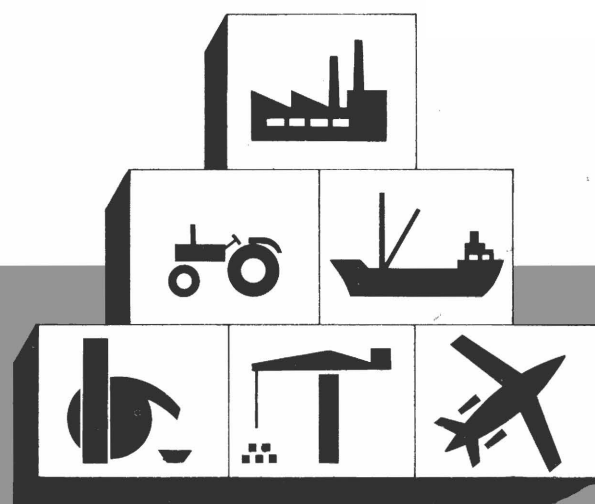


Vocational training

information
bulletin



SUPPLEMENT FR of GERMANY

CONTENTS

1. Historical development	1
2. Vocational training in the education system	3
3. Legal basis and organization of vocational training with particular reference to the law on vocational training	5
4. Conditions of admission and final examinations in vocational training	9
5. Training of instructors and teachers in vocational training	11
6. Planning, research and advice in vocational training	12
7. Financing of vocational training	15
8. Problems of the transition from school to working life	16
9. Future vocational training policy	17
Summary	19
Basic statistical data (Survey 1)	22
Map of the Federal Republic of Germany showing Länder and administrative districts (Survey 2)	23
Definitions in education (Survey 3)	24
Statistical annex	26

This report was drawn up
by Ministerialrat Franz-H. Fredebeul
and Regierungsrat Horst Krebs
of the Federal Ministry of Education and Science,
Bonn.

Published by :

Commission of the European Communities
Directorate-General for Social Affairs
Vocational guidance and training Division
Rue de la Loi 200
1049 BRUXELLES

This supplement is published in six languages :
Danish, German, English, French, Italian and Dutch.

© Copyright ECSC-EEC-EAEC,
Brussels and Luxembourg, 1978
Printed in Belgium

Reproduction authorized, in whole or in part,
provided the source is acknowledged.

**Vocational training
in the
Federal Republic of Germany**

1. Historical development

1.1 The origins of vocational training

There is a long tradition of vocational training in the Federal Republic of Germany. It has its origins in the commerce and craft trades of the Middle Ages and developed from the apprenticeship system, the training of an apprentice to become a journeyman with a master, which was controlled and supervised by the vocational and professional organizations of the time, the guilds and corporations.

In the 17th and 18th centuries the mercantile economic system led to the breakdown of the medieval craft structure, combined with the disappearance of the traditional forms of training. With the introduction of freedom of occupation in 1810 the apprenticeship system lost its professional stamp and subsequently became the subject of exclusively private-law agreement.

The Industrial Code of 1869 brought to the German Reich, which was founded in 1871, a series of minimum legal conditions for vocational training. It defined apprenticeship as follows: 'An apprentice is anyone who works for an employer for the purpose of learning a trade, irrespective of whether he pays a premium or works free of charge or a wage is paid for the work'. The apprentice was subject to 'the fatherly discipline' of the employer and could be obliged by order of the local authority to attend a further education school. The Industrial Code laid down that the employer must provide the necessary free time for this. It also covered the rights and obligations ensuing from the articles of apprenticeship, the conditions under which these articles could be prematurely cancelled and the award of a certificate following completion of training.

In 1897 an important amendment for vocational training was made to the Industrial Code: extensive powers were again given to the independent professional bodies, the craft chambers and craft guilds in the field of apprenticeship. The state authorities were given the legal power to withdraw the 'right to keep and train apprentices' in the event of abuse. Rules were also adopted on the maximum numbers of apprentices, to prevent a proliferation of apprentices. One important innovation was the introduction in the amendment of the principle that apprentices could only be trained by people at least 24 years old who had qualified as journeymen. In a further amendment to the Industrial Code in 1908, it was made a condition of vocational training in a trade that there must be a master craftsman test. In principle the same legal position applies to trades today.

Only towards the end of the 19th century did industry start to train its own young employees itself to any great extent. This period also saw the beginnings of the work of organizing and regulating industrial trained occupations. The aim of this work was to arrive at a clear identification of the individual trades and standard training documents.

Since 1925, formal 'regulative measures', in particular job descriptions for training in the individual industrial

trained occupations, were developed by the 'German Committee for Technical Education' (DATSCH). In 1939 this committee became the 'Reich Institute for Vocational Training'. In 1945 the 'Office for In-house Vocational Training' (ABB), which is run by the central associations of industry and enjoys the technical co-operation of the trade unions, began the work of organization.

In 1930, chambers of industry and commerce began to take over the testing of skilled craftsmen. Since then the trained occupations and job descriptions developed in the above institutions have been centrally and formally recognized by the responsible ministries.

Like craft training, *vocational training in business* has a tradition extending back into the Middle Ages when the merchant guilds were responsible for regulating and supervising it. Here again there were rules on the obligations of the apprentices, behaviour of the employers and the keeping of a register of apprentices. After the professional barriers fell in commerce at the beginning of the 19th century, the training of commercial apprentices was also undertaken on the basis of purely private agreements. The Commercial Code, which came into force in 1900, laid down the minimum statutory requirements for business apprenticeships. As in the case of industry, the chambers of commerce and industry subsequently took over certain regulatory and supervisory functions in commercial vocational training. Similarly, commercial training professions and job descriptions were developed and officially recognized by the state.

In parallel with in-house training, *advanced vocational training schools* developed from about 1830 onwards — originally as weekend and evening schools. In 1900 there was already an extensive advanced training school system, to some extent divided into subject branches. Since the 1920s the term 'vocational school' has become general. Attendance at vocational training schools was made compulsory by law in 1939.

1.2 Recent history

After 1945, as part of the general reconstruction and following earlier traditions, vocational training was at first largely organized and controlled within trade and industry itself, but state initiatives soon developed and led to state recognition of trained occupations and the establishment of corresponding job descriptions by the relevant specialist Federal ministries. Preliminary work for this in the field of trade and industry was done by the Office for In-house Vocational Training mentioned above.

Since 1953 there has been a separate statutory regulation for craft trades in the Law for the Regulation of Handicrafts (Crafts Code).

With the *Vocational Training Law of 1969* now in force, standard universal regulations were established for non-school vocational training in the various economic and vocational branches and the fragmentation of the law which existed previously was eliminated (see also 3.1.1). The Crafts Code was also amended by the Vocational Training Law and adapted to the new legal situation.

The Vocational Training Law regulates in detail the following areas :

- (a) establishment, content and termination of the training contract with the rights and obligations of the trainee, the employer and the training staff, and the amount and payment of training remuneration;
- (b) regulation of vocational training with rules on the personal, technical and teaching qualifications of the instructors, the nature and equipment of the training centres, state recognition of trained occupations and regulation of the training course in these occupations, laying down the content and the training times;
- (c) the examination and supervision of vocational training, as well as rules for advanced vocational training, re-training and vocational training of the handicapped.

The Vocational Training Law also introduced a system of committees with advisory and decision-making powers in vocational training at Federal, Land and local (chamber) level, with triple parity, and in particular gives the trade unions possibilities for collaboration.

With the Vocational Training Law a Federal Institute for Vocational Training Research was set up for the first time, the functions of which were to clarify the principles of vocational training, to determine the content and aims of vocational training and to prepare for the adaptation of vocational training to technical, scientific and social development.

The latest law in the field of vocational training, the *Law on the Promotion of Training Places of 1976*, amends the rules of organization and the regulations for the Federal Institute for Vocational Training Research of the Vocational Training Law. A financing regulation and rules for the planning and statistics of vocational training have been newly introduced (see 6.2).

The *ministerial responsibilities* at Federal level are arranged so that the individual specialist ministries are responsible for vocational training in the economic and vocational areas which they cover — usually by agreement with the Federal Minister of Education and Science — while the Federal Ministry of Education and Science is responsible for the general and fundamental questions of vocational training, and for the control and regulation of advanced vocational training, vocational retraining and instructor qualifications.

2. Vocational training in the education system

2.1 Allocation of powers between the Federal Government and the Länder

The Federal Republic of Germany is a *Federal state* with the Länder of Baden-Württemberg, Bavaria, Bremen, Hamburg, Hessen, Lower Saxony, North Rhine Westphalia, Rhineland-Palatinate, Saarland, Schleswig-Holstein and Berlin (see Survey 2).

According to the *allocation of powers* in the Basic Law, the constitution of the Federal Republic of Germany, responsibility for legislation and administration of the school and university system lies mainly with the *Länder*. The *Federal Government* has legislative responsibilities in particular for issuing outline regulations for the university system, for the financial promotion of attendance at school and university, for vocational advice and — what is particularly interesting here — for vocational training insofar as it is not given in schools.

Under the Basic Law it is permissible — contrary to the usual separation of functions — for the Federal Government and the Länder to co-operate on *education planning* on the basis of agreements.

The *Federal Government/Länder Commission on Education Planning and Research Promotion* was set up for this purpose and in 1973 drew up an overall plan for education which forms the framework for a co-ordinated development of education as a whole up to 1985 (see 6.3).

Apart from co-operation with the Federal Government, the constitution of the Federal Republic also commits the Länder to co-operate with one another to preserve unity of the law in the interests of all citizens and to safeguard uniform living conditions in the Federal Republic of Germany. To this end the Länder co-operate with one another in education in the '*Standing Conference of Ministers of Culture*', to standardize the school and university systems of the individual Länder in their structures, institutions, content and leaving certificates. The Conference has been operating for years and has adopted a great many recommendations. This has led to relative uniformity in the education offered and to comparability of school-leaving qualifications.

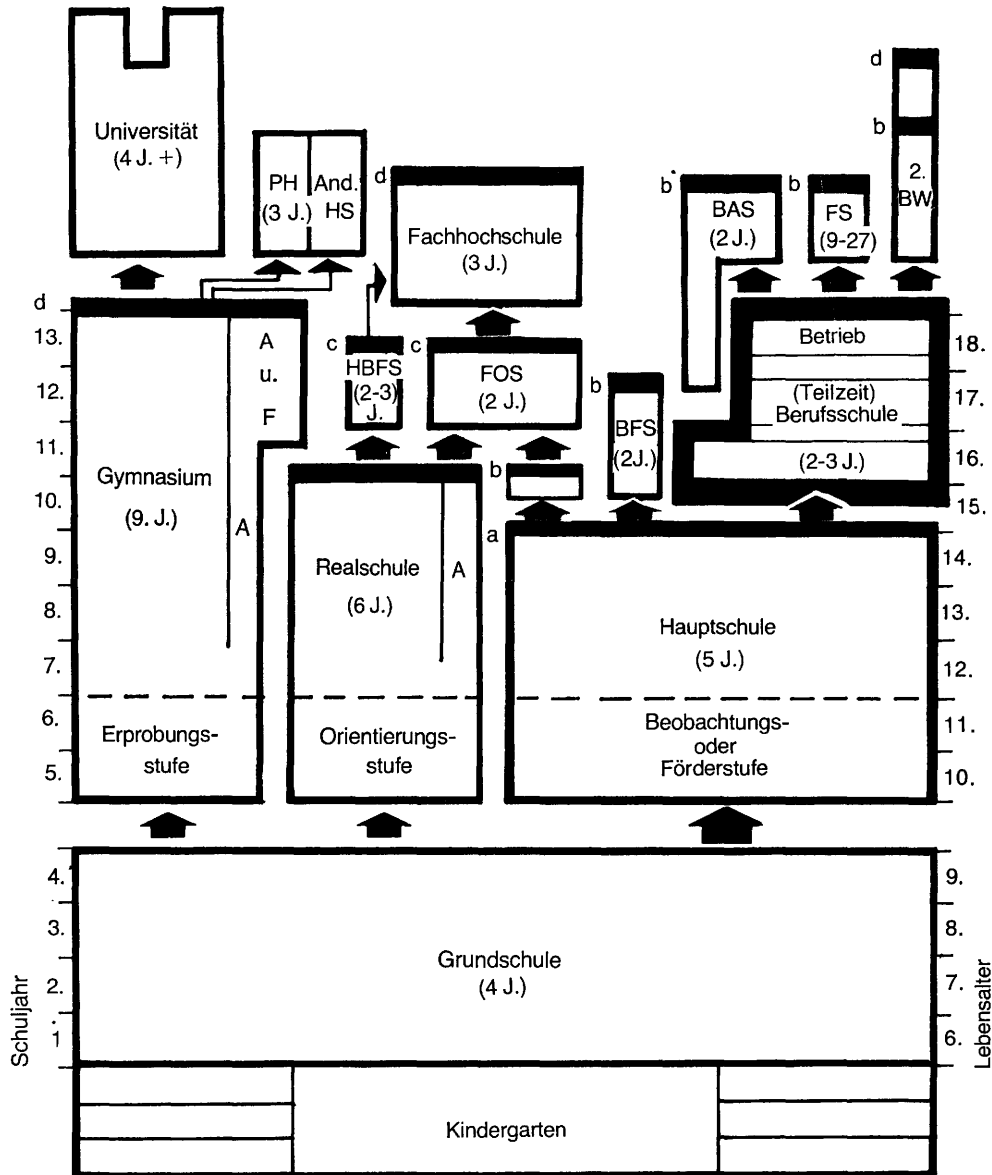
2.2 The courses

All education is under the supervision of the state. Schools are as a rule state or local authority institutions. There are also private schools which are subject to state supervision. Recognition of their leaving certificates is dependent on the observance of state provisions in regard to instruction, the qualifications of the teachers and the holding of examinations.

The Ministers of Culture in the individual Länder are responsible, as the senior authorities, for administration of the education system. The administration is generally separated into three levels, the top level being the Ministry of Culture, the middle level being the district government and the lower level the school administration of the towns and communes. In some Länder and in the city states there is no middle level. The teachers at the state and local authority schools are civil servants.

Statutory general compulsory education begins for all children in the Federal Republic at the age of six. As a rule it lasts for twelve years, including nine years of full time education and three years of part time. Apart from the pre-school institutions, the education system comprises

Breakdown of the educational system in the Federal Republic¹



¹ The diagram does not include: Special schools; special forms and arrangements in the individual Länder. — The terms for classes 5 and 6 (Probationary, guidance, observation or development stage) do not relate to the individual forms of school but apply to these classes in several or all forms of school, differing according to the Länder.

Leaving qualifications: a = secondary school certificate, b = intermediate certificate, c = technical college entrance qualification, d = university entrance qualification.

Types of school (abbreviations): A = high schools, F = grammar school, FOS = higher technical school, (H)BFS = (senior) specialized vocational school, FS = technical college, BAS = vocational high school, 2.BW = second route, PH = teacher training colleges, And.HS = other colleges.

a primary school for all children, which lasts from the first to the fourth school year, and in Berlin, Bremen and Hamburg up to the sixth school year.

Länder there are also pilot experiments with *comprehensive schools* (Gesamtschulen) which cover the fifth to the tenth school year.

The common primary schools are followed by the general secondary schools, viz. the *secondary school* (Hauptschule) from the fifth to the ninth school year, the *secondary modern school* (Realschule) from the fifth to the tenth school year and the *grammar school* (Gymnasium) from the fifth to the thirteenth school year. In addition, in all

Classes five and six of all general schools serve to encourage and guide all the pupils with a view to their subsequent school career. The Conference of Ministers of Culture has concluded an agreement to this end on the 'guidance stage'. With the introduction of this guidance stage and the associated approximation of the curricula

of classes five and six of all types of school, the transparency of the system has been greatly improved and the decision on school career deferred to the seventh class.

After nine years of full-time school most young people (as a rule those successfully completing junior school education) go into *in-house vocational training* or — to a lesser extent — gainful employment.

Apart from the general secondary schools, from the tenth school year there are also the various *secondary vocational training schools* which every young person has to attend after the ninth full-time school year, unless he continues his education in a general school, at least on a part-time basis along with in-house vocational training or employment and for at least three years (see 3.1.2 and 3.2).

After ten years' full-time schooling, pupils at secondary modern and grammar schools obtain an *intermediate certificate* (called the 'mittlere Reife'), which allows entry into training for better-class occupations or the transition to a technical school (see 3.2.2).

The general and vocational secondary schools lead on to the *tertiary* institutions, if the appropriate courses are chosen and the necessary final examinations (Abitur) are passed. After twelve school years it is possible to go on to *technical college*, and after thirteen years to the *universities* and equivalent institutions.

Attendance at all publicly run schools and universities is free on principle. Educational requirements needed in the schools are either given or lent to the pupils free of charge. Under the Federal law on the promotion of education, pupils at secondary schools in the general and vocational sphere from class 11 onwards, as well as students in the tertiary phase, have a right to state financial support under certain conditions for the normal period of education. It is a condition of the assistance that the income and means of the pupil or the person responsible for maintaining them do not cover the educational requirements.

The diagram on page 4 gives a breakdown of the educational system in the Federal Republic of Germany.

3. *Legal basis and organization of vocational training with particular reference to the law on vocational training*

3.1 **Vocational training in the dual system**

Most of the young people who leave secondary school, which provides a general education, after nine years of full-time schooling go into in-house vocational training, at the same time attending a vocational school on a part-time basis.

If one is to understand properly the vocational training system in the Federal Republic of Germany, one must therefore realize that most vocational training is based on this 'dual' system (1.3 million trainees in 1975; see Survey 1 and Table 1).

The characteristic feature of this dual training system is the combination, by time and subject, of the mainly practical training in a firm or separate training establishment and the predominantly theoretical instruction in the (part-time) vocational school, attendance at which usually involves one or two days and eight to twelve periods; such instruction is now also increasingly taken in blocks of several weeks.

3.1.1 *In-house vocational training*

The in-house part of the vocational training is governed by the Vocational Training Law of 14 August 1969, and the part in the vocational schools by the education laws of the individual Länder (see 2.1).

In the Vocational Training Law the Federal Government has made use of its powers in out-of-school vocational training and for the first time has produced standard regulations for :

- (a) vocational training (initial vocational training);
- (b) further vocational training (advanced training);
- (c) vocational retraining.

The law applies to vocational training in the various professional and economic fields such as :

- (a) industry, trade and services;
- (b) craft trades;
- (c) agriculture;
- (d) public service;
- (e) domestic science;
- (f) liberal professions (doctors, dentists, solicitors, pharmacists, economic advisers).

Since the law on craft trades, including vocational training in them, is already covered in the Crafts Code enacted as far back as 1953, the legislator has left part of the regulations on craft training in the Crafts Code for the sake of legislative coherence, but has adapted the wording to match the corresponding regulations in the Vocational Training Law.

Because of the special situation of vocational training on seagoing vessels, and the training of officials, judges and soldiers, these sectors are excluded from the scope of the Vocational Training Law.

The purpose of vocational training is to give the young person a broadly-based fundamental vocational training, followed by technical training leading to gradual specialization, enabling him to cope with the requirements of professional and working life in a highly developed economy and society. Vocational training should also provide the

basis for permanent further vocational training, enabling the individual to adapt to technical, economic and social developments and to rise in his vocation.

Before vocational training starts, a *vocational training contract* has to be concluded under the Vocational Training Law between the person providing the training (employer) and the person to be trained (apprentice).

The written contract must state the essential subject matter, viz. :

- (a) the nature, breakdown in terms of subject and time and the purpose of the vocational training, in particular the work for which training is to be given ;
- (b) start and duration of the vocational training ;
- (c) training arrangements outside the training establishment (e.g. in a centralized training establishment);
- (d) length of the normal daily training period;
- (e) length of the probationary period;
- (f) payment and level of remuneration;
- (g) length of holidays;
- (h) conditions under which the vocational training contract can be terminated.

The essential statutory *obligations* of the person providing the training include providing systematic basic and specialized training, organized by subject and in terms of time and directed towards the object in view, and to provide free of charge the necessary training facilities, in particular materials and tools. He must give the trainee the free time needed to attend the vocational school. The apprentice must not be given any work not compatible with the object of the training, such as unskilled and subsidiary work which is not part of the training. The apprentice has a legal right to appropriate remuneration — usually laid down in collective wage agreements — which at the moment, and depending on the trade and year of training is between DM 375 and DM 560 per month on average. In some wage agreements there are not inconsiderable differences in the rates, e.g. for ladies' tailoring apprentices in the first year of training about DM 125 per month, for inland waterway apprentices in the third year of training about DM 800 per month.

The apprentice must make every effort towards successful training, to perform carefully the duties entrusted to him as part of his training, comply with the instructions of the instructor and treat tools, machinery and other equipment with care. Culpable infringement of the contractual or statutory obligations may entail for the guilty party an obligation to make compensation.

Normally the vocational training contract ends on expiry of the agreed — and statutory — training period. It may exceptionally be terminated for serious reasons, in particular by the trainee, if he wishes to give up the vocational training.

To secure an adequate degree of quality and uniformity in vocational training, and in view of the large number of training establishments, which can often differ very con-

siderably in type, size and production programme in a highly developed economy, the *trained occupations* are recognized by the state in the Federal Republic. At the moment there are about 460 state-recognized trained occupations. Details can be found in Table 2. The most popular trained occupations — 15 trained occupations attract about 63 % of all trainees — are shown in Table 3. The minister responsible, in agreement with the Federal Minister of Education and Science, issues binding *training regulations* for the trained occupations. Each training regulation contains at least particulars on :

- (a) the designation of the trained occupation;
- (b) the training period, which in principle must not be less than two years or more than three and a half;
- (c) the compulsory skills and proficiency which are the subject of the training (job description);
- (d) the recommendations as to the breakdown of the training by subject and time (outline training programme), and
- (e) the examination requirements for intermediate and final examinations.

Young people under 18, i.e. those normally receiving their first vocational training, may only be trained in state-recognized trained occupations and only on the basis of the training regulation.

Under certain conditions the training period may be shortened or exceptionally, for example if the final examination was not passed, extended at the request of the trainee.

The nature and equipment of the *training establishment* must be suitable for vocational training. The number of trainees must also be in a suitable proportion to the number of training places and the number of specialist staff employed. The requirements as to the personal and technical suitability of the *instructors* are dealt with in more detail in Chapter 5.1.

If the aptitude conditions are not satisfied, the instructor will be deprived of his *authority to train* by state authorities, either altogether or for a certain period in a statutory procedure open to investigation by the courts.

The specialization in production and the increased mechanization and automation of processes have made it difficult for many firms, especially small and medium-sized ones, to fulfil the training conditions laid down by the vocational training law on their own. The law therefore provides that in-house vocational training can be supplemented by training in *centralized training establishments*. Training in these establishments is related to courses rather than production, which is usually the case in firms. In centralized training establishments the vocational training is again based on the state-recognized trained occupations and the corresponding training regulations.

Centralized training establishments are as a rule set up and maintained with state aid by chambers of industry and commerce, craft chambers or non-profit-making associations of businesses.

'Competent authorities' are responsible for the supervision and — unless covered by the law and statutory regulations — the control of vocational training, and for the acceptance of the examinations.

Apart from the public service, where certain authorities at Federal, Land and local authority level are the competent authorities, these are usually the independently administered organizations (chambers) which exist in the individual occupational fields or sectors; these bodies are organized on a regional and usually statutory basis. Their activities are therefore of an official nature. They are subject to the supervision of state authorities. The relevant businesses in the occupational field or sector are by law members. They finance the chambers by subscriptions. Apart from their functions in vocational training, the chambers undertake other statutory duties which lie in the sphere of interests of their members.

There are 73 chambers of industry and commerce, 43 craft chambers and more than 170 bodies in the other sectors, particularly in agriculture, the liberal professions and in the public administration of the state, Länder and local authorities. The competent authorities supervise in particular the aptitude of the training staff and the training establishments, organize the examinations and advise the instructors and trainees through specially appointed *training advisers*.

Of particular importance for the activities of the competent authorities in vocational training — particularly for supervision — is the *list of vocational traineeships* which they have to keep under the Vocational Training Law. Anyone taking on a young person for vocational training is obliged by law to register the trainee immediately and before training commences for entry of the traineeship in the list. A record of the training contract has to be included. The contract is only registered if it complies with the statutory provisions and if the training establishment and staff are suitable; this has to be checked by the competent authority. If there is any defect, registration will be refused unless remedial action is taken within a given time-limit.

Anyone giving training without the contract having been registered runs the risk of having his authority to train removed and coercive measures being taken against him, including heavy fines. The trainee himself also has an interest in proper registration in the list, as this is a normal prerequisite for admission to the final examination.

The details required for entry in the register also constitute one of the important elements for the statistics kept by the competent authorities (see 6.2.1).

Since the Vocational Training Law came into force there has been a *Vocational Training Committee* in each competent authority, consisting of equal numbers of employers' and employees' representatives and — in an advisory capacity — instructors from the training schools. The function of the committees is to adopt the statutory provisions issued by the competent authority under the act for implementation of vocational training. The committees must be informed and consulted by the administration of the competent authority in all important matters of vocational training. Somewhat different regulations apply to craft trades.

In every Land in the Federal Republic there is a *Land Committee for Vocational Training* attached to the Land Government, which again consists of equal numbers of representatives of employers, employees and the public authorities. Its function is to advise the Land Government on fundamental matters of vocational training.

At Federal level, before the Law on the Promotion of Training Places came into effect in 1975, there used to be the joint *Federal Committee for Vocational Training* which advised the Federal Government in matters of vocational training and took a great many important decisions in this sphere. Table 4 contains a list of them.

The functions of the Federal Committee have now passed to the Central Committee of the Federal Institute for Vocational Training (see 6.2.2.1).

3.1.2 *The vocational school*

The scholastic part of vocational training, which is carried out in vocational schools in the dual training system in the Federal Republic of Germany, consists of part-time instruction of between eight and twelve hours per week on one or two days alongside the in-house training. It may also comprise longer periods of several weeks or even months (block-release system).

In 1975 there were a total of 1 607 000 vocational school pupils including 1 382 000 trainees in the dual system. The rest were young people with a contract of employment for mainly unskilled work, assisting family-members or those without any profession or unemployed. Of the 1.6 million vocational school pupils, 330 829 were undergoing block-release training. For details see Tables 5 and 6.

The *function* of the vocational schools is to extend the general education of the pupils with special regard to their vocational training, and to supplement the in-house vocational training. About 60 % of the instruction is technical in character and 40 % is general education.

The technical instruction is subject to the above-mentioned training regulations for in-house vocational training. The general education covers German language, social studies, economics, religion and sport.

The vocational schools are divided according to vocational subjects. The most common forms are industrial, commercial, domestic science, agricultural and mixed-vocational schools. Instruction may be given in vocational group classes, in which related occupations are combined, in specialist classes for individual occupations or mixed-vocation classes. In larger vocational schools there are also separate classes for young workers and pupils at special schools.

3.1.3 *Co-operation between firm and school in the dual system*

A fundamental requirement for smooth operation of the dual system of vocational training is *co-operation between firm and school* and co-ordination between them.

This cannot and need not apply to every single detail of training. Complete synchronization as regards time and subjects can only occur in rare cases, e.g. in the case of a large firm and a vocational school which has accepted mainly trainees from this large firm.

The majority of training firms and vocational schools therefore only allow that degree of co-ordination which leaves sufficient room for the operational and organizational needs. It is important in this connexion, however, that the basic conditions of the training curricula, the state regulations for vocational training and the outline courses of study issued by the Land ministers of culture, are co-ordinated with one another.

To ensure such co-ordination, the Federal Government and the Conference of ministers of culture have set up a special Government/Länder Co-ordinating Committee, which has now submitted the first joint Bund/Länder co-ordinated curricula.

3.2 Vocational training in full-time schools

3.2.1 Specialized vocational schools

In addition to vocational training in the dual system (about 1.32 million trainees) there is also the possibility of full-time training in *specialized vocational schools*. The number of pupils attending such schools in 1975 was about 299 000, that is about 23 % of the trainees in the dual system. About 65 % of these pupils are girls. Details can be seen from Tables 6 and 7.

In the case of specialized vocational schools a distinction has to be made between :

- (a) those which give training for an occupation recognized by the Vocational Training Law and award an appropriate certificate;
- (b) those which provide preparation for training in one of the occupations recognized by the Vocational Training Law, the time at school as a rule being credited to the in-house training;
- (c) those which provide training in other occupations leading to an independent vocational certificate, e.g. social teaching and child-care occupations.

Commercial and industrial subjects predominate in the specialized vocational schools. Of some 275 000 pupils (1974) about 230 000 (approx. 83 %) were trained in service occupations. Depending on the subject and the aim in view, attendance at specialized vocational schools lasts one to two years. There are between 30 and 35 hours of instruction per week. For certain educational goals the specialized vocational school certificate awards the technical school qualification which is equated with the secondary modern school certificate, but for some specialized vocational schools the secondary modern school certificate must have been obtained beforehand, e.g. for admission to higher commercial schools.

3.2.2 Other vocational full-time schools

Apart from the specialized vocational schools (about 299 000 pupils in 1975) there are the following vocational full-time schools :

- (a) vocational high schools (about 27 000 pupils);
- (b) higher technical schools (about 118 000 pupils);
- (c) technical schools (about 207 000 pupils) (see Table 6).

Vocational high schools are schools attended by young people who are undergoing or have completed vocational training in addition to a vocational school or after completing compulsory vocational school education. They provide general education and technical theory above and beyond that of the vocational school and lead to a level of education equivalent to the intermediate school certificate (qualification for technical school). Like the specialized vocational school, vocational high schools are divided into various subject areas, viz. general industrial, technical, commercial, domestic science, social teaching and agricultural subjects.

Higher technical schools are schools which cover two age-groups (classes 11 and 12) and build up on an intermediate school education or similar level of education. They provide instruction in general subjects, technical theory and practice and skills and lead to qualification for a technical college. There are higher technical schools for engineering, industry and administration, domestic science, social studies, design and seafaring.

Technical schools are ones which lead to increased technical education and general education. They train specialist technical workers at intermediate level who are capable of running plants in their specialist sphere and can train junior staff or carry out senior staff duties within limited areas of responsibility. Technical schools basically stipulate completion of the relevant vocational training or equivalent practical experience as a prerequisite. Further vocational experience is also called for as a rule. Courses in technical schools are full-time and usually last at least one year. Some important types of technical school are : engineering schools, technical schools for the textile and clothing industry, domestic science, social teaching, agriculture, senior agricultural schools.

3.3 The basic vocational training year

The basic vocational training year introduced in 1974 occupies a special place; it forms the first year of vocational training in eleven different occupational fields either as full-time schooling or in the dual system. With practical, theoretical and general syllabuses it provides a broad basic vocational training, which is formally organized as such, enabling specialist vocational training to be taken subsequently in the various trained occupations in the chosen field. At the moment the basic vocational training year is being tested in pilot experiments. In 1976 there were about 30 000 pupils undergoing basic vocational training (see Table 6).

3.4 Further vocational training

Further training is generally defined in the Federal Republic of Germany as organized education after the completion of a preliminary education and after taking up professional activity.

The *Länder* are responsible for general further education. In the case of out-of-school further vocational training the statutory responsibility rests with the *Federal Government*.

The purpose of further vocational training is to supplement vocational training in a process of life-long education, to keep up with the constantly changing requirements in industry and society, to safeguard the professional status and to contribute towards vocational advancement. Particular importance is attached to further vocational training being equivalent to and on an equal footing with vocational training. Courses and certificates in further vocational training are intended to achieve the same recognition in the world of work.

The creation and expansion of a planned and comprehensive *system of further training* into an important part of the education system of the Federal Republic of Germany is recognized as a public responsibility. The state (the Federal Government, *Länder* and local authorities) therefore has to ensure that adequate further training facilities are available appropriate to modern knowledge. In addition there are a great many private (independent) bodies active in the field of further training.

As yet there is no detailed and complete survey available of the further training bodies and the facilities they offer in the Federal Republic of Germany. On the basis of information provided by participation, however, it can be estimated that 32.4 % of further training facilities are provided by industry, 1.7 % by the labour exchange, 23.5 % by state and local authority establishments, 3.4 % by trade unions, 5.6 % by employers' organizations, 2.9 % by correspondence course institutes, 4.7 % by adult evening classes, 13.4 % by private institutions and 12.4 % by the social insurance and other institutions (see also Table 10).

The great number and independence of the further education bodies and the variety of tuition offered are prerequisites for further education and will be maintained in the future. Further development of further vocational training into a sphere of education of equal standing is not possible however without some state regulations. It is therefore a question of achieving a balanced relationship between public responsibility and the necessary flexibility in the further education system.

The *Vocational Training Law* and the *Crafts Code* (see 3.1 above) give the Federal Government statutory powers to regulate advanced vocational training and retraining.

The competent authorities under the *Vocational Training Law* (see 3.1.1 above), in particular the chambers of industry and commerce and the craft chambers, laid important foundations for further vocational training under their rules before this law came into force.

They hold examinations in a whole series of occupations, particularly for skilled men in industry and craftsmen, as well as in the commercial sphere (specialist operatives,

accountants) and issue the relevant certificates. Table 8 contains a survey.

In agreement with the appropriate specialist ministers, the Federal Minister of Education and Science has now issued statutory instruments governing further vocational training, 36 for skilled craftsmen, six for skilled farmers and one each for swimming instructors and secretaries. Of the 125 craft trades the most important — from the point of view of numbers of examinees — are covered by new, standard statutory regulations as regards examination requirements and instructors. The most important occupations in agriculture are now similarly covered. Only for a few special occupations are there no regulations as yet. Regulations for skilled men in industry are now in preparation.

Vocational retraining can also be covered by statutory instruments. So far no use has been made of this possibility, since the retraining facilities are as a rule based on the training regulations.

Recently, however, it has become apparent that in certain cases there is a need for statutory retraining regulations. The first regulation of this type will be adopted shortly.

The decisions of the former *Federal Committee for Vocational Training* (see 3.1.1) are also important as regards further vocational training outside schools. This committee adopted, in particular, directives for advanced training and retraining examinations, recommendations on the retraining contract and rules on the suitability of retraining establishments, a recommendation on the introduction of a vocational training pass and one on criteria and procedures for the enactment of advanced training regulations (see Table 4).

The 1976 *law on correspondence course tuition*, which is of special importance in the sphere of further education, brought the idea of consumer protection into education for the first time, after years of debate about the trustworthiness of correspondence course tuition, which is utilized in Germany but not to the same extent as in other countries. For all correspondence course students there is extensive contractual protection going far beyond the protective provisions in other areas of the law. In addition, for all correspondence courses for which money is charged (apart from hobby courses) there is provision for obligatory state supervision before such courses may be run. In the case of occupational training courses, both the content and the goals must be checked. Provision is made for voluntary assessment of correspondence courses for which no charge is being made.

In the sphere of *further vocational training in schools* the *technical schools* are very important, see 3.2.2 above.

4. Conditions of admission and final examinations in vocational training

4.1 Conditions of admission

There are no legal conditions of admission for *vocational training in the dual system*. Since there is no legal compulsion to conclude a training contract, the training firms

have the de facto possibility, however, of concluding training contracts with young people to suit their previous education and school leaving examinations. In view of the shortage of training establishments in the last few years, this has led to young people with no secondary school certificate and pupils from special schools having less chance of finding a training place in a recognized trained occupation. For training in skilled technical and commercial occupations many firms require a secondary modern school certificate, and large firms sometimes ask for university qualification or technical college qualification (e.g. banks).

For acceptance in a *vocational full-time school* (see 3.2 above) the secondary school certificate is required as a rule, and for some occupations the secondary school certificate. However, there is also the possibility of acquiring the secondary school certificate later.

For admission into *further vocational training establishments*, the candidates are usually required to have completed vocational training in the relevant subject and have several years' relevant experience.

4.2 Final examinations in vocational training

4.2.1 Final examinations in the dual system

Vocational training in the dual system concludes with an *examination*, with at least one intermediate examination during training to determine the current level of ability.

Under the Vocational Training Law and — where crafts are concerned — the Crafts Code, the competent authorities must create the required number of examining boards (see 3.1.1 above). They also issue the examination regulations which have to be approved by the state and which lay down the formal examination conditions, such as dates, organization of examinations, assessment scales, consequences of infringements.

The *examining boards* are joint bodies made up of appropriate representatives of employers and employees and at least one vocational school instructor.

The following persons are *to be admitted to the final examination* :

- (a) those who have completed the training period or whose training period ends not later than two months after the date of the examination ;
- (b) those who have taken part in the prescribed intermediate examinations and have kept the prescribed written records of their training period (report books);
- (c) those whose contract has been properly recorded by the competent authority in the register of vocational training contracts.

External students who have not undertaken any regular vocational training may also take the final examination.

They must either have been working in the relevant trained occupations for at least twice the prescribed training period, or show that they have acquired the requisite knowledge and skills in some other way (e.g. in schools).

The *material examination requirements* are laid down in the training regulations for the individual trained occupations (see 3.1.1). The examination — as in the dual system — covers the important vocational training subject matter taught in the vocational school. Generally the examination consists of practical (sample of work), written and oral sections.

An *examination certificate* is issued on passing the examination. A *leaving certificate* with no special examination is given as a rule as proof of evidence of attendance at a *vocational school*.

The examination on completion of training, which can be repeated twice in the event of failure, provides evidence of training in a recognized trained occupation and therefore of the successful completion of an initial basic and technical education. Depending on the occupation the success rate is as a rule between 80 % and 90 %. Of the 536 108 examinees in the dual system in 1975, 75 445 (16.4 %) failed the examination (see Table 9).

The level reached is that of the skilled worker (industry), journeyman (crafts) and assistant (commercial).

As there are generally no conditions of admission for taking up an occupation in the Federal Republic, the certificate of completion of vocational training is important mainly for the assignment of the person concerned to an appropriate wage group under the collective or even individual agreement system. If the vocational training is continued as further vocational training, however, a prerequisite for admission is the completion of training. This also applies to some extent in the sphere of education (e.g. for the technical schools, see 3.2.2 above).

Under the Vocational Training Law there is the possibility — of which little use has been made so far — of equating by statutory instruments certificates from vocational schools and examination certificates obtained abroad with the certificate giving evidence of having passed the examination on completion of training.

4.2. Final examinations in full-time vocational schools

Vocational training in full-time schools concludes with a state final examination. With appropriate training it is also possible to take a final examination in accordance with the Vocational Training Law as an 'external' student. Reference has already been made to the possibility of equating school final examinations with the certificate awarded under the Vocational Training Law.

4.3 Final examinations in further vocational training

The final examinations and qualifications in further vocational training are as varied as the courses available (see 3.4 above). Standardized final examinations applicable

throughout the Federal Republic exist above all in spheres of out-of-school further vocational training, which are governed by statutory provisions or regulations of the competent authorities (see 3.4 above).

The level attained is that of the master craftsman or similar (secretaries, engineers). In 1975 35 380 people took examinations for the master craftsman's diploma — the largest sector. Of these 27 717 (78.3 %) passed the test. In 1975 2 992 people took examinations for the master's diploma in agriculture. For details see Table 10.

5. Training of instructors and teachers in vocational training

5.1 Training of instructors

Under the Vocational Training Law instructors must be personally and technically suitable.

Anyone forbidden to employ young people because of an offence against the Law on the Protection of Young Workers (e.g. because he has given young people work which is too difficult, harmful to health or dangerous), and anyone who has committed repeated and serious infringements of the Vocational Training Law (e.g. by constantly giving work which is not part of the training), is considered *personally* unsuitable.

Technical suitability is defined in different ways in the Vocational Training Law for the different branches of trade and industry.

In the broad area of *trade and industry* technical suitability is found in the following :

- (a) anyone who has passed the final training examination in the subject in which he wishes to give training;
- (b) anyone who has passed a relevant university or technical college examination and has appropriate professional experience. In the technical sphere this applies in particular to graduate engineers and in the commercial sphere to those with diplomas in business studies and business management.

Instructors must be at least 24 years old.

Certain other vocational examinations may be recognized as proving technical suitability. The master craftsman, for example, is also technically suitable in the corresponding industrial sectors. Many instructors in industry are qualified master craftsmen.

In *craft trades* anyone who has passed the master craftsman's examination in the corresponding craft trade is

technically suitable as an instructor. A relevant final examination at a German university or technical college or any other suitable training establishment is considered as equivalent to the master craftsman's examination, if the journeyman's examination has been passed in the corresponding trained occupation or evidence is given of four years' practical experience.

In *agriculture* and *domestic science* the master craftsman's examination is needed as evidence of technical suitability. The printing industry has its own master craftsman training test which developed by tradition.

In the *liberal professions* (lawyers, doctors, dentists, pharmacists, tax consultants, auditors) success in the university examination is recognized as technical suitability.

The *ability to teach the vocation*, which the instructor must also have, is very important as a qualification for instructors.

The Federal Minister for Education and Science can also stipulate by statutory instrument that instructors must give proof of having acquired the ability to teach the vocation in an *instructor's examination*, which is accepted by the competent authority. Relevant instructor aptitude regulations have already been enacted in the fields of trade and industry, agriculture and the public service. A further instructor aptitude regulation is also at present in preparation for domestic science.

In the craft trades the ability to teach the vocation has been part of the master craftsman test for a long time. In accordance with the regulations the examinations extend to the following main areas :

- (a) basic questions of vocational training;
- (b) planning and implementing training;
- (c) the young person in training;
- (d) legal principles.

In preparation for instructor aptitude tests, courses lasting at least 120 hours are held by the competent authorities, as well as employers' associations and trade unions, professional instructors' associations, adult evening class organizations and other vocational training bodies. To cope with the initial surge following the introduction of instructor aptitude tests it was possible to prepare for the test through a television course with accompanying written material.

In the Federal Republic of Germany it is estimated that there are 500 000 instructors, 250 000 of these being in trade and industry and 200 000 in the craft trades.

For those instructors who have been prevented by compelling reasons from taking part in an instructor's aptitude test, provision is made for longer transitional periods. Instructors with long professional experience can be exempted from the test.

5.2 Training of teachers at vocational schools

The training of *teachers* at vocational schools consists of :

- (a) at least eight terms at a scientific university, for which the university qualification certificate is required;
- (b) as a rule one year's practical training, some or all of which precedes the period of study or is spread over the vacations;
- (c) one and a half year's preparatory service as an official following the period of study, to provide practical teacher training on a scientific basis.

The period of study comprises educational and technical studies and includes intensive study of one subject of vocational education. The subjects relate to vocational fields. The period of study terminates with the first state examination, and the preparatory service concludes with the second state examination.

Special *practical teachers* have given practical instruction in the vocational schools for some years; formerly this was often given by master craftsmen. These teachers have the task of giving instruction to impart vocational skills and to carry out experiments and exercises as part of or further to the theoretical instruction. Teaching practice and theoretical training for these teachers lasts 18 months and concludes with a state examination. Admission to train as a practical teacher requires :

- (a) secondary modern school or equivalent education;
- (b) completed vocational training;
- (c) relevant master craftsman certificate or attendance at an appropriate technical school for at least three terms;
- (d) at least two years' vocational practice.

6. Planning, research and advice in vocational training

6.1 Past development

Realization of the need to plan for the future in education and vocational training, to research the problems and to advise those involved, has grown to an extraordinary extent in the last few decades. Since the beginning of the 1960s, when the concepts of a state of emergency and the risk of a disaster in education arose, there has been increasing interest even among the general public in education and education planning. A great many scientific institutions, economic associations and state authorities began to consider intensively the problems of *education planning*, because — not least as a result of international comparative studies — it became clear that to safeguard a high level of employment and optimum national growth a great deal depended on the vocational skills of the workers.

A number of central *planning and advisory bodies* in vocational training were set up at national level, which provided an important stimulus for the development of vocational training. Mention may be made of the 'German Committee for Education and Training', and the 'Discussion group on Vocational Training Matters' set up later in the Federal Government and including representatives of both sides of industry and the Länder, as well as the German Education Council set up by the Federal Government and the Länder, which made important comments on the state and improvement of vocational training in the 'Recommendation on the improvement of apprentice training' in 1969 and the 'Structural plan for education' in 1970.

Research into vocational training has also undergone a great expansion in the Federal Republic since the 1960s and is being undertaken in many establishments. Mention may be made in particular of the universities and colleges where vocational training problems are investigated in the social science and law science departments and particularly in vocational teaching.

Other central research institutions, such as the Max-Planck Institute for Educational Research, the Institute for Labour Market and Vocational Research of the Federal Institution for Labour, scientific institutes of the business associations and the trade unions as well as state research and planning institutes in the Länder are sometimes concerned exclusively or mainly with research projects in education and vocational training. There is extensive documentation on the wealth of material studied.

With the establishment of the Federal Institute for Vocational Training Research and the Federal Committee for Vocational Training, the Vocational Training Law of 1969 brought further important changes in the field of vocational training research and advice in vocational training.

The *Federal Institute for Vocational Training Research* was set up in Berlin as a public corporation directly accountable to the Federal authority. Its statutory function was to promote vocational training by research and to observe, investigate and evaluate on a permanent basis the circumstances and requirements of vocational training. The institute has now carried out a considerable programme of research (see Table 11).

The *Federal Committee for Vocational Training* was the advisory body of the Federal Government. It included representatives of the employers, employees and the Länder. In the seven years of its existence it made important recommendations on vocational training and commented on current matters of vocational training policy (see Table 4).

6.2 The Law on the promotion of training places

To promote the further development of vocational training policy and to achieve greater co-ordination of the various interests and responsibilities in vocational training, the 'Law to promote the provision of training places in voca-

tional training (Law on the promotion of training places) of 7 September 1976 was enacted. Its *object* is to :

- (a) secure a supply of in-house training places of sufficient quality and quantity in the dual system by a new *financing regulation*;
- (b) create a central common institution for persons having a responsibility in vocational training by establishment the '*Federal Institute for Vocational Training*' (incorporating the Federal Institute for Vocational Training Research and the Federal Committee for Vocational Training from the Vocational Training Law of 1969);
- (c) greatly improve the possibilities for proper, rational and transparent planning of vocational training by introducing a system of permanent, nation-wide official *vocational training statistics* and an annual *vocational training report*.

6.2.1 Vocational training planning and statistics

Despite the efforts of many authorities concerned with matters of vocational training, in particular the extensive official statistics existing in the Federal Republic of Germany, vocational training statistics have not been very prominent in the past — in contrast to the much more developed official education statistics. Too little was — and still is — known about many areas and circumstances of vocational training. Many important facts are not adequately established, processed and published. It is still difficult to achieve planning of vocational training and the necessary transparency because of large gaps in the information. More data and facts are needed on the development of supply and demand for training places, the structure of supply of training places, the training establishments and training staff. There are no continuous statistics on the training behaviour of young people or any comprehensive analysis of the total funds expended by state and industry on vocational training. Even though a great deal of information is already available, it must be co-ordinated, systematized, compiled and made accessible to the public.

Help will be provided in this respect by the *Vocational training report* to be submitted by 1 March each year by the Federal Minister of Education and Science under the Law on the Promotion of Training Places. This is intended to become a vocational training 'ledger', containing, in addition to the important quantitative information on supply and demand for training places and the future development of education, the no less necessary comments on content, organization and finance.

The function of a ledger of vocational training, covering in this sense the whole development, is to provide full information for the Bundestag the authorities (Federal Government, Länder and local authorities), those directly involved in vocational training and the public, to make clear to them the situation and trends in this part of the education system and thus make a contribution towards better decision-making.

The official *Federal statistics on vocational training* introduced under the Law on the Promotion of Training Places will be very important in throwing light on important circumstances in vocational training.

The law creates, for the first time, a comprehensive system of normally annual statistics covering all essential areas of vocational training, containing a great deal of structural information defining trends as regards trainees, training establishments, instructors, examinations and supervision in vocational training. Responsibility for keeping the new statistics and for the techniques and methods of preparation rests with the Federal Statistical Office, which co-operates in this sphere with the Federal Institute for Vocational Training and — because of the connection with labour market policy — with the Federal Institution for Labour.

Firms and other training establishments, the trainees and instructors have to provide data concerning them. Of course, if the competent authorities under the Vocational Training Law have the relevant data — and for the most part they do — they have to provide this information in order to keep the costs of the survey within bounds.

6.2.2 The Federal Institute for Vocational Training

6.2.2.1 Purpose and aims of the Federal Institute

Under the Vocational Training Law of 1969 the Federal Institute for Vocational Training Research and the Federal Committee for Vocational Training were set up. The two institutions were assigned fundamental work in the field of vocational training and tasks are closely linked and coincide over broad areas. In the interests of improving the necessary co-operation and rationalizing the work, the two institutions were brought together by the Law on the Promotion of Training Places to form the Federal Institute for Vocational Training, a public agency directly accountable to the Federal authority.

The Federal Institute for Vocational Training is designed to be an effective organization at Federal level, creating the conditions so that :

- (a) there is better co-ordination of public responsibility and the responsibility of those involved in vocational training for the organization and implementation of vocational training
- (b) the employers' and employees' groups involved in vocational training collaborate on an equal basis, to promote the involvement of these groups, which is indispensable for the continuation and further development of vocational training;
- (c) co-operation between the Federal Government and the Länder ensures consistency in the exercise of the legislative powers divided between the Federal Government and the Länder;
- (d) work is carried out in the most effective, consistent and practical manner;
- (e) new developments in vocational training can be recognized in good time and the training policy measures which become necessary as a result can be taken without delay.

6.2.2.2. Functions of the Federal Institute

When the two institutions were merged, their functions were also transferred to the Federal Institute for Vocational Training. The resultant range of functions was, however, extended by a series of further duties. The following activities will in future be undertaken by the Federal Institute for Vocational Training :

- (a) vocational training research on the basis of a research programme authorized previously by the Federal Ministry;
- (b) advising the Federal Government on all important matters of vocational training;
- (c) drafting statutory provisions to be enacted by the Federal Government in the field of vocational training, e.g. the training regulations, further training regulations and the financial regulations;
- (d) joint discussion and co-ordination of the training regulations with the schools' outline curricula, which also have to be confirmed by an administrative agreement between the Federal Government and the Länder;
- (e) financing vocational training in accordance with the Law on the Promotion of Training Places;
- (f) planning, promoting and further developing centralized training establishments;
- (g) promoting pilot experiments in the field of vocational training
- (h) examining correspondence courses for suitability and keeping the register of recognized trained occupations;
- (i) co-operating in the preparation of vocational training statistics and the vocational training report.

6.2.2.3 Organization of the Federal Institute

The Federal Institute for Vocational Training has two organs: the Secretary-General and the Central Committee. The Central Committee is made up of equal numbers of representatives of the employees, employers, Federal Government and the Länder. It can set up subcommittees and has to appoint a standing subcommittee — the Länder committee — which has the important task of promoting co-ordination of in-house training regulations and schools' outline curricula.

The Secretary-General can appoint technical committees to advise him. These committees comprise experts in matters of vocational training; teachers in particular, as well as instructors and trainees and other experts should be represented in them.

So that the Federal Institute can be fully informed and advised in the field of vocational training for the handicapped, a standing committee for the handicapped is being set up.

6.3 The Federal Government/Länder Commission for Education Planning and Research Promotion

The Federal Government/Länder Commission (see also 2.1 above) was set up by an administrative agreement of

25 June 1970 between the Federal Government and the Länder. The Commission includes seven members from the Federal Government (11 votes) and one member from each of the Land governments (11 votes). Other representatives take part in the work of the Commission, in particular those from the top local authority associations and the Scientific Council.

The Commission, whose decisions are drawn up by committees and working parties, has submitted a whole series of its results — sometimes very extensive — which are also relevant to the field of vocational training, in particular :

- (a) the *overall education plan* of 15 June 1973. As the first joint plan by the Länder and the Federal Government, it sets yardsticks for the co-ordinated development of the whole of education, covering all stages and sectors up to the year 1985. It contains the principles for development of the education system, on the basis of which changes in organization and content will be introduced. As a long-term outline plan it is restricted to basic decisions and a quantitative development programme for the Federal Government and the Länder. The plan also gives the costs of the proposed measures as well as dealing with the probable overall economic effects.

The heads of the Federal and Land governments approved the overall education plan in their decisions of 20 September and 30 November 1973.

- (b) *The medium-term phased plan for education up to 1978* of 9 December 1974, which indicates the framework of development up to 1978 on the basis of the overall education plan. Priority in the phased plan is given to improvements in the field of vocational training, particularly that of reducing the shortage of teachers in the vocational schools, the development of vocational schools and centralized training establishments.
- (c) *The phased plan for key points of vocational training* of 2 June 1975, providing for measures to develop the basic vocational training year, centralized training establishments and qualifying training courses outside the universities up to 1978.
- (d) *The programme for taking urgent measures to reduce the employment risks of young people* of 15 November 1976, with the object of reducing by education policy measures the individual employment risks of young people caused by qualifications. (See Chapter 8 for details).

The Federal Government/Länder Commission is also working on a *phased plan for further education*. This will lead to a quantitative and qualitative implementation of the overall education plan for this area. Focal points include questions of co-operation and co-ordination in further education, ideas for basic comprehensive provision of further education, further qualification of teaching staff and problems of standardized further education statistics for the whole of the Federal Republic.

6.4 Pilot experiments in education

Scientifically substantiated results from vocational training research are needed for the further development of vocational training, its adaptation to technical, economic and social developments and as a basis for education policy decisions. Aids to decision-making and new opportunities for the improvement of vocational training can be obtained by research contracts and pilot experiments.

The Federal Government contributes to the costs of planning, carrying out and evaluating development and pilot experiments by means of grants. The aids include the financing of the exchange of experience and information, as well as documentation.

A distinction has to be made between two groups of pilot experiments :

- (a) pilot experiments for all areas of education including the vocational schools, which are aided jointly by the Federal Government and the Länder on the basis of an outline agreement (' school pilot experiments '); the necessary co-ordination is undertaken in the Federal Government/Länder Commission for Education Planning and Research Promotion;
- (b) pilot experiments in the field of vocational training outside schools (e.g. in training firms or centralized training establishments); they are aided by the Federal Minister for Education and Science in co-operation with the Land ministers responsible for this area (' business pilot experiments ').

Focal points of the pilot experiments lie in the following areas :

- i. establishing equivalence between vocational and general education, in particular by courses giving dual qualifications;
- ii. basic vocational training in school or school/workplace and technical training, and transition between the two stages;
- iii. forms of organization for vocational training (e.g. in training establishments and centralized training establishments), co-ordination of the places of learning taking part;
- iv. block instruction, course instruction;
- v. co-operation/integration of different types of vocational education;
- vi. development and testing of curricula;
- vii. new forms of training and trained occupations;
- viii. training of school-leavers in business;
- ix. training in disadvantaged groups, especially young people with no training contract, the handicapped, young foreigners, social fringe groups;
- x. new methods of learning, teaching and examining;
- xi. vocational training events in conjunction with the media, especially television.

7. Financing of vocational training

7.1 System of training financing

There are numerous sources from which education is financed in the Federal Republic of Germany.

The *school system* — and hence the vocational schools in the dual training system — are almost completely financed from public funds. This expenditure — which is provided for in the relevant budgets — is borne mainly by the Länder and the local authorities, in the ratio of 70 % to 30 %.

The Länder bear mainly the staff costs, in particular the teachers' salaries. As the local education authority the communes bear the material costs (school buildings, teaching materials, etc.) In 1975 the Länder spent DM 23 700 million and the local authorities DM 9 300 million.

The government bears less than 1% of the costs in the school system. Its financial commitment in public expenditure for education and science relates mainly to assistance to pupils and students, general research promotion and also the universities.

The breakdown of all public expenditure for education and science in 1975 was as follows :

Government	DM 4 700 million (8.4 %)
Länder	DM 40 100 million (71.3 %)
Local authorities	DM 11 900 million (20.3 %)

Details can be found in Tables 12, 13 and 14.

In-house vocational training is in principle traditionally financed by industry itself. In the last few years — the estimates vary because of lack of statistics — it has spent between DM 7 000 and DM 10 000 million. These two forms of financing — public and private — are not entirely clear-cut. Vocational training in particular is financed in a sort of *mixed system* from various sources.

For labour market and employment policy reasons a considerable proportion of the vocational training costs, especially the individual costs of vocational training students, is borne by the Federal Institution for Labour. In 1975 it spent DM 3 300 million for these purposes (see Table 14). Other social security institutions, such as the pension and sickness insurance schemes, expend funds for the vocational rehabilitation of their members by training measures.

As part of various political programmes (e.g. promoting mobility, integration aids, assistance to the middle classes, trade promotion, programmes for the handicapped, programmes for centralized training establishments, programmes to reduce the risks of unemployment among young people) funds have also always been given from public sources to private bodies to promote vocational training in industry (see also Chapter 8).

7.2 Financing vocational training under the Law on the promotion of training places

Questions of the financing of in-house vocational training have come into greater prominence in the last few years — not least because of the increasing demand for training places as a result of the years of high birth rates.

As far back as 1969 the German Education Council had pointed to links between the financial burden on the training firms and the supply of skilled training places. The reorganization of finance for vocational training was discussed in debates on the Vocational Training Law in the Bundestag in 1969. It was not possible to take a decision at that time because the available data on the costs and financing of vocational training were not a sufficiently reliable basis for a decision. The independent *Committee of Experts to Investigate the Costs and Financing of Vocational Training* which was then set up submitted its final report in 1974, in which it recommended reimbursement of the total net costs of in-house vocational training: the necessary funds would be provided by all employers in the form of a levy.

The Federal Government examined these proposals thoroughly and decided not to aim for total reimbursement of costs, but to promote extra training places by specific financial aids where the number of places available was inadequate.

This *basic concept* was expressed in the Law of 1 September 1976 on the promotion of training places. The purpose of this law is to secure an adequate supply of training places, in particular to enable young people from the years of high birth rate to obtain skilled training in the next few years.

The main lines of the financial regulation of this law are: if the Federal Government finds, on the basis of the vocational training report (see para. 6.2.1 above) that in the past year the supply of training places did not exceed demand by at least 12.5 % — this surplus is needed to cover regional imbalances and give the young people some degree of choice — and no substantial improvement in the relationship between supply and demand can be expected for the current calendar year, it must bring the financing into operation by a regulation. In the regulation the Federal Government has to give further details on the granting of financial aid to those providing training. Financial aid is granted for all training places in recognized trained occupations newly started in the year when the financial regulation came into force. The law makes a distinction between additional training places and cases where existing training places are refilled. Additional training places are those established by a firm in excess of the average for the past three years; higher financial aid is provided for these than for the re-occupation of existing training places. Furthermore, the differentiation in financial aid in relation to different training costs, which is provided for in the law on the promotion of training places, makes it possible to support more expensive training courses, e.g. in special in-house training workshops, by means of a supplement. The law also provides for special finan-

cial aid under certain conditions to preserve in-house training places which are at risk and grants to maintain centralized training establishments.

The necessary funds are to be provided by all private and public employers through a *vocational training levy* amounting to a maximum of 0.25 % of the wage and salary total. Every employer is allowed a tax-exempt sum of DM 400 000 per year which he can deduct from the wage and salary total. This arrangement benefits in particular the small and medium-sized businesses; this is particularly important because about 45 % of all trainees are trained in such businesses. Because of their particular training efforts, these businesses will probably receive a large proportion of the financial aid.

The Länder are responsible for *collection* of the vocational training tax. Award of the funds is the responsibility of the Federal Institute for Vocational Training, which will bring in the Equalization of Burdens Bank to help.

For 1977, when the Federal Minister of Education and Science submitted the first vocational training report, the Federal Government is assuming, on the basis of the data and plans submitted, and the opinions of the Main Committee of the Federal Institute for Vocational Training, that those involved in vocational training places on offer in substantial rise in the number of training places on offer in 1977 even without the use of the vocational training finance.

The Federal Government has stated clearly, however, that it will initiate the finance provided for in the law on the promotion of training places very quickly if the actual number of training places on offer in 1977 does not meet the statutory expectations.

8. Problems of the transition from school to working life

Employment risks arise for young people when they move from the education system into working life, i.e. as a rule in the transition from general schools to in-house vocational training or into gainful employment, and on taking up employment after completing vocational training.

To reduce these risks, and above all to eliminate youth unemployment, the Federal Government and the Länder have developed a series of *assistance and financing programmes* with a distinction between short-term measures to remove existing bottlenecks and long-term measures of structural improvement in the education and employment system.

The *Federal Government* is carrying out *short-term special programmes*, in particular to improve the supply of training places, to integrate the long-term unemployed and to provide more jobs and training places for the badly handi-

capped. The *Federal Institution for Labour* is promoting increased vocational training measures, including vocational preparation measures for young people.

Of the more *long-term, structural improvement measures*, particular importance attaches to the programme for the promotion of centralized vocational training establishments. To satisfy an urgent need it provides initially for a further 10 000 training places in accordance with a programme arranged according to regional vocational needs. The aim is to extend this figure to 63 500 places in 1980 and 77 000 places in 1982. The Federal Government shares the costs in accordance with special guidelines. It has earmarked DM 700 million for this for the period from 1976 to 1980. Because of the growing importance of centralized training, the Federal Minister for Education and Science has also drawn up a great many plans to help to set up a nation-wide network of centralized training establishments.

On 15 November 1976 the joint *Federal Government/Länder Committee for Planning and Research in Education* adopted a programme for the implementation of urgent measures to reduce the employment risks of young people. The programme covers the period from 1976 to 1982. It is now being put into practical terms. Provisions has been made for the following measures: improvement of the basic vocational training year and vocational training courses, development of centralized training establishments, part-time and full-time vocational schools and educational guidance. The Government is providing an extra DM 650 million for this. For longer-term structural improvement in vocational training there is the promotion of experimental and pilot institutions and the measures for financing training in accordance with the Law on the Promotion of Training Places, as already discussed in Chapters 6.4 and 7.2.

9. Future vocational training policy

Although vocational training is an essential part of the education system in the Federal Republic of Germany, in the past it took second place behind general and university education when questions of education policy and solutions were being discussed. This was even more of a problem because the great majority of young people between the ages of 15 and 18 had already had some vocational training.

For young people vocational training is an important prerequisite for their personal and vocational development. Their prospects in work and life are permanently affected by the vocational qualifications achieved. Skilled training must also be secured for all young people for economic and social reasons. A well-trained rising generation of skilled workers is vitally important for the economic strength of the Federal Republic of Germany. Having regard to the low-birth-rate years, whose representatives

will be entering working life in the mid 1980s, the high-birth-rate years of the present are not therefore a burden on our society but an opportunity. The number of 15- to 20-year-olds will rise from 4.2 million in 1975 to 4.9 million in 1982 and drop back to 3 million by 1990. We must therefore now train those who, towards the end of this century, will have to safeguard economic efficiency and social stability.

The Federal Government has made clear the importance of this situation and has adjusted education policy in favour of vocational training. The Government declaration of 16 December 1976 emphasizes the promotion of vocational training as a central political task.

The Federal Government will also undertake the necessary steps in the future as part of its responsibilities to secure an adequate supply of skilled training places and to further develop vocational training as an equally important part of the education system.

To sum up:

Having regard to the high-birth-rate years, the development of vocational training is a central task for internal policy in the next few years. There are three particular problems to be overcome:

- (a) trade and industry must provide enough skilled training places, i.e. at least another 200 000 training places by 1980/1981;
- (b) the efforts made by the state for vocational training must be further intensified this means in particular more finance for vocational schools, centralized training establishments and full-time vocational schools;
- (c) the quality of vocational training must be safeguarded and further developed; this means, in particular, further modernization of training arrangements in collaboration with industry, and better co-ordination of in-house and school training.

As a result of decisions in the budget and the future investment programme the Federal Government has recently created essential conditions for the extension of vocational training facilities and development of new training routes. Including supplementary funds from the Länder, a further total of DM 2 300 million will be mobilized up to and inclusive of 1979. The breakdown of these funds is as follows:

- (a) DM 1 300 million for the further expansion of vocational schools, with the Government and the Länder each providing half; points of special emphasis: basic vocational training year, specialized vocational schools;
- (b) DM 700 million for centralized training establishments, financed solely by the Government, (by 1979 there are to be 50 000 centralized training places);
- (c) further Government funds (DM 300 million for pilot experiments and the development of new training routes) and funds from the Länder for regional assistance measures and special programmes.

In the use of these funds particular attention is to be paid to improving training prospects for young people in rural areas and structurally weak regions, as well as in areas with a single-industry structure. An important task of the Federal Institute for Vocational Training, in collaboration with the Government, Länder, employers and trade unions, is to reduce regional imbalances which handicap young people.

The joint efforts of state and industry must also serve to *safeguard and develop the quality of training*. Quality must not be exchanged for quantity.

In the last few years more than 100 new training regulations have been updated or revised for more than 600 000 young people to safeguard quality. Speeding up the improvement of training regulations is an important task of the Federal Institute for Vocational Training. In particular there is to be better co-ordination of in-house training regulations and outline teaching programmes of vocational schools. Attempts to lower the quality of training because of high-birth-rate-years must be rejected. Only training

places which meet the requirements of the vocational training law will be recognized as acceptable. A fall-off in quality would not only be detrimental to the later working life of the young people, but would also conflict with the requirements of the economy.

A number of difficulties and problems in vocational training arose not only in the last few years with the fall in availability, but go back much further. These include, for example, the high numbers of young people who change their firm and training establishment immediately after training, and the regional and sectoral imbalance in training available, as well as the problems of weaker students and the handicapped. There is also the lack of training available for girls; it is often one-sided. With the expansion in the number of apprenticeships as a consequence of the law on the promotion of training places and with the substantial funds of the Government and Länder to improve the infrastructure (specialized vocational schools and centralized training establishments) these structural problems will be to the fore in the further development of the vocational training system.

SUMMARY

1. Historical development

There is a long tradition of vocational training in Germany. It has its origin in the commerce and craft trades of the Middle Ages. Industry did not introduce its own vocational training until the 19th century. At the same time there developed vocational education in schools, initially in Sunday and evening classes. Its more recent history is distinguished by greater initiatives on the part of the state, especially state recognition of trained occupations and training courses.

In 1969, standard universal statutory regulations were set up for the first time by the Vocational Training Law.

New regulations on organization, financing, planning and statistics were introduced in 1976 by the Law on the Promotion of Training Places.

2. Vocational training in the education system

In the Federal Republic of Germany, a federal state with eleven Länder, responsibilities for education are divided. The Länder are largely responsible for education while the Federal Government is responsible for non-school vocational training. The Federal Government and the Länder co-operate, especially in the planning of education.

The number of those undergoing education in the Federal Republic, schoolchildren, trainees, students, is about 13 million altogether (1975); these include :

- (a) in the primary sector : 4 million (30 %);
- (b) in the junior secondary sector : 5 million (39.3 %);
- (c) in the senior secondary sector : 2.5 million (19.4 %); including 2 million in vocational training (15.8 %);
- (d) in the tertiary sector : 0.8 million (6.4 %);
- (e) others : 0.6 million (4.8 %).

The 2 million in vocational training in the senior secondary sector include 1.6 million vocational students (70 %).

Of these 1.3 million are trainees as defined by the Vocational Training Law (58 %; or 82 % relative to 1.6 million).

3. Legal basis and organization of vocational training

Most young people leaving the general education system after nine years of full-time education go into in-house vocational training based on the dual system.

This training is governed by the Vocational Training Law of 1969.

The purpose of the training is to give broadly-based fundamental vocational training, followed by technical training, providing the basis for permanent further training and personal development and vocational mobility.

Rights and obligations are laid down in the Vocational Training Law and the vocational training contract.

Trained occupations must be recognized by the state (at present there are about 460).

State training regulations lay down the content, duration and final examination of the training in the individual trained occupations.

Training establishments and staff must be suitable for vocational training.

Centralized training establishments supplement in-house training.

Certain competent bodies (in trade and industry the chambers of industry and commerce and the craft chambers) are responsible for supervising vocational training and the approval of examinations.

Examining boards are made up of representatives of employers and employees on a parity basis, and at least one instructor from a vocational training school.

In each competent authority (altogether there are about 280) there is a vocational training committee made up on a parity basis which decides on statutory provisions and has rights to give instructions and be consulted.

In-house vocational training is accompanied by instruction in a vocational training school for one or two days per week.

Good co-operation between the school and firm is an essential condition for operation of the dual system.

It is particularly important for the school curricula to be co-ordinated with the training regulations for the firms. There is a special Federal Government/Länder Co-ordinating Committee for this purpose.

Apart from vocational training in the dual system, complete or partial vocational training as well as vocational preparation are undertaken in full-time schools. About 680 000 pupils attend such establishments.

A special fundamental vocational training year is being tested with about 28 000 pupils.

Further vocational training means the process of life-long learning following vocational training and vocational activity. The establishment and development of a comprehensive and structured further education system is recognized

as a public duty. The variety and independence of the training establishments must be preserved. The Vocational Training Law gives the state and the competent authorities opportunities for regulating the further training sector. There is a whole series of regulations for this sector.

4. Conditions of admission and final examinations in vocational training

There are no conditions of entry for vocational training in the dual system, but certain educational requirements are in fact laid down for training in skilled technical and commercial vocations.

For acceptance into vocational full-time schools the secondary school certificate is required as a rule.

For admission into further vocational training the relevant vocational training and several years' vocational activity are required.

Certificates in the dual system are obtained on the basis of a final examination which is approved by the competent authorities under the Vocational Training Law. The practical conditions regarding examinations are laid down in the training regulations. The examination also covers the vocational school subject matter needed for vocational training, and a leaving certificate with no special examination is issued for attendance at the vocational school. Vocational training in full-time schools concludes with a state final examination.

Leaving certificates and qualifications in further vocational training are as varied as the courses on offer. Standard leaving certificates valid throughout the country exist in particular in the areas of further education governed by the Vocational Training Law.

5. Training of instructors and teachers in vocational training

Under the Vocational Training Law instructors must be personally and technically suitable.

Technical aptitude is regulated separately and differently for the various branches of trade and industry in the Vocational Training Law.

Aptitude for vocational teaching, which the instructor must also have, is a very important qualification.

Training of teachers at vocational schools is carried out at scientific colleges. It is combined with practical technical training and two years' preparatory service as an official.

Apart from the scientifically trained teachers there are practical teachers.

6. Planning, research and advice in vocational training

The need to plan vocational training is universally recognized.

In the vocational training sphere there are a series of central planning and advisory bodies.

Since the 1960s there has been a considerable expansion in vocational training research and it is undertaken in a great many establishments.

The Federal Institute for Vocational Training Research and the Federal Committee for Vocational Training were set up by the Vocational Training Law. The Law on the Promotion of Training Places of 1976 transformed the two establishments into a new Federal Institute for Vocational Training. The result was a central common institution for the responsible participants in vocational training.

Vocational training statistics are being further expanded in the Federal Republic. The vocational training report which has to be submitted by 1 March each year is becoming particularly important. The purpose of the report is to describe the overall development of vocational training and to provide comprehensive information for the responsible authorities in government and industry. The report is submitted by the Federal Ministry of Education and Science; it is prepared within the Federal Institute for Vocational Training. Other functions of the Federal Institute are :

- (a) research into vocational training;
- (b) advising the Federal Government;
- (c) preparation of legal provisions in the field of vocational training;
- (d) the financing of vocational training.

The Federal/Länder Commission for Educational Planning and Research Promotion adopted the overall plan for education in 1973. This represented the first joint outline plan by the Länder and the Federal Government and it provided criteria for co-ordinated development of all stages and sectors of education up to 1985.

The Commission has also discussed and adopted other plans, such as the medium-term phased plan for important sectors of vocational training and the programme for urgent measures to reduce the employment hazards of young people.

In the Federal Republic of Germany a great many pilot experiments are being carried out to provide assistance in taking decisions and new opportunities for improving vocational training. The Federal Government and the Länder share the costs of planning, carrying out and evaluating the experiments by means of grants.

7. Financing of vocational training

Education in the Federal Republic is financed from various sources; ordinary schooling is almost wholly financed from public funds, mainly from the Länder and local authorities. The costs of in-house vocational training are traditionally borne by industry itself.

Both spheres however are also financed from other sources, in particular the Federal Institution for Labour and other social security sources. Funds also come from various educational and labour market policy programmes as part of the budgets of the Federal Government and the Länder.

Because of the year of high birth rates in particular, the Law on the Promotion of Training Places established a new financial regulation for vocational training. The purpose of this is to secure an adequate supply of training places for the high-birth-rate years. Finance is to be released if there is not a minimum 12.5 % surplus of places. In this case financial aid is granted for the provision of training places. The funds are provided from a vocational training levy to be paid by all private and public employers, each employer having a tax-free allowance of DM 400 000 per year.

8. Problems of the transition from school to working life

To reduce the employment hazards facing young people in making the transition from the education system into working life, a whole series of promotion and financing programmes of a short-term and long-term nature have been developed. The main emphasis is on the expansion

of centralized training places, vocational and specialized vocational schools and education counselling.

9. Future vocational training policy

In the past vocational training did not arouse the necessary interest, although the great majority of young people between fifteen and eighteen always underwent vocational training.

The Federal Government pointed out the importance of vocational training and made a course correction in education policy in favour of vocational training. Because of the years of high birth rate, the expansion of vocational training is a vital task in internal policy in the next few years.

There are three main tasks :

- (a) industry must provide a sufficient number of skilled training places;
- (b) contributions by the state to vocational training must be increased;
- (c) the quality of vocational training must be safeguarded and further developed.

About DM 2 300 million is available from public funds for these measures up to 1979.

SURVEY 1
Area, Population, Finances

<i>Area</i>	248 611 km ²	31.12.1974			248 thousand km ²
Population per km ²	249 million				
<i>Population</i>	61.645 million	31.12.1975		100 %	61 million
male	29.500 million				
female	32.329 million				
<i>Working population</i>	25.350 million	May 1975		41 %	25 million
male	15.978 million				
female	9.372 million				
<i>Learning population</i>	13.161 million	1975		21 %	13 million
at school and trainees (1.3 m)	12.321 million				12 million
students	0.840 million				0.8 million
<i>Gross national product</i>					
at current prices	1 040.4 milliard	1975			1 040 milliard
at 1962 prices	574.8 milliard				
<i>Total budget</i>	361.0 milliard	1975	100 %		361 milliard
<i>Education budget</i>	56.2 milliard	1975	15.5 %	100 %	56 milliard
Government	4.7 milliard			8.4 %	
Länder	40.1 milliard			71.3 %	
Local authorities	11.4 milliard			20.3 %	

Education and Vocational Training

(1) *At school/students*

by categories

<i>Total</i>	13.161 million	1975	100 %	13 million
<i>Primary</i>	3.952 million		30 %	4 million
<i>Secondary I</i> (Secondary, secondary modern, grammar)	5.174 million		30.3 %	5 million
<i>Secondary II</i> general (grammar schools)	2.555 million		19.4 %	2.5 million
vocational (see also 2)	0.474 million		3.9 %	5.4 million
	2.080 million		15.8 %	2 million
<i>Others</i> (e.g. technical schools)	0.639 million		4.8 %	0.6 million
<i>Tertiary</i> (universities)	0.840 million		6.4 %	0.8 million

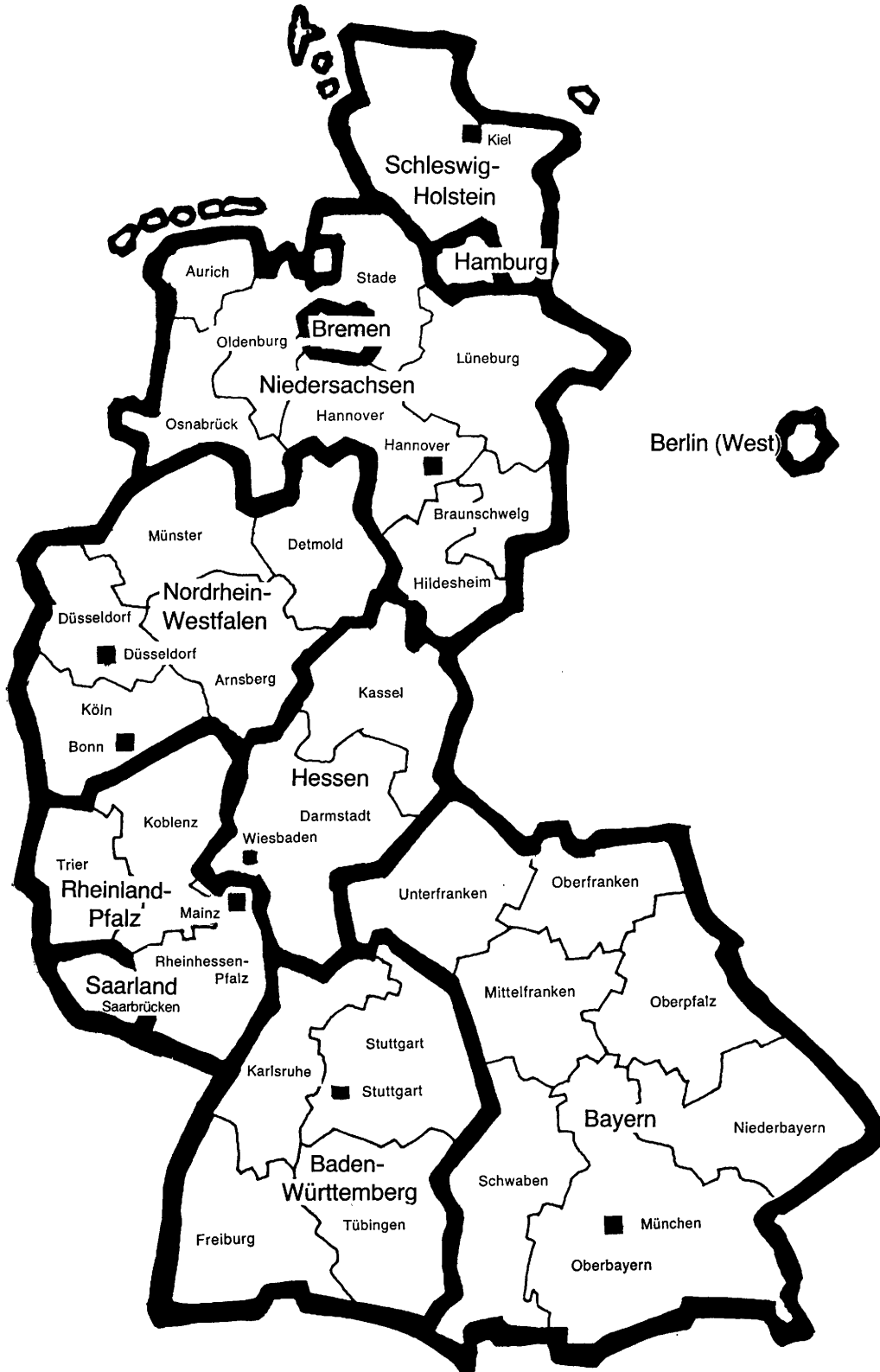
(2) *Pupils/trainees
in vocational training*

<i>Total secondary II including</i>	2.287 million	1975	100 %	2 million
<i>Vocational schools including</i>	1.607 million		100 %	1.6 million
<i>Trainees in dual system</i>	1.328 million		82.6 %	1.3 million
<i>Basic vocational training year</i>	0.028 million		1.22 %	0.03 million
<i>Vocational high schools</i>	0.027 million		1.18 %	0.03 million
<i>Specialized vocational schools</i>	0.299 million		13.1 %	0.3 million
<i>Higher technical schools</i>	0.117 million		5.15 %	0.1 million
<i>Technical schools</i>	0.207 million		9.1 %	0.2 million

SURVEY 2

Federal Republic of Germany
Situation as at 1 January 1976

Länder
Administrative
districts



SURVEY 3

Definitions *

Schools

Publicly run schools : state and those non-state schools which count as publicly run schools under the Land law, e.g. schools supported by a local authority, Landkreis or association together with the Land or by the Land.

Private schools : All non-publicly run schools.

Schools in the general education system

Nursery schools (including those for handicapped children) and establishments with pre-school classes : pre-school establishments which are mainly attached to primary schools or schools for the handicapped. As a rule they are attended by children for whom school attendance is compulsory but who are not yet old enough, and they provide preparation for attendance at these schools. Pre-school classes are attended by children for whom attendance at school is not yet compulsory but who are capable of attending school. There are smooth transitions between them.

Primary schools : (1st to 4th or 6th school year) provide a common course of primary education and skills. The transition can then be made to more advanced schools providing a general education (secondary modern schools, grammar schools).

Secondary schools : (5th or 7th to 9th school year) provide a general education as a basis for successful practical vocational training. They often form a single organizational unit with the primary school. In some Länder the primary and secondary schools are combined (elementary schools) for organizational reasons. These schools may also incorporate secondary modern school classes and classes for the handicapped. The figures for these classes are included in the results for the secondary modern schools and schools for the handicapped. Compulsory full-time education at these schools lasts a total of nine years in all Länder.

Schools for the handicapped (special schools) : establishments providing full-time compulsory education — as with the primary and secondary schools. They are designed to benefit and look after the needs of physically, mentally or spiritually handicapped or socially endangered children who cannot be taught in ordinary schools or not successfully.

Secondary modern schools (5th or 7th to 10th school year) : establishments providing further general education which require prior attendance at a primary school. The secondary modern school certificate generally forms a basis for higher-grade non-academic occupations of all kinds: it is equated with the technical school qualification. The certificate entitles one to attend a higher technical school or technical grammar school.

Grammar schools (5th or 7th to 13th school year) : establishments providing further general education which normally require prior attendance at a primary school. There are also higher grammar schools for which completion of secondary modern education is required as a rule. The grammar school certificate (Reifezeugnis or Abitur (advanced level certificate)) entitles the holder to study at a scientific university.

Comprehensive schools : schools in which the teaching and organization of various types of school are combined. A distinction is made between co-operative and integrated comprehensive schools. Co-operative comprehensive schools are establishments in which the various types of school have separate instruction, but are organized in a common establishment. In some Länder the 5th and 6th school years are combined to form the assessment stage. Integrated comprehensive schools are establishments in which the various forms of school are combined without distinction. The free Waldorf schools broadly come into this category. From 1965 to 1970 the pri-

mary stage pupils were included with the primary and secondary schools (elementary schools), and the senior stage pupils with the grammar schools.

Schools in the vocational training system

Vocational schools : schools forming part of the general compulsory education system whose function is to expand the pupil's general education and provide the basic theoretical education needed for the occupation. As a rule they are attended by young people after completing full-time compulsory education up to the age of 18 or until practical vocational training has been completed. A distinction has to be made between full-time and part-time schools. The function of the full-time school, as part of the basic vocational training year, is to provide general and theoretical and practical instruction over a whole vocational field (e.g. industry and administration, metals) as basic vocational training.

Successful completion of the basic vocational training year is for the most part counted towards further vocational training in the occupations coming within the vocational field concerned. Part-time school is attended by trainees and other young people who have to attend vocational schools.

If young people attend advanced general full-time schools or specialized vocational schools, they are exempted from attending the vocational school.

Vocational schools for the handicapped : vocational schools for the vocational training of physically, mentally or spiritually handicapped or young people exposed to social risk. These establishments are often full-time schools.

Vocational high schools are attended by young people who are taking part or have taken part in vocational training or an occupation, after at least six months' attendance at the vocational school as well or after completion of compulsory vocational training. They are mainly classified by subject; the course lasts one and a half years in full-time schools and three to three and a half years in part-time schools. Successful completion of the course leads to the technical school qualification equivalent to the secondary modern school certificate.

Specialized vocational schools : full-time schools involving attendance for at least one year, and which can as a rule be attended voluntarily after completion of compulsory full-time education as a preparation for an occupation and also for complete vocational training with no previous practical vocational training. They also include the preparatory nursing schools (as a rule free establishments in hospitals and social welfare or social teaching institutions with courses lasting two to three years). Completion of a preparatory nursing school course generally provides entitlement to enter a nursing school, and sometimes to enter a technical school for social work. As far as the standard is concerned, the nursing schools, which are free establishments, are equivalent to the preparatory nursing schools which count as specialized vocational schools (see technical schools : health system schools).

Higher technical schools, technical grammar schools :

Higher technical schools are establishments which lead in two years to qualification for technical college. For admission to such a school the secondary modern certificate or its equivalent is required.

Successful completion of the course gives entitlement to study at a technical college.

Technical grammar schools are occupation-related grammar schools, admission to which requires the secondary modern school certificate or its equivalent. The course lasts three years (11th to 13th school year). Completion counts as evidence of ability to undertake studies at universities.

* Source : Statistical Yearbook 1976.

General further education schools

Secondary modern evening schools: establishments which as a rule take workers up to the secondary modern certificate in evening classes (six six-monthly training courses).

Evening grammar schools: establishments which take workers in one course (main course) of at least three years to the advanced level certificate (Abitur). For admission to the main course, proof has to be given of completed vocational training or at least three years regulated employment. The applicant must be at least 19 years old and as a rule complete a preparatory course of at least six months before starting the main course. Those attending evening grammar schools must be actively employed with the exception of the last one and a half years of study.

Colleges: full-time institutes leading to the advanced level certificate (Abitur). For admission to the college the applicant must be at least 19 years old. Completion of vocational training or equivalent vocational experience is also usually required. The main course lasts five half-years. Often this is preceded by a six-month preparatory course. While attending the college the students may not undertake any work.

Higher vocational schools exist only in Bavaria; in Baden-Württemberg there are *technical high schools*. Conditions of attendance at these schools are largely the same as for the colleges, but these schools are oriented towards a specific subject.

Further vocational training schools

Attendance at *technical schools* is voluntary after completion of vocational training and practical experience, sometimes also after many years practical experience or with evidence of specific skills. They provide more advanced technical training in the vocation (e.g. schools for master craftsmen, engineers).

Full-time attendance at the schools last between six months and three years. Of the part-time technical schools (evening schools) only the engineers' schools were recorded in statistics up to 1972. In these the training course lasted six to eight half-years.

Public health schools provide the training for health service occupations (e.g. nurses and children's nurses, midwives, masseurs, occupational therapists). The conditions of admission differ considerably according to the choice of vocation. Successful completion (state-recognized certificate) gives entitlement to exercise the chosen occupation.

School-leavers

School-leavers after completion of full-time compulsory education: pupils of the primary and secondary schools (elementary schools), schools for the handicapped, secondary modern schools, grammar and comprehensive schools released from the general education schools after completing full-time compulsory education (nine years). In the case of the secondary modern, grammar and comprehensive schools, the figures show those pupils up to and including the 10th school year who have gone on into full-time vocational training schools or into an occupation, without having obtained the secondary modern certificate or the transfer certificate to the 11th school year of the grammar schools.

School-leavers with secondary modern certificate or equivalent: pupils with the leaving certificate of a secondary modern school, secondary modern class in a secondary school or an evening secondary modern school. Equivalents are the transfer certificate to the 11th school year, the leaving certificate from the 11th, 12th or 13th school year (with no university entrance

qualification) of a grammar school or a comprehensive school, and the leaving certificate of a vocational high school or specialized vocational school which provides evidence of qualification for a technical school.

School-leavers with qualification for university and technical college: pupils with the leaving certificate of the grammar schools, evening grammar schools, colleges, technical high schools and higher vocational schools as well as technical grammar schools and higher technical schools, giving entitlement to study at universities and technical colleges.

Vocational training

Trainees (apprentices): persons who are being trained as a rule on the basis of a training contract (Vocational Training Law).

Universities

All universities recognized and Land law are shown as *universities*, irrespective of who runs them. Their function is to cultivate and develop the arts and sciences by research, teaching and study. They provide preparation for occupations which require the evaluation of scientific findings and methods or artistic design ability.

Technical colleges: mainly the former engineering schools and higher technical schools. The technical college entrance qualification is required for admission. Successful completion of the course leads to the general university entrance qualification. From 1972 these establishments are shown with the universities.

Integrated universities combine academic and technical university studies, sometimes also arts universities. Courses may be integrated (short- and long-term studies with common basic training) or separated according to university subject areas (co-operative integrated university).

Arts universities: universities for music, the visual arts, film and television and design. Conditions of admission vary and pupils can be accepted on the basis of evidence of ability or aptitude tests.

Academic universities: universities, technical universities and those of equal standard including teacher training and theological universities. Admission requires the university entrance qualification.

Students: regular (fully matriculated, registered) male and female students, excluding those suspended, guest students.

Freshmen: students in their first term at a university in the Federal Republic (newly matriculated).

Proof of state, diploma and doctorate examinations is provided by official registration by the examining offices of the universities, faculties, etc.

Staff at universities include academic and arts staff as well as technical, administrative and other staff.

The academic and arts staff include, apart from university teachers in the narrower sense (e.g. professors, assistant professors, lecturers, readers), library directors, senior physicians, senior engineers, scientific assistants and staff, the whole teaching staff of the technical colleges, teachers for specific duties (instrument teachers, workshop instructors), invited lecturers, tutors, non-student scientific assistants.

The *technical staff* includes for example engineers, technical assistants and craftsmen and the administrative staff includes the officials and staff of the central and faculty administration; *other staff* includes the care-takers, porters, gardeners, etc.

TABLE 1

Vocational training

Trainees by sector and Land (thousands)

Year Land	Trainees					
	Total ¹	including :				
		Trade & industry	Craft trades	Agriculture	Public service ²	Others
	Federal Germany					
1960 ³	1 269.1	742.6	446.6	36.1	6.6	37.3
1965	1 331.9	748.9	468.0	37.3	31.5	46.3
1966	1 371.5	776.6	467.4	38.5	32.5	56.5
1967	1 402.5	771.5	481.5	46.1	32.5	62.9
1968	1 392.2	769.6	478.6	49.8	31.1	63.2
1969	1 283.5	714.6	435.0	45.9	26.5	61.5
1970	1 270.1	723.4	420.9	38.1	22.8	64.9
1971	1 273.1	728.4	406.9	29.9	24.3	83.8
1972	1 302.8	721.7	434.1	27.8	31.1	88.1
1973	1 330.8	694.1	465.0	25.7	49.7	96.4
1974	1 330.8	664.6	486.5	27.4	47.2	105.1
1975	1 328.9	634.0	504.7	33.0	46.0	111.4
	Individual Länder					
BW	191.7	101.9	64.1	4.6	6.8	14.3
BA	266.8	118.0	114.5	10.4	5.8	18.0
HE	110.5	54.8	38.8	2.0	4.9	9.9
NS	159.5	66.0	67.0	5.2	6.6	14.7
NW	366.2	183.0	131.9	5.8	12.9	32.7
RP	83.1	36.3	35.0	2.2	2.1	7.5
SA	27.7	13.6	11.2	0.3	0.7	2.0
SH	52.5	21.0	21.9	2.1	2.1	5.5
BE	18.6	8.9	6.3	0.2	1.4	i.9
BR	18.3	10.2	5.2	0.1	1.0	1.8
HA	34.4	20.3	9.0	0.2	1.7	3.1

¹ Incomplete figures for 1960-1972.² Incomplete figures for 1960-1972; excluding those in technical and non-technical preparatory service for career as official.³ Excluding Berlin.

Source : Federal Minister of Education and Science. Basic and structural data 1976, p. 66.

TABLE 2

Quantitative development of trained occupations 1971-1976

Form of recognition/sectors	Number of trained occupations					
	1971	1972	1973	1974	1975	1976
<i>Trained occupations under para. 25 of the Vocational Training Law/Training regulations under para. 25 of the Crafts Code</i>						
Industry, trade, services	—	13	32	51	46	49
Craft trades	—	1	3	19	6	8
Industry & craft trades	•	•	•	•	16	17
Agriculture	—	—	6	7	7	9
Public service	—	2	3	3	4	4
Industry & public service	•	•	•	•	1	1
Assistants to lawyers, patent agents and notaries	—	3	3	3	3	3
Pharmacist's assistants	—	—	1	1	1	1
Total	—	19	48	84	84	92
<i>Trained occupations recognized before the Vocational Training Law came into force (para. 108 Vocational Training Law/ para. 122 sub-para. 2, Crafts Code)</i>						
Industry, trade, services	391	367	256	248	220	214
Craft trades	141	141	138	122	119	116
Agriculture	19	20	12	11	11	2
Public service	2	2	1	1	1	1
Assistants to lawyers and notaries	1	—	—	—	—	—
Assistants in business and tax advisory occupations	1	2	2	2	2	2
Doctors' dentists' and pharmacists' assistants	3	3	2	2	2	2
Domestic science	1	1	1	1	1	1
Total	559	536	412	387	356	338
<i>Trained occupations subject to comparable regulations (para. 108 sub-para. 1)</i>						
Industry, trade, services	6	4	1	1	1	1
Agriculture	4	7	6	6	6	6
Public service	37	21	18	18	16	17
Others	—	2	2	2	2	2
Total	47	34	27	27	25	26
Total number of recognized trained occupations or those counting as recognized	606	589	487	498	465	456

Source : Federal Minister of Education and Science. List of recognized trained occupations 1976, p. 178.

TABLE 3

Vocational training

Trainees in the 15 most popular trained occupations in order of popularity and by sex.

Trained occupation	Sector	Trainees in				
		1975	1974	1973	1970	
		Number	Order			
		Male				
Vehicle mechanic	Hw	88 545	1	1	1	1
Electrician	Hw	56 036	2	2	2	2
Fitter	IH	43 071	3	3	3	4
Wholesale & export salesman	IH	26 913	4	4	5	5
Painter and decorator	Hw	26 196	5	7	9	9
Gas & water fitter	Hw	24 785	6	8	10	13
Toolmaker	IH	24 516	7	6	6	8
Industrial salesman	IH	24 357	8	5	4	3
Joiner	Hw	23 608	9	9	13	14
Bricklayer	Hw	17 733	10	11	12	15
Bank clerk	IH	17 488	11	10	7	6
Farmer	Lw	15 909	12	14	17	•
Electrical fitter (1st grade)	IH	15 817	13	13	•	•
Butcher	Hw	15 668	14	31	26	•
Works fitter	IH	15 351	15	16	21	•
Total		435 993				
Total as % of whole		50.8				
		Female				
Saleswoman (1st grade)	IH	54 739	1	1	1	1
Hairdresser	Hw	49 064	2	2	2	2
Office sales	IH	32 940	3	3	3	5
Doctor's assistant	Sonst.	31 657	4	5	5	8
Industrial sales	IH	29 656	5	4	4	3
Dentist's assistant	Sonst.	22 726	6	7	8	12
Food sales	Hw	21 615	7	9	12	10
Bank clerk	IH	20 660	8	6	6	7
Wholesale & export sales	IH	17 276	9	8	7	6
Retail sales (2nd grade)	IH	17 027	10	10	11	4
Office worker	IH	14 560	11	11	9	9
Assistant in business & tax advisory occupation	Sonst.	12 935	12	12	13	•
Pharmacists	Sonst.	10 895	12	13	14	14
Lawyer's & notary's assistant	Sonst.	10 667	14	14	•	•
Domestic science assistant	Sonst.	7 319	15	15	19	•
Total		353 736				
Total as % of whole		75.3				

LW = agriculture; HW = craft trades. IH = trade & industry; Sonst. = others.

Source : Federal Minister of Education and Science. Basic and structural data 1976, p. 78.

TABLE 4

Decisions of the Federal Committee for Vocational Training

- Rules of procedure for the Federal Committee for Vocational Training.
- Opinion on the 'Report by the Federal Government on Education Policy'.
- Opinion on the Federal Government's action programme on 'Vocational Training' (Decision of 1 February 1971).
- Guidelines for examination regulations under Para. 41 of the Vocational Training Law/Para. 38 of the Crafts Code (Decision of 9 June 1971).
- Sample of a vocational training contract (Decision of 9 June 1971).
- Notes on the vocational training contract (Decision of 24 August 1971).
- Recommendation on keeping report books in the form of training certificates (Decision of 24 August 1971).
- Recommendation on the promotion of centralized training measures (Decision of 24 August 1971).
- Directives for retraining examination regulations pursuant to Paras 47 and 41 of the Vocational Training Law/Paras 42a and 39 of the Crafts Code (Decision of 2 November 1971).
- Comments on the basic vocational training year (Decision of 2 November 1971).
- Principles for intermediate examinations (Decision of 26 January 1972).
- Recommendations on the common policy of vocational training within the EEC (Decision of 26 January 1972).
- Opinion of the Federal Committee for Vocational Training on the interim report of the Federal Government Länder Commission for Education Planning on the overall education plan and an education budget (Decision of 26 January 1972).
- Recommendation on pre-vocational training and advisory services (Decision of 26 January 1972).
- Recommendation for an outline subject plan for the training of instructors (Decision of 28/29 March 1972).
- Recommendation of a scheme of training regulations for single occupations (Decision of 28/29 March 1972).
- Recommendation on the breakdown of vocational training by time and subject (Decision of 28/29 March 1972).
- Recommendation on the suitability of training establishments (Decision of 28/29 March 1972).
- Recommendation on the retraining contract (Decision of 28/29 March 1972).
- Recommendation on the involvement of trainees in the organization of training 31 October 1972.
- Guidelines in the form of a sample examination regulation for examinations to test vocational and teaching knowledge, 18 January 1973.
- Opinion on the proposals of the Federal Government Länder Commission for Education Planning on the implementation of urgent measures, 14 March 1973.
- Guidelines for advanced training examination regulations (Paras 46 and 41 of the Vocational Training Law/Paras 42 and 38 of the Crafts Code) of 18 April 1973.
- Principles governing the suitability of retraining establishments (Decision of 24 August 1973).
- Opinion on the interim report by the committee of experts on costs and financing of vocational training (Decision of 24 August 1973).
- Principles for advising and supervising training establishments by training advisers (Decision of 24 August 1973).
- Opinion on the overall education plan (Decision of 1 March 1974).
- Opinion on preliminary vocational training contracts (Decision of 1 March 1974).
- Recommendation on programmed examinations (Decision of 1 March 1974).
- Recommendation on the suitability of training instructors as teachers (Decision of 1 March 1974).
- Resolution on the situation as regards the numbers of in-house training establishments 26 March 1974.
- Opinion on the 'Report on the development of a curriculum for instruction on choice of vocation' (Decision of 3 May 1974).
- Opinion on the application of the sample vocational training contract in the public service (Decision of 3 May 1974).
- Opinion on the final report of the committee on the 'Costs and Financing of Vocational Training' with the worker group voting against (Decision of 25 October 1974).
- Recommendation on the introduction of a vocational training pass (Decision of 25 October 1974).
- Recommendation on the development of new training courses for upper sixth form students outside the university (Decision of 25 October 1974).
- Criteria for the reduction and extension of the training period (Decision of 25 October 1974).
- Recommendation on payment of block-release training costs by the vocational school (Decision of 25 October 1974).
- Recommendation on the regulations for oral tests in training regulations (Decision of 25 October 1974).
- Guidelines for advanced training examinations pursuant to Paras 77, 81 and 95 in conjunction with Para. 41 of the Vocational Training Law on master craftsman examinations (Decision of 18 February 1975).
- Recommendation of criteria for testing the equivalence of final examinations at specialized vocational schools and the examinations on completion of training or journeyman examinations in trained occupations (Decision of 20 January 1976).
- Recommendation on the performance of oral examinations (Decision of 20 January 1976).
- Recommendation for an outline subject plan for the training of instructors in agriculture (Decision of 20 January 1976).
- Guidelines in the form of a sample examination regulation for tests to determine vocational and teaching knowledge in agriculture (Decision of 20 January 1976).
- Principles on methods and means of supervising vocational training (Decision of 16 March 1976).
- Recommendation on criteria and procedures for issuing advanced training regulations and their classification (Decision of 16 March 1976).

Source: List compiled by the Federal Minister for Education and Science.

TABLE 5

Occupational status of persons attending vocational and special vocational schools by Land (thousands)

Year Land	Pupils at vocational and special vocational schools					
	Total	comprising :				
		with training contract ²	Young salaried employee	Assisting family-member	Young worker	without occupation and/or unemployed
	Federal Germany as a whole					
1960	1 661.9	1 340.9	11.6	63.2	222.8	23.5
1965	1 780.0	1 450.2	18.6	63.9	229.0	18.2
1966	1 747.4	1 438.1	18.6	54.1	215.5	20.1
1967	1 780.2	1 489.1	18.3	42.0	202.5	28.4
1968	1 754.8	1 484.8	15.9	32.4	197.0	24.6
1969	1 631.9	1 387.4	17.1	20.9	186.1	20.3
1970	1 599.8	1 362.4	20.5	14.7	183.0	19.2
1971	1 571.7	1 346.1	21.5	9.8	171.4	22.9
1972	1 611.2	1 380.2	20.4	9.8	174.2	26.6
1973	1 632.0	1 399.7	19.7	8.1	173.8	30.7
1974	1 630.2	1 386.0	21.7	9.5	158.9	54.1
	<i>Länder 1974</i>					
BW	240.8	210.7	6.3	1.7	20.8	1.3 ³
BA	313.4	269.0	2.1	5.0	28.0	9.3
HE	141.8	117.2	5.4	0.9	11.3	7.0
NS	174.8	154.2	1.2	1.0	15.1	3.5
NW	470.8	388.5	4.9	•	59.1 ⁴	18.0
RP	107.1	90.9	0.7	0.3	10.1	5.0
SA	32.1	29.6	—	0.03	2.2	0.2
SH	63.0	54.8	0.1	0.3	4.5	3.4
BE	27.5	19.9	0.2	0.02	3.7	3.7
BR	23.3	20.3	0.1	0.0	1.7	1.1
HA	35.5	30.8	0.7	0.0	2.4	1.6

¹ Without basic vocational training year.

² The number of trainees is lower because this figure includes students with a contract and was recorded at a different time.

³ Partly included with young workers.

⁴ Including assisting family-members.

Source : Federal Minister of Education and Science. Basic and structural data 1976, pp. 26 and 17.

TABLE 6

Education level and types of school of persons attending vocational schools (thousands)

Year	Pupils at vocational schools								
	Total	comprising :							
		Vocational and special vocational schools ¹	Basic vocational training year ²	Secondary level II				Technical schools ⁴	
				Vocational high schools		schools ^{2, 3} Specialized vocational	Higher technical schools ²	Total	Part-time
Total	Part-time								
1960	1 942.9	1 661.9	—	—	—	139.2	—	141.8	14.9
1965	2 146.4	1 780.0	—	53.0	41.6	167.5	—	145.9	15.8
1966	2 130.5	1 747.4	—	56.3	42.9	176.1	—	150.7	14.7
1967	2 195.6	1 780.2	—	57.5	42.9	199.2	—	158.7	14.3
1968	2 185.8	1 754.8	—	60.0	43.8	204.1	—	166.9	14.9
1969	2 089.6	1 631.9	—	51.6	35.6	207.1	20.7	178.3	15.9
1970	2 071.7	1 599.8	—	40.4	27.0	208.7	59.0	163.8	14.0
1971	2 100.6	1 571.7	4.8	37.8	23.6	219.9	86.2	180.2	12.5
1972	2 191.4	1 611.2	8.0	36.8	21.7	239.2	105.7	190.5	7.3
1973	2 244.0	1 632.0	13.1	34.3	19.0	252.1	115.0	197.5	5.4
1974	2 284.0	1 630.2	17.1	32.7	17.0	275.0	117.5	211.5	8.2
1975	2 287.8	1 607.1	28.8	27.2	13.2	299.5	117.9	207.3	•

¹ Part-time.² Full-time.³ No nursery schools after 1976.⁴ From 1976 public health schools included (estimate) in line with the development in other technical schools; Technical schools KMK; 1973 : 112 600; 1980 : 139 110; 1985 : 138 900; 1990 : 120 400.

Source : The Federal Minister of Culture and Science. Basic and structural data 1976, pp. 26 and 17.

TABLE 7

Percentage of female pupils at vocational schools by type of school and Land

Year Land	Percentage of female pupils						
	Total	Vocational and special vocational schools ¹	comprising :				Technical schools
			Vocational high schools		Specialized vocational schools	Higher technical schools	
Full-time	Part-time						
Federal Germany as a whole							
1960	46.0	44.1	—	—	68.4	—	46.4
1965	45.2	44.1	25.3	6.6	63.3	—	50.2
1970	43.8	41.9	32.6	11.5	60.7	20.3	55.2
1975	44.5	40.2	28.5	18.4	66.2	29.3	58.3
<i>Länder 1975</i>							
BW	43.9	39.0	26.9	5.4	61.4	28.3	57.0
BA	44.0	39.6	32.2	27.5	69.2	28.9	61.7
HE	44.9	42.0	18.6	11.9	60.0	29.1	59.4
NS	44.8	40.3	11.4	2.3	68.7	31.4	55.2
NW	44.8	40.3	—	—	70.3	28.1	55.8
RP	43.7	40.0	30.0	12.2	60.6	30.1	66.6
SA	41.0	38.7	32.2	14.4	55.9	28.3	52.2
SH	44.6	41.9	33.7	15.5	60.4	36.9	55.4
BE	49.4	43.0	68.0	—	73.0	22.6	64.9
BR	42.7	39.6	21.6	7.0	62.5	33.9	52.3
HA	45.9	41.0	23.5	25.4	68.0	31.0	58.6

¹ Including basic vocational training year.

Source : Basic and structural data 1976, p. 29.

TABLE 8

Advanced training regulations of the competent authorities

Total number of regulations		507
Comprising		
— Master instructor	39	
— Qualified banking operative	25	
— Accountant	43	
— Qualified commercial operative	39	
— Qualified industrial operative	43	
— Foreman	135	
— Qualified insurance operative	16	
Number of controlled occupations ¹	70	

¹ Including foremen with 48 subjects.

Source : Federal Minister of Education and Science. List of recognized trained occupations 1976, p. 182.

TABLE 9

Trainees and examinees by sector 1960, 1965 to 1975

Year	Trainees			Participants in				
	Male	Female	Total	Intermediate examinations	Final examinations			
					Total	Passed	Failed	
Number							%	
	Trade and industry							
1960	407 587	334 975	742 562	.	284 553	248 543	36 010	12.7
1965	413 607	335 256	748 863	.	251 754	214 379	37 375	14.9
1966	429 773	346 843	776 616	.	269 712	228 651	41 061	15.2
1967	432 328	347 185	779 513	.	270 144	229 658	40 486	15.0
1968	429 083	340 471	769 554	.	270 048	229 511	40 537	15.0
1969	407 146	307 479	714 625	.	310 093	267 547	42 546	13.7
1970	429 521	293 894	723 415	.	282 579	246 532	36 047	12.7
1971	431 548	296 849	728 397	52 116	287 055	252 612	34 443	12.0
1972	424 460	297 194	721 654	88 300	287 697	253 365	34 332	11.9
1973	409 306	284 762	694 068	232 781	298 413	261 440	36 973	12.4
1974	398 798	265 756	664 554	264 372	304 534	267 129	37 405	12.3
1975	384 364	249 594	633 958	209 042	316 693	275 544	41 149	13.0
	Craft trades							
1960	350 028	96 596	446 624	.	164 455	150 391	14 064	8.6
1965	366 327	101 712	468 039	133 356	130 459	116 293	14 166	10.9
1966	368 594	98 764	467 358	142 139	148 112	131 327	16 785	11.3
1967	377 556	103 913	481 469	141 832	154 963	135 098	19 865	12.8
1968	375 298	103 286	478 584	145 855	151 165	130 752	20 413	13.5
1969	342 799	92 207	435 006	147 593	153 839	133 028	20 811	13.5
1970	337 815	83 121	420 936	139 557	130 202	113 304	16 898	13.0
1971	329 235	77 394	406 629	126 903	148 251	128 687	19 564	13.2
1972	354 548	79 582	434 130	129 619	123 563	105 111	18 452	14.9
1973	383 887	81 109	464 996	137 031	118 193	99 966	18 227	15.4
1974	399 434	87 097	486 531	157 044	129 402	107 155	22 247	17.2
1975	408 398	96 264	504 662	174 374	142 960	115 975	26 985	18.9

TABLE 9 (continued)

Year	Trainees			Participants in				
	Male	Female	Total	Intermediate examinations	Final examinations			
					Total	Passed	Failed	
	Number							%
Public services								
1960	.	.	.	.	.	.	.	.
1955	.	.	.	.	.	.	.	.
1966	.	.	.	.	.	.	.	.
1967	.	.	.	.	.	.	.	.
1968	.	.	.	.	.	.	.	.
1969	.	.	.	.	.	.	.	.
1970	22 648	117	22 765	.	.	.	.	.
1971	24 237	83	24 320	.	.	.	.	.
1972	29 809	1 267	31 076	.	.	.	.	.
1973	39 204	10 455	49 659	7 364	17 684	15 373	2 311	13.1
1974	35 905	11 284	47 189	7 793	18 831	16 343	2 488	13.2
1975	32 385	13 567	45 952	9 013	20 409	18 266	2 143	10.5
Agriculture								
1960	24 355	11 702	36 057	—	13 473	13 473	—	—
1965	25 897	11 380	37 277	—	7 557	7 557	—	—
1966	26 491	11 999	38 490	—	8 196	8 196	—	—
1967	31 235	14 888	46 123	—	11 545	11 545	—	—
1968	36 938	12 867	49 805	—	12 430	12 430	—	—
1969	34 480	11 386	45 866	—	15 950	15 950	—	—
1970	28 910	9 223	38 133	—	17 255	17 255	—	—
1971	23 153	6 776	29 929	—	17 372	17 372	—	—
1972	21 831	5 955	27 786	—	13 551	13 551	—	—
1973	20 676	4 975	25 651	—	11 606	11 606	—	—
1974	22 368	5 036	27 404	—	11 216	11 216	—	—
1975	26 642	6 312	32 954	11 429	11 931	11 102	729	6.1
Other sections								
1960	33 994	9 875	43 869	.	.	.	.	.
1965	40 962	36 807	77 769	.	.	.	.	.
1966	38 020	51 025	89 045	.	.	.	.	.
1967	38 232	57 128	95 360	.	.	.	.	.
1968	34 274	60 018	94 292	.	.	.	.	.
1969	28 870	59 087	87 957	.	.	.	.	.
1970	2 480	62 391	64 871	.	.	.	.	.
1971	7 999	75 804	83 803	.	.	.	.	.
1972	6 575	81 530	88 105	.	.	.	.	.
1973	7 133	89 294	96 427	18 085	30 532	28 138	2 394	8.8
1974	7 310	97 780	105 090	36 101	40 015	36 425	3 590	9.0
1975	7 171	104 209	111 380	41 146	44 115	39 666	4 449	11.2
Total								
1960	815 964	453 148	1 269 112	.	.	.	.	.
1955	846 793	485 155	1 331 948	.	.	.	.	.
1966	862 878	508 631	1 371 509	.	.	.	.	.
1967	879 351	523 114	1 402 465	.	.	.	.	.
1968	875 593	516 642	1 392 235	.	.	.	.	.
1969	813 295	470 159	1 283 454	.	.	.	.	.
1970	821 374	448 746	1 270 120	.	.	.	.	.
1971	816 172	456 906	1 273 078	.	.	.	.	.
1972	837 223	465 528	1 302 751	.	.	.	.	.
1973	860 206	470 595	1 330 801	.	476 428	416 523	59 905	12.6
1974	863 815	466 953	1 330 768	465 310	503 998	438 268	65 730	13.0
1975	858 960	469 946	1 328 906	445 004	536 108	460 653	75 445	16.4

¹ Figures for 1970 to 1972 are incomplete.

Source: Federal Minister of Education and Science. Vocational and advanced vocational training 1975, p. 14.

TABLE 10a

Participants in advanced training courses in 1975 in craft trades by type of course and Land

Land	Participants							
	Total	including						
		'Major' master's course	Theoretical master's course	General master's courses		Technical	Business management	Others
				Business & law	Vocational teaching			
Courses								
BW	23 756	3 952	2 094	2 217	2 169	7 512	2 770	3 042
BA	29 419	2 062	4 646	4 150	4 121	8 319	1 333	4 788
HE	14 356	1 088	1 954	1 964	1 341	3 890	1 132	2 987
NS	14 285	2 256	1 453	986	830	6 524	885	1 351
NW	29 332	3 281	3 127	3 487	3 090	12 628	1 644	2 075
RP	5 874	822	772	746	746	1 783	385	620
SA	2 043	—	484	600	228	602	—	129
SH	4 209	1 016	474	520	528	1 233	223	215
BE	3 790	534	231	329	281	363	88	1 964
BR	2 081	112	164	259	176	650	—	720
HA	5 005	1 432	106	310	312	2 545	—	300
BG	134 150	16 555	15 505	15 568	13 822	46 049	8 460	18 191

Source : Federal Minister of Education and Science. Basic and structural data 1976, pp. 114-116.

TABLE 10b

Participants in advanced training 1975 in chambers of industry and commerce by type of course and Land

Land	Participants							
	Total	including for final examination						
		Foremen	Banking, Insurance, Personnel, Commercial	Accountant	Foreign language specialist	Commerce, Industry, Trades, Pract. industrial management	Shorthand typing, Secretary	Others
BW	4 774	939	225	401	153	247	2 238	571
BA	3 077	835	138	521	—	381	580	622
HE	2 486	715	114	278	210	104	872	193
NS	3 399	399	117	99	185	101	2 329	169
NW	9 892	1 595	521	587	2 217	210	4 186	576
RP	1 686	300	107	183	65	197	580	254
SA	366	57	45	79	—	61	116	8
SH	226	49	—	10	—	35	132	—
BE	860	222	32	85	67	—	454	—
BR	438	210	—	60	—	62	34	72
HA	1 307	165	191	—	95	16	709	131
BG	28 511	5 486	1 490	2 303	2 992	1 414	12 230	2 596

Source : Federal Minister of Education and Science. Basic and structural data 1976, pp. 114-116.

TABLE 10c

Admissions to facilities offered by Federal Institution for Labour by types of facility and labour office region (thousands)

Year Labour office region	Admissions to facilities for further vocational training and retraining						
	including :						Work training
	Total	further vocational training				Vocational retraining	
		Total	including :				
			Foremen	Master craftsman	Engineer		
	Federal Germany						
1969	56.1	33.4	•	•	•	22.6	27.4
1970	140.6	117.2	4.9	27.7	23.9	23.4	29.6
1971	259.0	224.9	7.3	38.5	38.0	34.1	29.4
1972	244.7	212.8	5.3	37.3	31.0	31.9	15.6
1973	216.6	185.2	4.8	34.4	28.1	31.4	10.3
1974	222.4	185.9	4.0	30.9	22.9	36.6	10.2
1975	253.0	216.4	4.3	27.8	20.3	36.6	17.9
	Labour office region 1975						
BW	50.6	46.5	0.8	5.7	3.6	4.1	2.3
BA-Nord	18.4	16.3	0.4	2.2	1.2	2.1	2.1
BA-Süd	19.5	17.4	0.4	3.4	1.4	2.1	1.3
HE	23.2	20.7	0.5	2.4	1.8	2.5	2.1
NS-BR	32.1	26.6	0.4	3.8	2.9	5.5	3.4
NW	66.8	54.2	1.4	5.8	6.0	12.6	3.3
RP-SA	17.2	13.7	0.2	1.7	1.5	3.5	2.0
SH-HA	20.0	17.0	0.1	2.1	1.4	3.1	1.1
BE	5.1	4.0	0.1	0.6	0.4	1.2	0.1

Source : Federal Minister of Education and Science, Basic and structural data 1976, pp. 114-116.

TABLE 11

State of research projects

Vocational training information system and statistics.

Evaluation of newly classified vocational and vocation-related training courses.

Basic vocational qualifications for secondary level II.

Models for analysis and forecasting of the vocational training system.

Educational principles for the design and assessment of vocational curricula.

Principles for the academic accompaniment to experimental measures.

Principles and models for training and further training of training staff for secondary level II.

Development of concepts for examinations and tests in vocational training.

Models for basic vocational training.

Models for vocational and study-related training courses in secondary level II.

Investigations into division of vocational sectors for the basic vocational training stage taking account of relationships with technical vocational training.

Basic and procedural questions on the development of regulative documents for initial vocational training.

Development and testing of training courses and forms of adapting vocational training to the technical, economic and social development in the individual subject areas.

Obtaining basic material and effecting curricular co-ordination of training regulations and outline syllabuses for project applications adopted (trained occupations or training sectors).

Initial training of young handicapped people in recognized trained occupations.

Review of existing and development of non-university training courses for advanced-level students.

Principles for drawing up and defining regulative instruments for adult vocational training measures.

Organization of adult vocational training measures in selected areas of training and further training.

Development of instruments for the assessment of adult vocational training measures.

Documentation on and description of adult vocational training in de Federal Republic of Germany.

Studies on the development of application-oriented adult education.

Media bank - setting up and operation of an information system for media in vocational training.

Development of a multi-media system for informatics data processing and testing in different context models.

Development of courses to help young people prepare for training (LFA).

Development and testing of a multi-media system for electrical engineering/electronics (MME-S).

Development and testing of an electrical engineering electronics multi-media system in in-house training (MME-B).

Development and testing of a multi-media system for basic training in the metal sector (MMM).

Development and testing of training media for various occupational sectors.

Development and testing of training media for the building sector (pilot experiments).

Development and testing of training media for the wood sector (pilot experiment).

Structural studies to create a basis for the further development of remote vocational teaching and its integration into vocational education.

Permanent project: checking remote instruction courses on vocational training and advising persons interested in remote instruction.

Development and testing of a model remote instruction course for the electrical engineering electronics sector (MFL).

Source : Report by the Federal Institute for Vocational Training Research in the Federal Institute for Vocational Training (March 1977).

TABLE 12
Education expenditure¹ by sector and districts as %

Year	Education expenditure ¹						
	Total	including for					
		Elementary level, extra-curricular youth training	Schools	Universities	Further education	Other education	General research promotion
Fed. Govt., Länder and local authorities							
1965	100	3.9	65.1	22.6	1.9	2.5	4.0
1966	100	3.9	65.2	21.9	1.8	2.9	4.3
1967	100	3.7	64.6	22.6	1.7	3.1	4.3
1968	100	3.5	64.3	23.2	1.7	2.9	4.4
1969	100	3.4	63.4	23.8	1.7	3.2	4.5
1970	100	3.3	59.9	24.8	2.1	5.5	4.2
1971	100	3.3	59.7	24.3	2.0	6.9	3.9
1972	100	3.7	57.5	24.1	2.0	8.7	4.0
1973	100	3.9	58.7	24.0	2.1	7.3	4.0
1974	100	4.4	58.4	24.4	2.5	6.5	3.8
1975	100	3.6	59.1	24.0	2.3	7.2	3.7
Federal Government							
1970	100	4.5	1.3	53.0	1.8	13.8	25.6
1971	100	3.1	2.4	48.8	1.4	22.6	21.7
1972	100	2.1	1.5	44.2	1.3	31.4	19.5
1973	100	2.2	1.6	37.8	1.6	35.3	21.5
1974	100	2.8	2.1	35.7	2.4	34.5	22.5
1975	100	2.7	1.9	30.0	2.9	42.0	20.5
Länder							
1970	100	1.5	59.3	30.8	0.7	4.7	3.0
1971	100	1.7	59.3	30.2	0.7	5.3	2.8
1972	100	1.2	58.1	30.4	0.8	6.7	2.8
1973	100	1.5	58.6	30.3	0.9	6.1	2.7
1974	100	2.1	58.1	31.0	0.9	5.4	2.6
1975	100	1.9	59.3	30.2	1.1	5.1	2.5
Local authorities							
1970	100	7.9	78.4	0.2	6.2	5.8	1.5
1971	100	8.0	78.9	0.2	5.5	6.2	1.2
1972	100	10.8	77.5	0.1	5.5	5.1	1.1
1973	100	11.8	81.0	0.0	6.0	0.1	1.1
1974	100	12.0	79.1	—	7.8	0.1	1.0
1975	100	10.2	81.9	—	6.7	0.1	1.1

¹ Net expenditure.

Source: Federal Minister of Education and Science. Basic and structural data 1976, pp. 122 and 124.

TABLE 13

Education expenditure ¹ by sector and districts in DM million

Year	Education expenditure ¹						
	Total	including for					
		Elementary level, extra-curricular youth training	Schools	Universities	Further education	Other education	General research promotion
Fed. Govt., Länder and local authorities							
1965	15 676	614	10 209	3 541	293	385	634
1966	16 970	656	11 059	3 720	300	492	733
1967	17 825	656	11 522	4 023	306	549	769
1968	19 071	674	12 259	4 427	328	547	836
1969	22 152	763	14 047	5 282	367	706	987
1970	27 608	902	16 572	6 873	576	1 632	1 153
1971	34 735	1 153	20 722	8 430	679	2 397	1 354
1972	39 117	1 452	22 490	9 441	779	3 390	1 565
1973	44 450	1 733	26 102	10 688	934	3 227	1 766
1974	52 552	2 304	30 692	12 834	1 336	3 404	1 982
1975	56 187	2 042	33 200	13 492	1 320	4 030	2 102
Federal Government							
1970	1 858	83	24	985	34	257	475
1971	2 729	85	65	1 332	38	616	593
1972	3 755	80	55	1 659	50	1 179	732
1973	3 876	86	61	1 464	61	1 370	833
1974	4 116	117	85	1 468	98	1 422	926
1975	4 700	125	90	1 411	137	1 974	964
Länder							
1970	19 073	289	11 316	5 873	126	888	581
1971	23 487	394	13 939	7 083	169	1 252	660
1972	25 552	314	14 836	7 772	192	1 713	725
1973	30 405	443	17 808	9 221	260	1 849	824
1974	36 607	763	21 255	11 366	313	1 974	936
1975	40 049	745	23 743	12 082	421	2 048	1 010
Local authorities							
1970	6 677	530	5 232	15	416	387	97
1971	8 519	684	6 718	15	472	529	101
1972	9 810	1 058	7 599	10	537	498	108
1973	10 168	1 204	8 233	2	613	7	109
1974	11 829	1 424	9 352	—	925	8	120
1975	11 438	1 172	9 368	—	762	9	128

¹ Net expenditure; here and below provisional results from 1974 on.

Source: Federal Minister of Education and Science. Basic and structural data 1976, pp. 122 and 124.

TABLE 14

Public and private expenditure on education and research projects by sector in DM thousand million.

Sector	Public and private expenditure on education and research in					
	1970	1971	1972	1973	1974	1975
	Education expenditure by education budget category					
Elementary level, extra-curricular youth training	0.9	1.2	1.5	1.7	2.3	2.0
Schools	16.6	20.7	22.5	26.1	30.7	33.2
Universities	6.9	8.4	9.4	10.7	12.8	13.5
Further education	0.6	0.7	0.8	0.9	1.3	1.3
Other education	1.5	2.4	3.4	3.2	3.4	4.0
General research promotion	1.2	1.4	1.6	1.8	2.0	2.1
Together	27.6	34.7	39.1	44.5	52.6	56.2
	Expenditure on main and sectoral research (including defence)					
Together	3.7	4.6	5.1	5.5	6.2	7.0
	Expenditure on facilities provided by Federal Institution for Labour					
Together	0.9	1.7	2.0	2.1	2.5	3.3
	Education and research expenditure by private industry (including foundations and donations)					
Vocational training, further training	6.9	7.6	7.6	8.4	9.2	10.0 ¹
Research and development	7.9	9.0	9.5	9.9	10.3	10.5
Together	14.8	16.6	17.1	18.3	19.5	20.5
Total	47.0	57.6	63.3	70.4	80.8	87.0

¹ Estimated.

Source: Federal Minister of Education and Science. Basic and structural data, pp. 120-121.

TABLE 14

Public and private expenditure on education and research projects by sectors as % national product.

Sector	Public and private expenditure on education and research in					
	1970	1971	1972	1973	1974	1975
	Education expenditure by education budget category					
Elementary level, extra-curricular youth training	0.13	0.15	0.17	0.19	0.23	0.20
Schools	2.4	2.7	2.7	2.8	3.1	3.2
Universities	1.00	1.11	1.13	1.15	1.29	1.30
Further education	0.08	0.09	0.09	0.10	0.13	0.13
Other education	0.22	0.31	0.41	0.35	0.34	0.39
General research promotion	0.17	0.18	0.19	0.19	0.20	0.20
Together	4.0	4.6	4.7	4.8	5.3	5.4
	Expenditure on main and sectoral research (including defence)					
Together	0.53	0.60	0.61	0.59	0.62	0.67
	Expenditure on facilities provided by Federal Institution for Labour					
Together	0.13	0.22	0.23	0.23	0.25	0.32
	Education and research expenditure by private industry (including foundations and donations)					
Vocational training, further training	1.00	0.99	0.91	0.91	0.92	0.95 ¹
Research and development	1.15	1.18	1.14	1.07	1.03	1.01
Together	2.15	2.17	2.05	1.98	1.96	1.97
Total	6.84	7.57	7.59	7.60	8.11	8.36

¹ Estimated.

Source: Federal Minister of Education and Science. Basic and structural data 1976, pp. 120-121.

**Salgs- og abonnementskontorer · Vertriebsbüros · Sales Offices
Bureaux de vente · Uffici di vendita · Verkoopkantoren**

Belgique - België

Moniteur belge — *Belgisch Staatsblad*
Rue de Louvain 40-42 —
Leuvensestraat 40-42
1000 Bruxelles — 1000 Brussel
Tél. 512 00 26
CCP 000-2005502-27
Postrekening 000-2005502-27

Sous-dépôts — *Agentschappen*:

Librairie européenne — Europese
Boekhandel
Rue de la Loi 244 — Wetstraat 244
1040 Bruxelles — 1040 Brussel

CREDOC

Rue de la Montagne 34 - Bte 11 —
Bergstraat 34 - Bus 11
1000 Bruxelles — 1000 Brussel

Danmark

J.H. Schultz — *Boghandel*

Møntergade 19
1116 København K
Tel. 14 11 95
Girokonto 1195

Underagentur:

Europa-Bøger
Gammel Torv 6
Postbox 144
1004 København K
Tel. 14 54 32

BR Deutschland

Verlag Bundesanzeiger

Breite Straße — Postfach 10 80 06
5000 Köln 1
Tel. (0221) 21 03 48
(Fernschreiber: Anzeiger Bonn
8 882 595)
Postscheckkonto 834 00 Köln

France

*Service de vente en France des publica-
tions des Communautés européennes*
Journal officiel
26, rue Desaix
75732 Paris Cedex 15
Tél. (1) 578 61 39 — CCP Paris 23-96

Ireland

Government Publications
Sales Office
G.P.O. Arcade
Dublin 1

or by post from

Stationery Office
Beggars' Bush
Dublin 4
Tel. 68 84 33

Italia

Libreria dello Stato
Piazza G. Verdi 10
00198 Roma — Tel. (6) 8508
Telex 62008
CCP 1/2640

Agenzia

Via XX Settembre
(Palazzo Ministero del tesoro)
00187 Roma

**Grand-Duché
de Luxembourg**

*Office des publications officielles
des Communautés européennes*

5, rue du Commerce
Boîte postale 1003 — Luxembourg
Tél. 49 00 81 — CCP 19190-81
Compte courant bancaire:
BIL 8-109/6003/300

Nederland

Staatsdrukkerij- en uitgeverijbedrijf
Christoffel Plantijnstraat, 's-Gravenhage
Tel. (070) 62 45 51
Postgiro 42 53 00

United Kingdom

H.M. Stationery Office
P.O. Box 569
London SE1 9NH
Tel. (01) 928 69 77, ext. 365
National Giro Account 582-1002

United States of America

*European Community Information
Service*
2100 M Street, N.W.
Suite 707
Washington, D.C. 20 037
Tel. (202) 872 83 50

Schweiz - Suisse - Svizzera

Librairie Payot
6, rue Grenus
1211 Genève
Tél. 31 89 50
CCP 12-236 Genève

Sverige

Librairie C.E. Fritze
2, Fredsgatan
Stockholm 16
Postgiro 193, Bankgiro 73/4015

España

Librería Mundi-Prensa
Castelló 37
Madrid 1
Tel. 275 46 55

Andre lande · Andere Länder · Other countries · Autres pays · Altri paesi · Andere landen

Kontoret for De europæiske Fællesskabers officielle Publikationer · Amt für amtliche Veröffentlichungen der Europäischen Gemeinschaften · Office for Official Publications of the European Communities · Office des publications officielles des Communautés européennes · Ufficio delle pubblicazioni ufficiali delle Comunità europee · Bureau voor officiële publikaties der Europese Gemeenschappen

Luxembourg 5, rue du Commerce Boîte postale 1003 Tél. 49 00 81 · CCP 19 190-81 Compte courant bancaire BIL 8-109/6003/300

Single copy

DKr 11
DM 4,75
£ 0.85/US \$ 2
FF 8,50/FB 70
Lit 1300
Fl 4,80/FB 70

Subscription
for 9 numbers

DKr 55
DM 23,50
£ 4.25/US \$ 10
FF 42/FB 350
Lit 6350
Fl 24,20/FB 350



OFFICE FOR OFFICIAL PUBLICATIONS
OF THE EUROPEAN COMMUNITIES

Boîte postale 1003. — Luxembourg

Catalogue number CE-NA-77-008-EN-C