able to put investments in human resources to use permanently. Thus the question arises as to what extent the promotion of horizontal qualifications are also of external benefit and how the responsibility for financing education can be distributed among all potential beneficiaries.

For enterprises as well as for individuals and employees, incentives for investing in education and training occur where profit expectation can be determined in advance and where there is a maximum degree of certainty that the results of investing in education will actually be of use.

Investment in human resources: What does the concept imply?

From an economic viewpoint, an economic system whose competitiveness is founded on innovative ideas, knowledge and abilities cannot treat money spent on providing competencies any differently from that invested in classic fixed assets. This presupposes the same reassessment of expenditure on human resource (which is one of the five objec-



tives set down in the white paper of the European Commission “Teaching and Learning - Towards the Learning Society”), if the promotion of equal treatment of tangible investments and investments in human resources is to be a central element of European educational and training policy.

To work towards this goal in accordance with the points already mentioned, we should bear in mind that while investment in human resources may well exist in writing, it is in no way a part of everyday economic life. A survey of the framework for booking expenditure on education and training and making this tax-deductible in the EU Member States shows that these outlays must normally be declared as periodic expenses. Only in marginal cases can corresponding expenditure be activated, i.e. capitalized, such as e.g. in the case of purpose-orientated attachment to capital assets (e.g. F, IRL, S), company foundation (e.g. A, D, I, L), in human capital-intensive companies (e.g. FIN) or if the costs can be directly connected to future returns (e.g. UK.).

The last category indicates exactly which hurdle must be cleared before education and training expenditure acquire the nature of an investment:

In the economic sense, an investment implies a tie-up of capital, which is usually undertaken with the long-term intention of making future profits. Investments lead to the compilation and combination of tangible and intangible capital, which form the basis for the process of producing goods and services. The expectation of positive returns linked to the marketability of the goods and services produced is the incentive for the investment.

To act as an investor is the outcome of a decision-making process during which benefits and yield are weighed against the risks of specific investment alternatives before finally selecting the most attractive option.

These conditions can be met in the case of a decision in favour of tangible assets but also certain intangible commodities, such as legal rights, licenses and patents, are finding their way into classical accounting.

In order to treat investments in human resources as such, two main requirements must be met:

□ The earning capacity of an investment in human resources must be measurable. That requires not only the assessment of direct and indirect costs, but that future proceeds must also be quantifiable. It must be possible to determine the values that enter the business accounts accurately as well as the periodic rates by which the investments depreciate.

□ Returns on investment proceeds must be acquirable.

The point of an investment is to obtain future profit and this must at the time of its origin be available to the instigator. This condition must apply to employers as well as employees as potential investors and it creates a special challenge to the contractual provisions negotiated between the two.

Both stipulations can be considered as fundamental obstacles for treating expenditure for the provision of human resources (i.e. personnel costs) and its promotion and development (i.e. the costs of continuing training). Both are far from being met because:

□ Which methods are available for carrying out a transparent and generally valid evaluation of qualifications and competencies?

□ Are there any methods which go beyond registering the costs and establish the connection between the employment and development of human resources and profit indicators?

□ What are the features of contracts which permit the acquisition of investment returns, given the fact that rights of disposal of human resources differ from those pertaining to classical capital assets.

Even though the difficulties of aiming to treat personnel and training costs as investments in human resources are obvious, arguments for developing appropriate concepts can be found on both macro- as well as microeconomic levels, i.e. for enterprises as well as individuals.

For enterprises, treating education and training expenditure as an investment can

In order to treat investments in human resources as such, two main requirements must be met:

- The earning capacity of an investment in human resources must be measurable.

- Returns on investment proceeds must be acquirable.



The role of the individual must be linked to incentives for investing in education and training increased. This includes creating greater transparency of personal competence portfolios, which goes hand in hand with evaluating them in accordance with market requirements.

create a number of incentives likely to promote such spending. These lie principally in a realignment of business strategies through greater transparency of production-relevant capital, which accordingly also takes account of the competency capital. Clear balance sheets indicating the real value of the enterprise's assets would result in a reduction in the speculative nature of financial markets' assessments of companies since more realistic indicators would be applied. The adaptation of taxation practice could, through more targeted fiscal treatment of expenditure for education and training, lead to incentives for investing in the development of human resources on a long-term basis and a targeting of enterprise policies toward stronger promotion of competencies.

Attempts are in fact being made in the Member States to implement investment concepts. Apart from the specific fiscal allowances already mentioned which permit capitalization of expenditure on education and training, a few practical examples aim to promote awareness of the importance of ongoing development of competencies. The Investors in People programme in the United Kingdom tries to offer incentives to promote a continual training culture and strategies at enterprise level. In France, employers are obliged to "invest" a fixed percentage of wage bills in education and training, and socio-economic accounting includes information on the continuing training policies of enterprises. This and similar models are a first step in promoting the equal treatment of tangible and specifically educational investments.

Without a doubt, the introduction of investment thinking also goes hand in hand with redefining the so far relatively passive role of the individual. The utilization of initial and continuing training is still determined principally by availability and social factors. This is because education is looked on as common property and also because entrepreneurs tend to protect their own decisive role in offering continuing training in line with specific company requirements. The limited potential of individuals to take financial responsibility for developing their own personal competencies must also be considered.

In view of the changed economic climate mentioned above, which allows an employee's attachment to a specific company or economic sector to become more flexible, personal responsibility for career development is increasing. Additionally, the restriction of education and training budgets - at state level due to budget restrictions and at enterprise level because of cost pressure - means that individuals are being called on more and more to contribute to their own training and continuing training.

Taking these circumstances into account, two things must occur: the role of the individual must be strengthened and incentives for investing in education and training increased. This includes creating greater transparency of personal competence portfolios, which goes hand in hand with evaluating them in accordance with market requirements. It also means safeguarding both employers' and employees' rights, as each benefit from their competencies.

In European practice, numerous examples can already be found where the responsibility for training and continuing training is shared. Models for co-financing at various levels inevitably raise the question as to how employers, employees and the state can contribute (tangibly and intangibly) and which benefits are obtained by the various parties from their investment. The debate on co-financing criteria is a further important basis for developing investment concepts and models in the education and training sector.

Investments in human resources: feasible?

The aim of regarding and treating education and training as investments in the economic sense appears at first sight to be distant and fairly impractical. It does, however, underline the long-needed repositioning of the 'knowledge' factor within production processes and the related reorientation of education and training policy. As can be seen, we must overcome a number of fundamental obstacles before we can come to a new concept of responsibility that will meet the require-



ments of viewing investment as an economic concept.

It is possible to see expenditure for developing human resources as an investment where an agreement of interests can be reached. This means agreeing on the actual possible responsibility of the vari-

ous parties involved in tangible and intangible investments in education and training and agreement in relation to the manifold benefits of investment in human resources. Education and training researchers are called on to provide education and training policy-makers with the necessary basis for argumentation.

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Towards a rate of return on training: assessing the research on the benefits of employer-provided training¹

An important avenue of research is the direct estimation of the link between training and wages, and training and productivity. In addition, it is recognised that training has other goals such as increased job satisfactions and mobility. With information on such returns to employer, provided training better decisions can be made. But what is the state of knowledge in this area ?

Introduction

The purpose of this article is to provide a review of research into the benefits of employer-provided training. The focus will not be on individual workers or firms but rather on efforts to estimate the benefits across large groups of workers or firms. The ultimate goal in estimating such benefits is to combine the information with estimates of the cost of training and to generate rates of return for different types of training. With such information available, better decisions on training expenditure can be made.

It will be seen below that this is an area of research which has grown in recent years. Whereas social scientists have been estimating the returns to more formal schooling for many years, returns to employer-provided training were assumed to be captured by estimating the link between work experience and wage growth. Just as wages were seen to be higher for individuals with more schooling, so also were wages seen to be higher for individuals with more work experience and longer tenure in a particular job. The interpretation put on this finding was that workers received training in jobs and so they became more productive over time. By looking at how wages rose with experience and making assumptions on the costs of training, rates of return could be estimated.

The assumed link between the earnings-experience profile and training came to be questioned in the 1970s and 1980s from both theoretical and empirical perspectives. One theoretical question was raised by Lazear (1979). He argues that wages rise with experience because employers want to provide workers with an incentive to remain with the firm; by postponing higher wages to later in the worker's career, the worker will be induced to remain with the employer. If this is true, then there is no necessary link with experience and productivity, as is implied by the training argument. On the empirical front, the paper by Medoff and Abraham (1981) raised further questions about the link between experience and productivity. Drawing on the personnel files of a large firm, they were able to demonstrate that although more experienced workers were paid more, they were no more productive.

Given the questions that had been raised by these authors and others, it was clear that an important avenue of research was the direct estimation of the link between training and wages (as opposed to experience and wages) and the link between training and productivity. In addition, it was also recognised that training had other goals associated with it such as increased job satisfaction and increased mobility. In what follows, we will outline some of the studies on the benefits of employer-provided training in an effort

1) This article is based on work that is being undertaken for a CEDEFOP commissioned report.



to assess the state of knowledge in this area. The article goes on to look at studies which have focused on the training/wage link. It then looks at the studies which examine the training/productivity link, although some of these also consider the wage issue. The article then considers some of the work that has been done on other dimensions of training benefits, before offering some conclusions.

Training and wages

Given the concerns raised about whether or not training explained the positive relationship between experience and wages, it became necessary to establish empirically a direct link between the two. If there is a link, this would imply that training was producing the benefit of increased productivity, assuming employers would only pay more when productivity was increased. In addition, the increase in wages can be viewed as a lower bound estimate of the increase in productivity, as it is likely that employers would want to appropriate some of the increased productivity in the form of profit.

Lynch (1992) begins her study of the link between training and wages by making the following observation:

“Due to a lack of appropriate data, researchers have been unable to examine directly the impact of private sector training on wages in any comprehensive way. Consequently, many have had to infer this impact from the shape of wage profiles. (p299)”

She overcomes this difficulty by drawing on the National Longitudinal Survey youth cohort (NLSY). This survey was conducted in the United States, whereby 12,686 males and females, between 14-21 years of age at the end of 1978 were interviewed every year starting in 1979. Lynch uses the data up to 1983. Extensive information on their training activities is collected. In particular, individuals report how many weeks they had spent in on-the-job training, off-the-job training (such as in vocational colleges) and in apprenticeships. Information on wages is also included.

Such data allows Lynch to do two things. First, she can work out how individual

characteristics influence the likelihood of receiving training. As this is not our primary interest here, we will look at her second task, that is estimating how different forms of training effect wages. Lynch finds, among other things, that off-the-job training acquired with either the current or previous employers increases wages. This is done by estimating regression equations, with the log of wages as the dependent variable. However on-the-job training with a previous employer does not increase wages. The difference in the impact of on- and off-the-job training with a previous employer may be because the ‘on’ may be specific to that employer whereas the ‘off’ may be more general. It could also be that current employers are only prepared to recognise off-the-job training from a previous employer because the content is more transparent.

The usefulness of drawing on a large-scale survey of individuals is also seen in Booth (1991), this time using British data. Booth’s data comes from the British Social Attitudes Survey of 1987. As was the case with Lynch (1992), the individuals in the survey were asked to provide information on the amount of training they have received. However, the data used by Booth contain a weakness which impacts upon the power of the study. Training in the survey is broken down by ‘formal’ and ‘informal’ training, with ‘formal’ loosely relating to a structured approach to training and ‘informal’ including activities like watching others doing the job. Clearly this is a useful distinction, but some of the usefulness is lost because formal training is reported by the individual in days undertaken while informal training is only reported as having been undertaken or not. Booth finds a significant relationship between training and wages, with the effect being particularly strong for women.

A different approach to testing for the training/wage link is taken by Bishop (1994). Whereas the two studies just mentioned used large-scale surveys of individuals, Bishop uses two surveys of employers. In particular, employers in these surveys were asked to provide information on two of their employees, in particular information on their training, wages and productivity. Bishop then compares the experiences of the two workers across

“Lynch finds, among other things, that off-the-job training acquired with either the current or previous employers increases wages.”

“Booth finds a significant relationship between training and wages, with the effect being particularly strong for women.”



“(...) Bishop finds that training increases wages but he draws attention to two other findings. First, the increase in productivity is greater than the increase in wages so training is profitable for employers. Second, training received from a previous employer increases wages but again increases productivity more.”

“Groot et al. (1994) draw attention to the fact that training is likely to be acquired by those who will use it best. (...) Using Dutch data, Groot et al. (...) show that while the effect of training on the wages of those who participate is positive, such a positive effect would not have been enjoyed by those who did not participate, if they had trained.”

a large number of firms. In order to explore the link between training and the outcomes of interest, Bishop constructs a 'training-time index'; he does this by taking the amount of time reported in different forms of training and multiplying it by the cost of that time. If a trainer is involved in the training, this cost is added to the cost of the trainee's time. In general, Bishop finds that training increases wages but he draws attention to two other findings. First, the increase in productivity is greater than the increase in wages so training is profitable for employers. Second, training received from a previous employer increases wages but again increases productivity more. Hence, there is a 'spillover' from employer-provided training, in that the training provided by one employer benefits another.

Before leaving this discussion of the measured impact of training on wages, one additional point should be addressed. Groot et al. (1994)² draw attention to the fact that training is likely to be acquired by those who will use it best. It may be because employers will choose to train certain workers or because certain workers will volunteer for training; either way, there will be a selection process. The importance of this point in estimating the effect on training on wages is that if the observed effect is based on those who were selected into training, and not randomly assigned to training, the effect for the random individual will be over-stated. Using Dutch data, Groot et al. employ a particular statistical technique to take account of the selection issue. They show that while the effect of training on the wages of those who participate is positive, such a positive effect would not have been enjoyed by those who did not participate, if they had trained.³

Training and productivity

Although it has been demonstrated through the studies just discussed that training leads to higher wages, this still does not confirm that training leads to higher productivity. It could be that employers assume that more training leads to greater productivity levels and so they are prepared to pay higher wages to attract or retain those workers with more training. In order to establish that train-

ing does produce the benefit of higher productivity it is necessary to test this directly. A brief reference was made to a productivity effect above (in discussing Bishop, 1994) but other studies have also explored this issue.

In saying that one of the earliest studies of this type is Holzer et al. (1993), it is clear that this is a relatively new area of research. The data used in this study arose out of a grant programme run by the State of Michigan, through which grants were made available to manufacturing companies for the financing of training. By surveying companies which had received grants, and others who had applied but had not received a grant, a data set was generated with information on training inputs and companies outputs. Hence, the authors were able to explore whether there was a link between the two.

One particularly useful feature of the data is the fact that they have information on the companies over a number of years. In attempting to link training and productivity this is important. With data for one year, any observed relationship between training and productivity must be treated with caution. If there is an aspect of the firm which is correlated with training and which also increases productivity, but which is not observed in the data, then the effect of training may be overstated. For example, if management quality is high in a firm, this may lead to greater training and to greater productivity. A statistical analysis with one year of data will miss this point and will attribute the management effect on productivity to training, thus overstating the effect of training. With data for more than two years, this problem is reduced somewhat. If the unobserved characteristics of the firm do not change over time, it is possible to look at how productivity *changes* across firms are related to *changes* in training.

Holzer et al. use the scrappage rate as a measure of productivity and hours of training per employee as their measure of training. They find that increased training reduces the scrappage rate; for example, a doubling of the amount of training per employee reduces the scrappage rate by about 7 percent. Hence, they find evidence of a direct link between training and productivity.

2) The point is also made and developed empirically in Groot (1995).

3) The selection issue is discussed in Booth (1991) and Lynch (1992), and Lynch estimates a model where a selection-correction procedure is used; however, the point is not stressed in either of these two studies.



Bartel (1994) again looks at the link between training and productivity using a survey of employers. Like Holzer et al., her data covers a number of years and so it is possible to relate changes in training input to changes in productivity. Her data has advantages over that of Holzer et al., in that she has more observations on which to base her analysis (about 150 compared to about 100) and her measure of productivity (a measure of sales) is more easily interpreted than the scrappage rate. However, her training measure is weaker in that it is the proportion of workers trained. She does find a positive effect of training although interpreting the effect is difficult because of the nature of her training variable.

This approach to estimating the training/productivity relationship has recently been advanced in a series of papers by Lisa Lynch and Sandra Black (Lynch and Black 1995, Black and Lynch, 1996 and Black and Lynch, 1997). As with many aspects of empirical research in economics, their advances have been facilitated by a new data set which, as the authors put it, "was designed to overcome some of the limitations of previous studies and collect more precise data on human-capital inputs and establishment inputs" (Black and Lynch, 1996). The survey is the "National Centre on the Educational Quality of the Workforce National Employers Survey (EQW-NES)", through a phone survey in 1994 it generated responses from 1,621 manufacturing companies and 1,324 non-manufacturing companies.

The authors use the data for a number of purposes. For this article, the first results of interest are found in the 1995 paper⁴. Production functions are estimated for the manufacturing and non-manufacturing sectors in which dimensions of training are included along with the more usual arguments in production functions such as capital and labour. The results on training are interesting; the number of workers trained is not found to have a significant effect on productivity but this masks the effects of different dimensions of training, which do matter. In manufacturing the higher the proportion of training that is off-the-job, the higher is productivity. Similarly, in non-manufacturing the type of training matters for productivity; in particular, training in computer skills increase productivity.

As the results presented in the 1995 and 1996 papers of Black and Lynch are based on data from a single year, they suffer from the problem discussed above of failing to take account of time-invariant unobservables⁵. In the 1997 paper, they attempt to overcome this by supplementing the EQW-NES data with data from the Longitudinal Research Database (LRD) of the United States Bureau of the Census. The authors were able to match the companies in the EQW-NES with records in the LRD and thereby create a dataset with information over time on the companies. In re-estimating their earlier work, they now find no effect of training on productivity; however, this was probably because the information on training was too weak for its effect to be captured in the extended estimation framework. What does emerge from this study is the interesting effects of workplace practices on productivity. In particular, greater involvement of workers in decision-making and the use of performance related pay are seen to generate higher productivity relative to the more traditional labour/management relations.

While much of the work in this area has been done in the United States, some work has also been done in Europe. Barrett and O'Connell (1997) use a dataset that was constructed over two points in time to estimate a training/productivity link. The first component of the dataset is a survey of Irish companies conducted in 1993 which asked firms for detailed information on their training activities. The second component of the dataset was a follow-up survey of the same companies conducted in 1997; this time the companies were asked for information on, among other things, output, capital stock and workplace practices in 1993 and 1995. Given the way the data had been gathered, the authors were able to test for a relationship between the training input and changes in output and productivity. A finding similar to Black and Lynch (1996) emerges in that training itself is not seen to influence productivity; rather it is the type of training that matters. In the Barrett and O'Connell study, training that was described by the employers as being 'general' in nature (that is, useable elsewhere) increased productivity but training that the employers classified as 'specific' (that is, not useable elsewhere) had no impact on productivity. One pos-

"In the Barrett and O'Connell study, training that was described by the employers as being 'general' in nature (that is, useable elsewhere) increased productivity but training that the employers classified as 'specific' (that is, not useable elsewhere) had no impact on productivity."

4) The same results are found in the 1996 paper which is a published version of a section of the 1995 working paper.

5) This is acknowledged by the authors; see p266 of the 1996 paper.



“(...) Black and Lynch (1997), (...) find that the effect of a human resource policy depends, not so much on its introduction, but on the manner of that introduction, i.e. whether other policies are introduced along with it.”

“Ichniowski et al. discuss another important issue which deserves our attention: having found that the introduction of human resource management systems produces productivity gains across the sample of firms, they ask why it is that not all workplaces introduce such systems.”

6) One other European study is that of de Koning and Gelderblom (1992). As their data set is particularly small (50 companies), their finding of no impact of training on productivity is of limited use.

sible reason for this result is that specific training may be required in firms where staff turnover is high; in a sense, specific training is used to maintain productivity levels. General training may represent a future addition to the human capital of the firm and hence have the observed effect.

Another European study is that of Ottersten et al. (1996). The primary contribution of this study is on the theoretical modelling of the effects of training. Whereas all studies discussed to date have focused on the relationship between training and productivity, Ottersten et al. present a model of the relationship between training and cost reduction. The authors test their model using data from eight Swedish firms in the machine tool industry; they find large effects of training⁶.

Training and other issues

A number of other studies have introduced additional issues and considerations into this area and so we now provide a review of these. In giving this section the title of “other issues” we do not want to imply that the issues raised by these studies are in some sense residual or less important than the productivity and wage issues just discussed. The issues raised are important and will feed into our overall conclusions.

While the paper by Ichniowski et al. (1995) is limited in its references to training, it is nonetheless of interest from both a methodological point of view and for its results. The purpose of the paper is to assess the impact of human resource management practices generally, including training. However, the focus is not so much on the effects of individual policies; rather, an attempt is made to estimate the effects of collections or systems of policies. The theory underlying this approach is that human resource policies will have complementary effects, whereby the use of certain policies in isolation will have a weaker effect than when such policies are combined with other human resource measures.

In order to test the theory, the authors visited 26 steel plants in the United States and collected longitudinal data on

workplace practices, productivity, technology and wages. They restricted their attention to a very specific process, thereby easing the comparisons across workplaces. The measure of productivity used was the proportion of “up-time” in production, i.e. the proportion of time that the process was not stopped for whatever reason. They found that the hypothesis of complementarity among human resource measures, including training, was supported by their data. A similar finding on workplace practices can be found in Black and Lynch (1997), referred to above; they find that the effect of a human resource policy depends, not so much on its introduction, but on the manner of that introduction, i.e. whether other policies are introduced along with it. Such findings raise an important consideration for further research into the effects of training; if the effects are enhanced by the presence of other policies, it will be useful to structure the research so that this can be captured.

Ichniowski et al. discuss another important issue which deserves our attention: having found that the introduction of human resource management systems produces productivity gains across the sample of firms, they ask why it is that not all workplaces introduce such systems. Their suggested answer centres on the indirect costs of introducing such policies. In particular, where there is worker resistance to doing things in a new way, the costs generated in terms of the upheaval caused may outweigh any long-term productivity benefits. The importance of this point relates to the fact that while training may have positive effects on average, the non-provision of training may not necessarily be due to ignorance of its benefits on the part of managers.

Although von Bardeleben et al. (1995) were primarily concerned with training under the German dual-system, and as such related to initial training, their study raises a number of issues relevant to this review, given that it is enterprise training. Two approaches were taken in considering the costs and benefits of training. A large-scale survey was conducted, in which 1,370 enterprises were interviewed. However, as it was believed at the outset that capturing the benefits of training would be difficult using this approach, case studies were also undertaken.



While it was concluded from the case studies that it was extremely difficult to get reliable information on the returns to training in money terms, a number of questions were asked in the survey which allowed for other effects of training to be identified. Firms were asked their reasons for training workers as opposed to hiring workers who are already trained, so in a sense the issue being considered is the cost effectiveness of training relative to hiring those already trained. Among the reasons for training mentioned by a large proportion of firms were the following:

- to get skilled workers who could not be recruited from the labour market;
- to avoid high turnover, by making the workers more tied in to the firm;
- to be able to identify the best workers from among the trainees.

As in the study just mentioned, von Bardeleben et al. (1996) again used a survey in determining the reasons for which training was sought; however, while the previous study asked firms their reasons, this study was concerned with individuals. The aim of the study was to assess the individuals' views of the extent to which their goals in training had been realised. The main contribution of the study for current purposes is the identification of training effects other than the wage effect. Among the goals identified by the individuals surveyed were better work performance, more interesting or responsible tasks and more opportunities for mobility. One of the most interesting findings of the study was that higher wages ranked below a range of other training goals. If this finding generalises to other populations, it has important implications for what dimensions of training effectiveness we should be measuring. Another interesting finding was that the priorities which individuals held for training differed between East and West Germany; this seems to indicate that social, or more specifically labour market, conditions impact upon the goals of training.

Like the studies mentioned earlier relating to training and wages, the study of Diederer (1994) was based on a large-scale survey of individuals. He used a

longitudinal dataset based on a group of people who left primary education in 1965; the most recent interviews took place in 1987. For the purpose of the study, only the less-educated were analysed, leaving a sample of 780. The data allowed the researchers to assess how both initial training and post-initial training had affected wages. However, like the two studies of von Bardeleben et al. just mentioned, a range of other dependent variables were looked at. For example, unemployment, job and function changes, motivation and attitudes to work and general career success were also considered. It was found that continuing vocational training increased interest in work and also the willingness to change jobs. Again, this raises the issue of other dimensions of training effectiveness which could possibly be measured.

Summary and conclusions

Although this review includes the word "returns" in the title, it is apparent from the above research that rates of return in the strict economic/financial sense of the word have rarely been estimated. What has been done is to relate training inputs, to the extent that the data allows such inputs to be measured, to training outputs, again in a manner that is dependent on the data available. We tend not to find a calculation which relates the initial investment in training to the flow of benefits over time, thereby producing an estimate of a rate of return in a manner which is done for investment in capital assets. Any such calculation would be subject to considerable uncertainty. This is partly because of the data limitations but also because there is unlikely to be good information on the speed with which the acquired skills depreciate or the extent to which employees change jobs.

One exception to this avoidance of rate of return calculations is the paper by Mincer (1991). He gathers together results from a range of studies and, imposing certain assumptions, produces rate of return estimates; for example, if a rate of depreciation of 4% is assumed, returns ranging between 8.7% and 26% are found. However, in discussing whether there is evidence of under-investment in training, Mincer says the following:

"(...) von Bardeleben et al. (1996) again used a survey in determining the reasons for which training was sought; (...) One of the most interesting findings (...) was that higher wages ranked below a range of other training goals. If this finding generalises to other populations, it has important implications for what dimensions of training effectiveness we should be measuring."

"(...) it is apparent (...) that rates of return in the strict economic/financial sense of the word have rarely been estimated."



“While increases in productivity and wages may be important goals of training in many cases, there are other goals which may be just as important and which may be more easily measured, thereby helping researchers to overcome some of the measurement difficulties in this area.”

“... there is no evidence of under-investment, though it clearly cannot be ruled out, given the wide range of estimates.”

Hence, Mincer too appears to say that we do not have what might be considered to be a reliable estimate of returns to training.

While the research in this area may not have produced a reliable measure of the rate of return on training, it has nonetheless produced many interesting insights. In general, training is found to have a positive effect on wages (e.g. Lynch, 1992 and Booth, 1991) and productivity (for example, Black and Lynch, 1996, Bartel, 1994 and Holzer et al. 1993). In addition, as Bishop (1994) found, the productivity effect is greater than the wage effect, thus making training a profitable activity for firms.

Lynch (1992) also found that while off-the-job training with a previous employer increased wages with a current employer, on-the-job training with a previous employer did not. There are two important implications of this result. First, it is possible that current employers only reward previous off-the-job training because the content of such training is more transparent. If this is so, there is a reduced incentive for employees who believe they will change jobs at some stage to undertake on-the-job training. Second, the fact that current employers reward previously acquired off-the-job training implies that such training raises productivity in the current job. Hence, if this previously acquired training was financed by the previous employer, there is a “spillover” effect from one employer to another. Such an effect was also found by Bishop (1994) and so the possibility exists that there is a reduced incentive for employers to provide training. This, of course, is the familiar issue that if training is general in nature, in the sense of being applicable in other workplaces, employers may require the employees to finance the training.

Groot et al. (1994a) demonstrate the important point that in estimating the effects of training across a range of individuals, it is necessary to be aware that people self-select into training and hence estimates which do not take account of this may over-estimate the effects of training

for some. Ichniowski et al. (1997) draw attention to this fact from the perspective of firms when they discuss why it is that some firms do not introduce measures even though they appear to have strong productivity effects when viewed across the sample as a whole. Statistical techniques do exist to overcome the difficulties associated with self-selection but there can be limitations on their usefulness in certain circumstances. When self-selection corrections are not employed, care must be exercised in generalising results.

Black and Lynch (1996) and Barrett and O’Connell (1997) found evidence to suggest that the provision of *different types* of training matter more for productivity than the provision of training per se. In Barrett and O’Connell, training that is general in nature is shown to be effective in raising productivity relative to specific training. Black and Lynch (1996) find that in the non-manufacturing sector, the provision of off-the-job training is what matters.

The studies concerning training and other issues show that it is important to combine training with other human resource measures for the training, and indeed the other human resource measures, to be effective (Ichniowski et al., 1997); clearly, this is an important point to have in mind when trying to identify and measure returns to training. While increases in productivity and wages may be important goals of training in many cases, there are other goals which may be just as important and which may be more easily measured, thereby helping researchers to overcome some of the measurement difficulties in this area. For the enterprise, such goals may include reduced turnover (van Bardeleben et al., 1995). For the individual, the goals may include reducing the probability of unemployment (Diederer, 1994), making work more interesting and increasing the possibilities of changing job functions or jobs (von Bardeleben et al., 1996).

Drawing together these conclusions we can say the following:

- strict rates of return, like those calculated for physical assets, have rarely been calculated;
- training is shown to have a positive effect on wages;



- training is shown to have a positive effect on productivity;
- there is evidence to suggest that training received from one employer increases productivity and wages with another employer;
- selection effects matter in training, in the sense that the benefits are higher for those who train relative to what the benefits would be for non-trainers were they to train;
- different types of training matter for productivity effects, as does the combination of training with other human resource policies;
- individuals and firms have objectives for training other than wage and productivity growth.

While we may have learned many lessons from the work that has been done, there is one area of significant under-research; this is the effect of employer-provided continuing vocational training on productivity performance across countries. In reading reviews of explanations of international differences in productivity levels, such as Pencavel (1991) and Englander and Gurney (1994), it is clear that attention has been paid to differences across countries in education provision. However, the impact of employer-provided continuing training, while referred to the Englander and Gurney, is not estimated. We can be confident that this is related to data deficiencies. However, just as the growth in data on employer-provided training has allowed for work to be undertaken on the micro-economic impact of training, we can hope that such work will now emerge on the macro-economic side.

“While we may have learned many lessons from the work that has been done, there is one area of significant under-research; this is the effect of employer-provided continuing vocational training on productivity performance across countries.”

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Remuneration of continuing vocational training and skill-building under the German and French education systems¹

Because it helps broaden the range of skills of people in industry, continuing training is regarded as contributing to individuals' career advancement by creating opportunities for better pay and improving qualifications... In this respect training is also considered as an investment for the individual concerned and should consequently have an impact in wage terms.

1) This article reports some of the chief findings of research into "Salaries, negotiations and employment policies" which was put out to tender by the French Commissariat du Plan in September 1995 and in which Anne-Marie Daune-Richard and Eric Verdier collaborated. As well as continuing vocational training the report analyses the changes that have taken place in initial vocational training as regards the general or occupation-related nature of qualifications and looks at how their recognition in wage terms developed between 1977 and 1993 in France and between 1984 and 1993 in Germany. We are grateful to the German Institute for Economic Research (DIW) for making the published version of the German Socio-economic Panel (GSOEP) available to us and to LASMAS-IDL for allowing us to access the Training and Occupational Qualifications Surveys of INSEE.

Introduction

Since economic science accepted the theory of human capital, training has usually been considered a form of investment (Becker 1964). And indeed, since training involves expenditure, is the result of a choice and is expected to yield a benefit greater than the expenditure approved it can be said to meet the theoretical criteria for an investment.

So far as employers are concerned it is doubtful whether the decision to provide their personnel with vocational training is philanthropically motivated, whichever the country concerned, the objective generally being to enhance the productivity of their workforce. In France, Delame and Kramarz (1997) have shown that the impact of training on a firm's performance is positive so long as the expenditure involved is higher than the legal minimum - which accords with the definition of investment given above. Generally speaking studies on the effectiveness of training from the employer's point of view conclude it to be significant and positive (OECD 1995).

The role of in-company continuing training can be defined in terms of its three prime objectives:

□ To make good individuals' lack of basic skills;

□ To adapt employees' specific skills to a firm's short-term needs;

□ To prepare employees for a forthcoming major change in their technical or organisational environment.

Because it helps broaden the range of skills of people in industry, continuing training is regarded as contributing to individuals' career advancement by creating opportunities for better pay and improving qualifications. Moreover, this aim is expressly mentioned in the German law of 1969 and the French law of 1971 (see Inset 1: Legal provisions). In this respect training is also considered an investment for the individual concerned and should consequently have an impact in wage terms. It is on this that the present article will focus.

However, as the three objectives mentioned indicate, one cannot effectively deal with this subject without considering it in relation to the initial training available. Continuing vocational training is embedded in a system for the imparting of skills involving, consecutively, the education system, skill-building measures and career advancement in the context of employment. Its rationale is thus inescapably rooted in an institutional context. One may therefore posit that the manner in which skills are imparted under the education system partly determines the extent and level of in-company continu-



ing training, which in turn will determine access to training and its effects.

This makes it particularly interesting to situate continuing training in a societal context, justifying the adopted methodology of an international comparison in order to evaluate the hypothesis. The choice of France and Germany results from the fact that the "production characteristics" of their educational systems differed considerably during the seventies. Since then the French education system has undergone wide-ranging development that has enabled it to make good some of the ground separating it from the German system. Again, the relationship between training and employment in the two countries was also very different, as is confirmed by the work of Maurice, Sellier and Silvestre (1982) and of Géhin and Méhaut (1993), making it possible to put the most recent developments in perspective.

The major changes that have taken place in the French education system would seem to have altered the place and the role of continuing training. During the sixties when workers possessed only scant initial training, continuing training was used to build skills within the internal markets of the firms themselves. The marked increase in the number of those acquiring initial school-based training in the eighties did not go hand in hand with a structural overhaul of the training available, which is still directed chiefly to identifying an individual's potential abilities. Consequently, progress within firms would now seem to be governed by a process of weeding out and selection with a view to identifying the best performers likely to take advantage of the continuing training provided. Seen from this standpoint continuing training is conceived not so much as an accumulation of human capital as the implicit recognition of competence previously acquired. In Germany, on the other hand, the initial training system has since the sixties been important in terms of numbers and in terms of quality directed to meeting the requirements of industrial firms. Despite emerging threats to the continuing stability of the dual system it remains a central feature of the German education system. Consequently, continuing training is directed to the acquisition and ex-

Inset 1:

Legal provisions concerning vocational training in France and Germany

Following the passing of the Law of 16 July 1971, continuing vocational training in France was developed with a view to remedying two deficiencies causing concern at the time, namely

- ❑ To make good the shortage of skilled technical personnel, particularly at technician and foreman level, attributable to weaknesses in employees' initial training - compulsory schooling was only extended to the age of 16 in 1969.
- ❑ To offer those who had left the education system without any general or vocational qualification certificate a second chance to train. This was aimed at the practical objective of social advancement by opening the way to new career opportunities.

In fact, the 1971 law required firms with at least 10 employees to share in the financing of continuing vocational training. The minimum contribution of 0.8% of the total payroll originally prescribed has in the meantime risen to 1.5%. This definition of training involving a financial obligation means that French firms spend substantially more on training than do their counterparts in other European countries - namely 2.8% of total payroll compared with 1.25 in Germany² (Aventur, Möbus 1996). Since 1992 firms with fewer than 10 employees have been obliged to contribute a minimum of 0.15% of their total payroll.

The situation with regard to continuing vocational training in Germany is governed by two main laws:

- ❑ The law on vocational training of 1969 which created the dual system and governs certain forms of continuing training and retraining. According to Articles 46 and 47 of this law as quoted by Möbus (1996) "Continuing vocational training for purposes of adaptation and career advancement must make it possible to maintain occupational knowledge and skills, to enhance them and to adapt them to technical developments or to rise in the occupational hierarchy" The government's role is mainly confined to certification, which assures those receiving training of better recognition of their qualifications.
- ❑ The law on the promotion of employment of 1969 provides for the public funding of continuing training in the form of payments made to individuals with a view to bringing their qualifications more into line with labour market requirements. It thus gives all employees a right to continuing training.

However, three-quarters of this assistance is currently being directed to job-seekers; moreover, there is no requirement for firms to participate in the continuing training of their employees (Möbus 1996).

Given the absence of any obligation on the part of firms to finance continuing training and the importance attached to individual initiative (Géhin and Méhaut, 1993) firms' own continuing training activity tends to be directed mainly to the continuing upgrading of workers' skills as their work demands.

2) Findings of a Community survey of in-company continuing training conducted in 1993. Prior harmonisation of the categories used and the methods of calculation in each country explain why the figure is lower than the 3.3% usually quoted in French publications.



“Major changes in the French education system have altered the place and the role of continuing training.”

“Since in France vocational training mainly took place in firms, the latter were faced with the need to create the conditions to ensure that their employees would remain with them for a good length of time. Hence the adoption of specific rules for the functioning of their internal labour markets.”

tension of skills and accords with employers’ recognition of initial training.

We shall now look at how training is structured within the two education systems and its consequences for qualifications and wages, before proceeding to analyse the way in which continuing training is reflected in remuneration in France and in Germany.

Relationship between initial training, qualifications and wages

We shall first look at the situation as it existed in the sixties and seventies and then at the changes that have taken place in initial training in the two countries being considered, with particular reference to the structure of formal qualifications and their recognition for career purposes. Having identified the different principles underlying skill-building at the initial training stage in France and Germany we shall show the differences that separate the two countries as regards the fixing of qualifications and wage levels. Finally we shall attempt some predictions as to the future use of continuing training.

Marked disparity in the proportions of formal qualifications in the sixties and seventies

In the sixties the two countries differed not only because of the occupation-oriented nature of most training courses in Germany, but also because of the very small proportion of French workers holding a certificate of initial training. In 1970 60% of French workers were without any kind of formal qualification compared with only 20% in Germany. If we look at the proportion of those holding a certificate of vocational qualification and disregard higher education, the figure is 27% in the case of France and 69% for Germany (Maurice, Sellier, Silvestre 1979) Eight years later, looking only at the industrial sector and considering only men, French wage-earners holding a vocational qualification certificate still represented under a third of the total figure, whereas in Germany they accounted for 75%.

These very diverging patterns reflect a different correspondence between job level and training, close in one case and very loose on the other. Thus in 1978 more than 90% of skilled male workers over 35 in Germany held at least a certificate of apprenticeship whereas 65% of their French counterparts had no formal qualification at all.

The curious functioning of the labour markets

With almost two-thirds of France’s active workforce without qualifications in the early seventies, firms were themselves obliged to provide their workers with the necessary industrial skills. Since vocational training mainly took place in firms, the latter were faced with the need to create the conditions to ensure that their employees would remain with them for a good length of time. Hence the adoption of specific rules for the functioning of their internal labour markets. Looked at from this point of view, wage progression based on length of services with a firm and systems of internal promotion had to provide the motivation for employees to acquire skills and retain them once training was completed and enable the firm to benefit from its expenditure through increased job mobility. In-company continuing training as a means of skill-building was clearly regarded as an investment of benefit to both employer and employees.

In Germany the considerable work done on the dual system has underlined the importance of the way it is regulated through cooperation between central government bodies and workers’ and employers’ organisations. Cooperation in the design of training courses lent legitimacy to the structuring function of initial training as regards vocational qualifications and the demarcation of areas of mobility on the labour market (Blossfeld and Mayer, 1998). The lesser remuneration of age and experience compared with France (Depardieu and Payen, 1986) and the smaller qualification-related wage differentials, as well as the greater uniformity in the division of labour in German firms (Maurice, Sorge and Warner, 1980) clearly reflect this influence. The cross-sector acceptability of certificates of vocational training and the degree of inter-firm mo-



bility which this confers did not encourage employers to generously reward their employees for years of service even though the age distribution of the workforce was fairly similar to that of France. As a result with qualification and continuing vocational training an extension of initial training, training had the power to structure job markets well beyond the first years of working life.

Differing trends in initial training in the eighties and nineties

In 1989 the proportion of the total active working population without a formal qualification was 43% in France and 19.5% in Germany³. In 1993 the proportions in the case of employed males were 36% (not including BEPC - certificate of first stage of education) and 15% respectively⁴. These figures show the enormous increase in the number of those leaving the French education system with a formal qualification, particularly since the beginning of the eighties, while the situation in Germany showed little difference from this point of view.

Rapid increase in initial training availability in France

One of the most striking indicators is the fact that in less than 15 years the proportion of a generation taking the baccalauréat rose from 34% in 1980 to over 70% in 1994. Over the same period those graduating from an institution of higher education rose from 15.2% to 36.3%. Thus by 1995 more than a fifth of the total active population held a certificate of higher education (Gouy et al., 1996).

At the same time the government realised the need to make training more work-oriented. This resulted inter alia in the creation of the vocational baccalauréat in 1985, the overhaul of the content of the CAPs (certificates of vocational aptitude) and in making it possible in 1987 for all vocational and technical qualifications to be gained through work-based (combined on-the-job/off-the job) training. Another sign of the change was the explosive growth in the number of people on occupational courses of higher education: between 1972 and 1994 the number of students registered at university institutes of technology (IUTs) increased fourfold

and those attending higher technician (STS) courses increased by a multiple of eight, while the number of students at the engineering colleges was only 2.5 times the 1994 figure.

More moderate increase in Germany

In 1965 almost 55% of the active population held a certificate of apprenticeship and although the figure fluctuated it was still at this level in 1989 and always above 50% in the mid-nineties. The work-based system of vocational training thus continues heavily to influence initial training in Germany, attracting up to 70% of young people in an age group in the first half of the eighties.

Since the end of the eighties the dual system's contribution to the German labour market has been slightly lower in percentage terms. This is due to a number of factors. One is the growing importance of the long phase of secondary education - the Gymnasium - which now accounts for almost 30% of the number of those leaving the education system, who then have direct access to higher education. Another is the reduced opportunities for promotion for those holding "Techniker" (technician) or "Meister" (master craftsman) qualifications (Drexel, 1993): A third is the manifest desire both of young people and their families that they should go on to higher education (Schober and Tessaring, 1993). Several indicators confirm the reality of these phenomena. Thus in 1990 almost a third of those first registering with an institute of higher education had previously followed a course of vocational training under the dual system and for the first time the number of students in higher education exceeded the number of apprentices (Adler et al., 1993). The take-up rate for apprenticeships fell to 0.55 in 1992 and even to 0.41 in the metal industry whereas in the mid-eighties the number of apprenticeship vacancies on offer was always insufficient to meet demand. There are increasing signs that large firms are offering fewer vacancies for apprentices. In the first half of the nineties the number of vacancies decreased by five percentage points compared with the proportion accounted for by craft trades (Pfeiffer, 1997). All in all, supply and demand factors are combining to undermine the system of initial training,

"With qualification and continuing vocational training an extension of initial training, training had the power to structure job markets well beyond the first years of working life."

3) With at best the BEPC but without any vocational qualification in France and with a completed Hauptschule and Realschule with or without a certificate of vocational qualification in Germany (Möbus and Sevestre, 1991).

4) This does not include the population in the east of Germany.



“In France recognition given to vocational training is still very much governed by a level-of-education mentality and the traditional method of selection on the basis of scholastic performance persists.”

“The skills to be provided by training under the dual system are specifically identified by employers, which ensures a close match between job categories and wage levels and a cross-sector acceptability of qualifications on the labour market. This double effect legitimises initial training’s function of determining qualifications and wage levels.”

5) The average salary for employed men without a qualification is indexed at 100 for each country. Those with the highest qualifications have an index value of 362 in France compared with 234 in Germany (Béret et al., 1997).

which nonetheless largely remains dominant.

The thinking underlying initial training remains specific to the country concerned

In France recognition given to vocational training is still very much governed by a level-of-education mentality and the traditional method of selection on the basis of scholastic performance persists (Verdier, 1995). Consequently progress through the levels of initial training where the governing criterion is the demonstration of theoretical, abstract knowledge involves a gradual weeding out process and increasing selectivity as regards abilities and their upward standardisation. Under this system of values technical and practical skills are perceived as attributes of low capacity for abstract thinking and as only worthy of interest when backed by a high level of general education. As a result the market recognition of the contribution of training to productive efficiency is guided by the level of the related formal qualification, which is taken as a measure of an individual’s ability. In this respect the education systems’ organisation is designed to assure the weeding-out function and, in a second stage, to provide the knowledge and skills usable in the labour market. This situation is largely due to the fact that in France the contribution of firms and employers’ organisations to the design of formal qualifications is generally restricted to consultation, whereas in Germany they are actively involved in negotiating vocational training content (Möbus and Verdier, 1997).

In Germany training provided under the dual system is two-thirds financed by firms who also participate in drawing up training requirements and determining the skills young people have to demonstrate at their various examinations. This heavy involvement of industry tends to standardise the general skills of young apprentices which otherwise could vary according to the type of secondary school course chosen. As a result the market positioning of those holding certificates of apprenticeship will depend more on the nature of their specialist training than on the number of years of secondary schooling. Similarly, the skills to be provided by

training under the dual system are specifically identified by employers, which ensures a close match between job categories and wage levels and a cross-sector acceptability of qualifications on the labour market. This double effect legitimises initial training’s function of determining qualifications and wage levels. As a result the wage hierarchy⁵ and the impact of job experience on wage progression are less marked than in France. One has only to compare the situation of holders of a certificate of apprenticeship in Germany with that of French holders of a vocational CAP or BEP (brevet d’études professionnelles) and of those with a technical baccalauréat.

Structuring of wages on the labour market (specific to each country)

This is shown inter alia by a less marked scatter in the salaries of holders of dual system qualifications in Germany compared with people in France with similar qualifications (see Table 1). Furthermore, the margin of progression of wages as workers gain experience would seem to be far less marked in Germany than in France, indicating that employers give immediate recognition to productive skills. Since their qualifications are quite clear and their knowledge can be immediately applied, holders of dual system qualifications are soon paid according to their level of competence and fairly similarly. Wage progression, though less marked than in France, operates on the basis of subsequent acquisition of skills on the job and through continuing training, building on the skills acquired during initial training.

In France the abundance and diversity of initial training courses now available to young people considerably reduces the need for firms to build their workers’ skills. However, given the adherence to the idea of selection on the basis of ability which governs the number of those who successfully qualify, uncertainty as to the competence of those turned out by the system is still considerable. The way in which the system of formal qualification filters out the most able also reflects in markedly higher wages during the first years of working life, although the gap then closes rapidly. Since formal qualification certificates are thus seen as



predicting productive capacity and individual behaviour, they essentially play an allocating role, determining the level at which a holder enters the firm and his scope for career development. Subsequently, experience takes over from formal qualification in deciding career advancement and wage progression through selective, differentiated manpower management. At this stage uniform systems of wage progression based on age and experience lose their raison d'être even though they are enshrined in collective agreements (Grandjean, 1989). Despite the increased proportion of those with many years of service with their firm (OFCE, 1996) the contribution of age and experience to salaries generally is clearly shrinking (Béret, 1992). This is not the case in Germany (see below).

When firms resort to continuing vocational training

In Germany in-company continuing training still has an important role to play in employees' acquisition of skills. Surveys carried out by Géhin and Méhaut (1993) show that such training has three major characteristics:

- Organisation of continuing training is closely linked to initial training because of the resources available for initial training that can also be used for continuing training;
- The decision as to who is to participate in continuing training is markedly decentralised to department or workshop level;
- Continuing training is closely integrated with production.

This kind of continuing training is far more liable to be effective since it is juxtaposed with the set of skills acquired during initial training, whose usefulness is already well established. Empirical studies show that continuing vocational training is very rarely given to personnel with no initial qualification and that it is mainly directed to people starting out in working life, chiefly those aged between 25 and 35. On the basis of the 1991 Microcensus data Pfeiffer and Brade (1995) show, for example, that job experience enhances the probability of participation in a training

Table 1
Wage dispersion and wage progression as a function of experience in 1993

Country	France		Germany		
	Certificate of initial training*	CAP or BEP without BEPC	CAP or BEP with BEPC	Technical baccalauréat	Dual system qualification
Wage dispersion		0.47	0.47	0.46	0.40
Experience-based wage					
14 years		100	100	100	100
20 years and over		148	173	145	115

Dispersion index: interquartile (Q3-Q1)/Q2
Population: men, survey see Inset 2

* The BEPC is the certificate awarded by schools at the end of the first four years of general secondary education. The CAP and BEP are vocational certificates awarded on completion of a short cycle of technical education which does not necessarily require the BEPC. The technical baccalauréat is the certificate awarded on completion of secondary education for those courses mainly comprising technical subjects. Like the general baccalauréat, it provides access to higher education.

course during the first seven years of working life, after which it decreases.

It thus seems safe to assume that in the nineties continuing training is still regarded as an investment from which the employee also stands to benefit in terms of higher wages.

In France use of manpower has to allow for the relative uncertainty that exists as to individuals' productive efficiency. Internal career management is used to identify competence by means of job rotation. Here enhancing employees' skills is only a secondary objective. Determining employees' productive abilities enables training to take better account of existing skills and abilities, so that the training component of internal markets will only truly be mobilised for that fraction of the workforce that is best integrated into the organisation, having demonstrated both competence and commitment. A firm following this procedure can rely on training bringing the hoped-for increase in productive efficiency.

Two arguments support this interpretation:

- A comparison of the conditions for access to continuing training in France and



“The facts suggest that during the nineties France witnessed the decoupling of conditions justifying higher pay and those giving access to continuing training.”

Germany with the same set of explanatory variables showed that years of service with the firm and the fact of having benefited from internal mobility prior to training carry considerable weight in France but are irrelevant in Germany. In other words, in France those who have been longest in a firm and whose career has been punctuated by job rotation have a greater chance of participating in in-company training.

□ On the other hand, as the economy slowed down in the early nineties it was found that manpower management measures were gradually leading to the creation of a core workforce possessing competences of key importance for the firm, on whom continuing training efforts was tending to be concentrated (Bentabet and Marion, 1995).

These various facts suggest that during the nineties France witnessed the decoupling of conditions justifying higher pay and those giving access to continuing training. In other words training in itself is seen as a reward, a recognition of working efficiency whose chief purpose is to objectively demonstrate the relative success of the person concerned in the selection procedures used as the main basis of reference for planning internal careers.

These hypotheses, which run contrary to the principles guiding firms' use of training, will be tested in the second part of this article.

The wage impact of continuing training in France and Germany

Generally speaking the thinking underlying training in the education systems of the two countries seems to reflect essentially different attitudes to its remuneration.

A study recently completed permits some responses to be given to the hypotheses formulated (Béret, Daune-Richard, Dupray, Verdier, 1997). The definitions of populations, surveys and models used are given in Inset 2.

The first point to be checked is whether there has been a change in the wage impact within firms. Thus at the beginning of the nineties the reward for long service with a firm was no longer significant in France, whereas it was still substantial in Germany (Table 2, model 1)⁶. This is very important since it implies that there is no longer an accumulation of specific human capital for everyone in France and that continuing training may play a different role in the internal skill-building process.

Three possible indicators can be used to assess this aspect:

- The last training course attended, whether recent (FPC1)
- or a long time back (FPC2)
- The total number of courses attended.

The first two indicators may allow us to pinpoint any change in the way in which continuing training is remunerated. They are used to test that continuing training in Germany is underpinned by the concept of accumulating vocational skills whereas in France it is seen as a selective form of reward for those employees who have been identified as the most productive or as having the greatest capacity for career advancement. From this point of view the number of training courses attended would testify to the degree of ability an individual was considered to have. To this end simultaneous incorporation in a wage equation of the number-of-courses-attended indicator and the two variables for the last course attended makes it possible to predict that it is the number of training courses attended that will carry the greatest weight in France. In Germany, on the other hand, it is the last training course that is likely to be the deciding factor. Finally it is possible to take account of any bias deriving from non-random selection of trainees, viz. that training is given to the best paid⁷

Continuing training pays better in Germany

In Model 2, the simplest, we see first of all that the wage remuneration for the last training course if recent (FPC1) is significantly less in France (the wages of those who have received training are 8.8%

6) Initial model which includes the number of years of study, job experience, service with the firm and the square of these variables. We refer readers to the report for the detailed results.

7) We shall give the results of using a method for correcting this bias.



higher than those who have not) than in Germany⁸. The same is true when one looks at those whose last training course took place in the earlier period (FPC2, Model 3). Apart from the fact that this difference suggests that continuing training is taken into account more by German employers, the subsequent remuneration can also be explained by the fact that qualifications obtained at initial training level are transferable. The significant reward in wage terms can then be seen as an attempt to prevent employees from moving to another firm.

Also worth noting is that, unlike the situation in Germany, in France it is when the last training course attended lies further back in time that the pay-off is better. However, the difference between the two French figures is not sufficient to justify the conclusion that the method of allocating and rewarding continuing training has changed. In order to interpret this difference one must also consider the number of training courses attended by employees. In France 42.9% benefited from at least one continuing training course during their working life. The average number of training courses attended by all in 1993 was 1.61. In Germany, over an average period of 7 years, 37.1% of employees attended a course of training. For the workforce as a whole the average number per person in 1993 was 1.51. These figures testify to the greater spread of continuing training among the active population in Germany. The inclusion of this indicator in the model permits us to calculate the reward for the total number of training courses in wage terms.

The gross figure turns out to be very high (Model 4), particularly in France where each course has the effect of boosting earnings by 3.1%, outstripping the impact of job experience, for example. This initial result is very important since it suggests that the reward for continuing training is gained on the basis of an accumulation similar to that of the number of years of education or job experience. The way in which this accumulation is rewarded, however, differs considerably between the two countries; this is shown by simultaneously taking into account the last training course attended and its timing, and the total number of training courses (Model 5).

Inset 2:

Definition of populations, surveys and models used

- ❑ Male and female employees working in the private and semi-public sectors in 1993 who had been employed in France in 1988 and in Germany (western part only) in 1989.
- ❑ INSEE 1993 Training and Occupational Qualification Survey for France, German Socioeconomic Panel for Germany. These surveys covered 5139 individuals in France and 2913 in Germany.
- ❑ In France continuing training has been taken to be the last training course attended at the employer's initiative. In Germany it is the last training course attended but it is difficult to identify the initiator because replies to this question referred to the most important training course and not the last one. Since it would appear that the reward in wage terms and the duration of training courses are fairly similar, regardless of whether the most important course was undertaken in whole or part on the employer's initiative, the lack of precision as to the origin of the last training course is unlikely to affect the analysis.
- ❑ FPC 1: This signifies that the last course attended was in the period 1989-1992 in France and between June 1990 and June 1993 in Germany.
- ❑ FPC 2: This indicates that the last training course took place in the preceding 4-year period (1985-1988) in France and the preceding 3.5-year period (1986-1989) in Germany.
- ❑ We also have the total number of training courses attended throughout the person's working life in France and during the 7-year observation period in Germany.
- ❑ The models tested are gain functions of the type:

$$\text{Log } W_i = \text{cte} + a_1 \text{ETU}_i + a_2 \text{ETU}_i^2 + b_1 \text{EXP}_i + b_2 \text{EXP}_i^2 + c_1 \text{ANC}_i + c_2 \text{ANC}_i^2 + c_3 \text{NBFPC}_i + d_j \text{FPC}_{ij} + g_k \text{SEX}_{ik} + h_l \text{DUR}_{il} + U_i$$

where

W	is the annual wage in France and monthly wage in Germany
ETU	number of years of education
EXP	is "real" working experience between 1993 and the first job
ANC	is years in service with the firm at 1993
FPC	is continuing training
NBFPC	is the number of continuing training courses,
SEX	is sex and
DUR	duration of work.

Changes in use of continuing training in France

While in France the return in wage terms on the number of continuing training courses attended remains very high, training received in the more recent period does not reflect in a wage increase, contrasting with the situation when the last

8) In France over a four-year period 19.6% of wage-earners had taken part in continuing training organised by their employer (and 3% had attended training on their own initiative but they are not counted here); the total for Germany was 25% in three and a half years.



Table 2.
Wage impact of years of service and different continuing training variables

Dependent variable		France	Germany
Log (net annual wage for France)		1992	1993
Log (gross monthly wage for Germany)			
Model 1	Years of service	+ 0.28 ns	+ 1.16
Model 2	FPC 1 = last course attended in last four years, including year of wage	+ 8.8	+14.5
Model 3	FPC 1 FPC 2 attended during four years preceding FPC 1	+ 9.8 + 12.2	+ 18.1 + 16.9
Model 4	Number of courses	+ 3.2	+ 2.3
Model 5	Number of courses	+ 3.1	+ 0.8
	FPC 1	ns	+ 14.7
	FPC 2	+ 9.1	+ 15.0

Coefficients x 100; all significant at threshold of 1% error/ns = not significant at 10%.

in the more recent period had already attended on average 3 other courses, only the succession of which is definitely worthwhile. From this point of view frequent participation in training would seem to testify to the effective performance of the employees concerned.

Training still regarded as an investment in Germany

For Germany, on the other hand, the wage impact of the number of training courses drops very sharply when one also considers the last course attended and its date, even though the average number of courses attended by those whose most recent course took place in the period 1990-1993 was 4.7. Moreover, whatever the period being considered the last training course still has a very marked impact in wage terms. This finding suggests that the value of continuing training is assessed on the basis of an accumulation of human capital. Since for many continuing training is an extension of the technical and other training acquired during initial training, part of its recognition in wage terms must be seen in the light of the differing opinions regarding the importance of technical and vocational knowledge for a firm's performance. In this context a whole series of continuing training courses nonetheless remains profitable, even though the profitability is much reduced due to the decrease in the marginal return on the training investment from the point of view of acquisition of human capital. Each training course thus has an effectiveness of its own regardless of the previous courses attended by the employees concerned.

Contrary to the German situation, selection for training explains its wage impact in France

Another way of looking at the intrinsic productive contribution of continuing training is to analyse the way in which people are chosen for these courses according to their vocational characteristics - formal qualification, category, age etc. In other words one considers more directly the possibility that the employees selected for training are those whom the firm considers to be the best. In this sense the wage return on continuing training could also reflect the existence of this bias in the se-

training course took place during the earlier period. This finding would seem to indicate a change in the way in which continuing training was regarded. And in fact, a similar calculation carried out in connection with the Training and Occupational Qualifications Survey in 1997 showed that the number of training courses attended brought a high pay-off in wage terms but also that the impact of continuing training differed little according to when it took place. Thus in the seventies it would seem that continuing training was mainly regarded as an investment to provide employees with the technical and other skills needed for the firm's activities. Later on the allocation of training apparently took place on the basis of a system of selection and categorisation whose effect was to send out recurrent, favourable signals to employees who the firm hoped would be loyal and remain with the company⁹. This theory is corroborated by the fact that the average number of training courses followed is 4.05 for those falling under the FPC1 heading but only 2.2 in the case of those covered by FPC2. In other words, those employees who benefited from continuing training

9) Computer models designed to assess the conditions for external mobility show continuing training as having a negative influence on the move to another firm. See also Goux, Maurin (1997).



lection of trainees rather than the actual contribution of training to increased efficiency¹⁰. To do this we first corrected the selection bias for the last training course and then calculated the average salary the same employees would have received had they not been given training¹¹.

These calculations showed that the effect of selection for training was very great in France but insignificant in Germany. Moreover, in the case of the French workers taking part in training has no impact in wage terms since wages are mainly determined by factors predating continuing training. Continuing training, therefore, does not in itself produce any benefit in wage terms in France, whereas in Germany it has a positive impact on pay over and above the effects of selection. These results reinforce the earlier ones and confirm the fact that training is considered an investment in Germany and the gradual move towards selection in France, where training is only thought to upgrade potential skills and provide post facto justification for the privileged earnings situation of those employees chosen to undergo training.

Conclusion

Several lessons can be learned from this study of the situation in France and Germany.

France is notable for the disappearance of a wage reward paid by companies as age and experience increase. There is nonetheless a process of selection of employees, judged to be more talented or efficient, who are put through one or more continuing training courses. The apparent substantial reward masks the fact that these employees are already the highest paid and that the training in itself does not bring with it any financial advantage. The rationale of this training is different: employees who have undergone training

are less likely to move to another firm than those who have not - although one does not know whether this is due more to their previous wage level or to the actual training. On the other hand, since they are those best equipped to make use of the knowledge and skills acquired during training they may find themselves the subject of job rotation which enhances their value to the organisation (Dupray, 1995). We may assume that continuing training also plays a justificatory role at two levels by giving post facto legitimacy to the higher wage paid to those who have undergone training compared with those who have not and vis-a-vis the "best" employees to whom the company is now less able to refuse training since a certain amount must be used for this purposes.

In Germany, on the other hand, internal company markets continue to have their own return regardless of access to continuing training, based on the building of skills that are an extension of those acquired at the initial training stage. This process also involves continuing training given to a greater number of employees and meeting the need to adapt skills to changes in job requirements. This policy is considerably helped by the occupational knowledge and skills taught at initial training level, which constitute a homogeneous corpus of knowledge on which it is easy to graft the practical knowledge and skills imparted by continuing training. At the same time, skills are enhanced by means other than continuing training courses, notably by on-the-job training which is far more widely used in Germany than in France (Aventur, Möbus, 1996¹²). Finally, the function of internal markets in Germany compared with France is marked by a far greater variety of training activities and career advancement measures, and even if one cannot rule out the existence of selection it operates differently, determining differences in wage progression that are not in proportion to those found in France.

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10) This possible bias in selection could be analysed by an estimation in two stages based on the Heckmann method (1979).

11) Technically this involves estimating the wages of people who have benefited from training, retaining their characteristics and applying the coefficients for these characteristics obtained using the wage equation adjusted to allow for the selection bias in the case of those who did not take part in training. The result is then compared with the wage as stated by the participants.

12) In 1993, 46% of French firms ran courses and 39% provided on-the-job training, while 47% provided continuing training in the broad sense (courses, on-the-job training, lectures etc.). In other words all firms offering continuing training run courses. In Germany the corresponding figures are 59%, 56% and 85%. All in all, providing continuing training in one form or another is far more widespread in German than in French firms.



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The answer is blowing in the wind.

Investment in training from a Human Resource Accounting perspective.

The concept of Human Resource Accounting

To promote training and education in Member States the European Commission published in 1995 a White Paper, "Teaching and Learning - Towards the Learning Society". Objective 5 in the White Paper states: "treat capital investment and investment in training on an equal basis". Additionally the Commission proposed that arrangements should be introduced to make it possible for companies to enter some of the investment in training on the balance sheet.

The OECD has addressed the importance of investment in intangible goods (including training investment) since the beginning of the 1990s (e.g., Miller, 1996). The OECD initiative is based on the notion that intangibles are increasingly important as determinants of enterprise growth, productivity gains, profitability and wealth creation. However, the importance of intangibles exceeds the current ability to recognise and measure them. This gap is also evident in external reporting, which might result in misallocation in capital markets. One indication of the gap is the increasing difference between market value and book value of companies (Lev, 1997; Eliasson, 1990). The difference has been identified to be wider in firms that are more dependent on human resources than in those that are not (Johanson, 1996).

Today many accounting schools aspire to contribute to reducing the information shortfalls. One such school is the strategically oriented "Balanced Score Card" (BSC)

concept, introduced by Kaplan & Norton (1992). It aims to balance the traditional financial perspective with three non-financial elements; customers, internal processes and innovation/improvement.

A much older concept is Human Resource Accounting (HRA) which has been on the research agenda for about 30 years. The term 'human resource accounting' was used for the first time in 1968 by Brummet, Flamholtz & Pyle. The underlying purpose of HRA is to improve the management of human resources from an organisational perspective by increasing the transparency of human resource costs, investment and outcomes in the management accounting rituals, such as profit and loss accounts, balance sheets and investment calculations.

The present article provides a brief overview of HRA by presenting:

- three components of HRA;
- the International Accounting Standards Committee's proposal on intangibles; and
- research concerning influence on decision-making and learning.

The article will conclude with recommendations for the future. Because of reasons of access to information, practical applications of HRA come mainly from Sweden.

Three components of HRA

Describing human resource costs

Using the example from a Volvo car manufacturing plant, Gröjer & Johanson (1996)



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An overview of Human Resource Accounting and research into its influence and decision-making concludes that despite more than 30 years experience, still too little is known about, firstly, how firms actually recognise, measure, account for and report on training and other intangibles in the management process, and secondly, what sort of information actors on the capital market really need for their decision-making. Standardised guidelines on the disclosure of information on training and other intangibles are probably necessary but further action is inappropriate until we know more about management control and the role and needs of capital markets.



Table 1: Human Resource Costs in the Profit and Loss Account (millions of Swedish Krona)

	SKR millions	SKR millions
INCOME		504
- Supplier Costs		- 96
<i>gross added value</i>		408
- Depreciations		- 110
<i>net added value</i>		298
Direct wage costs	- 198	
Personnel turnover costs	- 47	
Cost of absence	- 47	
Personnel/social cost	- 17	
Retraining costs	- 7	
- Total personnel costs		- 316
Profit		- 18

propose that human resource costs could be better illuminated in the profit and loss account (see table 1), which shows that around 30% of total personnel costs were due to high rates of personnel turnover and sick-leave.

The above example caused extensive interest in Human Resource (HR) profit and loss accounts in Sweden. In 1991 the Swedish government proposed a legal obligation for organisations with more than 100 employees to provide an account of personnel costs (e.g., personnel turnover, sickness leave, training, and working environment) in the annual report. The proposal was withdrawn for many reasons, but most of the bodies that considered the proposed legislation were positive to the idea of having better information on personnel costs.

One of many organisations that established HR profit and loss accounts on a yearly basis was the Stockholm County Council Public Dental Care Service. They are more detailed in the specification of costs (partly due to a well functioning time-reporting system). Using the profit and loss account as a basis, the costs for different personnel activities are calculated as percentages of total personnel costs (see table 2). This is done for different departments and for management control purposes. This showed a significant increase in efficiency (from 69.8% to 77.4%). Whether the efficiency level is good or not from a strategic point of view is another question, for example, is spending on training sufficient?

This cost-oriented approach certainly adds useful information, but has been criticised for ignoring the recognition of training as an investment and not focusing on the real concern of HRA, namely outcomes and values.

Estimating financial outcomes of human resource investment

One general idea behind HRA is to estimate the financial outcome of investment in human resources. These efforts have by many been termed 'utility analysis' (e.g., Cronbach & Glaser, 1965; Naylor & Shine, 1965; Hunter & Schmidt, 1982; Boudreau, 1983; Cascio, 1991). The latter concept has mainly been applied on personnel selection matters and more recently on down-sizing (Mabon, 1996; Mabon & Westling, 1996). Even in the preventive health and safety sector an increasing interest has been devoted to the issue of financial outcomes although only a few studies (e.g., Johanson, 1997) have been published so far (Pelletier, 1993).

In the area of training it is widely recognised that such investment can have a high pay-off in terms of enhancing productivity, reducing capital and material costs and enhancing quality. (A review of this literature is found in a report from the European Commission, 1996). Some work has been performed on effects of training at the firm level although a more significant body of work has been undertaken to establish a correlation between skills levels and productivity (e.g., CEREQ, 1990; Coopers & Lybrand, 1994; Sevestre, 1990). Positive effects of training may be particularly strong in the context of change (Lindley & Hogarth, 1993). In a recent American study Bassi et al. (1997) report that changes in training expenditures as well as the percentage of employees receiving training are positively correlated with perceived improvement in company performance between 1995 and 1996 among 542 firms.

A major problem regarding the measuring of training is its definition. Eliasson (1988) and Bassi & Cheney (1996) report figures of around 2 or 3 percent of internal labour costs being spent on training according to what could be found in firms cost accounts. However, this is a severe



underestimate and companies still appear to be unaware of the size of training investment due to problems of how to define and measure training activities. Based on other empirical findings Eliasson (Ibid) suggests that some 60 percent or more of labour costs are devoted to the co-ordination, filtering, creation and diffusion of knowledge.

Most of the published investigations of financial outcomes of human resource investment have been oriented towards estimating the costs and benefits of separate human resource activities as opposed to the impact on the overall business performance. Important exceptions are studies by Eliasson & Braunerhjelm (1998) who found a significant correlation between an increase in the firm's competence stock and value-added amongst 137 Swedish engineering companies in 1990, and Ulrich (1997) who discovered relations between progressive HR practices and financial measures.

In the latter American study, HR professionals' perception of the quality of HR practices was measured and compared with business results. An overall quality of HR index was developed and compared with, among others, sales, market value and market/book value (see table 3).

According to Boudreau & Ramstad (1997) it has been shown at Sears in the US how leadership development led to improved employee attitudes. These attitudes influenced customer relations in a way that could be documented with solid data. Boudreau & Ramstad conclude that managers need not speculate that HR programmes effect organisational outcomes.

Estimating human resource values

Already in the 1970s a widespread erroneous belief was spread suggesting that HRA was concerned only with treating people as financial objects,

“although preparing financial statements that included human resources was undoubtedly a part of HRA, it was not by far the most significant part. Yet precisely because it was dramatic and innovative, ‘putting people on the balance sheet’ became the dominant image of HRA for many people (Flamholtz, 1985 pp. 2-3)”.

Table 2: Stockholm Country Council Public Dental Care Service: Costs of personnel activities as a proportion of total personnel costs %

	1990	1992	1994	1996
Replacing employees	3.0	4.2	3.0	2.3
Employee redundancies		0.4	1.0	3.3
Training	7.5	7.0	6.0	4.5
Absence	1.0	2.6	2.0	1.1
Rehabilitation		0.1		0.1
Physical work environment	1.0			
Trade union business	1.0	1.1	1.0	0.6
Employee benefits			1.0	1.0
Annual leave	8.2	8.7	9.0	8.5
Miscellaneous	1.8	3.6	2.0	1.2
Wages for production	69.8	71.9	75.0	77.4

Many models have been developed, mainly in the 1960s and 1970s, aiming to answer a classical question in economic as well as in accounting theory, namely, “what is the value of the capital?”, in this case of human resource capital (e.g., Hermansson, 1964; Hekimian & Jones, 1967; Lev & Schwartz, 1971; Flamholtz, 1985; Gröjer, 1993; Morrow, 1996). A variety of proposals have been made, for example models based on historical costs, replacement costs, net present value of expected wage payments, net present value of expected incomes, subjective estimations of the market value, as well as work-demand corresponding to a wage liability.

The Swedish Telecommunication Company Telia has for a number of years published an HR balance sheet as a supplement to the annual report using historical costs as a valuation model (see table 4). In the profit and loss account the recruitment and training capital are depreciated.

The balance sheet approach has been severely criticised. Advocates of a balance sheet valuation mean that an inclusion of investment in human resources ensures a more correct value of the company investment. Critics, however argue that the balance sheet is already an insufficient instrument to show the true value of a company, and why complicate it by including human resources. Another argument is that a valuation based on histori-

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Table 3: Comparison of quality of Human Resource Practices and Business Results

Performance index	Quartile of HR index			
	Bottom 25%	Second 25%	Third 25%	Top 25%
Sales	1017	1598	2090	4420
Market value	878	1250	2031	3667
Market/book value	0.15	0.23	0.24	0.40

***“(...) accounting for an enterprise’s human resources (...) has encountered two main barriers to entry (...) mainstream accounting. These are:
– that employees do not qualify as assets and;
– an inability to establish a meaningful system of measurement.”***

cal costs is not a valid measurement of the value, whereas a different approach using a valuation based on future earnings is in line with present accounting conventions. A strong argument is that in spite of an almost 30-year-long debate of the issue, balance sheet valuation is hardly, except for football clubs (Morrow 1996, 1997) practised today.

One idea that has been put forward is to disclose ‘double’ balance sheets (as Telia has done) including and excluding respectively training and other intangibles.

International Accounting Standards Committee’s proposal on intangibles

Turner (1996) states that since accounting for an enterprise’s human resources was first discussed more than thirty years ago, it has encountered two main barriers to entry into mainstream accounting. These are:

- that employees do not qualify as assets and;
- an inability to establish a meaningful system of measurement.

In 1997 the International Accounting Standards Committee put forward a second proposal (IASC, 1997) concerning accounting treatment, measurement, and disclosure of intangible assets. They propose that intangible assets should be defined as

“... non-monetary assets without physical substance held for use in the production or supply of goods or services, for rental

to others, or for administrative purposes: that are identifiable; that are controlled by an enterprise as a result of past events; and from which future benefits are expected to flow to the enterprise.” (Ibid p 17)

The control criteria excludes some forms of individually based knowledge. The IASC (Ibid pp. 20-21) says,

“While market and technical knowledge may give rise to future economic benefits, an enterprise controls those benefits only if the knowledge is protected by a legal right such as a copyright, a restraint of trade agreement (where permitted) or a legal duty on employees to maintain confidentiality”

It also says that,

“An enterprise may be able to identify incremental staff skill leading to future benefits from training costs but usually the enterprise does not control the staff. Therefore, training costs are highly unlikely to result in the creation of an intangible asset.”

Similarly, for example, market share, customer loyalty and specific management talent are unlikely to meet the criteria of intangible assets.

Further it is stated that intangible assets should initially be measured at cost. This measurement should be reliable and distinguished from other costs,

“For example, an enterprise cannot determine with sufficient reliability which part of the costs of an advertising campaign intended to create or enhance a particular brand name ... As a consequence, the difficulties of measuring reliably the cost of developing a brand and of identifying the controllable resources that result from expenditure on brands mean that internally generated brands will not qualify for recognition as an intangible asset.” (Ibid p. 29)

Neither this proposal nor present accounting conventions push the question of valuation of training and other intangibles on the balance sheet, although it could be argued whether intangibles and tangibles ought to be treated in different ways. Lev



(1997) holds that there is often no difference in nature between intangibles and tangibles concerning the possibility to anticipate future incomes (compare real estate with software programmes!) but attaching future incomes to a specific human resource investment is much more problematic and therefore human resource investment should not be treated as assets. However, even the latter argument is not always valid, for example, specific training investment in consultants can probably in some cases fulfil the requirement. The problem of attaching a future income to a specific investment is more related to the development of a specific product than to a specific resource. (If the concept of goodwill is incorporated in the discussion it becomes even more fuzzy. Acquired goodwill is recognised as an asset in spite of the difficulties of anticipating as well as attaching future incomes.)

The two barriers raised by Turner seem to be relevant. The second, the development of a meaningful system of measurement, implies even more general and complicated questions such as what should be measured, for whom and why. To illuminate these questions empirical studies on the usefulness of HRA will be discussed.

Influence on decision-making and learning

Much effort has been spent on developing HRA models but the main reason for doing this is that decision-making should be facilitated. In other words, is HRA useful? Existing literature on this issue could be divided into decision-making and (more recently) learning studies.

Influence on decision-making

The scientific literature of the 1970's and 1980's contains several accounts of studies dealing with the influence of HRA on decision-making (e.g., Schwan, 1976; Tomassini, 1977; Oliver & Falmholtz, 1978; Harrell & Klick, 1980; Johanson & Nilson, 1996a). In all of these studies, decisions have been changed by HRA information, for example, in a study by Hendricks (1976) investment in shares was influ-

Table 4: Human Resource Balance Sheet: Telia Communications, Sweden (millions of Swedish Krona)

	1995 SKR-millions
Assets	
Current assets	13,164
Recruitment capital	666
Training capital	653
Fixed assets	44,210
Total assets	58,693
Liabilities and shareholders' equity	
Current liabilities	16,079
Long-term liabilities	20,113
Untaxed reserves, etc.	13
Restricted equity	17,403
Recruitment capital	666
Training capital	653
Unrestricted reserves and retained earnings	3,766
Total liabilities and shareholders' equity	58,693

enced by a human resource balance sheet, whereas the quality of decisions on temporarily lay-off's were proved to be affected by visualisations of hidden costs in a study by Ogan (1988).

In an article that is critical of experiments on decision-making Snowball (1979) argues that there is nothing very strange about changing a decision when new information becomes available. What is more important is that research has not examined whether decisions are changed because HRA is considered relevant. HRA may be new and deserve attention, but in the final analysis, relevance is the decisive issue. Thus, Gul (1984) operationalised the concept "usefulness" in terms of relevance, sufficiency and uncertainty reduction. Even in his study decisions were changed. Respondents meant that the HRA information was useful for decision-making purposes because it was relevant, improved the quality of the information available overall, and reduced uncertainty. Johanson & Nilson (1996a) duplicated Gul's study. They could not confirm that respondents found HRA information useful, as defined by Gul, although decisions were changed.

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“The findings indicate that HRCA can be seen as a useful tool in the hands of managers. Because of the implementation of HRCA, changes took place that otherwise would probably not have occurred.”

Influence on individual and organisational learning by the application of Human Resource Cost Accounting (HRCA)

Johanson & Nilson (1996a) argue that when examining usefulness of HRA, a more fruitful approach is studying learning processes. Thus they investigated effects of the implementation of HRCA (HRCA comprises HRA and utility analysis) on everyday working situations. Efforts were made to integrate HRCA in the management control process at a hospital. Middle managers were trained in HRCA and asked to produce a HRA statement (including a HR profit and loss account, but not a HR balance sheet) as a part of the annual report from the clinic. In summary, the effects were that contact with HRCA produced an “aha” reaction. Ways of thinking were affected in the sense that the connection between human resources and financial results became obvious. Most of the respondents had not seen things in this light before. Action was taken in three different ways. Firstly, the persons made their own costings, secondly some of the costings were used to persuade others and finally changes were sometimes made as a result of the costings or the persuasion.

Although individuals learn, organisations might not. Therefore, organisational learning was focused on by Johanson & Nilson (1996b). The implementation of HRCA was followed during a 18 month period in three different cases. The explicit aim was to integrate HRCA in the management control process and very extensive programmes were carried out. These programmes included training of the majority of managers, changes in information systems and demands from top management for HRA statements (including a HR profit and loss account but not a HR balance sheet) as complements to the annual reports.

The findings indicate that HRCA can be seen as a useful tool in the hands of managers. Because of the implementation of HRCA, changes took place that otherwise would probably not have occurred. In two of these cases, it was found that the willingness to act, the consciousness to use HRCA as a tool, and the knowledge of how to use the tool existed. Organisa-

tional learning processes were initiated but seriously hampered by management’s ambivalent support of HRA.

Concluding remarks on the studies of the usefulness of HRA

When analysing the usefulness of HRA, a number of features have to be considered. First, there is a difference between the information produced by the application of HRA (single-loop learning, Argyris & Schön, 1978) and the implementation of the concept of HRA (double-loop learning). Existing studies concerning decision-making seem to have been concentrated on the single-loop quality, whereas the studies on learning and have dealt with the double-loop. Secondly, stakeholders have different needs concerning both the concept and the information produced. Finally, the word usefulness has to be defined. When is HRA useful? Is it when decisions are changed? When learning processes start? When action is taken or when habits are changed?

In most studies on decision-making, decisions are changed. However, using these studies as a prognosis of the usefulness of HRCA in the daily life of a firm is difficult. This is highlighted in the learning studies. The individual as well as organisational learning studies show the application of HRCA having a substantial influence, but do not give any information whether it will be used in the long run.

In a comparative analysis of seven case studies, Johanson (1998) concludes that most managers in most studies hold very positive attitudes towards HRCA. But the integration of HRCA in the management control process seems to fade away. To overcome factors that hinder efforts to implement HRCA, the focus should be on:

- the knowledge of human resource costs, values and outcomes, as well as how to calculate them;
- top management demand as well as other elements in the reward system, and
- HRCA target setting.

The two latter factors highlight the necessity of developing and implementing HRCA from a strategic management point of view.



Conclusions and recommendations for the future

HRA has been criticised for several years. According to Scarpello & Theeke (1989), HRA is interesting, but there has not been a serious effort to develop valid and reliable measures. Roslender & Dyson (1992) maintain that HRA has largely failed to develop in the way of practical applications and Turner (1996) holds that considering the generally positive views, HRA

“has progressed at something less than a snail's pace in the past two decades”.

Finally, Maher (1996) experienced that managers in the British hotel industry analyse human resource investment only on an ad hoc basis, although they are aware of the necessity of adopting a more business-like approach.

Gröjer & Johanson (1998) argue that Sweden seems to be an exception in the way that HRA applications are rather common. The demand for better information about human resources has been obvious during the 1990s. This interest has been shown from many different parties, for example human resource departments, financial departments, company doctors, unions and, more recently from top management, investors and politicians.

Schuller (1997) states that the human capital concept is an immensely powerful analytical notion, “but it is time to ask whether it may have achieved, at least implicitly, a dominance which partially undermines its contemporary utility. In addition, he argues that the more the human capital language is accepted the more difficult it will be to justify learning activities, which can not show a visible return.

In an article titled “Pitfalls on the road to measurement: The dangerous liaison of human resources with the ideas of accounting and finance” Pfeffer (1997) argues that it is the human resources' low-status that makes the measurement task so pressing, pointing out that an indicator “of a function's power is the extent to which its role is taken for granted and not assessed using a variety of micro-

measures”. The short term focus in most financial reporting contradicts the way that costs will be highlighted, whereas the outcome will be realised somewhere in the future. This argument against HRA is interesting as it was the same argument that Likert used in favour of HRA in the 1960s (Likert, 1967). There is also a risk, according to Pfeffer, that human resource measurement systems can result in not seeing the wood for the trees, as managers have to grapple with too many measures.

In spite of these warnings and although there are very different opinions about whether there has been any substantial progress in the application of HRA, many stakeholders agree upon the need for a better transparency of investment in human capital, using financial or non-financial indicators.

One basic idea underlying the Balanced Score Card (BSC) concept involves the avoidance of financial measures (except for the financial perspective). Sveiby (1997), representing a similar school of thought, argues:

“It is tempting to try to design a measuring system equivalent of the double entry bookkeeping with money as the common denominator. It is an established framework with definitions and standards and therefore “common sense”. This is precisely the reason why we should break with it. I believe that the combination of a manufacturing perspective and a financial focus prevents managers from seeing the new, largely intangible, world that is emerging. If we measure the new with the tools of the old, we won't see the new”.

HRA is based on the implicit assumption that traditional accounting and costing procedures significantly influence habits in the organisation. In this respect, accounting rituals are powerful and widely used instruments. The fact that accounting figures are normally discussed as the first point on the agenda at every management meeting, provides an extremely good opportunity to influence what is discussed in the organisation. This is not to imply that the content concerning human resources is sufficient. On the contrary, the content has to be improved. In contrast to BSC, using the old tools to

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“HRA is based on the implicit assumption that traditional accounting and costing procedures significantly influence habits in the organisation.”



“Concerning the controversial balance sheet issue, (...) The inclusion of information about human resource investment in the financial statements would be very powerful.”

show the new is a powerful instrument to change habits.

Concerning the controversial balance sheet issue, which is only one dimension of HRA, there are advantages and disadvantages beside the theoretical considerations around criteria for asset recognition referred to earlier. The inclusion of information about human resource investment in the financial statements would be very powerful. If it is included in financial statements it will also be presented in a standardised format but, if it is excluded, there is no existing procedure for such standardisation. There is a risk that information outside the financial statements might be too simplified and lack some sort of standard on definitions and measurements to facilitate its use.

In the White Paper “Teaching and learning” (European Commission, 1995) as well as the OECD booklet (1996) a standpoint seemed to be taken in favour of a balance sheet valuation of training. However, neither of these organisations appears to have taken any further initiatives in this direction. The OECD intends to present, in 1999, draft guidelines on the disclosure of indicators of enterprise investment in and management of human resources and other intangibles.

During the last decade I have been in contact with so many people hoping that a balance sheet valuation would finally solve the problem of not recognising training expenditures as investment. To take a serious stand-point on this issue my opinion is that basic knowledge has to be increased regardless of the different schools aspiring to solve the problem (e.g., HRA and BSC). We need to know more about the following:

- what intangible factors and processes are important value drivers at the firm level? How is the management control of intangibles actually performed? Are, and how are intangibles recognised, measured, accounted for and reported in that process? Is it possible to develop indicators, financial or non-financial, that are appreciated as valid and reliable?
- what sort of information do actors on the capital market actually need to change action? Could such information be provided, and perhaps audited, in a reliable way?

Until knowledge is improved in these areas the answer of the feasibility of a tangible treatment of intangibles, such as training, *is blowing in the wind.....*

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Treating capital investment and investment in training on an equal basis

The core issue is to reshape the frontier between workforce and capital assets in corporate financial statements, to recognise the increasing role of skill and competence in the production process, which accounts for the soaring development of intangible goods and assets in developed countries. There are benefits to be derived from treating training as an investment. Furthermore, accounting principles to apply across the EU permit the inclusion of related expenditure as the balance sheet.

Introduction

This article considers the questions and issues raised by objective 5 of the European Commission "Teaching and Learning: Towards the Learning Society" White Paper, currently discussed at DG XXII of European Commission.

The European Commission's "Key Data on Vocational Training in the European Union" points to an amazing evolution in technologies (80% of the technologies used today will be outdated and replaced by new ones in ten years) and in education and training (80% of the working population will have completed their training more than ten years previously by the same time). These two opposed trends illustrate the necessity to adapt investment schemes to the needs of a knowledge-based society and to encourage more specifically investment in human resources.

The core issue is to reshape the frontier between workforce and capital assets in corporate financial statements, to recognise the increasing role of skill and competence in the production process, which accounts for the soaring development of intangible goods and assets in developed countries.

The article studies the possibility of introducing training expenses onto balance sheets in order to consider them as corporate assets. Two main directions are more particularly investigated:

- accounting implications: the value of businesses, investment decision making, fiscal treatment;
- financing implications: the strengthening the role of employees as investors in

their own training and creation of specific financial assets to support investment in vocational training.

The European Commission's White Paper "Teaching and Learning: towards a Learning Society" lists five major general objectives to be met in order to progress towards a learning society. Objective 5 concerns the treatment of investment in human capital, or in learning, on an equal basis as the investment in physical capital. From an accounting and fiscal point of view, labour is not considered as an asset. It is an operating cost and is included as such in the company's financial statements (on the income statement or profit and loss account) in the form of taxes and salaries. The approach explored in objective 5 is how to consider know-how and skills acquired by employees as adding value to the company, so that part of the expenditure on training and salaries during the training period can be considered as depreciable intangible assets and transferred accordingly to the balance sheet. Considering training as an asset would also enable consideration to be given to ways of financing it through the financial markets, as the US municipal bond market that permits the issue of tax-exempt bonds to finance certain types of investment.

The transformation of European economies from manufacturing to service-based, and rapid advances in new technology, has emphasised the importance of the human input to organisational success. In the knowledge-based economy, human capital (employees' knowledge, skills and experience) is thought to be the key factor in the competitive position of enterprises. This problem has been examined by a variety of disciplines since the sixties and the seventies, including Human



Resources Accounting (HRA) (Flamholtz, 1972 ; Likert, 1967...), which have explored the means by which managers could improve their utilisation of human resources through models designed to measure the economic contribution to the organisation. The search for meaningful methods of accounting for the value of human resources has been revived in the 1990s.

HRA has been questioned on several grounds, including difficulties of "showing people as assets, the existence of specific training as a necessary but not sufficient condition, the uncertainty of human resource measures and possibility of manipulation and difficulty of measurement" (Sackman, Flamholtz and Bullen, 1989).

Nevertheless, the aim of objective 5 is not to consider human resource value as a whole, but the services it can provide to the enterprise as a result of training, and consequently to find practical and acceptable ways of enhancing corporate and vocational training.

The first part of this article will recall the main benefits that can be expected from treating training as an investment. The second part will show that General Agreed Accounting Principles permit the inclusion of related expenditure on the balance sheet, both as an asset and as a liability. It will look at the relevant International Accounting Standards (IAS) as decided by the International Accounting Standards Committee. These standards are currently used by many European enterprises and, from the year 2000, will be mandatory to be quoted on any stock exchange. The issues are, therefore, relevant across the EU. The potential models which can be used to deal with the problem and their consequences on performance measurement will be outlined in the final part.

The benefits of considering training as an investment

Improving corporate financial information

Financial analysts have noticed¹ (New York Times, July 1996) a widening gap between the book values of enterprises

and their market values, measured by the market-to-book ratio (stock price/book value per share) or Tobin's "q" ratio (market value of assets/estimated replacement cost). If accounting systems gave a fair image of economic realities, those ratios would be equal to 1. Tobin's "q" is broader than market-to-book since it includes all assets, not just the company's net worth. Moreover, these assets are not entered at original cost, as shown in the accounting books, but at what it would cost to replace them, including inflation. When "q" is greater than 1, companies have an incentive to invest (Lindenberg and Ross, 1981), since a high market value is usually a sign that investors believe there are good opportunities in the business. "Q" is generally higher when firms have a strong competitive advantage not taken into account by the accounting systems.

Market value includes the value of intangible assets generated by staff training, research and development, advertising and so on. These assets are not saleable and their value may disappear with the enterprise, that is why accountants usually ignore these intangible assets. Nevertheless, there are cases in which intangibles may be integrated in the balance sheet especially when there is an acquisition of a firm by another one. In this case, the goodwill, or difference between the acquisition cost of the firm and the book value of its assets, may be registered in the accounting books. The question of whether goodwill is a real asset is debatable, but then there is a danger in comparing ratios of firms whose balance sheets include a substantial goodwill element with those that do not.

As the Industrial Age gives way to the Information Age, companies can live and die on the basis of intangible items that never appear on a balance sheet. The rationale for human resource accounting is that businesses have changed so much that the current accounting system no longer represents their value accurately. If training expenses do represent an investment that is able to generate revenues in the future, deducting them right away from earnings understates of true earnings. Consequently, the shares of an enterprise will sell at a high price relative to published earnings if investors recognise that some of the expenses are

"Financial analysts have noticed (...) a widening gap between the book values of enterprises and their market values, (...)"

"Market value includes the value of intangible assets generated by staff training, research and development, advertising and so on. (...) there are cases in which intangibles may be integrated in the balance sheet especially when there is an acquisition of a firm by another one."

1) See, for example, the New-York Times Issue of 2 July 1996



“Recognising training expenses as an investment in the firm’s financial statements would foster the inclusion of training programmes in the decision-making processes concerning the allocation of budgets and make it part of the “political agenda” of the decision-makers within the company (...).”

really an investment in the future. Eventually, if investors wish to use a company’s earnings as a guide to its value, they need to “normalise” those earnings for temporary distortions that stem from accounting techniques. Black² argues that the object of accounting rules is to produce an earnings figure that moves as nearly as possible in line with the value of the firm.

Creating incentives for increasing investment in vocational education and training

Recognising training expenses as an investment in the firm’s financial statements would foster the inclusion of training programmes in the decision-making processes concerning the allocation of budgets and make it part of the “political agenda” of the decision-makers within the company (Guerrero-Barnay, 1996). It appears that many enterprises do not plan their training policy in a strategic way, or use it as a strategic tool, as part of the company development strategy (Brandsma, Kessler and Münch, 1995), partially because of the lack of clarity and uncertainty concerning the returns measured on investment in training.

The idea is that, to achieve certain objectives, it is necessary to introduce innovation in the accounting system mostly “in the name of their presumed potential rather than their practical possibility or actual consequences” (Hopwood, 1984). Management decisions are likely to be steered by their impact on the measured financial outcomes, because “what you measure is what you get” (Kaplan and Norton, 1992), and what is reported in the balance sheet is visible and therefore, something which managers can and will be expected to react to.

Apart from its behavioural consequence, capitalising training expenditures over a number of years might be a powerful rationale for a training director who is proposing a very expensive, high-quality course. Treating these expenses as an asset permits smoothing them out through depreciation rules. As a former accountant and independent management consultant³ said, «Nobody would build buildings if you had to take the cost over one year».

Accounting feasibility for reporting training expenses on the balance sheet

Treating training expenses as an investment implies that they have to be reported on the balance sheet both as assets and liabilities. General Accepted Accounting Principles (GAAP) do not permit the recognition of an asset which generates cash inflows without identifying, at the same time, the financial resource, or liability, which will create cash outflows (IAS17).

Training expenses as assets: the accounting justification

During the initial debate on HRA, some writers (Jauch and Skigen, 1974) rejected the paradigm of including human resources in the balance sheet because humans were not owned by the enterprise and therefore could not qualify as assets. On moral grounds, this position is fully defensible. But the point is that their intellectual and manual capabilities do provide an available and valuable resource which will generate future economic benefits for the enterprise. The inclusion of these capabilities as an asset is not without precedent in the modern accounting literature. IAS17 - Accounting for Leases - requires that physical assets attracting all the rewards and risks of ownership but not legally owned by an enterprise be included in their financial statements. It is argued that otherwise the financial statements will not truly reflect all the economic resources available to an enterprise and all its outstanding obligations. Exclusion of both the asset and liability will distort financial performance and position information on its financial value.

The “Framework for the Preparation and Presentation of Financial Statements” issued by the IASC suggests that as long as human resources are able to provide future economic benefits to an enterprise, they qualify to be treated as assets. Clause 49 indicates that the resource should be controlled by the enterprise. Now, as already stated above, we are not considering people but their intellectual and manual capabilities, which do belong to the enterprise while employees are at

2) F. Black “The Magic in Earnings: Economic Earnings versus Accounting Earnings”. *Financial Analysts Journal*, 36: 3-8 (Nov-Dec 1980)

3) Jack Bowsher in “A capital Idea”, Beverly Geber, *Training*, January 1992: 31-34



work. Pierrat and Martory (1996) notice that the problem in dealing with intangible assets is that they suppose another way of defining power which no longer depends on ownership but on the capacity to manage teams and to control knowledge and know-how. Clause 26 (Relevance) and clause 83 (Recognition) of the IASC framework must also be considered. Relevance requires that inclusion of an asset must influence the economic decisions of users or, at the very least, cause them to re-evaluate a past decision. Recognition requires the value of the asset be established with reliability before it can be included in the financial statements.

The recognition of an obligation associated to the asset: defining a liability

IAS17 which has been cited as the definition for the inclusion of an appropriate asset and should now be examined to understand its position on the recognition of any liabilities. Clause 6 explicitly stipulates the existence of an obligation when acquiring economic benefits from the asset. Clarity is obtained by examining clause 49 of the Framework which defines a liability as

“a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow from the enterprise of resources embodying economic benefits”.

Clause 91 of the Framework specifies how to recognise it on the statement of financial position;

“when the amount at which the settlement will take place can be measured reliably”.

HRA principles, based upon these recommendations, define the liabilities associated with human assets accounting as employee salaries and benefits (Turner, 1996).

As far as training is concerned, if the asset is valued from real expenses, the liability should be a real debt issued by the enterprise to finance its training expenses. Tax shields could be used to enhance training programmes carried out by firms and could help employees to act as investors in their own training. The pro-

Table 1: Accounting changes of training expenditure reporting on the balance sheet (period 0)

Accounting Indicators	Before reporting on the balance sheet	After reporting on the balance sheet	
		Historical cost	Present value
Training expenses	TE	TE	$\sum_{t=1}^5 \frac{CF_t}{(1+DR)^t}$
Earnings before tax	P	P+TE	P+TE
Income tax	t.P	t(P+TE)	t(P+TE)
Book value of assets	A	A+TE	$A + \sum_{t=1}^5 \frac{CF_t}{(1+DR)^t}$

cedure could draw inspiration from the US municipal bond market that enables the issue of tax-exempt bonds, provided the issuer is willing to invest in projects directly related to a non-profit activity, this legal precondition, unique to the municipal bond market, is known as the “project financing rule”. This rule requires the organisation to undertake a set of approved capital projects whose dollar value equals or exceeds the flow of tax-exempt financing. Whereas debt issues provide taxable corporations with tax abatement at the corporate level, the municipal bond market provides tax abatement at the personal level. This could prove to be of great interest if those bonds could be offered preferably to the beneficiaries of the training programme to be financed.

Valuation models

Clause 100 of the Framework allows assets to be measured by using one of the four possible models: historical cost, current cost, realisable value or present value. These models are actually used by sporting organisations in the UK and in the Netherlands to evaluate the human resource of football players’ services (Morrow, 1996). What is the relevance of these models for training expenses ?

Historical cost: an objective model

Use of historical cost is generally perceived to be the most appropriate of the

“As far as training is concerned, if the asset is valued from real expenses, the liability should be a real debt issued by the enterprise to finance its training expenses.”



Table 2: Accounting changes of training expenditure reporting on the balance sheet (periods 1 to 5)

Accounting Indicators	Historical cost	Present value
Amortization of training expenses	TE/5	$\sum_{t=1}^5 \frac{CF_t}{(1+DR)^t} /5$
Earnings	P-TE/5	$P \cdot \sum_{t=1}^5 \frac{CF_t}{(1+DR)^t} /5$
Income tax	t(P-TE/5)	$t(P \cdot \sum_{t=1}^5 \frac{CF_t}{(1+DR)^t} /5)$
Book value of assets	A+TE	$A + \sum_{t=1}^5 \frac{CF_t}{(1+DR)^t} /5$

four methods. It is objective, directly comparable with the accounting treatment of most other assets and allows for the fair allocation of costs incurred over the life of the asset. The objectivity of the method lies in the fact that it does not measure the value of the human resource to the enterprise, it only measures historical costs incurred. In practice, the cost of training would be depreciated over the length of the expected time of validity of the knowledge acquired during the training course. Bonds maturity could be based on the same period of time.

The other potential valuation methods: subjective models

Each of the other three potential methods require a degree of subjectivity which will continue to limit the opportunity to incorporate human assets in the financial statements.

The current cost model updates historic cost to its present day equivalent and hence also fails to recognise the economic value of the resource. In the UK, football clubs multiply the player's gross income by a coefficient factor which varies according to the player's age (UEFA, 1992). The weakness of this particular salary model is that it ignores the time value of money. In the Netherlands, the potential transfer sum, i.e. gross salary * coefficient, depending on age and salary, is multiplied by a prudence factor of 0.25 (Brummans and Langendijk, 1995), which

represents an attempt to deal with the requirement to discount future earnings.

The two remaining methods are market based evaluations. When used by sporting clubs it is assumed that the large sums of money spent by clubs on transfer fees represent a market activity that could be used as the basis of a system to report players as accounting assets.

Realisable value supposes that training is an asset that can be traded as a saleable commodity, this could be achieved through an adequate bond market for training as mentioned above.

The present value option is based on the discounted cash-flow rule in which cash-flows represent the future revenues to be expected from training employees. Then the problem is how to determine these revenues since most investment in human resources tends not to have returns in the short-term, but rather the long-term, especially when it comes to monetary valuation. The discount rate used could be either the enterprise's cost of capital, if there is no special financial resource as specific bonds, or the cost of debt represented by the premium to be paid to the bondholders, in case a market is organised. As a matter of fact, the difference between training expenditure and the discounted cash-flows incurred by the training programme, would represent the value added to the enterprise by training.

Comparative evaluation of models for reporting training expenses on the balance sheet

The tables below compare the accounting modifications of the models and their effects on enterprise's earnings, book value and income tax. Table 1 relates to period 0, when training expenses are reported on the balance sheet instead of the profit and loss account ; table 2 shows the accounting changes occurred during the depreciation periods, i.e. 1 to 5, assuming that training expenses will be depreciated over 5 periods. Models concerning current cost and realisable value are not reported since they suppose a market valuation which can be assumed to be equal to historical costs in the particular case of training.



The main consequence of reporting training expenses in the balance sheet is to increase earnings, and therefore income tax on the first year, and decrease income taxes during the following years. It has to be mentioned that debt issuance to finance training will provide tax shields generated by financial interest paid to bond-holders.

Conclusion

We may conclude that there is no technical obstacles to recognising training expenditure as an asset and a liability from an accounting point of view. Henceforth, relevant recommendations could be made to the Member States as far as fiscal incentives are concerned in order to enhance vocational training while favouring employees' concern to their own training inside their enterprise. The two crucial questions are:

- what are effective policies, strategies and incentives for promoting investment in human resources ? and
- who is going to pay for the different forms of education and training ?

These two questions are closely related. Objective 5 aims to promote corporate training by using possibilities offered by recent international accounting standards to improve financial treatment of training. While considering training as an investment, appropriate financial tools can be designed to promote the role of employees as investors in their own training and make them more responsible for the asset they virtually represent. In practice, employees will be able to participate financially to their training together with public institutions through an adequate tax relief policy. Investment financing will then be both an individual and a collective one.

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It is timely to consider the adequacy of training data currently available to policy-makers and researchers at the European level. There is considerable uncertainty over both the inputs to the training process and the impact these have on workers' skills. Policy debate would benefit considerably from improvements in the way statistics are compiled and interpreted. Furthermore, there is relatively little data on the costs and benefits of training, despite the increased economic importance attached to training and the resources now devoted to its enhancement.

1) This article is part of a much larger research project consisting of three parts: an analysis of training statistics in Britain; a face-to-face survey of a representative sample of 1,539 employed individuals, and a postal survey of 462 membership organisations of the Confederation of British Industry (CBI). Readers seeking a fuller account of our findings should consult Felstead *et al.*, (1997) and CBI (1997). A more up-to-date account of the UK LFS training data can be found in Felstead *et al.* (1998).

Interpreting training statistics in Europe: Issuing a health warning

Introduction¹

The importance of education and training has been recognised as a key factor in stimulating growth, raising competitiveness and reducing unemployment among the Member States of the European Union (EU). Most notably, the *Growth, Competitiveness, Employment* White Paper views training as 'the catalyst of a changing society' (European Commission, 1994). Yet, there is considerable uncertainty about the extent to which the education and training system can enhance the skills of the European workforce. In this context, it is timely to consider the adequacy of training data currently available to policy-makers and researchers at the European level wishing to make such a connection. This article argues that there is considerable uncertainty over both the inputs into the training process and the impacts these have on workers' skills. There are a few studies of the impact of training on wages (eg, Blundell *et al.*, 1996), but virtually no direct evidence concerning the impact of training on company performance in Britain (Green, 1997). In our view, this is, in part, the consequence of poor training statistics and that as a result policy debate would benefit considerably from improvements in the way these statistics are compiled and interpreted. Furthermore, the article shows that there is relatively little data on the costs and benefits of training, despite the increased economic importance attached to training and the resources now devoted to its enhancement.

The article begins by briefly examining the source and type of training data regularly collected at the European level. These data are supplied to Eurostat (the

Statistical Office of the European Communities) by Member States who are required as part of their membership of the European Community to carry out regularly a Labour Force Survey (LFS). This must include a list of common questions, a common coding framework for the replies received and use agreed definitions. However, the data collection agencies appointed by each Member State are responsible for selecting the sample, preparing the questionnaires, conducting the interviews among households and forwarding the results to Eurostat in accordance with the common coding scheme. Inevitably, this means that the training data collected by Eurostat are selective. The aim of this article is to show that the training data collected at the national level can be interpreted in many more ways than is currently possible using Eurostat data simply because more data are available at the national level.

To make the point the article presents a thorough analysis of the UK LFS training data which has been regularly called upon in national policy circles to illustrate an upbeat picture of training activity in recent years. For example, a recent analysis of the UK labour market concluded that:

'Training activity has increased substantially since 1985, most rapidly in the late 1980s. There was a decrease during the recession and then an increase reaching a peak in 1994 ... it is possible to conclude that training activity in the UK in Spring 1996 may be higher than at any previous time' (DfEE, 1997).

However, we suggest that the selective use of LFS data, such as this, paints an incomplete and misleading picture of trends in training activity. Indeed, the ar-



title shows that a more cautious interpretation is called for. We argue that this problem is further exacerbated in the case of Eurostat training data since these offer even fewer ways to analyse patterns of training activity. Interpreting training statistics at a European level is, therefore, fraught with dangers and must be treated with utmost caution.

Eurostat training data

The compilation of comparable statistics on the labour force at the Community level has been a priority task since the formation of the European Community in 1958. Although labour market statistics, including training data, existed in all Member States at the time, comparison across Europe was problematic. The sources used, the definitions adopted and the methods of data collected differed to such an extent that 'like with like' comparisons were virtually impossible. For this reason, the Statistical Office of the European Communities (Eurostat) has regularly organised the European Community Labour Force Survey (EC LFS).

The first EC LFS was carried out among the six original Member States of the Community in 1960. From 1968 to 1971 it was carried out annually and from 1973 to 1981 it became biannual, although the basic features of the survey remained unaltered. The survey moved back onto an annual basis in 1983, from where it has remained until today. However, the period 1983-1991 saw the introduction of a revised set of concepts aimed at guaranteeing an improved standard of comparability between Member States and, as far as possible, with other countries. The survey was once again updated in 1992. This decision was influenced by a number of developments in the labour market thought to affect the information requirements of the 1990s. These included the effect of the Single European Market, the effects of the political changes in eastern Europe and elsewhere for labour mobility, and the importance of education and training in defining the shape of the present and future European labour force.

The outcome of these changes is that comparability between the results obtained

from the new series (1992 to the present) and those from the preceding series of surveys held between 1983 and 1991 is simply not possible. Only one of the four training questions now asked in the EC LFS is common across the two series, two are entirely new additions to the current series, and the remaining one is coded differently and applies to a wider segment of the labour force than previously (Eurostat, 1992).

The new series collects data on:

- participation rates in education and training in the four weeks immediately prior to interview;
- its nature;
- total length; and
- the usual number of hours training per week.

No data whatsoever are collected on who pays for training. The issue of financing is therefore difficult to address from these data. Yet, despite having four indicators from which to choose, only participation rates are reported in the published collection of summary tables (Eurostat, 1995, 1996a and 1996b). This shows that the overall incidence of training rose in Europe over the 1993-1995 period (see table 1). However, not all countries experienced a similar fate. In Greece, France, the Netherlands and Portugal training incidence fell, while elsewhere in Europe it either rose or remained static. It is also notable that the proportions reporting training differed substantially between countries with some countries reporting training incidences well into double figures (Denmark, the Netherlands, Sweden and the UK), while others were well below the European average (eg, Greece, France and Belgium).

This may reflect real differences in training activity across Europe, but it might also suggest that the meaning of 'training' differs between Member States in ways not easily picked up in household surveys of this type (see Méhaut, 1992; Campanelli *et al.*, 1994). As a result, one must be cautious about placing too much weight on comparisons of training activity across the EU despite the fact that the stated intention of the EC LFS is to provide a 'harmonized and synchronized' labour force survey of households of per-

"(...) it is timely to consider the adequacy of training data currently available to policy-makers and researchers at the European level (...) there is considerable uncertainty over both the inputs into the training process and the impacts these have on workers' skills. (...) policy debate would benefit considerably from improvements in the way (...) statistics are compiled and interpreted. Furthermore, (...) there is relatively little data on the costs and benefits of training, despite the increased economic importance attached to training and the resources now devoted to its enhancement."

"(...) despite having four indicators from which to choose, only participation rates are reported in the published collection of summary tables (...)"

**Table 1: Participation Rates in Training Across Europe¹**

Member State	1993 ²	1994	1995
Euro 12/15	6.5	6.9	6.9
Belgium	2.9	2.7	3.1
Denmark	17.1	16.7	17.5
Germany	4.7	5.6	4.8
Greece	1.3	1.1	1.0
Spain	3.0	3.5	4.0
France	3.1	2.9	2.7
Ireland	5.8	6.4	7.0
Italy	3.0	3.0	3.4
Luxembourg	3.0	3.5	3.3
Netherlands	17.4	16.3	15.4
Austria	—	—	8.4
Portugal	4.3	4.5	3.8
Finland	—	—	5.8
Sweden	—	—	18.2
United Kingdom	13.9	15.0	13.9

1) The data reported here refers to the percentage of employees aged 25 to 59 receiving training during the previous four weeks.

2) Although similar data were collected as part of the EC LFS in 1992, these were not reported in the published summary tables for that year (Eurostat, 1994).

Source: Eurostat (1995, 1996a and 1996b: Table 066).

sons living in each Member State (Eurostat, 1992: 53). Furthermore, our analysis of the UK LFS - from which the UK data contained in the Eurostat series are derived - suggests that reliance on a single indicator can paint a misleading picture of training activity within a single country let alone across the 15 Member States.

Results from the Continuing Vocational Training Survey (CVTS) suggest much the same. The CVTS was carried out in 1994 and asked about the training offered by enterprises in 1993. Data were collected from the then 12 Member States of the EU. Country samples comprised a representative sample of enterprises with 10 or more employees. In total, around 50,000 enterprises took part. General guidelines for carrying out the survey were issued by Eurostat to ensure broad comparability. The results show that reliance on employee participation in Continuing Vocational Training (CVT) can be misleading. For example, both the UK and Ireland are above average trainers on this measure, while Greece and Portugal are below average. However, using the aver-

age length of CVT as the yardstick the picture is turned upside down - the UK and Ireland do relatively badly while Greece and Portugal do relatively well (European Commission, 1997).

In addition, the CVTS offers many other insights - such as the cost of CVT courses and the cost per participant - which are not available from the EC LFS. However, the EC LFS provides an annual source of training data, whereas the CVTS offers a one-off snapshot of training activity. It is to an analysis of the UK LFS that we now turn since this - along with the 14 other LFSs - feeds into the EC LFS which provides the only regular source of training data across Europe.

Quantity of training

To examine the main trends in Britain. The LFS poses the question: 'over the last four weeks have you taken part in any education or training connected with your job, or a job that you might be able to do in the future?' (see table 2) There are two immediate problems. First, there is a discontinuity in the series from Summer 1994 (discussed below) which shifted the training rate slightly downwards. Second, and more significantly, at the start of the series in 1984, there were an unusual number of employees who did not respond to the training question (about ten times as many as in subsequent years). Ignoring that year, the trend from 1985 to 1994 shows a substantial increase in training participation. This trend is the main statistical basis for concluding that there has been an increase in training. The rise appears to have been broadly distributed across the workforce, both by age and gender. However, the one week participation rate in off-the-job training is also plotted (see again table 1). It rose more or less in parallel with the 4-week rate through until 1988. After then the rate stabilised and subsequently fell, such that for the period as a whole there was only a small increase in the 1-week rate. This casts immediate doubt on the strong presumptions drawn from the 4-week picture.

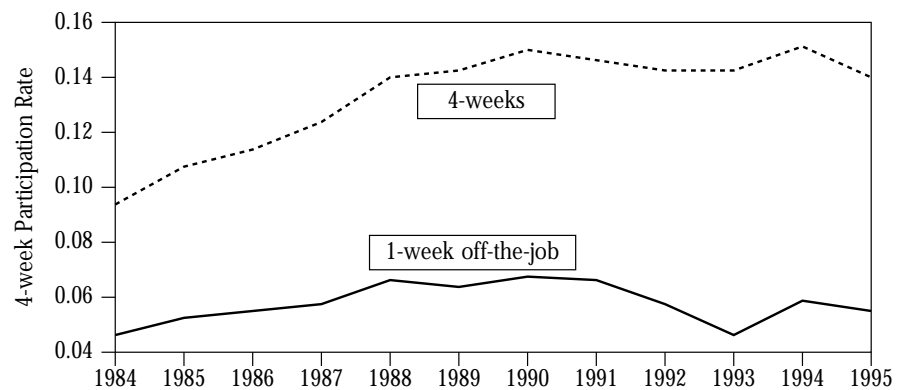
In addition, participation rates tell only part of the story as suggested by the CVTS.



A meaningful measure of quantity or volume can be derived only by knowing the average duration of the training spells of those undergoing training in the 4-week period. The LFS does not contain this information related to the 4-week question. However, it does ask respondents about the number of hours training received during the most recent week before the interview (as does the EC LFS). Until 1992, the question concerned itself only with off-the-job training. Thus, we can calculate the total amount of off-the-job training undertaken and then divide by the number of employees to arrive at an estimate of the average hours of off-the-job training obtained (see table 3). Clearly this is not ideal since it excludes on-the-job training, but it is the best first approximation to volume that we have. Remarkably it shows little increase over the period, with the rise in the late 1980s being more or less cancelled out by the fall in the early 1990s. Thus, we have a flat 1-week participation rate in off-the-job training and little change in the volume of off-the-job training received by each person during this single week.

How does this square with the more buoyant picture for the 4-week rate? One possibility which we can rule out is that there has been a long-term drift towards participation in on-the-job training. On the contrary, the LFS shows a small reduction in the proportion of training episodes involving just on-the-job training, from 31% in 1985 to 26% in 1995. The only conceivable reconciliation is that while in any 4-week period more people were undergoing training than before, the amount of training received by each person must have decreased. There is evidence from the LFS itself which is consistent with this conclusion. In 1985, 26% of those in training were on courses lasting less than one week. The corresponding figure for 1994 was 45%. A hypothetical example may help to fix the idea. Imagine that a proportion "X" of the population following a 2-week course is replaced by a proportion "2X" following a 1-week course. Consider what would happen to the 4-week participation rate, on the assumption that the date of interview is random. In the case of the 2-week course there would be 5 weeks in which course participants would be able to answer 'yes' to the LFS 4-week question. In the case of the 1-week course this 5 weeks would be

Table 2:
Rate of participation in Training



Employees in Britain, excluding full-time students and HM Forces
Source: Labour Force Surveys; Spring Quarters

reduced to 4, but, since there are twice as many people involved, the 4-week participation rate would be higher by a factor of 8 to 5. Meanwhile, the 1-week participation rate would be unaltered, as would training volume, since although the number of people involved has doubled duration has halved.

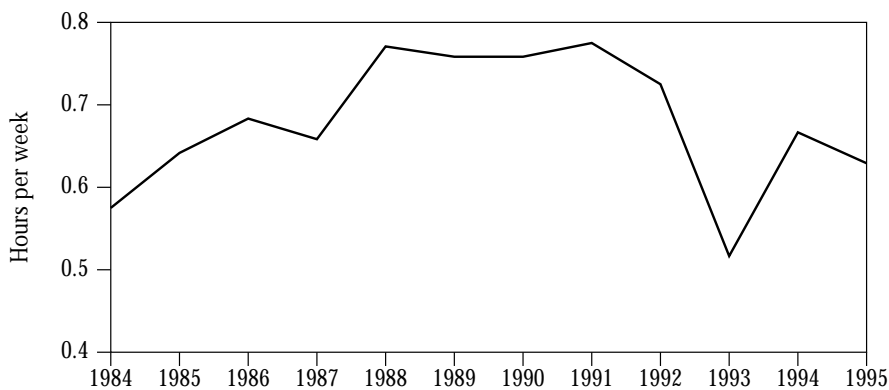
However, neither the trend towards shorter course lengths nor the time series for hours of, or participation in, off-the-job training over 1-week are presented in the annual compilation of training statistics in the UK (for example, HMSO, 1996). Thus, published statistics concerning the volume of training leave something to be desired. The rise in the 4-week participation rate cannot be taken as a valid indicator of a rise in volume.

Proxy interviewing

A considerable proportion of interviews are conducted by proxy with another member of the household. This happens whenever the respondent cannot be contacted. Proxy interviews are a particular feature of the LFS because of the need to minimise the cost of extra visits that would be necessary to catch the respondent. It is doubtful how accurately one member of a household will report the training experience of another, especially since that training may be informal and on-the-job and could date back up to 13 weeks.



Table 3:
Training* volume per employee



Employees in Britain, excluding full-time students and HM Forces
*Off-the-job training. Source: Labour Force Survey; Spring Quarters

Such proxy interviews are most concentrated amongst the young, who typically do the most training (see table 4). Furthermore, there is considerably more interviewing of males by proxy than there is of females. For both males and females, while the responses of those interviewed by proxy indicate little overall trend over the 1985-1995 period, there is a substantial upward trend for those interviewed directly. Which, if either, represents the true trend? A frequently reported LFS trend is the catching-up and overtaking of males by females (Felstead, 1997). However, with personal interviewing, the training participation of males still marginally exceeded that of females in 1995, while the proxy interviews showed female participation to be significantly higher. The true picture is uncertain.

Proxy respondents may recall training episodes only if they have been substantial. The average weekly hours of off-the-job training are slightly higher for proxy respondents (12.3 as opposed to 11.1 hours). The difference is even bigger for on-the-job hours. However, there was no propensity for proxy respondents to report that a greater proportion of training had been off-the-job. Proxy interviewing might also be correlated with other factors which themselves are likely to influence the extent of training. To test this possibility we included a dummy variable for proxy interviewing in a multivariate analysis of training participation where

many other conventional determinants were included. The results indicate that proxy interviewing imposes a substantial downward impact on the probability of recording training participation, even after controlling for other factors (Green and Zanchi, 1997).

The 1994 discontinuity

Interpreting trends has also become more difficult since the Summer 1994 survey. For the first time the questionnaire asked about job-related education and training in the previous 3 months, and then asked whether 'any of that education or training' had taken place over the standard 4-week period. It was hoped that, using the panel element of the survey, it would be possible to track respondents' participation in training over the course of a full year. Unfortunately, the change introduced a drop of between 1% and 2% in the recorded 4-week participation rate. A possible explanation for the discontinuity is that there may be some element of confusion over the interpretation of the word 'that': perhaps a minority of respondents answer 'no' if 'that' training came to an end before the start of the four weeks, even though they may have done some other training during the four weeks. Officials rightly recommend caution in comparing years before and after this discontinuity. Nevertheless, it is probably a minor problem compared with some of the other issues we raise.

Content and quality of training

Much of the debate about the extent to which the UK has undergone a training revolution relates to the sort of training that was being done - for example, the sceptics often argued that much of it was defensive (to meet health and safety regulations, for instance) and concerned with teaching 'low grade' skills. Unfortunately, information on the characteristics of training is thin on the ground in the published statistics.

A number of characteristics are relevant. As indicated it would be useful to have information on the purpose of training. This is entirely lacking. A proxy which is



Table 4: Interviews Conducted by Proxy

(percent of employees in Britain)

		Males	Females
1985	All	52.7	29.4
	Under 25	63.5	51.5
1995	All	42.1	24.8
	Under 25	55.0	42.8

Source: Labour Force Survey; Spring Quarters.

often used for quality is whether or not the training leads to a qualification. For a while, the LFS collected information on this, and between 1990 and 1992 there was a small increase in the proportion of training leading to a qualification. After 1992 the question was dropped. When the question was reinstated in 1996, it was revealed that this indicator of quality had continued to improve as far as women were concerned - the proportion whose training was leading to a qualification had risen from 44.8% in 1992 to 46.3%. However, for men the proportion had fallen - from 44.5% to 41.7%. For both sexes together the proportion had barely changed - 44.6% in 1992 compared to 44.0% in 1996.

A longer time trend is available for the split between on-the-job and off-the-job training. This is an ambiguous indicator of training quality, but for what it is worth, the LFS shows that the balance has shifted, as noted above, in favour of off-the-job.

In recent years the LFS has asked a question about the nature of the skills that the training was intended to develop. Respondents are asked whether it is 'to improve your skills to do the type of work you are doing or have done before; or to give you the skills to do a completely different type of work?' Similar data are also collected by the EC LFS. However, this question is of limited use. In particular, theory suggests that a key issue is whether skills are useful only to the present employer ('specific') or whether they are useful to a range of other employers ('transferable'). Data on this issue could

inform debate about the extent to which poaching of skilled workers deters training in transferable skills. The trouble is that the LFS question alludes to different work rather than to a different employer.

Who pays ?

Also important in any analysis of both levels and trends is the issue of who pays for it. The LFS produces figures which purport to measure payment for training. It records who pays the fees (if any) and it also attempts to collect data on wages foregone by trainees. However, this latter information is inadequate as a measure of who bears the opportunity cost. Individuals might bear such a cost either by taking lower wages or by giving up some of their leisure time. In the former case, it is possible that individuals may choose to take lower-paid jobs because they are implicitly or explicitly promised some training. It would hardly be feasible for the LFS to measure such a wage sacrifice directly and fortunately what little evidence there is suggests that in practice this is relatively rare (Veum, 1995). On the other hand, there may also be a direct loss, in that employers simply pay less wages while the training lasts. It is this loss which the LFS attempts to address by asking the question: 'while you were receiving this training, did your employer pay your basic wage in full/in part/or not at all?' When the training takes place out of working hours, the answer is coded that wages are paid in full. This failure to record foregone leisure time is potentially important. However, the EC LFS is even more inadequate since it provides no means at all of identifying who pays for the training individuals receive.

Conclusion

We have argued that a new analysis of the UK LFS data shows a less buoyant picture of the long-term trend in training than is typically mentioned. While there has been an increase in participation in training, we do not know precisely by how much because of the problem of proxy interviews in the LFS. Moreover, the

"(...) it would be useful to have information on the purpose of training. This is entirely lacking."

"(...) the EC LFS (...) it provides no means at all of identifying who pays for the training individuals receive."



“(...) The potential advantage of the LFS is that it could produce frequent up-to-date information on a consistent basis. (...) If training is (...) central to national economic policy, resources should be devoted to collecting the necessary information to support and inform rational policy-making.”

volume of off-the-job training is about the same in the mid-1990s as it was in the mid-1980s. We believe more attention should be given to these aspects of the data in the summary tables. We have also indicated that, just as the LFS information about training quantity is imperfect, information about the quality of this training, in terms of the skills which it maybe producing, is deficient.

The inadequacies and ambiguities of the UK LFS are particularly unfortunate given the lack of other sources of information on trends in training². The potential advantage of the LFS is that it could produce frequent up-to-date information on a consistent basis. At least some of the deficiencies could be remedied, at little extra cost, with the confines of the LFS. For example, it is comparatively simple to establish whether training is done during normal working time, and thereby improve information about who bears the cost of the training. There is also no reason why some more data cannot be collected as to the perceived transferability of the skills being created by the training and other outcome measures. If training is thought to be so central to national economic policy, resources should be devoted to collecting the necessary information to support and inform rational policy-making.

Our analysis of the training data contained the UK LFS and subsequently fed into the EC LFS suggests researchers using the Eurostat training data should exercise extreme caution when reporting their empirical results. While it is well beyond the scope of this article to analyse the training data contained in the remaining 14 LFSs, we would expect these and other problems to be present in the training data they collect and pass onto Eurostat. As a result, we believe that a health warning be attached to the Eurostat training data - we hope that this article has gone some way to issuing such a warning as well as highlighting some of the gaps in our knowledge of training at the European level.

Having said this, Eurostat could also make more of what it already has at its disposal. In this spirit, we would suggest that Eurostat includes summary tables on the four indicators on which it has data. In addition to publishing the figures on training participation rates, Eurostat could publish data on its nature, total length and usual number of hours training per week. This would allow researchers and policy-makers easier and quicker access to the available data, highlight any contradictory trends and illustrate any existing gaps in our knowledge - the financing of training being a glaring omission.

Acknowledgements

We thank David Wilkinson for his help and suggestions with the Labour Force Survey data. We are also grateful to Alison Neave, Nick Tarry, Arnot Rankin and Patrick O'Donnell from the Department for Education and Employment for helping us with our understanding of the survey. Responsibility for any errors and omissions remains, of course, with ourselves. Material from the Labour Force Survey made available through the Office of Population Censuses and Surveys and the ESRC Data Archive has been used by permission of the Controller of HM Stationery Office. The research was mainly funded by the Economic and Social Research Council, Research Grant, number R000235924.

2) Felstead *et al.* (1997) document the problems with the CBI's Industrial Trends Survey and with Skill Needs in Britain.



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This section has been prepared by
Martina Ní Cheallaigh,
and the Documentation Service with the help of members of the national documentation network

This section lists the most important and recent publications on developments in training and qualifications at an international and European level. Giving preference to comparative works, it also lists national studies carried out as part of international and European programmes, analyses of the impact of Community action on the Member States and national studies seen from an external perspective.

Europe International

Information, comparative studies

or from its national sales offices
EN

Training for a changing society: a report on current vocational education and training research in Europe.

TESSARING M

European Centre for the Development of Vocational Training, CEDEFOP
Luxembourg: EUR-OP, 1998, 197 p.
ISBN 92-828-3488-3, en
EUR-OP, L-2985 Luxembourg,
or from its national sales offices
EN (FR DE to follow)

This report seeks to make a contribution towards improving transparency in VET (vocational education and training) research matters in Europe, pooling the findings of different research disciplines, and at the same time properly positioning other fields of social action in terms of their relation to initial and continuing vocational training. It is divided into 7 parts. Part 1 deals with the statutory, institutional and political background to VET, the steering of VET systems and the funding arrangements in Europe. Part 2 presents research work related to the socio-economic frame of VET. Part 3 deals with the training process and the various problems and groups of persons involved. Part 4 is devoted to the content of VET and the process of learning and training. Part 5 looks at the transnational aspects of comparison, mobility and recognition of skills. General conclusions are presented in part 6 and finally the annex gives information on VET research institutions, select networks for research co-operation, EU programmes related to VET, and international classifications.

Sectoral approach to training: Synthesis report on trends and issues in five European countries.

WARMERDAM J

European Centre for the Development of Vocational Training, CEDEFOP
Luxembourg: EUR-OP, 1998, 110 p.
(CEDEFOP Document)
EUR-OP, L-2985 Luxembourg,

In recent years we have witnessed the revival of the sectoral dimension in training at European Level. This report contains a synthesis of the information and arguments in five European countries: Belgium, France, Germany, Greece and the Netherlands. Chapter 1 reviews the goals, scope and design of the study. Chapter 2 defines and demarcates the sectoral concepts. Chapter 3 gives an overview of the actual state of affairs concerning the sectoral approach in the five participating countries. Chapter 4 discusses the application of a sectoral approach to training research. Chapter 5 contains an assessment of the opportunities and limitations of a sectoral approach to training policy development. In chapter 6 the question of implementation of sectoral training policies is tackled. In this respect, chapter 7 elaborates the role of additional institutions at the sub-sectoral and cross-sectoral level. By way of summary and synthesis, the report concludes in chapter 8 with the elaboration of a conceptual frame of reference, which can be used for the analysis of sectoral training systems in future research.

The impact on vocational training of studies analysing and forecasting trends in occupations: case studies in Germany, the Netherlands and Denmark.

Danish Technological Institute, DTI; European Centre for the Development of Vocational Training, CEDEFOP
Luxembourg: EUR-OP, 1998, 83 p.
(CEDEFOP Document)
ISBN 92-828-3303-8
EUR-OP, 2 rue Mercier, L-2985 Luxembourg,
or from its national sales offices
EN

This study, conducted in three countries - Germany, the Netherlands and Denmark - aims to verify the impact, on vocational training policies, of research and development work carried out in the field of anticipation of educational and training



needs, manpower forecasts and skills analysis. The study envisages the identification of factors which positively and/or negatively influence the impact of research on training and skill needs, i.e. new occupational profiles, curricula development, teaching methods, training regulations.

Recognition and transparency of vocational qualifications: the way forward.

BJORNAVOLD J; SELLIN B

European Centre for the Development of Vocational Training, CEDEFOP

Thessaloniki: CEDEFOP, 1998, 49 p.

(Panorama, 73)

CEDEFOP

P.O.B. 27-Finikas,

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EN FR DE

An individual applying for education, training or employment on the basis of his/her "foreign" vocational qualifications cannot take for granted that his or her qualification will be recognised in an appropriate way. Accordingly, the purpose of this paper is to contribute to a proper analysis of the situation in the area of recognition and transparency of vocational qualifications. This area is, on the one hand, marked by a high degree of commitment from a great number of participants, both on the European and national level. On the other hand, it is an area marked by political sensitivity and legal insecurity. From the perspective of CEDEFOP, further action could be envisaged along two distinct paths. The first can be described as supportive action: adding missing elements to the current, project-dominated, approach and assisting the Commission in the establishment of the necessary coherence between all actions in this field. The creation of a European Interface in the field of transparency of vocational qualifications is a central instrument in this respect. The second can be described as political and judicial in its character, which implies that "a general system" based on the principles of mutual trust and maximum transparency should be considered.

The occupational structure of further and higher education in Ireland and the Netherlands: paper for the CEDEFOP Ciretoq network (Group A).

BORGHANS L; HUGHES G; SMITS W

European Centre for the Development of Vocational Training, CEDEFOP

Luxembourg: EUR-OP, 1998, 34 p.

(CEDEFOP Document)

ISBN 92-828-2392-X, en

EUR-OP, L-2985 Luxembourg, or from its national sales offices

EN

This paper makes a comparison between the Irish and the Dutch occupational structure of types of education. This comparison is based upon a common occupational classification, which is an aggregation of the national occupational classification in the two countries. The occupational structure has been measured by two indexes: the index of the occupational domain and the similarity index. The index of the occupational domain shows the extent of the occupational domain of each type of education. The similarity index provides information about the overlap in the occupational domain of two types of education. It concludes that there are considerable differences between Ireland and the Netherlands with respect to the educational level of the labour force.

Maritime education and research in the Baltic sea region.

VAINIO J (ed.)

University of Turku

Turku: University of Turku, Center for Maritime Studies, 1997, 69 p.

(Publications from the Center for Maritime Studies, A, 25)

ISSN 0782-3622

ISBN 951-29-1011-X

University of Turku,

Center for Maritime Studies,

Veistämönaukio 1-3,

FIN-20100 Turku, Finland

EN

The present publication is the report of the 20th anniversary symposium of the Supporting Association for Maritime Education and Research in Finland. The publication contains papers presented at the symposium dealing with maritime education and research in Estonia, Finland, Poland, Russia, Sweden, Norway, and



Germany. The publication also contains a paper presenting research projects funded by the European Union.

Re-designing management development in the New Europe.

European Training Foundation, ETF
ISBN 92-9157-068-0, en
Luxembourg: EUR-OP, 1998, 164 p.

ETF

*Villa Gualino,
Viale Settimio Severo 65,
I-10133 Torino.*

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EN

In Central and Eastern European countries after the fall of the Berlin Wall, management education and development were quickly perceived as important tools for helping managers on their difficult journey "from plan to market". However, the actual progress made in retraining existing managers, developing a new generation of managers and creating solid national infrastructures for management education and development has been relatively slow. Many critical words have been expressed about the transfer and adaptation of Western European management know-how to Central and Eastern Europe. This report of the Torino group reviews the state of the art of European management development, examines its current trends and problems, and suggests steps to improve its quality and impact.

URL: <http://www.etf.it/mantrain.zip>,
Note:downloadable document

Gender and jobs: sex segregation of occupations in the world.

ANKER R

International Labour Office, ILO
Geneva: ILO, 1998, 444 p.
ISBN 92-2-109524-X, en

*International Labour Office,
CH-1211 Geneva 22, Switzerland*

EN

The segregation of men and women into different occupations is one of the most important and enduring aspects of labour markets around the world. This report presents a comprehensive analysis of the levels and recent changes in the segregation of occupations. It is based on a new ILO data set which contains detailed

occupational data from 41 countries or territories from all regions of the world. It is shown that well over half of all non-agricultural workers in the sample countries and areas work in an occupation where one sex dominates to such an extent that at least 80 per cent of workers are either men or women. This negatively affects economic efficiency and labour market flexibility as well as perpetuating and reinforcing gender stereotypes in society. It is surprising to note the higher level of occupational segregation in Scandinavia as compared to other industrialized countries, the lower level of occupational segregation in Asia as compared to Europe, the recent decreases in segregation in only some parts of the world, and the truly restricted and sex-stereotyped choice of occupations open to the worlds' women.

Pathways and participation in vocational and technical education and training.

Organisation for Economic Co-operation and Development, OECD
Paris: OECD, 1998, 394 p.

ISBN 92-64-15368-3, en

OECD,

2 rue Andre Pascal,

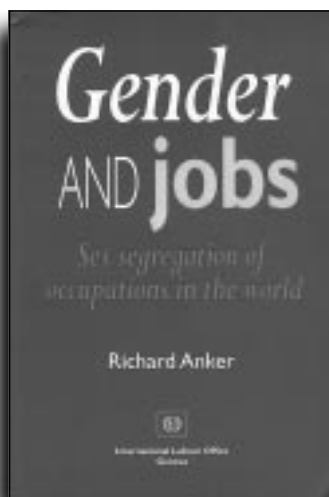
F-75775 Paris Cedex 16,

Fax: 33-1-4910.4276,

e-mail: sales@oecd.org

EN FR

The OECD countries have widely differing traditions regarding basic vocational training. Education and training systems propose differentiated and interconnected pathways, each of which can be broken down into a series of programmes. But what are the factors that explain participation of young people in VET and the way it has developed over time? A number of answers have been formulated and are examined here in the light of ten national reports (Australia, Austria, Denmark, UK, France, Germany, Italy, the Netherlands, Quebec and Switzerland). This report explains basic concepts and assesses what can be learnt from national experience. This both conceptual and pragmatic approach should help national decision-makers abandon ready-made ideological responses in favour of innovatory solutions based on experience and adapted to the traditions of their countries.





Providing a secure environment for learning.

Organisation for Economic Co-operation and Development, OECD
Paris: OECD, 1998, 82 p.
(programme on Educational Building)
ISBN 92-64-05756-0, en fr
OECD,
2 rue Andre Pascal,
F-75775 Paris Cedex 16,
Fax: 33-1-4910.4276,
e-mail: sales@oecd.org
EN FR

The question of security in schools and universities is becoming a growing concern in many countries. How can violence in both schools and universities be measured and curbed? How should the very notion of security be tackled? Security has to date been mainly analysed in terms of material and legal forms of risks (fire, non-compliance of equipment with safety standards, etc.). This publication shows that the human factor should not be overlooked. The organisation of people's relationships should matter both in the building design and construction stage, and in the management of education.

Reviews of national policies for education Russian federation.

Organisation for Economic Co-operation and Development, OECD
Paris: OECD, 1998, 173 p.
ISBN 92-64-16058-2, en
OECD, 2 rue Andre Pascal,
F-75775 Paris Cedex 16,
Fax: 33-1-4910.4276,
e-mail: sales@oecd.org
EN FR

This report describes the most recent trends in schooling and education policy in the Russian Federation, and analyses the education reform initiatives under way. While supporting the overall policy trend, its recommendations draw attention to particular problems and share new perspectives as well as identify ways to consolidate the ongoing reforms. Recommendations are offered for: education goals, access and opportunity for all; curriculum and assessment; teachers and teacher education; reforming vocational and technical education within a changing economy; and management, finance and the role of government.

Globalization: risks and opportunities for labor policy in Europe.

HOFFMANN J; HOFFMANN R
European Trade Union Institute, ETUI
Bruxelles: ETUI, 1997, 32 p.
(Discussion & Working Papers, 97.01.02)
ISSN 1025-2533
ETUI,
Bld. Emile Jacqmainlaan 155,
1210 Bruxelles,
Tel.: +32-2-2240-470,
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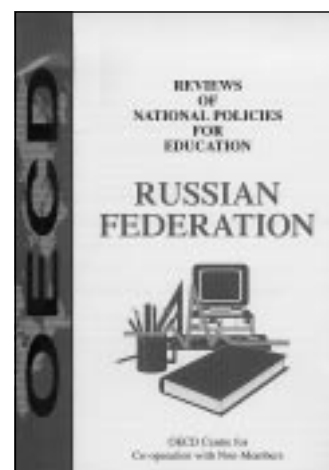
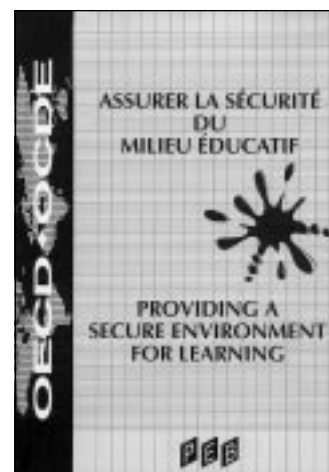
This paper deals with the impact of the globalization of the economy on the European economic policy and the trade unions. After a description of the globalization process, the author discusses the role of regulations (especially those made by international organizations), the regional aspect of globalization and the European trade union policy.

European Union: policies, programmes, participants

Report from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions on the coordination of activities to assist small and medium-sized enterprises (SMEs) and the craft sector 1997.

European Commission
Luxembourg: EUR-OP, 1997, 117 p.
(Documents COM, (97) 610 final)
ISSN 0254-1475, en
ISBN 92-78-27705-3, en
EUR-OP, L-2985 Luxembourg, or from its national sales offices
EN FR DE DA ES EL FI IT NL PT SV

This report centres on the Commission's priorities in the field of enterprise policy. The first section is concerned with improving the business environment for SMEs from the legal, financial, fiscal and social standpoints. The second deals with the various measures and programmes designed to provide support, such as concerted action, access to finance and credit, support at European and international level, enhancing competitiveness, improving access to research, innovation and vocational training, encouraging a spirit of enterprise and providing support for





enterprises in the crafts, retailing and co-operative, mutual and non-profit sectors. The report concludes with a summary of progress achieved in the area of coordination.

**What the programmes have achieved:
Towards a Europe of knowledge.**

European Commission - DG XXII
Brussels: DG XXII, 1998, 36 p.
*DG XXII Library, B7-0/31,
Rue de la Loi 200,
B -1049 Brussels,
Fax.: 32-2-296.4259
EN FR DE*

This working document of the Commission complements the COM 97(563) and highlights Community actions conducted since 1976 and the results achieved after implementation of the current programmes (Leonardo da Vinci, Socrates and Youth for Europe). It is divided into four sections. The first part "acting efficiently and effectively" refers to the main stages of Community legislation, the development of the programmes' budgets and changes in management. The second part describes how cooperation between the different players has increased, that is, the committed involvement of economic partners and the social dialogue between the social partners. The third part illustrates the "European added value" obtained through the programmes: perception of European citizenship; access to education and training resources; improvement of language and cross-cultural skills; recognition of acquired knowledge and skills and promotion of innovation. The last chapter explains how external cooperation with other States outside the European Community has developed.

**Activities in the fields of education,
training and youth 1994-96.**

Activités dans les domaines de l'éducation, de la formation et de la jeunesse 1994-1996.
European Commission - DG XXII
Luxembourg: EUR-OP, 1998, 95 p.
ISBN 92-828-1538-2, en;
ISBN 92-828-1539-0, fr
*EUR-OP, L-2985 Luxembourg, or from its
national sales offices
EN FR*

Within the European Commission, activities relating to education, training and youth are the responsibility of Directorate-General XXII, although they are also an integral part of other Community policies or objectives coordinated by other Directorates-General. The activities of DG XXII are exclusively concerned with the implementation of the new provisions in these fields introduced under Articles 126 and 127 of the Treaty on European Union. To this end, the Council has adopted three programmes: Socrates (14 March 1995), Leonardo da Vinci (6 December 1994) and Youth for Europe III (14 March 1995). The European Social Fund, which is the responsibility of DG V, has the aim - as one of the Structural Funds - of helping various target groups (workers, the unemployed, young people, women, disabled people) to become integrated into the job market through the provision of vocational training measures and initiatives.

**Leonardo da Vinci: vocational training
- a precondition for technological and
organisational change.**

ALBERTIJN M; HORGAN J
European Commission - DG XXII
Luxembourg: EUR-OP, 1998, 36 p.
ISBN 92-828-2601-5, en
*DG XXII Library, B7-0/31,
Rue de la Loi 200,
B -1049 Brussels,
Fax.: 32-2-296.4259
EN*

The main focus of this study is the role of vocational training and how it should position itself with regard to other factors such as technological and organisational change. Traditionally the principal role of vocational training is to track technological and organisational change and equip people with the necessary knowledge and skills to implement the innovatory applications emerging from those areas. Nevertheless, vocational training, in its own right, can have a crucial role in shaping the way in which technology is designed and implemented in the workplace and in society at large. The authors propose that this task can be carried out by developing individual and organisational competencies which will enable individuals and organisations to anticipate the future and so contrib-





ute to building a society based on the three pillars of human competence, technological innovation and organisational effectiveness.

Second chance schools - European pilot projects: volume 1 the commitment of cities.

European Commission - DG XXII
Luxembourg: EUR-OP, 1998, 28 p.
ISBN 92-828-1908-6, en fr
*DG XXII Library, B7-0/31,
Rue de la Loi 200,
B -1049 Brussels,
Fax.: 32-2-296.4259*
EN FR

This is volume 1 of the launch meeting presenting the programme "second chance schools". The pilot projects are targeted at young people without formal qualifications who are seeking to reinsert both socially and professionally. Its primary objective is to reintegrate these young people socially and professionally by offering them a wide range of high-quality education and training opportunities which are tailor-made to their individual needs. The projects are aimed at cities containing districts marked by a high concentration of social and economic problems, in particular large metropolitan areas, where high unemployment rates go hand in hand with clusters of marginalised youth.

Second chance schools - European pilot projects: volume 2 the challenges of the pilot projects.

Ecoles de la deuxième chance - projets pilotes européens: volume 2 les enjeux des projets pilotes.
European Commission - DG XXII
Luxembourg: EUR-OP, 1998, 59 p.
ISBN 92-828-1909-4, en fr
*DG XXII Library, B7-0/31,
Rue de la Loi 200,
B -1049 Brussels,
Fax.: 32-2-296.4259*
EN FR

This is volume 2 of the launch meeting presenting the programme "second chance schools". The pilot projects are targeted at young people without formal qualifications who are seeking to reinsert both socially and professionally. Its pri-

mary objective is to reintegrate these young people socially and professionally by offering them a wide range of high-quality education and training opportunities which are tailor-made to their individual needs. The projects are aimed at cities containing districts marked by a high concentration of social and economic problems, in particular large metropolitan areas, where high unemployment rates go hand in hand with clusters of marginalised youth.

Youth for Europe: Compendium 1995. Jeunesse pour l'Europe: Compendium 1995.

European Commission - DG XXII
Luxembourg: EUR-OP, 1998, 191 p.
ISBN 92-827-9429-6, en
*DG XXII Library,
B7-0/31,
Rue de la Loi 200,
B -1049 Brussels,
Fax.: 32-2-296.4259*
EN FR

Youth for Europe, adopted on 14 March 1995 for a period of five years, draws on considerable experience and has proved over time to be one of the main means of promoting a policy of cooperation for young people in Europe. This compendium includes a selection of 1000 exchange projects involving mobility of more than 6000 young people in the different Member States of the European Union and the eligible countries of the programme for 1995. Although the various actions are quite different one from the other, the main concern of the intra-community exchanges is tolerance, the triumph of the multicultural over xenophobia and racism. Dynamic methods of communication were often used such as theater, music, audio-visual, dance, painting, etc.

Building a European co-operative research tradition in vocational education and training: the contribution of the LEONARDO da Vinci programme's surveys and analyses.

DIETZEN A; KUHN M (eds.)
Bundesinstitut für Berufsbildung, BIBB
Berlin [etc.]: BIBB, 1998, 220 p.
ISBN 3-88555-628-6
EN





In this publication, European vocational training experts examine how transnational research projects can contribute to the development of innovations and to a more unified system of vocational training in Europe. The authors address LEONARDO programme projects. Research strategies for developing a policy-related and action-oriented European identity are described and evaluated. The second part is dedicated to quality development strategies in European research cooperation. The third part is concerned with evaluating transnational research projects.

L'éducation et la formation en Europe: points de vue croisés syndicalistes/chercheurs Angleterre, Ecosse, Espagne, France, Italie, Portugal. Phase 1 cycle de séminaires septembre 1996-février 1997.

VIGEZZI M (coord.)

Montreuil: ISERES, 1997, 183 p.

ISERES,

263 rue de Paris,
F-93516 Montreuil cedex
FR

A series of seminars organised within the framework of the Community ADAPT programme brought together trade unionists and academics from a number of countries. Six theoretical points were discussed: training issues, training locations, the employment and education crises, the relationship between training and work, training policies and European training policies. Each subject was dealt with by reference to the situation in a particular country - the education system in France and its links with industry, the case of Scotland where liberalism is applied to education, the role of centralised trade unions in the management of education in Portugal, the liberal practices of deregulation in England, problems of certification and, finally, the case of Italy which emphasised the disparities between monetarist Europe and the Europe of social welfare provision.



From the Member States

D Why do firms train?: theory and evidence.

ACEMOGLU D; PISCHKE J-S

Quarterly Journal of Economics 113 (1),
1998, p. 79-119

ISSN 0033-5533

EN

This paper offers a theory of training whereby workers do not pay for the general training they receive. The superior information of the current employer regarding its employees' abilities relative to other firms creates ex post monopsony power, and encourages this employer to provide and pay for training, even if these skills are general. The model can lead to multiple equilibria. In one equilibrium quits are endogenously high, and as a result employers have limited monopsony power and provide little training, while in another equilibrium quits are low and training is high. Using microdata on German apprentices, the authors show that the predictions of their model receive some support from the data.

In der Diskussion: Ausbildungsplatz- abgabe [Themenheft].

Berufsbildung (Seelze) 48, 1997, 52 p.

ISSN 0005-9536

ISBN 3-7800-4326-2

DE

The training levy with which this journal issue is concerned has recently been the focus of debates on vocational training issues. The articles are concerned with problems such as shared financing; training levies as a factor contributing to the decrease in training supply; collectively agreed-upon financing systems; the impact on large enterprises; interplant training; self-organised, shared financing on the chamber level; fair and cost-neutral training; fair financing of in-plant training; and conditions for a viable concept of modular training.

DK The Danish vocationally oriented general upper secondary education programmes: general rules.

Danish Ministry of Education
Copenhagen: UM, 1997, 53 p.

ISBN 87-603-0979-2

Undervisningsministeriets forlag,

Frederiksholms Kanal 25 F,

DK-1220 Copenhagen K

EN

This publication contains a translation of the general legal framework ruling the Danish Vocationally Oriented General Upper Secondary Education Programmes: the "Higher Commercial Examination" (the HHX), and the "Higher Technical Examination" (the HTX), both 3-year full time programmes giving access to higher education. The publication provides a description of the general framework, the subjects and the educational targets. The intention of this publication is to give an overview of the two programmes in question sufficient for information abroad.

IRL Annual Competitiveness report '98.

National Competitiveness Council

Dublin: National Competitiveness Council, 1998, 162 p. + annexes ; bibl.

ISSN 1393-6123

National Competitiveness Council,

Forfas,

Wilton Park House,

Wilton Place,

IRL-Dublin 2.

EN

The National Competitiveness Council was established in mid 1997 under the terms of the most recent national partners agreement, to assess the factors that determine competitiveness and identify the actions needed to maintain and enhance it. This is its first report. It examines the role of human resources in ensuring competitiveness. The Council states that the education system has to respond to the challenges of globalisation, particularly through a greater focus on languages, both European and non-European, on



problem-solving abilities and the development of independent minds. The education system, the Council states, must be more open and flexible to adapt to provide lifelong learning. It commends the White Paper on Human Resources Development and the Forfas-state development agency/ESRI-Economic and Social Research Institute skills identification project and calls for action on immediate skill gaps, not only in the high-technology areas but also in the construction industry and the retail and tourism sectors. There is a need also, the report states, to look at the effect of the incentives to enterprises to provide training, to re-examine the whole concept of training - the Council believes that our whole concept of training is too narrow - and to encourage a "dramatic extension of the certification system". New participative forms of work and the interaction between business and education at local level are also considered in the report.

Note: A summary of the annual report entitled "The competitiveness challenge '98 council summary statement" is published separately.

FR Les organismes de formation.

Ministère de l'emploi et de la solidarité, Délégation générale à l'emploi et la formation professionnelle

Paris: DAGEMO-BECI, 1998, 34 p.

(Synthèse prospective emploi-formation, 26)

DAGEMO-BECI, 39-43 quai André Citroën, F-75739 Paris cedex 15

FR

This report summarises the result of a prospective study commissioned jointly by the government and representatives of employers in the private training sector. It presents a portrait of this sector as it is at present, future projections and the recommendations of the firm of consultants that carried out the study.

IT La simulimpresa: modello di innovazione della formazione professionale: I risultati dell'attività di monitoraggio delle imprese simulate in Italia.

D'ARCANGELO A; MONTEDORO C (eds.) Istituto per lo sviluppo della formazione professionale dei lavoratori, ISFOL Milan: Angeli, 1998, 185 p.

(Quaderni di formazione Isfol, 27)

Franco Angeli, Viale Monza 106, I-20127 Milano

IT

'Enterprise simulation' is the reproduction of real work situations for training purposes. This volume gathers the results of monitoring activities carried out in 1996 on a sample of simulated enterprises in Italy. This method, based on the acquisition of vocational abilities and skills through learning by doing, is a good model of alternative training suitable for basic training, for post-secondary training, as well as for training in apprenticeship. It is also worth pointing out its special interest as a training model to integrate in-company training.

PT Carta magna: educação e formação ao longo da vida.

SIMÃO J et al.

Comissão Nacional para o Ano da Educação e Formação ao Longo da Vida; Ministério da Educação; Ministério do Trabalho e da Solidariedade

Lisbon: Comissão Nacional para o Ano da Educação e Formação ao Longo da Vida, 1998, 49 p.

ISBN 972-704-164-7

Gabinete de Apoio Técnico à Comissão Nacional para o Ano da Educação e da Formação ao Longo da Vida,

Praça de Londres 2-10º,

P-1091 Lisbon Codex

PT

This document summarises the reflections of the Portuguese Commission for the Year of Lifelong Learning in connection with the drawing up of the "Magna Carta of Education and Training". The information society and globalisation have created new situations giving rise to new concepts, some of which are discussed here. Also discussed are "Subjects concerned with education and training and the Portuguese reality" [a brief analysis of the current situation and the link between education and training]. Reference is made to the applicable regulations and some figures are given. The chief lines of ac-



tion in the fields of education and training are also set out.

UK **Design of the New Deal for 18-24 year olds.**

Department for Education and Employment, DfEE

Sheffield: DfEE, 1997, 38 p

DfEE Publications Centre,

PO Box 5050,

Sudbury,

Suffolk, CO10 6ZQ

EN

The New Deal for 18-24 year olds aims to help young people who have been unemployed for six months or more to find work and improve their prospects of remaining in sustained employment. The New Deal provides a range of help consisting of: Gateway provision - which aims first to get young people into work, and includes help with job search, careers advice and guidance; four options - each including an element of education or training, namely: a subsidised job with an employer, full-time education or training, or work on the Environmental Task Force or with the voluntary sector; and a follow through strategy. This document describes a set of design principles governing the New Deal. It provides a framework which forms, first, the parameters within which

specific provision is planned by the Employment Service and its partners and put in place locally; and second, the basis for the development of more detailed guidance, procedures and contract specifications.

Education and training development agenda 1997-1998.

Department for Education and Employment, DfEE

Sheffield: DfEE, 1997, 65 p

ISBN 0-85522-702-8

DfEE Publications Centre,

PO Box 5050, Sudbury,

Suffolk, CO10 6ZQ

EN

This document describes development programmes in the fields of education and training in the Department for Education and Employment. It brings up to date continuing areas of development and summarises action on key new Departmental initiatives. These include work to drive up standards in schools, the establishment of a national grid for learning, development of the University of Industry, action to combat exclusion from learning and under-achievement, upgrading vocational qualifications and a range of initiatives to promote and encourage life-long learning.



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No. 11/97

Innovation and reform: training in Central and Eastern European countries

Economic analysis and background

- The completion of the first phase of transition in Poland, Hungary, the Czech Republic and Slovakia (J. Nagels; D. Simonis)
- Labour markets and training in Central and Eastern Europe (Alena Nesporova)
- Challenges and priorities for vocational training in Central and Eastern European countries (Inge Weilnböck-Buck; Bernd Baumgartl; Ton Farla)

Institutional aspects

- Political questions. Ministers from Hungary, Latvia, Slovenia and Romania respond to questions on the process of vocational education and training reform in their countries (P. Kiss; J. Celmin; S. Gaber; V. Petrescu)
- The role of the social partners in the development of vocational training in countries in transition (Jean-Marie Luttringer)

International co-operation

- International co-operation in curriculum development for vocational education and training - Polish experience (Tadeusz Kozek)
- German-Hungarian co-operation to support Hungarian reforms in vocational training (Laszlo Alex)
- Modernisation and reform of vocational education and training in Estonia - A case study (Martin Dodd)
- The opening up of the Leonardo da Vinci programme to the countries of Central and Eastern Europe (Tim Mawson)

Key facts

- Vocational education and training in Bulgaria, in the Czech Republic, in Estonia, in Hungary, in Latvia, in Lithuania, in Poland, in Romania, in Slovenia
- Economic indicators
- Map: GDP per capita as % of EU average



No. 12/97 What do we know? Measuring knowledge, skills and competences in the labour market

Recruitment, career paths and the allocation of human capital

- Labour market trends and information needs: their impact on personnel policies (Carmen Alpin; J.R. Shackleton)
- Recruiting in a European Company (Gunnar Eliasson; Kurt Vikersjö)

The role of formal qualifications and certificates

- Certificates, skills and job markets in Europe (Louis Mallet et al.)
- The evolution of systems of validation and certification. What are the possible models and what are the issues for France? (Vincent Merle)
- Spanish companies and the new vocational training system (Valeriano Muñoz)

Learning outside the formal learning system

- Assessment of non-formal learning: the quality and limitations of methodologies (Jens Bjørnåvold)
- A question of faith? Methodologies and systems for assessing non-formal learning require a legitimate basis (Jens Bjørnåvold)

Support for and action by the individual

- Individual and company information and counselling requirements: New challenges for vocational guidance (Karen Schober)
- Self-directed learning in the world of work (Gerald A. Straka)



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Berufsbildungsfinanzierung: Verfahrensfragen

- Der Zusammenhang zwischen allgemeiner Bildung, Berufsbildung und Wirtschaft (Christoph F. Buechtemann; Dana J. Soloff)
- Probleme bei der Finanzierung beruflicher Bildung in der EU (Gregory Wurzburg)

Verschiedene Ansätze in Fragen der Berufsbildungsfinanzierung

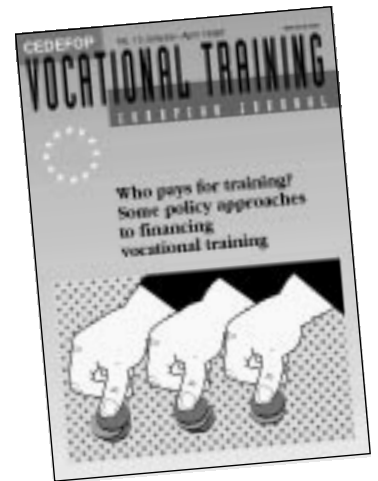
- Abgaben, Bildungsurlaub und tarifvertragliche Anreize für individuelle und betriebliche Investitionen in Aus- und Weiterbildungsmaßnahmen (Vladimir Gasskov)
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- Unterschiedliche staatliche Vorgehensweisen auf dem Gebiet der beruflichen Fortbildung (Yrjö Venna)
- Finanzierungsalternativen für die Berufsbildung am Beispiel der aufstrebenden Länder Lateinamerikas (David Atchoarena)

Unternehmen und Berufsbildungsfinanzierung

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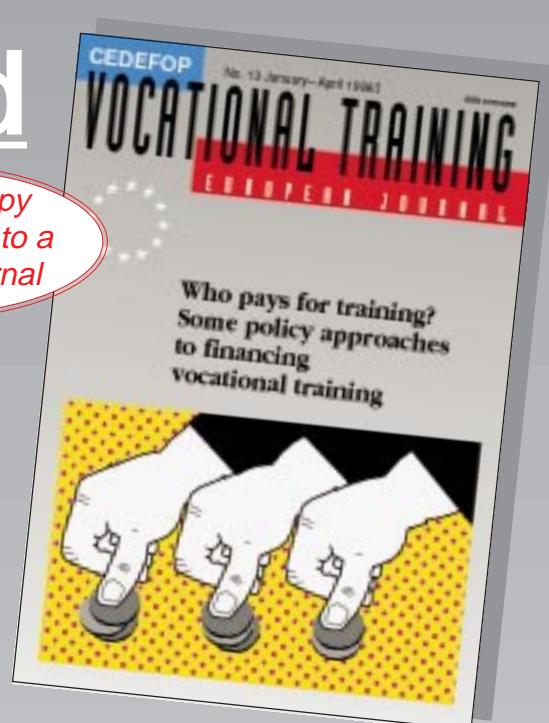
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