Getting Ahead through Advanced Vocational Training

German Background Report on the OECD Study “Skills beyond school”
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Preface

The OECD’s “Learning for Jobs” review published in September 2010 (www.oecd.org/edu/learning-forjobs) was the first comparative survey in the field of (initial) vocational education and training. As the project met with a positive response, the OECD member countries decided to initiate a follow-up project.

The “Skills beyond School” activity launched in 2011 focuses on postsecondary vocational skills which can be acquired after the completion of initial training. This includes the area of advanced vocational training, continuing education and retraining, which is increasingly important as it helps equip people with the specialized skills on which the competitiveness of dynamic economies depends. The OECD is preparing an international comparative review covering the participating countries as well as specific country reviews under this activity.

National models of postsecondary vocational training vary greatly. Countries are therefore involved in the definition of focuses for the new OECD survey.

Germany is participating in the “Skills beyond School” activity. The Federal Ministry of Education and Research (BMBF) and the Standing Conference of Länder Ministers of Education (Kultusministerkonferenz) jointly placed the focus of the national report on formal advanced training programmes in Germany, the resulting qualifications and the various training providers offering qualifications at level 5B of the International Standard Classification of Education (ISCED). These include advanced training courses governed by the Vocational Training Act (Berufsbildungsgesetz, BBiG) and the Crafts and Trades Regulation Code (Handwerksordnung, HwO) as well as courses at trade and technical schools (Fachschulen) and specialised academies (Fachakademien) governed by Länder law. The report does not include courses at universities of cooperative education (Berufsakademien) or cooperative state universities (Duale Hochschulen), which are considered to be part of the higher education sector. Likewise, the schools for the health sector and for public administration are excluded because their emphasis is on initial vocational education and training.

All countries participating in the “Skills beyond School” activity must draft their own national background reports. The OECD provided guidance concerning the structure of the report and the questions to be answered. This was taken as a basis when preparing the present “National Background Report for Germany”.

State-regulated formal vocational training is the central element in a broad range of advanced training programmes in Germany, which are characterized by the strong involvement of experts from company practice. The “National Background Report for Germany” deals not only with responsibilities and structures but also with aspects of participation and continuing education counselling and also describes the possibilities of transfer, for example to higher education. Providing a comprehensive overview of all advanced training opportunities in Germany was neither possible nor intended due to the required thematic focus and structure of the report.
1 Forms of provision

1.1 On the term “postsecondary vocational education and training” in the context of this report

The subject and basis of the report are advanced vocational training courses in Germany, the resulting qualifications, and the various training providers offering qualifications at ISCED level 5B (International Standard Classification of Education). These encompass advanced vocational training courses regulated in the Vocational Training Act (Berufsbildungsgesetz, BBiG) and the Crafts and Trades Regulation Code (Handwerksordnung, HwO), as well as courses at trade and technical schools (Fachschulen) and specialised academies (Fachakademien) regulated under Länder law. The report does not include courses at universities of cooperative education (Berufsakademien) or cooperative state universities (Duale Hochschulen), which are treated as belonging to the higher education sector. Likewise, the vocational schools for the health sector and for public administration are excluded because their emphasis is on initial vocational education and training (IVET).

The ISCED classification does not include the advanced vocational training courses run by Germany’s sectoral “competent bodies”, particularly the chambers of industry and commerce (Industrie- und Handelskammern, IHK) and the chambers of crafts and trades (Handwerkskammern, HWK). However, these play an important role in “postsecondary vocational education and training” in Germany and for that reason they are covered in the current report.

1.2 Overview

1.2.1 Federally-regulated advanced vocational training regulations and examination regulations issued by competent bodies (known as “chamber regulations”)

The first distinction to be made is between continuing vocational education and training (berufliche Weiterbildung) and advanced vocational training (berufliche Fortbildung). Advanced vocational training is a sub-component of continuing vocational education and training (CVET) and, in contrast to other CVET programmes, has its legal bases in the Vocational Training Act (§§ 53 ff BBiG) and the Crafts and Trades Regulation Code (§§ 42 ff HwO). These examinations pursuant to advanced vocational training regulations lead to recognised qualifications. Other activities falling under the category-heading of CVET are retraining (Umschulung) and learning in the work process (formal and informal learning).

Within the broad category of advanced vocational training, a further distinction needs to be made between upgrading training (Anpassungsfortbildung) and upgrading training (Aufstiegsfortbildung). In contrast to updating training, which is aimed at maintaining occupational proficiency and adapting to the changing demands of the world of work, upgrading training is a means of extending occupational proficiency with a view to performing qualitatively higher-grade occupational functions and obtaining career advancement, e.g. to the level of Meister (master of a skilled craft or trade, certified supervisor, foreman), Fachwirt (certified sector specialist), Fachkaufmann (certified commercial specialist), Ausbilder (apprentice-trainer) or another higher-grade recognised qualification. (Herkert and Töltl 1999; Götzhaber, Jablonka et al. 2011, p. 10).

Upgrading training is regulated within the scope of the legal bases mentioned (§ 53 BBiG, § 42 HwO) by advanced training regulations together with associated examination regulations, which are issued by a federal ministry, normally the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF). In the skilled crafts sector, responsibility for issuing training regulations at master craftsperson level (pursuant to § 45 HWO) rests with the Federal Ministry of Economics and Technology (Bundesministerium für Wirtschaft und Technologie, BMWi). Normally it is the employers’ organisations and trade unions who initiate new advanced vocational training qualifications.

A total of 212 federally-regulated advanced training regulations were issued in 2010 (BiBB 2011a, p. 337). These advanced training regulations are nationally recognised and the examination regulations are also standardised throughout Germany.

According to the Vocational Training Act (§ 54 BBiG) and the Crafts and Trades Regulation Code (§ 42a HwO), the sectoral bodies responsible for training – known as competent bodies – can pass examination regulations for advanced vocational qualifications, which are known as chamber regulations (Kammerregelungen). Examples of competent bodies are the IHKs (chambers of industry and commerce) and the HWKs (chambers of crafts and trades).
FORMS OF PROVISION

of crafts and trades) as set out in the Vocational Training Act, § 71 ff. BbiG. They make active use of these powers. In 2010, 3,112 legal regulations were issued by individual chambers on 731 advanced training occupations which they were responsible for regulating (BIBB 2011b, p. 174). These examination regulations are valid only in the issuing chamber’s particular districts. For example, the qualification of Fachkraft für regenerative Energietechnik (regenerative energy technology specialist) exists in only four out of the total of 53 chamber districts.

Within the framework of advanced vocational training, three levels of certification and qualification can be distinguished:

This classification system was adopted in 1996 in a joint agreement between the top-level organisations of industry, represented by the German Employers’ Organisation for Vocational and Further Training (Kuratorium der Deutschen Wirtschaft für Berufsbildung, KWB) and the Confederation of German Trade Unions (Deutscher Gewerkschaftsbund, DGB). The main focus of regulated upgrading training qualifications is on Level 2.

Level 1 certificates attest to a first step in progression, after having gained an initial vocational qualification in a recognised occupation. The corresponding qualifications are primarily intended to extend and deepen the initial vocational qualification, cover new content, provide a route into different occupational fields, or offer lateral mobility for experienced practitioners.

On the second level are the regulations for the public-law advanced vocational training qualifications which are intended to bring experienced skilled staff up to middle management level, or to prepare them for functions with a significantly broader range of responsibility than first-level qualifications and equip them for higher-level administrative and management tasks.

In the last decade, a third level was formed, for which a Level 2 qualification is normally a prerequisite. On this level, those with practical experience in their occupations can qualify for functions which were previously staffed predominantly with university graduates. The aim of this provision is to open up career opportunities without the circuitous route of a university degree, and to reduce any labour-market disadvantages of competing with graduates (also see Section 6.2).

The goal of vocational upgrading training is to extend occupational proficiency and obtain career promotion, §1 para. 4 BBiG. The reform of the Vocational Training Act in 2005 introduced a modification of the concept of occupational proficiency. Under the old version, this had to be instilled by teaching the necessary occupational skills and knowledge in the course of vocational education and training (VET). In the reformed version of 2005, this definition was augmented with the dimension of “capabilities”. It now states that the “necessary occupational skills, knowledge and capabilities (occupational proficiency)” must be taught.

This new definition is indicative of a greater emphasis on competence-orientation in VET in general, an orientation that is increasingly being taken up in the stipulations of regulatory policy. The approach is exemplified in the redesign of the continuing vocational education and training system for IT in Germany and the modernisation of its training regulations.
Continuing education and training in IT

The implementation of the continuing vocational education and training system for the information technology sector (CVET system for IT) in 2002 broke new conceptual ground. At the time, the information technology sector was complaining of a shortage of skilled workers and the lack of a regulated CVET scheme. Competence was frequently acquired on a non-formal or an informal basis, e.g. in the workplace. The goal of the CVET system for IT was to establish a career-wide qualification system following on from completion of a dual-system IVET programme, which both enables the continuing development of individual competencies within the work process, but at the same time opens up new or improved employment and career opportunities by means of certification. The model comprises three Levels which correspond to the Leveled model of advanced vocational training shown above. Certificates and qualifications are awarded on every level. After examinations have been taken, certificates are issued by the chambers of industry and commerce to Operative Professionals on Level 2, and Strategic Professionals on Level 3. (The Level 1 qualifications are not part of upgrading training, but are classified as updating qualifications, see Chapter 5).

This model illustrates the greater competence-orientation in VET, which is increasingly taken up in the stipulations of regulatory policy. The orientation towards the principle of the skilled occupation and formal qualifications is reinforced with an emphasis on occupational competencies.

1.2.2 Trade and technical schools

Under Germany’s constitution – the Basic Law (Grundgesetz, GG) – responsibility for education and schools rests with the individual German Länder (federal states; Art. 30, 70 GG). In the field of postsecondary vocational education and training, the institutions that offer advanced vocational training courses at the level of the German Länder are the trade and technical schools (Fachschulen) and specialised academies (Fachakademien). According to the “Framework agreement on the trade and technical schools” passed by the Standing Conference of Ministers of Education and Cultural Affairs of the Länder (Kultusministerkonferenz, KMK), which lays down fundamental requirements with regard to the structure, amount of teaching, organisation and standards of the educational provision, the function and purpose of the trade and technical school is defined as follows:

“Trade and technical schools are institutions of continuing vocational education and training. The training courses in the subject areas follow on from an initial vocational qualification and subsequent occupational experience. Following a teaching programme (which may be organised in full-time or part-time form), they lead to a state postsecondary vocational qualification in accordance with Land law. Furthermore, they may offer supplementary/exten-sion training courses and updating training programmes.

Trade and technical schools provide qualifications for the assumption of management functions and support preparation for self-employment.

As set out in the “Agreement on acquisition of the university of applied sciences entrance qualification from vocational training courses” (Rahmenvereinbarung über den Erwerb der Fachhochschulreife in beruflichen Bildungsgängen; KMK resolution of 05.06.1998 in the version currently in force), the university of applied sciences entrance qualification can also be acquired.”

("Framework agreement on trade and technical schools" (Rahmenvereinbarung über Fachschulen), KMK resolution of 07.11.2002 as last amended on 03.03.2010)

Teaching in the trade and technical schools is based on training curricula which are developed and issued by the competent ministries of each German Land.

1.2.3 Excursus: Additional qualifications

In conjunction with the discussion of advanced vocational training, attention should also be drawn to “additional qualifications” since these are another flexible instrument with which to respond to changing qualification needs. The term “additional qualifications” (Zusatzqualifikationen) has not been clearly defined. In the VET research discourse and in VET practice, it is understood to mean measures which

• teach content that goes beyond that of IVET,

• take place in parallel to IVET or as a direct follow-up,

• meet or exceed a certain minimum time requirement (40 hours), and

• can be certified.

The legal base is the Vocational Training Act (§ 5 para. 2 no. 5. BBiG). In this context, additional qualifications are understood as an instrument for the teaching of additional vocational skills, knowledge and capabilities. They are classified as part of IVET.
Providers can be companies, part-time vocational schools but also chambers of industry and commerce (IHKs) and chambers of crafts and trades (HWKs). Additional qualifications are offered in subject areas such as foreign languages or international management, for example, which account for the vast majority. Aside from these, there are additional qualifications in the fields of IT and commerce.

Other additional qualifications act as an interface with continuing vocational education. In provider-specific combined programmes, advanced vocational qualifications or modules of credit towards an advanced vocational qualification can be gained in parallel with IVET. Considering the commercial qualifications, for example, some examples of these are the recognised advanced vocational qualifications of Handelsassistent (certified commercial assistant), Handelsfachwirt (certified senior trade specialist) or Betriebsassistent im Handwerk (certified technical assistant in the skilled crafts).

An example of the integration of advanced vocational qualifications into IVET is a three-phase model of a dual degree program, which is offered by the Cologne chamber of skilled crafts together with the Fachhochschule des Mittelstands (FHM), a private, non-profit university of applied sciences. Its particular target group consists of upper secondary school leavers who wish to train for a recognised occupation in the skilled crafts whilst at the same time gaining a qualification for management tasks. The first phase is concluded with the journeyman’s examination and, taken simultaneously, the advanced vocational examination to qualify as a Betriebswirt im Handwerk (certified business management specialist in the skilled crafts). The subsequent phase covers the preparation for the Handwerksmeister (master craftsperson) examination. Furthermore, a Bachelor’s degree course in “Skilled crafts management” is offered in parallel. The challenge of such training courses is the coordination of the workplace-based and university-based phases.

In the last few years, greater numbers of additional qualifications have been developed which provide a recognised continuing vocational qualification, or elements of it, during the course of IVET. Additional qualifications thereby support the integration of IVET and CVET.

In the year 2010, around 10,000 trainees took part in 200 different varieties of provision, which were predominantly addressed to the commercial sector. Over 80% of these were concluded with an examination set by the competent body (BMBF and BIBB 2010, p. 18). A majority of these programmes are integrated into the part-time vocational school element of dual-system IVET or take place in additional courses offered by the part-time vocational school or other training providers.

1.2.4 Excursus: Dual study courses

Dual study courses are characterised by a combination of two learning venues, namely the workplace and the university or university of cooperative education (Berufskademie) (ISCED 5B).

These fall into four categories: dual courses of study that integrate full-time employment and are conducted in tandem with employment are geared towards CVET and are targeted at applicants who hold an initial vocational qualification and now wish to complete a degree alongside their employment.

The other two models are those which integrate initial vocational training or workplace practice into university studies. These are classified as part of IVET provision and are aimed at upper secondary school leavers with a general higher education entrance qualification or with a certificate from a specialised vocational upper secondary school (Fachoberschule) entitling them to study at a university of applied sciences. The integrated-training type of study course leads to two fully fledged qualifications at the end of the initial vocational training period: a qualification in a recognised occupation, and a university degree. The integrated-practice dual study courses do not confer a recognised occupational qualification. They do have a sizeable practical component, however, which goes far beyond the practice-based semester and the work placements of conventional degree programmes. These two models account for the overwhelming majority of provision (out of 776 programmes, 417 are integrated-training and 313 are integrated-practice study courses, compared to 7 courses offered in the continuing vocational education category (BIBB and BMBF 2010, p. 21).

Since 2001, the AusbildungPlus (TrainingPlus) database has provided a national overview of initial vocational training programmes including additional qualifications, and of integrated-training and integrated-practice dual study courses: www.ausbildungplus.de.
1.3 Education and training provision

1.3.1 Federally-regulated advanced vocational training regulations and examination regulations issued by competent bodies (known as “chamber regulations”)

The federally-regulated advanced training regulations, unlike the training regulations for IVET in the dual system, do not contain material specifications or structured schedules of skills, knowledge and capabilities to be taught. They define the essentials of the examination requirements. Other aspects which must be specified in the advanced training regulations are (§ 53 para. 2 BBiG, § 42 para. 2 HwO):

- the designation of the advanced qualification,
- the aim, contents and requirements of the examination,
- the admission requirements and
- the examination procedure.

The same applies to the chamber regulations. In 2008 the top-level organisations of industry, represented by the German Employers’ Organisation for Vocational and Further Training (KWB) along with the Confederation of German Trade Unions (DGB) concluded an agreement in which they reached a consensus on the content and structure of the chamber regulations pursuant to § 53 BBiG and § 42a HwO (DGB and KWB 2008). Accordingly, these should describe the examination objective, set out the admission requirements, prescribe the content and structure of the examination, and state the criteria for passing.

This means that anybody who meets the admission requirements (see Section 6.1) can be admitted to an examination without having attended a special course or training programme. In that regard, an advanced vocational qualification is a classic certificate of competence, since the skills examined and certified are essentially those which have been acquired in the course of working in the given occupation.

Exam preparation

Nevertheless, preparation courses are offered. Private providers, e.g. local or regional training centres run by the chambers, offer preparation courses both for the examinations covered by chamber regulations and for examinations leading to the federally-regulated advanced training qualifications (e.g. “master courses” (Meisterkurse) leading to master/foreman/certified supervisor qualifications). A survey of successful candidates carried out in 2011 by the German Association of Chambers of Industry and Commerce (Deutscher Industrie- und Handelskammertag, DIHK) revealed that 83.6 % of advanced training participants prepare for the IHK examinations in parallel with their jobs. 75.2 % did so by means of part-time courses at training establishments of the IHKs or other training providers, 16.4 % by means of full-time tuition, 5.2 % by distance or online learning, and only 3.2 % by self-study (DIHK 2011, p. 28).

One handicap for participants in full-time courses, in particular, is the interruption of their employment for the duration of their advanced vocational training to gain a Meister qualification. This has impacts on their income situation as well as the insurance protection, e.g. health and nursing care insurance, which is necessary in Germany. In one way the Upgrading Training Assistance Act (Aufstiegsfortbildungsförderungsgesetz, AFBG – the vocational equivalent to student assistance) sets out to alleviate this (see Section 9.1). At the same time, additional costs arise for training courses and examinations, which vary depending on specialisations and chamber districts.

Development of course materials

For training within the scope of the chambers of industry and commerce, in the districts where the course is on offer, the IHKs develop qualification concepts and the training itself. In some cases this is done collectively by several chambers, with support from the training company DIHK-Bildungs GmbH, a private-law corporation run by the umbrella organisation, the German Association of Chambers of Industry and Commerce (DIHK). The latter develops nationally standardised products on behalf of the IHKs. These include numerous specialist publications, learning programmes, CD-ROMs and original examination tasks from past years with model answers (http://www.dihk-bildungs-gmbh.de/, in German). In accordance with the agreement reached in 2008, as mentioned above, between the Confederation of German Trade Unions and the German Employers’ Organisation for Vocational and Further Training (DBG and KWB 2008), curriculum recommendations and/or framework plans are developed in cooperation with the unions.

For areas within the ambit of the chambers of skilled crafts, this task resides with the National Agency for Continuing Vocational Education and Training in the Skilled Crafts (Zentralstelle für die Weiterbildung im Handwerk e.V., ZWH). It develops and produces training documentation, tutors’ handbooks and participant handouts (www.zwh.de, in German).
Examinations

The legal base for advanced vocational examinations is the Vocational Training Act (§ 56 BBiG). Recommendations on the conduct of examinations by the competent bodies are laid down by the Board of the Federal Institute for Vocational Education and Training (Hauptausschuss des Bundesinstituts für Berufsbildung, HAU BIBB, http://www.bibb.de/dokumente/pdf/ha-empfehlung_128_mpo_fortbildung_bbib.pdf (in German), accessed: 13.10.2011). The competent bodies establish boards of examiners for the examination. The membership of the board of examiners must include delegates of the employers and the employees in equal numbers, and at least one teacher from a vocational school (§ 40 BBiG). The members must have expert knowledge of the areas to be examined. The contents of the examination are set out in the federally-regulated advanced vocational training regulations or the advanced vocational examination regulations.

1.3.2 Trade and technical schools

The trade and technical schools regulated according to Land law can be attended after having obtained an initial vocational qualification followed by practical experience in the occupation, or alternatively in some cases, after lengthy practical experience in the occupation or by demonstrating a subject-specific aptitude.

The teaching programmes, which may be organised in full-time or part-time form, lead to a state vocational qualification in accordance with Land law. The duration of school attendance is between one and three years for full-time courses.

Trade and technical schools provide qualifications to assume more extensive responsibility and management functions in the workplace.

As set out in the “Agreement on acquisition of the university of applied sciences entrance qualification on vocational training courses” (KMK resolution of 05.06.1998 in the version currently in force) the university of applied sciences entrance qualification can also be acquired at trade and technical schools.

Trade and technical schools (and, in Bavaria, “specialised academies”) exist for the following occupational fields:

- Agriculture
- Design
- Technology
- Business
- Social care

In recognition of the fact that demand for training provision in the CVET sector can be highly specialised and fine-tuned, occupational fields are internally differentiated into “specialisations” (Fachrichtungen), which can be further subdivided into “specific focuses” (Schwerpunkte) to take account of special local requirements. Currently, trade and technical schools are offering around 170 specialisations. The provision of specialisations is adapted or extended (e.g. wind energy technology) on the basis of technological and economic innovations, trends in society or the changing requirements upon those who complete the qualification successfully.

Currently the main concentrations of demand (> 10,000 learners) are in the occupational field of technology (particularly the specialisations of mechanical engineering and electrical engineering), in the field of business (particularly in business administration specialisations) and in the field of social care (particularly the specialisation of social pedagogy).

The occupational designation conferred by a state-regulated examination at a trade and technical school varies from one occupational field to another. The final certificate carries the entitlement to use the occupational designation of “State certified...” or “State recognised...” and the title of the occupational field followed by the specialisation, where applicable.

(Kultusministerkonferenz 2002)
2 Institutions

2.1 Public providers

2.1.1 Status and tasks of the chambers

The chambers are sovereign in their actions with regard to examinations, whereas their activities as providers of preparation courses via their training centres are governed by private law.

Chambers of Industry and Commerce (IHK)

The chambers of industry and commerce (Industrie- und Handelskammern, IHK) are public-law corpora- tions. Their task is to represent the collective interests of their member businesses within their district, to promote commercial industry, and to take account of the economic interests of individual branches of industry or particular companies with balance and fairness.

They exercise certain state-sovereign administrative tasks, the nature and control of which is regulated by the “Law for the Provisional Regulation of the Rights of the Chambers of Industry and Commerce/Trade” (Gesetz zur vorläufigen Regelung des Rechts der Industrie- und Handelskammern, IHKG).

They perform tasks such as:

- issuing certificates of origin and carnets
- registering green production sites
- swearing in experts
- carrying out third-party inspections for the state administrations and for the courts
- assisting in the appointment of commercial judges
- cooperating in adding entries to the commercial register, and they are also responsible for conducting examinations in vocational education and training.

The German Association of Chambers of Industry and Commerce (DIHK) is the top-level organisation overseeing a total of 80 chambers of industry and commerce. The IHKs are industry-run institutions and the most important representations of the interests of all the industrial businesses in their region.

As a fundamental principle, almost all companies located in Germany are members of a chamber of industry and commerce by law (§ 2 IHKG). Companies of all sizes and sectors are members of the chamber organisation (from international corporations to small and medium-sized proprietor-run businesses).

The exceptions are:

- skilled-craft enterprises (exceptions: skilled craft enterprises with a secondary line of business in addition to the skilled craft also have to belong to the DIHK on the strength of the non-craft or non-craft-like component of their business),
- free professions,
- agricultural enterprises.

These enterprises and businesses have their own associations and chambers.

The IHK represents the interests of its member companies vis à vis the municipal authorities, Land governments, state authorities in the region and, through the DIHK, vis à vis the German federal government and the European Commission.

Furthermore the IHKs, as corporations operating in the private sector, offer a variety of continuing education programmes, seminars and preparation courses for federally-regulated advanced vocational examinations and IHK examinations on a fee-paying basis through their training centres, see Section 1.3.1 above.

Chambers of Crafts and Trades (HWK)

In the skilled craft sector, the chambers of crafts and trades (Handwerkskammern, HWK) are the competent bodies. Their legal status corresponds to that of the chambers of industry and commerce. The HWKs run approximately 500 training centres (http://www.handwerkskammer.de/themen/weiterbildung.html?PHPSESSID=hrjtt3ef1s786uimk0ic3lnh5, in German, accessed 04.08.2011), which likewise offer a wide range of seminars and courses, and particularly training courses in preparation for federally-regulated advanced vocational examinations or chamber examinations. The top-level organisation in the skilled crafts sector is the German Confederation of Skilled Crafts
and Small Businesses (Zentralverband des Deutschen Handwerks, ZDH). (On the structure of the skilled-crafts organisation, see http://www.zdh.de/handwerk-sorganisationen.html, in German, accessed: 17.10.2011)

2.1.2 Status and tasks of the trade and technical schools and specialised academies

The basis for the establishment and operation of trade and technical schools, according to the “Framework agreement on trade and technical schools” (Rahmenvereinbarung über Fachschulen, KMK resolution of 07.11.2002 as amended 03.03.2010) are the legal provisions of the German Länder. Public (state or municipal) trade and technical schools work on the basis of regulations in Land law (training and examination regulations for the trade and technical schools), which are based on the nationwide framework agreement on the trade and technical schools. Hence they are subject to state school supervision, and are covered by the school quality assurance systems established in the Länder.

According to data from the Federal Statistical Office (Fachserie 11, Reihe 2 [technical volume 11, series 2]
School statistics – vocational schools), in the 2009/2010 academic year, 936 trade and technical schools nationwide were established under the auspices of public providers, and were attended by some 118,000 persons in total.

As a complementary form of provision outside the framework agreement on trade and technical schools, in some Länder it is possible to attend purpose-designed courses in preparation for the supervisor-level examination, which are organisationally attached to the trade and technical schools (a form of provision known as “master schools”, Meisterschulen).

2.2 Private providers

2.2.1 Trade and technical schools

It is also fundamentally possible for independent providers to establish and run trade and technical schools (private schools). Here once again, the relevant provisions of school law in the Länder provide the guidelines. Over and above the publicly regulated training provision, private schools can also offer provision under their own responsibility. The state recognition of these qualifications is contingent upon compliance with certain preconditions and standards, however. Fundamentally, even schools run by independent providers are subject to state school supervision.

In the 2009/2010 school year, 475 schools were registered as independently run, and were providing education and training for almost 57,000 individuals (Statistisches Bundesamt Fachserie 11 Reihe 1.1, p. 30).

Other providers

Employers’ organisations also feature as providers of CVET. Via their own legally autonomous training institutions, they offer courses of upgrading training, e. g. the DGB vocational training institute (Berufsfortbildungswerk, bfw) and DAA-Akademie, the professional academy affiliated with the United Services Union (ver.di).

Furthermore, independent private providers offer courses of the upgrading training type. A distinction should be made between largely profit-oriented, commercial providers (usually in the legal form of companies limited by shares, sole proprietorships or companies with limited liability) and public benefit institutions (church organisations, foundations, registered associations).
3 Statistical overview

The following statistical overview aims to enable an assessment of the current significance of postsecondary VET in Germany within the labour-market context, and to underpin that assessment with empirical evidence. To this end, the section starts by charting the quantitative significance of regulated recognised upgrading training pursuant to the provisions of the Vocational Training Act (BBiG § 53ff) or the Crafts and Trades Regulation Code (HwO § 42) over the years (Section 3.1), insofar as the necessary statistical data is available to do so. Next, departing from the global perspective, the significance of advanced vocational training is quantified for different age groups in comparison to alternative vocational training pathways (Sections 3.2 and 3.6). An additional question to be addressed concerns the composition of participants on advanced vocational courses in terms of prior schooling and vocational training, age, gender and economic activity (Section 3.3). Finally, an outlook is offered as to how the quantitative significance of advanced vocational qualifications in the labour market – both on the demand and on the supply side – is likely to change by 2025 (Section 3.7).

Data basis


Annual vocational education and training statistics collate the number of participants in advanced vocational examinations during a reporting period (actual calendar year) and record the number of participants who have sat a final examination for an advanced vocational qualification (and either passed or failed). Where the advanced vocational examination consists of multiple parts (e.g. courses), examination candidates are only reported and recorded in the statistics if they are in the final stage, at which point the qualification will confer a new occupational designation. However, individual examination elements which do not lead to a new occupational designation when they are passed are not reported. The statistics are obtained by means of a census of the “competent bodies” within the meaning of the Vocational Training Act (i.e. generally the chambers), which are obliged to provide the data. The legal basis for the statistics was left unaltered for the surveys from 1993 to 2006, so comparable data exists for this period. Statistics were recorded for the number of examinations taken but not numbers of candidates.

Since the reform of vocational education and training statistics in 2007 from an aggregate to a microdata basis, statistics on advanced vocational examinations have had to be reported as individual datasets; provision was also made for transitional rules up to and including the reporting year 2009. In the wake of the statistical reform and the reprioritisation of work, the Federal Statistical Office had not published results on advanced vocational/master/foreman/certified supervisor examinations for the reporting years 2007 and 2008. For the reporting year 2009, the completeness of reporting was improved and the results for advanced vocational training examinations were published again for the first time. Nevertheless, due to missing reports at chamber level and different reporting practices in certain areas of initial vocational training, the quality of the present data was not completely satisfactory. For 2010, once again, the participant count and the number of advanced vocational examinations taken is overstated, in total and in particular segments, since a few chambers of industry and commerce reported non-final examinations or partial examination elements as final examinations “not passed”.

Essentially, for the purpose of inter-year comparisons, it must be noted that due to the redesign of the statistics and the associated modifications in methodology, there is only limited comparability between results pre- and post-dating the 2007 reform, and the records are not always entirely reliable.


Unlike the examination statistics, the school statistics are geared towards data collection by institution. They cover learners (participants) at schools, and differentiate according to different attributes, including: type of school, age, gender, nationality, prior schooling, organisation of teaching, leavers/dropouts and vocational emphasis. Also unlike the examination statistics (FS11 R3), due to the survey classification system, some types
of courses at trade and technical schools are included in reporting which do not match the object of study as defined under 1.1 and 1.2.2, such as the initial vocational qualification in geriatric care, for instance. The figures shown in Section 3.1.3 for trade and technical schools, analysed in this study for their postsecondary provision, must therefore be viewed as slightly overstated.

BIBB/BAuA Workforce Survey (ETB)

The BIBB/BAuA Workforce Survey (BIBB/BAuA-Erwerbstätigenbefragung (ETB)) for 2005/2006 is a representative survey of 20,000 employed people in Germany, conducted jointly by the Federal Institute for Vocational Education and Training (BIBB) and the Federal Institute for Occupational Safety and Health (Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, BAuA) and supported by the Federal Ministry of Education and Research (BMBF). The aim of the survey is to gain differentiated representative information about the working population and jobs in Germany in order to address research questions in the fields of quantitative occupational and qualifications research and occupational health and safety reporting.

One part of the survey focuses on questions about the workplace (core tasks, level of requirements in terms of knowledge, skills and competences, training needs, work conditions, workload issues, etc.), while the other part addresses the relationship between education (general, initial and continuing vocational education and training, career trajectory, appropriate employment for qualification level, occupational mobility, usability of vocational qualifications, etc.). A variety of occupational classification systems permits a differentiated presentation according to actual jobs as well as training occupations.

Larger workforce surveys by BIBB on the acquisition and use of vocational qualifications and on the current careers situation were first carried out in 1979 in cooperation with the Institute for Employment Research (Institut für Arbeitsmarkt- und Berufsforschung, IAB) and repeated in the years 1985/86, 1991/92 and finally 1998/99 with BAuA assistance. Currently the new BIBB/BAuA Workforce Survey 2011/2012 is at the field stage.

Microcensus

The Microcensus is an official representative statistical survey by the Federal Statistical Office on the German population and labour market. Every year about 1% of all German households participate in the survey (continuous household sampling). In total, around 390,000 households with a total of 830,000 individuals are involved in the survey. There is a legal obligation to provide information for the Microcensus, unlike most surveys. Therefore, approx. 96% of respondents answer the compulsory questions in the Microcensus. This fact, and the scale of the survey in terms of numbers of respondents, make it the most important representative survey in Germany.

3.1 Number of participants

3.1.1 Number of advanced vocational examinations passed

The figures in Table 3.1 show a distinct decline in the annual number of advanced vocational examinations passed in the period from 1996 to 2010. The total number drops from over 122,000 in to around 93,000 in 2010. This equates to a decline of close to 24%.

To enable better assessment of the quality of this development, the examination figures are shown in relation to the total population eligible for advanced vocational training. This consists of individuals who have obtained an initial vocational qualification but not a university degree. Around 90% of all upgrading training programmes are completed by the 20 to 44 year-old age group (Krewerth 2004), so the reference population shown here was restricted to this age-group. Table 3.1 shows that the 7% decline in the reference population is markedly smaller than the decline in examination successes in the same period. Of the people identified as the core target group for upgrading training, the evidence shows that fewer and fewer are seeking to acquire upgrading training. This relationship is illustrated once again by Figure 3.1.1

As a result of the most recent upturn in examination figures, the level of advanced vocational examinations appears to be stabilising slightly. It remains to be seen, however, whether this will be confirmed within the next few years.

1 The marked drop in numbers of examinations in 2009 may be a statistical artefact resulting from the statistical reforms for the years after 2007 and the interpolated values for 2007 and 2008. For a proper assessment, it will be necessary to wait and see how the figures for the year 2011 develop. Such variations need not be viewed too critically, however, since the figures concerned are not stock variables.
3.1.2 Significance of different specialisations of advanced vocational qualifications

The presentation so far has shown the scale of upgrading training programmes in their entirety. Table 3.2 aims to give an impression of the vocational specialisations in which upgrading training takes place. Within the respective examination groups (first indent), the most frequent specialisations (last indent) are shown. In the latter category, a few are found which have obviously undergone a decline in importance. This is the case for the Fachkaufmann/-frau für Bilanzbuchhaltung (certified accounting specialist) or the Fachkaufmann/-frau für Handwerkswirtschaft (certified commercial specialist in the skilled crafts). In some cases, entire examination groups are affected by a discernible decline in numbers of examinations. This is the case for the Fachkaufmann/-frau (certified commercial specialist) and Fachkraft für Schreibtechnik (specialised office clerk) qualifications, among others. Examinations for the qualification of Fachkraft für Datenverarbeitung (specialised data processing clerk) have undergone a very marked decline in significance. The number of examinations taken drops in the period under consideration from over 5000 to under 2000, and thus records the most drastic relative decline of all examination groups. In contrast, the advanced vocational qualifications of Fachwirt/Fachwirtin (certified senior clerk) are enjoying growing popularity, and numbers of examinations more than double in the same period.
### Table 3.1: Trend in advanced vocational examinations passed annually and reference population, from 1996 to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Final examinations taken</th>
<th>Change (in %)</th>
<th>Advanced vocational examinations passed</th>
<th>Change (in %)</th>
<th>Econ. active persons (thous.)</th>
<th>Change (in %)</th>
<th>Econ. inactive persons (thous.)</th>
<th>Change (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>152935</td>
<td>100.0</td>
<td>122621</td>
<td>100.0</td>
<td>16130</td>
<td>100.0</td>
<td>2160</td>
<td>100.0</td>
</tr>
<tr>
<td>1997</td>
<td>147914</td>
<td>96.7</td>
<td>117844</td>
<td>96.1</td>
<td>15842</td>
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<td>93.1</td>
</tr>
<tr>
<td>1998</td>
<td>142181</td>
<td>93.0</td>
<td>113544</td>
<td>92.6</td>
<td>15676</td>
<td>97.2</td>
<td>1929</td>
<td>89.3</td>
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<tr>
<td>1999</td>
<td>142085</td>
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<td>114722</td>
<td>93.6</td>
<td>15559</td>
<td>96.5</td>
<td>1873</td>
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<td>2000</td>
<td>131206</td>
<td>85.8</td>
<td>107077</td>
<td>87.4</td>
<td>15469</td>
<td>95.9</td>
<td>1830</td>
<td>84.7</td>
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<td>2001</td>
<td>127189</td>
<td>83.2</td>
<td>105225</td>
<td>85.9</td>
<td>15396</td>
<td>95.4</td>
<td>1796</td>
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<td>2002</td>
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<td>106104</td>
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<td>125534</td>
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<td>103137</td>
<td>84.2</td>
<td>15281</td>
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<td>1744</td>
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<tr>
<td>2004</td>
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<td>81.9</td>
<td>100950</td>
<td>82.4</td>
<td>15234</td>
<td>94.4</td>
<td>1723</td>
<td>79.7</td>
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<tr>
<td>2005</td>
<td>125073</td>
<td>81.8</td>
<td>100280</td>
<td>81.9</td>
<td>15193</td>
<td>94.1</td>
<td>1704</td>
<td>78.8</td>
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<tr>
<td>2006</td>
<td>120433</td>
<td>78.8</td>
<td>96526</td>
<td>78.8</td>
<td>15155</td>
<td>93.9</td>
<td>1687</td>
<td>78.0</td>
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<tr>
<td>2007</td>
<td>116970 *</td>
<td>76.5</td>
<td>95470 *</td>
<td>77.9</td>
<td>15121</td>
<td>93.7</td>
<td>1672</td>
<td>77.3</td>
</tr>
<tr>
<td>2008</td>
<td>113506 *</td>
<td>74.2</td>
<td>94413 *</td>
<td>77.0</td>
<td>15089</td>
<td>93.5</td>
<td>1659</td>
<td>76.7</td>
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<tr>
<td>2009</td>
<td>106341</td>
<td>69.5</td>
<td>83949</td>
<td>68.5</td>
<td>15060</td>
<td>93.3</td>
<td>1646</td>
<td>76.1</td>
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<tr>
<td>2010</td>
<td>110043</td>
<td>71.9</td>
<td>93357</td>
<td>76.2</td>
<td>15033</td>
<td>93.1</td>
<td>1634</td>
<td>75.5</td>
</tr>
</tbody>
</table>

* Data on advanced vocational/master/foreman/certified supervisor examinations were not published for 2007 and 2008. The values for 2007 and 2008 have been interpolated with moving averages.

** Around 90% of all advanced vocational qualifications are gained by people aged from 20 to under 45 (BIBB/BauA 1998/99: Krewerth 2002)

Source for advanced vocational examinations: Federal Statistical Office / Statistisches Bundesamt, Fachserie 11 Reihe 3
Source for reference population: Microcensus (own calculations)
### Table 3.2: Advanced vocational examinations passed from 2003 to 2010, by vocational specialisation

<table>
<thead>
<tr>
<th>Vocational Examination Type</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>**</th>
<th>2009</th>
<th>2010</th>
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<tbody>
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<td><strong>Advanced commercial vocational examinations</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Certified commercial specialist</td>
<td>12220</td>
<td>11806</td>
<td>12009</td>
<td>10896</td>
<td>7132</td>
<td>7995</td>
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<tr>
<td>Certified accounting specialist</td>
<td>3780</td>
<td>3566</td>
<td>3719</td>
<td>3676</td>
<td>2956</td>
<td>2706</td>
<td></td>
</tr>
<tr>
<td>Certified personnel management specialist</td>
<td>1769</td>
<td>1313</td>
<td>1153</td>
<td>1466</td>
<td>1335</td>
<td>1644</td>
<td></td>
</tr>
<tr>
<td>Certified sector specialist</td>
<td>12316</td>
<td>16196</td>
<td>17031</td>
<td>17698</td>
<td>18547</td>
<td>27063</td>
<td></td>
</tr>
<tr>
<td>Certified technical specialist</td>
<td>1816</td>
<td>3670</td>
<td>4372</td>
<td>4893</td>
<td>5122</td>
<td>11286</td>
<td></td>
</tr>
<tr>
<td>Certified senior clerk</td>
<td>2361</td>
<td>2606</td>
<td>2289</td>
<td>2310</td>
<td>2757</td>
<td>3237</td>
<td></td>
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<tr>
<td>Certified bank clerk</td>
<td>2226</td>
<td>2072</td>
<td>1705</td>
<td>1944</td>
<td>1402</td>
<td>1914</td>
<td></td>
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<tr>
<td>Certified industrial specialist</td>
<td>1337</td>
<td>1556</td>
<td>1341</td>
<td>1287</td>
<td>1474</td>
<td>1137</td>
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<tr>
<td>Certified data processing clerk</td>
<td>5306</td>
<td>4225</td>
<td>2954</td>
<td>2433</td>
<td>1986</td>
<td>1776</td>
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<tr>
<td>Certified computer specialist</td>
<td>2405</td>
<td>2036</td>
<td>1123</td>
<td>1062</td>
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<tr>
<td>Certified network service technician</td>
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<td>361</td>
<td>204</td>
<td>255</td>
<td>167</td>
<td>192</td>
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<tr>
<td>Certified professional-level computer specialist</td>
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<td>593</td>
<td>374</td>
<td>353</td>
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<tr>
<td>Certified foreign language specialist</td>
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<td>2916</td>
<td>2740</td>
<td>2754</td>
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<tr>
<td>Certified foreign language correspondent</td>
<td>1944</td>
<td>2055</td>
<td>1820</td>
<td>2061</td>
<td>1609</td>
<td>1863</td>
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<td>Foreign Language at Work (FiB) I and II</td>
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<td>157</td>
<td>264</td>
<td>88</td>
<td>163</td>
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<tr>
<td>Translator</td>
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<td>229</td>
<td>174</td>
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<tr>
<td>Specialised office clerk</td>
<td>2326</td>
<td>1759</td>
<td>1841</td>
<td>1361</td>
<td>641</td>
<td>549</td>
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<tr>
<td>Certified business management specialist</td>
<td>3251</td>
<td>3664</td>
<td>3669</td>
<td>2953</td>
<td>3444</td>
<td>3105</td>
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<tr>
<td>Other advanced commercial vocational examinations</td>
<td>10530</td>
<td>11062</td>
<td>10327</td>
<td>9844</td>
<td>6628</td>
<td>7917</td>
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<tr>
<td><strong>Advanced industrial-technical vocational examinations</strong>*</td>
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<tr>
<td>Certified industrial supervisor</td>
<td>7370</td>
<td>7703</td>
<td>7760</td>
<td>7439</td>
<td>7944</td>
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<tr>
<td>Certified industrial supervisor in the chemical industry</td>
<td>871</td>
<td>746</td>
<td>614</td>
<td>764</td>
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<td>Certified industrial supervisor in the metal-working industry</td>
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<td>3978</td>
<td>3477</td>
<td>3829</td>
<td>3913</td>
<td>4083</td>
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<tr>
<td>Certified industrial supervisor in electrical engineering</td>
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<td>1204</td>
<td>962</td>
<td>1154</td>
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<tr>
<td>Master of skilled trade</td>
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<td>1470</td>
<td>1647</td>
<td>1474</td>
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<tr>
<td>Master chef</td>
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<td>398</td>
<td>331</td>
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<td>Master storekeeper</td>
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<td>290</td>
<td>428</td>
<td>374</td>
<td>435</td>
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<td>Master in safety and security</td>
<td>36</td>
<td>63</td>
<td>74</td>
<td>91</td>
<td>70</td>
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### Master craftsperson

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</thead>
<tbody>
<tr>
<td>Master fitter and heating engineer</td>
<td>1989</td>
<td>1542</td>
<td>1491</td>
<td>1314</td>
<td>1232</td>
<td>1146</td>
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<tr>
<td>Master precision machinist</td>
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<td>1031</td>
<td>846</td>
<td>1052</td>
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<tr>
<td>Master electronics technician</td>
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<td>1832</td>
<td>1950</td>
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<tr>
<td>Master joiner</td>
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<td>Master motor vehicle mechanic</td>
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<td>Master hairdresser</td>
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**Other Master examinations**

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<tr>
<td>Master farmer</td>
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<td>716</td>
<td>605</td>
<td>592</td>
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<td>Master gardener</td>
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<td>626</td>
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<td>476</td>
<td>384</td>
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**Other advanced commercial-technical vocational examinations**

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<td>Other advanced commercial-technical vocational examinations</td>
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<td>10492</td>
<td>11954</td>
<td>11909</td>
<td>9543</td>
<td>8208</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The values for the last indent are an incomplete selection of the most common specialisations within the examination group. Therefore their total does not yield the total number of examinations within an examination group.

**No uniform data from the Federal Statistical Office exists for the years 2007 and 2008 due to a reform of the data collection process.**

**German occupational designations in Table 3.2: Commercial examinations**

Commercial examinations [in the order listed] commercial specialist, accounting specialist, personnel management specialist, senior clerk, technical management specialist, senior trade specialist, senior bank clerk, senior industry specialist, specialised data processing clerk, applied IT clerk, network service technician, applied IT professional, specialised multilingual clerk, multilingual communication specialist, foreign languages at work (FIB I and II), translator, specialised office clerk, business management specialist, other commercial advanced vocational examinations. Industrial-technical examinations [in the order listed] industrial supervisor/foreman, industrial supervisor specialising in chemistry, metalworking foreman, industrial supervisor specialising in electrical engineering, master of skilled trade, master chef, master in warehousing services, master in protection and security, master craftsperson, master fitter and heating engineer, master in precision machining, master in electronic engineering, master joiner, master in automotive technology, master hairdresser, other master examinations, master farmer, master gardener, master in swimming pool operations, other industrial-technical advanced vocational examinations.

**Source:** Fachserie 11 Reihe 3 (Federal Statistical Office / Statistisches Bundesamt) Uniform data.

Overall, the most dynamic change is recorded in advanced vocational qualifications in the commercial sector. By comparison, the trend in the industrial-technical sector shows considerably greater stability. There is a discernible decline in numbers of examinations across the board. In contrast to advanced vocational training in commercial occupations, the trend in the individual examination groups is closer to the overall trend, which is characterised by a consistent decline. The only exceptions are the Industriemeister (certified industrial supervisor) and the Fachmeister (master of skilled trade) qualifications, which exhibit a slight but steady upward trend.

### 3.1.3 Learners at trade and technical schools

The development of learner numbers at trade and technical schools (Table 3.3) is subject to fluctuations which cannot be explained or derived from the general potential of the economically active population eligible for advanced vocational training (see Figure 3.1).
Table 3.3: Learners at trade and technical schools by gender, organisation of teaching, occupational fields and prior education and training

<table>
<thead>
<tr>
<th>School year</th>
<th>03/04</th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 1)</td>
<td>167 558</td>
<td>162 776</td>
<td>159 165</td>
<td>152 110</td>
<td>153 001</td>
<td>159 467</td>
<td>175 200</td>
<td>183 379</td>
</tr>
<tr>
<td>male</td>
<td>79 580</td>
<td>77 953</td>
<td>75 477</td>
<td>72 191</td>
<td>73 014</td>
<td>77 713</td>
<td>85 301</td>
<td>89 327</td>
</tr>
<tr>
<td>female</td>
<td>87 978</td>
<td>84 823</td>
<td>83 688</td>
<td>79 919</td>
<td>79 987</td>
<td>81 754</td>
<td>89 899</td>
<td>94 052</td>
</tr>
<tr>
<td>Taught part-time 2)</td>
<td>58 793</td>
<td>56 813</td>
<td>52 872</td>
<td>50 171</td>
<td>50 664</td>
<td>50 398</td>
<td>58 380</td>
<td>59 998</td>
</tr>
</tbody>
</table>

Occupational fields 2)

<table>
<thead>
<tr>
<th>Occupational fields</th>
<th>03/04</th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupations in agriculture, animal husbandry, forestry and horticulture</td>
<td>5 815</td>
<td>5 567</td>
<td>5 203</td>
<td>5 458</td>
<td>5 435</td>
<td>5 562</td>
<td>5 834</td>
<td>6 022</td>
</tr>
<tr>
<td>Production occupations</td>
<td>4 475</td>
<td>4 575</td>
<td>4 741</td>
<td>3 835</td>
<td>3 994</td>
<td>3 958</td>
<td>4 321</td>
<td>4 556</td>
</tr>
<tr>
<td>Technical occupations</td>
<td>47 539</td>
<td>46 217</td>
<td>43 858</td>
<td>42 416</td>
<td>43 734</td>
<td>48 398</td>
<td>54 077</td>
<td>56 009</td>
</tr>
<tr>
<td>Service occupations</td>
<td>101 576</td>
<td>98 664</td>
<td>96 399</td>
<td>91 251</td>
<td>90 450</td>
<td>92 214</td>
<td>101 321</td>
<td>107 542</td>
</tr>
<tr>
<td>No occupation stated</td>
<td>730</td>
<td>205</td>
<td>1 533</td>
<td>1 547</td>
<td>1 860</td>
<td>2 136</td>
<td>2 001</td>
<td>1 440</td>
</tr>
</tbody>
</table>

Prior schooling 2) *

<table>
<thead>
<tr>
<th>Prior schooling</th>
<th>03/04</th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower secondary school certificate</td>
<td>10 595</td>
<td>7 646</td>
<td>7 382</td>
<td>6 748</td>
<td>7 060</td>
<td>8 486</td>
<td>8 854</td>
<td>8 149</td>
</tr>
<tr>
<td>Intermediate secondary school cert. or equivalent</td>
<td>43 477</td>
<td>40 298</td>
<td>39 327</td>
<td>35 712</td>
<td>36 887</td>
<td>38 635</td>
<td>41 539</td>
<td>42 722</td>
</tr>
<tr>
<td>Upper vocational school certificate</td>
<td>5 179</td>
<td>5 799</td>
<td>6 201</td>
<td>6 877</td>
<td>7 821</td>
<td>7 857</td>
<td>8 649</td>
<td>8 545</td>
</tr>
<tr>
<td>Gen./subject-spec. higher education entrance qual.</td>
<td>5 312</td>
<td>5 556</td>
<td>5 325</td>
<td>5 703</td>
<td>5 940</td>
<td>6 128</td>
<td>6 658</td>
<td>7 272</td>
</tr>
<tr>
<td>Other prior education</td>
<td>7 611</td>
<td>6 763</td>
<td>5 986</td>
<td>5 494</td>
<td>5 906</td>
<td>6 748</td>
<td>8 531</td>
<td>7 967</td>
</tr>
</tbody>
</table>

1) incl. specialised academies (Fachakademien) in Bavaria
2) not incl. specialised academies in Bavaria
*only learners beginning an education/training course

Source: Federal Statistical Office/Statistisches Bundesamt, Fachserie 11 Reihe 2

The current or immediately foreseeable economic trend must also be seen as exerting a substantial influence on the decision to commence a continuing vocational education programme at a trade and technical school. In phases of economic uncertainty, in particular, people are less willing to give up a secure employment arrangement in favour of a full-time training course lasting at least one year. The high level of expansion in the area of part-time training is an obvious indication of an accepted alternative, in order to make employment compatible with continuing vocational training and qualifications. For the target group consisting of individuals without a higher education entrance qualification, the trade and technical schools offer a recognised alternative route to higher-level vocational qualifications outside the higher education system.

The significant rise for the school year 2009/10 (approx. 10%) probably arises through the accumulation of multiple effects. On the one hand, a share of the economically active individuals made redundant
because of the economic crisis may have utilised the opportunity to gain further qualifications. On the other hand, a clear rise is recorded in qualification programmes for childcare workers, who are required in order to honour the legally guaranteed expansion of childcare capacity for young children.

3.1.4 Trade and technical school qualification-holders

The number of qualification-holders approximately follows the trend in learner numbers, with a time lag. Since separate statistics are not collected, statements on dropout and pass rates are not possible.

3.2 Comparative importance of combinations of postsecondary education and training

Initial vocational training combined with a recognised upgrading training programme is just one possibility for career progression among many. Another very frequent option, represented by over 50% in the population, is initial vocational training without gaining a subsequent advanced vocational qualification (Table 3.5). This applies to men and women equally, but the proportion of women is consistently slightly higher than that of men. Whether the somewhat lower rates of under 35-year-olds is purely an age-effect or, at least in part, reflects changing preferences of younger age cohorts, cannot be inferred from this chart. Against the background of comparatively high rates of university education in these cohorts, it can be assumed that educational choices in the younger cohorts have shifted slightly in favour of university degrees. Despite all that, initial vocational training remains the most popular vocational qualification, and the figures do not indicate that this might change in the very near future.

The segment of recognised upgrading training programmes as a higher-level training route accounts for a relatively constant share within the cohorts aged 40 and over. Accordingly, over 10% of men in these cohorts choose this training pathway. Women feature in this group only about half as often, with a share of 5% at the most. Since the bulk of recognised upgrading training qualifications apply to "male" domains in production-related occupations and in the skilled crafts (Table 3.2), the very much lower share of women with recognised upgrading training qualifications is hardly surprising. This relationship between the proportions of men to women can equally be observed in the younger cohorts, albeit at a lower level.

<table>
<thead>
<tr>
<th>School year</th>
<th>03/04</th>
<th>04/05</th>
<th>05/06</th>
<th>06/07</th>
<th>07/08</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total*)</td>
<td>55 775</td>
<td>58 429</td>
<td>58 657</td>
<td>56 647</td>
<td>54 159</td>
<td>53 744</td>
<td>50 799</td>
<td>54 965</td>
</tr>
<tr>
<td>Occupational fields**)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupations in agriculture, animal husbandry, forestry and horticulture</td>
<td>2 936</td>
<td>3 101</td>
<td>3 021</td>
<td>2 862</td>
<td>2 770</td>
<td>2 761</td>
<td>2 893</td>
<td>3 107</td>
</tr>
<tr>
<td>Production occupations</td>
<td>2 880</td>
<td>2 763</td>
<td>2 772</td>
<td>2 584</td>
<td>2 423</td>
<td>2 428</td>
<td>2 651</td>
<td>2 600</td>
</tr>
<tr>
<td>Technical occupations</td>
<td>13 830</td>
<td>15 559</td>
<td>15 857</td>
<td>15 133</td>
<td>14 325</td>
<td>12 544</td>
<td>14 254</td>
<td>15 978</td>
</tr>
<tr>
<td>Service occupations</td>
<td>32 648</td>
<td>33 513</td>
<td>33 071</td>
<td>32 017</td>
<td>30 236</td>
<td>28 196</td>
<td>26 723</td>
<td>29 240</td>
</tr>
<tr>
<td>No occupation stated</td>
<td>722</td>
<td>766</td>
<td>1 294</td>
<td>1 407</td>
<td>1 446</td>
<td>4 469</td>
<td>1 236</td>
<td>980</td>
</tr>
</tbody>
</table>

*) incl. Fachakademien (specialised academies) in Bavaria

**) not incl. specialised academies in Bavaria

Source: Federal Statistical Office/Statistisches Bundesamt, Fachserie 11 Reihe 2
Table 3.5: Distribution of different qualifications conferring occupational status in the population – consideration of the total population by age-groups

<table>
<thead>
<tr>
<th>Age (grouped)</th>
<th>IVET without advanced qualification</th>
<th>IVET plus adv. voc. qualification</th>
<th>IVET plus university (with or without adv. vocational qual.)</th>
<th>University degree</th>
<th>No occupational qualification*</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>f</td>
<td>m</td>
<td>f</td>
<td>m</td>
<td>f</td>
</tr>
<tr>
<td>15–19</td>
<td>2,3%</td>
<td>2,7%</td>
<td>0%</td>
<td>0,1%</td>
<td>0%</td>
</tr>
<tr>
<td>20–24</td>
<td>40,2%</td>
<td>39,1%</td>
<td>1,2%</td>
<td>1,3%</td>
<td>0,1%</td>
</tr>
<tr>
<td>25–29</td>
<td>54,4%</td>
<td>56,1%</td>
<td>4,1%</td>
<td>2,5%</td>
<td>2%</td>
</tr>
<tr>
<td>30–34</td>
<td>55,3%</td>
<td>58,1%</td>
<td>6,6%</td>
<td>3,3%</td>
<td>4,4%</td>
</tr>
<tr>
<td>35–39</td>
<td>56,9%</td>
<td>62,5%</td>
<td>8,4%</td>
<td>4%</td>
<td>5,3%</td>
</tr>
<tr>
<td>40–44</td>
<td>57,7%</td>
<td>64,9%</td>
<td>10,3%</td>
<td>4,8%</td>
<td>5,5%</td>
</tr>
<tr>
<td>45–49</td>
<td>58,3%</td>
<td>63,4%</td>
<td>10,3%</td>
<td>4,9%</td>
<td>4,6%</td>
</tr>
<tr>
<td>50–54</td>
<td>57,9%</td>
<td>62,2%</td>
<td>10,3%</td>
<td>5%</td>
<td>4,7%</td>
</tr>
<tr>
<td>55–59</td>
<td>57,8%</td>
<td>61%</td>
<td>10,9%</td>
<td>4,4%</td>
<td>5,6%</td>
</tr>
<tr>
<td>60–64</td>
<td>56,1%</td>
<td>59%</td>
<td>11,2%</td>
<td>4,1%</td>
<td>5,7%</td>
</tr>
<tr>
<td>65+</td>
<td>56,2%</td>
<td>43,6%</td>
<td>11,9%</td>
<td>2,7%</td>
<td>3,9%</td>
</tr>
</tbody>
</table>

Source: Total population of 82.1 million Microcensus 2008 (own calculations)

- Any line percentage totals not equal to 100 are due to missing data in the dataset (<1% for the under-65 group)

*Not comparable with the calculations of the BIBB NFQ because inclusive of school pupils, students, apprentices, individuals on military or civilian national service, and persons on advanced and continuing vocational training and retraining programmes.

3.3 Composition of participants by gender, prior education and training, age and employment status

The chart in Table 3.6 shows how participants in advanced vocational training programmes are distributed with reference to various attributes. These figures are generated from calculations using data from the Microcensus. Based on this data, it is not possible to separate recognised upgrading training qualifications definitively from other (updating-type) advanced vocational courses or from certain school-based initial vocational training courses. Despite considerable efforts to cleanse the source data, it can be assumed that the studied population does not exclusively comprise individuals engaged in upgrading training programmes. It immediately becomes clear that, overall, the shares of men and women are roughly in balance (first line of Table 3.6). This finding is not consistent with the observation in the previous section that men are overrepresented in recognised upgrading training programmes, a discrepancy which is probably due to the described inadequacies of the source data.

On the whole, the differences between men and women with regard to the attributes represented in Table 3.6 are only minor. In terms of prior schooling, around half have qualifications up to and including an intermediate secondary school-leaving certificate, and the other half have certificates conferring a university entrance entitlement. Women account for a lesser share of lower secondary school-leaving certificate holders and a greater share of those holding university entrance qualifications than men.

For the vocational qualifications, too, differences between the genders remain within reasonable bounds. Only in dual-system IVET and in full-time school-based IVET are notable variations between men and women found. Relative to men, women have more
Table 3.6: Composition of participants by gender, prior education and training, age, and employment status

<table>
<thead>
<tr>
<th>Shares in %</th>
<th>Male</th>
<th>Female</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Together</td>
<td>49.4</td>
<td>50.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Composition by prior education

<table>
<thead>
<tr>
<th>Highest school qualification</th>
<th>Male</th>
<th>Female</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>lower secondary/primary school certificate</td>
<td>18.2</td>
<td>12.9</td>
<td>15.5</td>
</tr>
<tr>
<td>intermediate secondary school-leaving certificate</td>
<td>33.9</td>
<td>35.5</td>
<td>34.7</td>
</tr>
<tr>
<td>upper vocational school certificate</td>
<td>23.1</td>
<td>23.4</td>
<td>23.3</td>
</tr>
<tr>
<td>university entrance qualification</td>
<td>24.8</td>
<td>28.2</td>
<td>26.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest vocational qualification</th>
<th>Male</th>
<th>Female</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>no IVET (max. semi-skilled training)</td>
<td>2.1*</td>
<td>2.0*</td>
<td>2.0</td>
</tr>
<tr>
<td>dual-system apprenticeship</td>
<td>57.0</td>
<td>51.6</td>
<td>54.3</td>
</tr>
<tr>
<td>full-time school-based IVET</td>
<td>7.0*</td>
<td>11.7*</td>
<td>9.4</td>
</tr>
<tr>
<td>IVET + advanced vocational qualification</td>
<td>20.7</td>
<td>21.8</td>
<td>21.2</td>
</tr>
<tr>
<td>university degree</td>
<td>13.2</td>
<td>12.9</td>
<td>13.1</td>
</tr>
</tbody>
</table>

Composition by age and gender

<table>
<thead>
<tr>
<th>Age and gender</th>
<th>Male</th>
<th>Female</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 24 years</td>
<td>16.9*</td>
<td>20.2*</td>
<td>18.6</td>
</tr>
<tr>
<td>25 to 29</td>
<td>23.1</td>
<td>16.9</td>
<td>20.0</td>
</tr>
<tr>
<td>30 to 34</td>
<td>15.7</td>
<td>15.3</td>
<td>15.5</td>
</tr>
<tr>
<td>35 to 39</td>
<td>16.5</td>
<td>14.5</td>
<td>15.5</td>
</tr>
<tr>
<td>40 to 44</td>
<td>9.1</td>
<td>13.7</td>
<td>11.4</td>
</tr>
<tr>
<td>45 to 49</td>
<td>7.4</td>
<td>8.9</td>
<td>8.2</td>
</tr>
<tr>
<td>50 and over</td>
<td>11.2*</td>
<td>10.5*</td>
<td>10.8</td>
</tr>
</tbody>
</table>

Composition by emloyment status of participants

<table>
<thead>
<tr>
<th>Employment status of participants</th>
<th>Male</th>
<th>Female</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>employed</td>
<td>57.8</td>
<td>50.8</td>
<td>54.3</td>
</tr>
<tr>
<td>unemployed</td>
<td>9.1</td>
<td>15.3</td>
<td>12.2</td>
</tr>
<tr>
<td>economically inactive</td>
<td>33.1</td>
<td>33.9</td>
<td>33.5</td>
</tr>
</tbody>
</table>

Source: Microcensus 2008 (own calculations)

Study population: persons who had attended a trade and technical school within the four weeks before the survey.

*values estimated using marginal sums (original values blocked by Federal Statistical Office for anonymisation purposes)
frequently undertaken full-time school-based IVET, and less frequently completed a dual-system apprenticeship. Regardless of gender, initial vocational qualifications are the most frequent form of prior vocational education and training, accounting for a share of over 60%. 20% hold advanced vocational qualifications and approx. 13% have already gained a university degree.

The age distribution of participants evidences a concentration in the under-40 age-group, which is to be expected. On average, around 70% of participants are younger than 40. 72% of men as opposed to 67% of women fall within that age-group. This suggests that women embark on advanced vocational training somewhat later than men.

Both men and women are more likely than average to be unemployed while they are attending a trade and technical school. Compared to the figures shown in Table 3.7, the percentage unemployed during the advanced vocational training phase, at over 12%, is strikingly elevated. Women are affected to a considerably higher degree than men. Similarly, the shares of economically inactive persons, at around 33%, are drastically elevated in comparison to Table 3.7, although this affects men and women to an equal extent.

### 3.4 Dropout and qualification rates

The term “dropout rate” describes the proportion of people beginning advanced vocational training who do not see it through to a final examination but who “drop out” of training at some point beforehand. Qualification rates represent the other side of the coin, and apply to all persons who successfully complete their advanced vocational training programme. The calculation of both dropout and qualification rates presupposes that complete information is available on the numbers of individuals commencing advanced vocational training courses and enrolling for examinations, and on the numbers completing these successfully. The latter can be determined from the statistics presented in Sections 3.1.1 and 3.1.2. There is no reliable data, however, for the original number of prospective candidates. This means that currently, there is no basis for calculating dropout or qualification rates in the segment of recognised upgrading training courses.

Since the year 2007, the collection of examination statistics has undergone a reform from aggregate to microdata reporting. This new foundation may make a decisive difference to the unsatisfactory data situation. In the first two years after the changeover, data collection did not go entirely smoothly, so as yet, no direct improvement of the data situation can be discerned. This state of affairs should soon change, however, and Klaukien provides an outlook on possible developments (Klaukien 2011).

### 3.5 Labour-market outcomes of postsecondary vocational education programmes

An important question – both for the development of the system and for individual education and training choices – is how the returns from certain vocational education pathways compare with those from alternative educational and training options. On the assumption that higher-level vocational qualifications improve individuals’ labour-market opportunities, a higher level of qualification should be reflected in certain of the statistical indicators for the quality of employment arrangements. This would create incentives for high-quality VET.

The probability of involuntary unemployment is an important indicator of the degree of career success. The figures in the first part of Table 3.7 document the degree of variation in unemployment rates among the different groups. It can be clearly seen that individuals without an initial vocational qualification run the highest risk of unemployment. For individuals with an initial vocational qualification, for whom the unemployment rate is approx. 6%, the risk of unemployment is already distinctly lower. Both advanced vocational qualifications and university degrees result in a further reduction, in some cases to below 3%. The differences between men and women in this regard are comparatively minor.

In the second part of Table 3.7, each of the first three quartiles of the income distribution is broken down by educational pathways and gender.

**Excursus:** Quartiles are calculated after sorting of the distribution found. In this case the sample was sorted by (ascending) income, separately for each of the subgroups identified in the table header. The first quartile is equal to the income stated in the last entry of the first 25% of cases (sorted in ascending order). The second quartile – the median – reading is taken at 50% of the distribution, and the third quartile similarly at 75%.

The incomes of employed people with different educational pathways vary considerably from one another. High-level vocational qualifications generally lead to distinctly higher incomes, both for men and for women. There is very clear evidence that an absence of vocational qualifications (the extreme right-hand column)
results in strikingly low incomes. In comparison to persons with a full initial vocational qualification (extreme left-hand column), the median of EUR 1850 amounts to just two-thirds of the EUR 2500 earned by fully qualified individuals, while the equivalent figures for women are EUR 900 as opposed to EUR 1500. Thus, the incomes of persons with a full vocational qualification are around 50% higher than the incomes of those without formal qualifications.

Similarly striking – albeit less drastic – differences can be noted between the incomes of people with a full initial vocational qualification and those who have used this as a basis for progression to an advanced vocational qualification. Accordingly, an upgrading training programme results in median additional income of EUR 500 (25%) for men and EUR 700 (47%) for women. At this point, caution is advisable in interpreting the data, particularly the figures for women. The presented results do not control the effects of part-time employment, women’s share of which is generally especially high. The marked gain in income for women with an advanced vocational qualification could be attributable to a lower rate of part-time employment among these women. It can nevertheless be stated that an advanced vocational qualification leads to considerably higher incomes.
The incomes of employed people with a university degree (columns 3 and 4) are once again markedly higher than the incomes of employed people with an advanced vocational qualification. This time, the uplift rates are in the region of 25 to 35%. Accordingly, in terms of the resulting income, advanced vocational qualifications should be ranked somewhere between standard initial vocational qualifications and university degrees.

Along similar lines as income, a higher educational qualification also leads to differences in the type of work people are employed to do. In particular, the significance of “simple work” noticeably declines with rising educational qualifications. Whereas almost 50% of women and almost 40% of men without a vocational qualification are employed in simple work, this is true of only 20% of women and 10% of men with a full initial vocational qualification. For individuals with an advanced vocational qualification, and on a similar scale for those with a university degree, the share of employment involving simple work is almost insignificantly low, and barely any differences can be discerned in this regard between the last two groups mentioned.

3.6 Transitions to other forms of provision

The following charts are intended to show the quantitative significance of different education and training pathways and, embedded therein, the status of advanced vocational qualifications. Owing to the complexity of the charts, an exhaustive interpretation is not supplied. Instead, certain key findings are elucidated with reference to advanced vocational qualifications which seem particularly noteworthy for this report.

Specifics of the data basis

It should be borne in mind when interpreting the figures that they exclusively represent final qualifications achieved, and do not include courses started and abandoned. Hence, other statistics may record transitions to university at a considerably higher level if, for example, they counted all new entrants to university. Furthermore, the data collected refers exclusively to people who are in regular employment for at least 10 hours per week. It can be assumed that the observed education patterns correlate with a preference for employment. This may give rise to a further distortion of results.²

Explanation of the form of presentation

The flow charts in Figures 3.2 to 3.4 show how the education and training trajectories of different age cohorts are composed. In keeping with a Leveled model of the VET system, it charts which proportion of an age-cohort, having acquired a school-leaving certificate giving access to IVET or higher education, progresses to the next level of the respective system. The envisaged pathway for holders of a university entrance qualification can lead to university, whereas for those without a higher education entrance qualification, an upgrading training qualification normally corresponds to the highest Level of achievement. On the chart, all the persons on each Level are mapped to a position on the following Level, so that the total on every Level corresponds to the share of persons on the preceding Level. The basis for the data is the BIBB/BAuA survey of 2006 (see above). When interpreting the findings, it must therefore be taken into consideration that the charts only reflect numbers of completed qualifications and do not include abandoned courses. It should also be noted that in individual cases, qualifications need not strictly be gained in the sequence shown. Thus, an apprenticeship qualification can also be obtained after a university degree.³

² In Figures 3.2 to 3.4, the proportions of holders of higher education entrance qualifications who completed an apprenticeship are somewhat overstated.

³ Where individuals have a second-chance higher education entrance qualification, it is especially often the case that it is acquired only along with a particular initial vocational qualification. This would explain the high proportion of holders of a second-chance higher education entrance qualification who combine an apprenticeship with a degree, since the apprenticeship in these cases was the prerequisite for the degree.
Figure 3.2: Education and training trajectories I

<table>
<thead>
<tr>
<th>25 bis 34-year olds</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.2 %</td>
</tr>
<tr>
<td>Higher education entrance</td>
</tr>
<tr>
<td>100 %</td>
</tr>
<tr>
<td>38.8 %</td>
</tr>
<tr>
<td>VET *</td>
</tr>
<tr>
<td>40.2 %</td>
</tr>
<tr>
<td>Upgrading training</td>
</tr>
<tr>
<td>13.1 %</td>
</tr>
<tr>
<td>University</td>
</tr>
</tbody>
</table>

* VET: Vocational education and training

Figure 3.3: Education and training trajectories II

<table>
<thead>
<tr>
<th>35 bis 44-year olds</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.3 %</td>
</tr>
<tr>
<td>Higher education entrance</td>
</tr>
<tr>
<td>100 %</td>
</tr>
<tr>
<td>40.2 %</td>
</tr>
<tr>
<td>VET *</td>
</tr>
<tr>
<td>23.3 %</td>
</tr>
<tr>
<td>Upgrading training</td>
</tr>
<tr>
<td>3.1 %</td>
</tr>
</tbody>
</table>
Results

It is immediately apparent that initial vocational education and training occupies an extremely significant position within all the age-cohorts represented. Among persons without a higher education entrance qualification, at around 90%, it is the commonest form of higher-level training undertaken after general schooling. But some 45 to 55% of holders of a higher education entrance qualification also see IVET as an alternative to university. More than 50% of them later attain a university degree (not so for holders of second-chance higher education entrance qualifications).

Ultimately, some 25 to 30% of an age cohort with a higher education entrance qualification (e.g. in Figure 3.3: 7.7 + 24.1), who completed an initial vocational qualification, do not go on to gain a university degree (not so for holders of second-chance higher education entrance qualifications). Ultimately, some 25 to 30% of an age cohort with a higher education entrance qualification (e.g. in Figure 3.3: 7.7 + 24.1), who completed an initial vocational qualification, do not go on to gain a university degree (not so for holders of second-chance higher education entrance qualifications). Ultimately, some 25 to 30% of an age cohort with a higher education entrance qualification (e.g. in Figure 3.3: 7.7 + 24.1), who completed an initial vocational qualification, do not go on to gain a university degree (not so for holders of second-chance higher education entrance qualifications).

The results can be summarised as follows:

1. The proportion of advanced vocational qualifications rises in line with age. This process seems to be concluded in the 35 to 44 year-old age group, since no further increase is noted among 45 to 54-year-olds.

2. In total, around one-eighth of all persons with an initial vocational qualification go on to gain an upgrading training qualification (irrespective of higher education entrance qualification).

3. Holders of a higher education entrance qualification are relatively more likely to complete a recognised upgrading training qualification. Depending on age-cohort, their inclination to complete upgrading training is up to 50% higher (25 to 34-year-olds) or around 25% higher (45 to 54-year-olds) than for persons without a higher education entrance qualification.

4. Holders of higher education entrance qualifications gain advanced vocational qualifications at an earlier point in time.

5. Of those who hold higher education entrance qualifications and have gained initial and advanced vocational qualifications, some 50% gain a univer-
sity degree (not including second-chance higher education entrance qualifications). Thus 7 to 8% of a cohort remain at the level of the advanced vocational qualification. This is lower than the share of persons without a higher education entrance qualification, which is in the region of 8 to 10% (Figures 3.3 and 3.4).

6. The figures permit the conclusion that a company-based career with a recognised upgrading training qualification continues to retain great significance within the VET system.

3.7 Trends in provision

The preceding sections have shed light on postsecondary vocational qualifications from various sides. Due to the nature of the subject, only past data can be used as a basis for such considerations. This final section of the statistical overview will therefore provide an outlook on the trends emerging for the future. This question is of particular interest in Germany, since – even by European comparison – the country can expect comparatively major changes as demographic trends take their course. At least two effects will come together: first, the number of economically active persons will fall for demographic reasons, and second, an observable transformation in the qualifications structure in the direction of higher qualifications (ISCED 5a and 6) is in progress.

As part of a cooperation project between BIBB, the Institute for Employment Research (IAB) and other participating institutes, calculations of the future labour supply and demand are produced and published on a regular basis. The labour supply states the size of the potential workforce available to a national economy. In the following figures, the labour supply for Germany up to 2025 is shown separately by qualification levels. The curves on the different graphs are not precise forecasts of the future trend, since accurate projections over a period of this length are not a serious possibility. Rather, trends which can be measured and quantified today are projected into the future under current assumptions (Helmrich and Zika 2010). The results permit conclusions as to the extent and direction of future structural changes, and are thus able to reveal where intervention may be needed.

4 The BIBB-IAB Qualification and Major Occupational Field Projections (Helmrich/Zika 2010) are a coordinated projection of supply and demand on the basis of common data and uniformly defined occupational fields (Tiemann et al 2008). See also www.qube-projekt.de (in German).

5 Apart from BIBB and the IAB, the Fraunhofer Institute for Applied Information Technology (Fraunhofer Institut für Angewandte Informationstechnik, FIT) and the Institute of Economic Structures Research (Gesellschaft für Wirtschaftliche Strukturforschung mbH, GWS) are involved in this project.

6 The labour supply is defined by the sum of all persons who devote their labour power to employment (= employed) or would like to do so (= unemployed). Economically active population = employed + unemployed

7 Assumptions are made, for example, with regard to future framework conditions and over the course of time these may change (e.g. retirement age of 67) or prove wrong (e.g. references to mean economic growth).
The graphs in Figure 3.5 show that the qualification structure of Germany’s economically active population will undergo a marked shift in the next 15 years. While numbers of economically active persons with an initial vocational qualification (a) and with an upgrading training qualification (b) are declining in line with the demographic trend, the number of economically active individuals with a university (or university of applied sciences) degree (c) is rising very markedly, counter to the trend. This results in a noticeable shift in proportional ratios, and is consistent with the current trend towards higher qualification. During the described development, a slight decline occurs in the number of individuals without vocational qualifications (d).
4 Mix of provision, steering and organisation, social partners

4.1 Development of the provision side, assessment of demand

4.1.1 Federally-regulated advanced vocational training regulations and examination regulations issued by competent bodies

Advanced vocational training regulations

The initiative for the development of advanced vocational training regulations originates largely from the top-level employers’ organisation and the confederation of trade unions. In 2008 the top-level organisations of industry, represented by the German Employers’ Organisation for Vocational and Further Training (KWB, membership of which includes inter alia the top-level chamber organisations ZDH and DIHK) along with the Confederation of German Trade Unions (DGB), concluded an agreement on advanced vocational training, in which they reached a consensus on the criteria and procedures to which advanced training regulations of the competent bodies and the German federal government should generally conform (DGB and KWB 2008).

Accordingly, if the same chamber-regulated occupation has existed in five German Länder over a five-year period (see Chapter 1) and at least 500 examination candidates for that occupation have been counted in the past three years, a federally-regulated advanced vocational training regulation can be requested (see Section 4.2.1). Equally, however, a procedure to develop a federally-regulated advanced vocational training regulation may also be initiated if, in the unanimous view of the parties to the agreement, there is a justified, specific need for an upgrading training qualification. It may be felt, for instance, that the introduction of such an advanced training regulation would improve the attractiveness of vocational over higher-education courses. This is an expression of the parties’ firm belief that qualifications from vocational upgrading training at Level 2 (e.g. Meister (master/foreman/certified supervisor), Fachwirt (certified senior clerk); see Section 1.2.1) and Level 3 are equivalent to Bachelor’s and Master’s degrees from higher education.

Currently there are 90 federally-regulated advanced vocational training regulations in force. In comparison to the corresponding figures for IVET, the number of advanced training occupations seems low. Allowance must be made, however, for the fact that every advanced occupational qualification can be attained by holders of several different initial occupational qualifications.

Responsibility for issuing federally-regulated advanced vocational training regulations rests predominantly with the Federal Ministry of Education and Research (BMBF) in conjunction with the federal ministry with competence for the given sector (§ 53 BBiG, § 42 HWO). Often the research expertise of the Federal Institute for Vocational Education and Training (BIBB) is called in to support the development of advanced vocational training regulations.

Chamber examination regulations

Chamber examination regulations are more numerous (see Section 1.2.1) and reflect regional demand for skilled qualifications, as reported by chamber members. The chambers’ vocational training committees (see Section 4.2.2) then decide whether to issue an advanced vocational training regulation. Their strong roots in the regional economy mean that regulations can be issued which are tailored to demand, and appropriate training courses developed. Numbers of participants in examinations and courses are the key indicator for recording the level of demand.

Trends in participation

The participation statistics declined noticeably in the period from 1997 to 2002 (1997: 147,914; 2002: 127,628). In the ensuing years up to 20059 (125,073) they then remained relatively stable (BIBB 2009, p. 279 ff, see Section 3.1). No single standard explanation for this development can be given, because varying trends can be seen within the group of advanced vocational examinations. The clearest decline among the Chamber of Industry and Commerce (IHK) examinations was seen in the qualifications of Fachkraft für Schreibtechnik (specialised office clerk; 44 %) and of Industriemeister Metall (metalworking foreman; 22 %). By contrast, growth was registered in the examinations for Fachkaufmann (certified commercial specialist; 7 %), Fachwirt (certified senior clerk; 5 %) and Industriemeister Elektrotechnik (certified industrial

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9 Due to a reform in the methods for vocational education statistics in 2005, and its consequences for the chambers’ data reporting, data in subsequent years is only comparable to a limited extent (BIBB 2011, p. 307).
supervisor specialising in electrical engineering; 3 %) qualifications. In the skilled crafts sector (HWK) in the period from 1999 to 2002 there is a striking 32 % decline in master craftsperson examinations, which are classified as industrial-technical qualifications, whereas commercial qualifications grew by 4 % overall.

These figures show the close link between advanced vocational examinations and trends in technology and work organisation (Käpplinger 2007), which is particularly evident in the instance of the Fachkraft für Schreibtechnik (specialised office clerk) qualification. One possible explanation for the decline in Industriemeister Metall (certified metalworking foreman) examinations might be a stronger preference for various specialist examinations, since the aggregate category of “Other” in the IHK statistics shows a 31 % rise from 1997 to 2002. The Handwerksmeister (master craftsperson) examinations have undoubtedly come under pressure. (On potential displacement effects caused by Bachelor’s graduates, see Weiß 2010.)

4.1.2 Trade and technical schools

The provision offered by trade and technical schools is normally geared towards demand in the regional economy for skilled workers. As a matter of principle, supply in the publicly-run schools is dependent on attracting a certain minimum number of learners. The broad diversity of specialisations on offer can be adapted to meet regional needs by timetabling additional mandatory subject options. Private trade and technical schools are left to decide which fields of specialisation they offer, irrespective of any minimum number of learners.

The mix of provision in the region is determined and steered according to the market-economic principle of responsiveness to demand, the consequence of which is a permanent dynamic of adjustment and innovation. Courses in less popular demand may only accept applicants every two years, for example. For specialisations in heavy demand, new schools are established or extra classes added. Furthermore, additional specialisations can be offered or the content of existing ones adapted.

The initiative to modify or adapt regional provision generally originates from regional industry in conjunction with local training providers. The relevant Land ministry then consults various parties such as schools, the school supervision authority, the bodies that meet schools’ running costs, the labour administration, other departments (industry, agriculture, etc.), businesses and chambers.

4.2 Competences at the different state levels

In the provision of upgrading training, the dominant steering principle is the operation of market economics within the setting of the legal regulatory framework. On the strategic level there are a multitude of decision-makers: the federal ministries at federal government level, the competent ministries at Land level, and the chambers with their committees at regional level. Any coordination among these is of a voluntary nature (Dicke 1999).

4.2.1 Development of advanced vocational training regulations

Issuing advanced vocational training regulations is the responsibility of the Federal Ministry of Education and Research (BMBF), while training regulations for the master craftsperson qualifications are issued by the Federal Ministry of Economics and Technology (BMWI), and for the agricultural sector by the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV). In the overwhelming majority of cases, the procedure to develop an advanced vocational training regulation is initiated by an application from the representatives of the employers and of the trade unions. The authority with competence for issuing such regulations then specifies the procedure. Either it seeks input from the social partners in order to produce a draft advanced vocational training regulation itself, or it commissions the Federal Institute for Vocational Education and Training (BIBB) to do so. The top-level organisations of the social partners nominate experts to sit on the expert advisory panel which will develop the draft regulation. This is then finalised at federal government ministry level and issued as an ordinance in federal German law.

4.2.2 Development of chamber regulations

For the chamber examination regulations, the content, objective and examination requirements as well as the designation of the advanced vocational qualification are regulated by the chambers themselves, see Section 1.3.1.

The central advisory and decision-making bodies of the chambers are the vocational training committees established in each chamber district (§§ 77 ff BBiG, §§ 43 ff HWO). The vocational training committees consist of six employer delegates, six employee delegates and six vocational-school teachers. The teachers attend in an advisory capacity. The work of committee members is voluntary. They must be involved in all important matters concerning vocational education and training (VET), e. g. in the issuing of chamber regulations or examination regulations. The legislator
allocates them an important role in quality assurance, since they are required to strive for the continuous development of quality in VET.

4.2.3 Trade and technical schools

Federal level

In order to achieve nationwide recognition and a common classification system for training provision, the 16 Länder reach consensus within the Standing Conference of Ministers of Education and Cultural Affairs of the Länder (KMK) and set it down in the "Framework agreement on the trade and technical schools". This contains some basic statements on the agreement reached with regard to objectives, qualifications, admission requirements and forms of organisation.

Any broadening or adaptation of the specialisations stipulated as basic provision can only take place with prior consent from the KMK.

Land level

Under the cultural sovereignty of the Länder to run their own educational affairs, Land ministries prepare vocational training and examination regulations and curricula on the basis of the framework agreement cited above. Both schools and school supervision authorities report to the ministries on any need for modification or expansion within the existing provision. The Land ministries respond by setting up commissions as appropriate to revise training curricula, or by deciding to amend vocational training and examination regulations.

Regional level

Within the scope allowed by the regulatory framework, the schools are responsible for the design and delivery of vocational training. They conduct examinations in accordance with the legal bases and award qualifications. They are supported in this by the state school supervision authorities.

4.3 Forms of organisation on the provider side

4.3.1 Providers of preparation courses for advanced vocational examinations

See Sections 1.3.1 and 2

4.3.2 Trade and technical schools

Schools perform sovereign tasks (e.g. the award of state recognised qualifications) on the basis of regulations in Land law. The content of provision is specified and the emphasis of teaching is set on the basis of the described regional needs, and can vary due to the differing profiles of different schools. The same applies to decisions made at school-level as to whether teaching is organised on a part-time or full-time basis.

In taking decisions on material resources and the necessary financing, schools act in consultation with the bodies who meet their running costs (e.g. municipal authorities). Teaching staff are selected by different procedures according to whether schools are publicly or privately run:

Public schools

Teachers are appointed by the school supervision authority with input from the schools, in an advertisement and selection process which gives due consideration to the provisions of Land law on specialist prerequisites and aptitude for teaching. Unlike running costs which are normally met by the municipal authorities, teachers are financed by the Land.

Private schools

Private providers are responsible for the selection and appointment of teaching staff in compliance with the formal prerequisites. Their specialist and teaching qualifications are checked by the school supervision authority. Private providers finance both staffing and running costs and receive financial subsidies from the state on the basis of regulations in Land legislation.

4.4 Role of the social partners

Overall it can be said that the representatives of employers’ and employees’ organisations have considerable scope for active involvement in operative and strategic decisions on upgrading training. This is aimed at ensuring that advanced vocational training regulations meet the needs of firms and the qualification needs of employees, and hence gain broad acceptance. This in turn ensures the broad transferability of advanced vocational qualifications (see in particular Chapter 2 and Sections 4.1, 4.2).
Continuing vocational education and training (CVET) in companies takes place in a great number of different forms. These range from attendance of internal or external courses, through induction phases, job rotation, learning and quality circles and self-directed learning, to the attendance of information events. The presentation below focuses on company-based learning within the framework of formal upgrading training as defined in Chapter 1.

5.1 Role of workplace learning in the design/organisation of advanced vocational training programmes

5.1.1 Federally-regulated advanced vocational training regulations and examination regulations issued by competent bodies

Admission to an advanced vocational examination is not normally dependent on having attended a course but on having demonstrable occupational experience. In theory, then, learning can be undertaken entirely independently and as an integral part of the work process. For advanced vocational qualifications regulated under BBiG and HWO, partly framework plans with learning objectives are produced, which enable independent learners to prepare independently for advanced vocational examinations. So far no studies exist to establish the extent to which such learning is actually being done in the workplace. The majority of people who enrol for advanced vocational examinations undertake a course of continuing education in conjunction with employment (see Section 1.3.1). It is entirely possible to complete parts of this learning in the process of working.

At the system level, the idea of learning in the workplace was integrated into the creation of the CVET system for IT (IT-Weiterbildungssystem; continuing vocational education and training system for information technology). In parallel with the development of the system, a project was carried out to develop an educational and methodological approach for work-process-oriented learning. Training and qualification under this approach is designed to take place in line with typical work processes, supported by learning-process mentors. This concept is being implemented principally for the IT-Spezialist (IT specialist) qualification (Level 1 of the CVET system for IT, see Section 1.2.1), although this level is not a recognised advanced vocational qualification regulated by BBiG. In the nationally valid advanced vocational training regulations for Operative IT Professional (Level 2) and the successive profiles for Strategic IT Professionals (Level 3), the fundamental idea of workplace learning was integrated into one of the three parts of the examination, in the form of an extensive project that has to be undertaken. In this element of the examination, for example, Operative Professionals are expected to plan, execute and document a project relevant to business practice. The assessment of this section of the examination contributes 50% to the final overall grade. Where possible this project is carried out in the candidate’s own workplace. However, the advanced vocational training regulations provide for an alternative to a project by allowing examinees to complete tasks derived from work-based IT processes.

At the time of writing this report, the second Level of the CVET system for IT is undergoing an evaluation. Initial results show that almost all IT Professionals take a course in preparation for the advanced vocational examination – either in parallel with employment or as a full-time programme. Also, the vast majority of participants in this CVET carry out a real project in the workplace context.

The learning process involved in completing the project work is generally supported by the training provider with which the participants are enrolled for the preparation course. In this regard, the quality of the learning support depends very greatly on the qualification and commitment of the tutors. Since the relevant advanced vocational training regulations were passed in the year 2002, the qualification of Operative IT Professional has been acquired by 3,056 individuals (source: DIHK). The numbers completing the qualification, and hence the practical implementation of workplace learning hitherto as part of CVET, remains far below expectations (as also remarked by Weiß 2010, p. 277).

Nevertheless, in the past few years, two additional nationally-valid advanced vocational training regulations have been passed in the industrial-technical sector in which the examination involves the completion of a real workplace project, with learning support (Geprüfter Prozessmanager Produktionstechnologie (certified process manager for production technology)
and Geprüfter Prozessmanager Elektrotechnik (certified process manager in electrics/electronics), see Müller and Schenk 2011).

Another approach to advanced vocational training in the workplace consists of provider-specific combination programmes, in which either an advanced vocational qualification or modules of credit towards one can be gained as an “additional qualification” parallel to the IVET (see 1.2.3). To date, however, the vast majority of these measures are integrated into the school-based component of dual-system IVET or take place in add-on courses at the part-time vocational school or offered by external training providers. Learning directly in the workplace accounts for a very small share of the provision.

Apart from learning within the work process as such, there is a noticeable overall tendency to make the design of advanced vocational examinations more relevant to work-processes. Examples of these are the qualifications of Industriemeister Metall (certified metalworking foreman, 1999), Betriebswirt im Handwerk (certified business management specialist in the skilled crafts, 2011) and geprüfter Berufspädagoge/geprüfte Berufspädagogin (certified vocational educator, 2009). What this means is that training and examinations no longer take place exclusively within separate subject areas, but are primarily applied, practical activities which relate to so-called “workplace situational tasks”. Also during preparation for the examination, the knowledge to be acquired is imparted and practised in the context of occupational and job-specific task situations.

Thus, relevance to the work process represents an important educational approach, and one that is being extended. So far, however – in contrast to the situation in IVET – systematic learning in the course of work itself is of minor significance as a part of formal advanced vocational training in Germany.

5.1.2 Trade and technical schools

The objective of training at the trade and technical schools is the acquisition of extended occupational competence. A particular emphasis is placed on complex teaching and learning arrangements which are developed from aspects of the future occupational field of practice, with a direct orientation towards the applied relevance of the training.

Depending on the occupational field (technology, business, social work, etc.) there are different approaches to this. For example, a training course may include a specialist practical training programme completed by undertaking a work placement as a mandatory element. Such practical phases of training may comprise up to one-third of the total training period. Furthermore, making use of the instruments of project work9 or phases of supported independent learning, units of teaching can be designed which are not confined to the advanced vocational school setting but, instead, involve the workplace and the work environment as well.

5.2 Quality assurance in advanced vocational training in the workplace

5.2.1 Companies

To provide support for and also to assure the quality of self-directed learning in the course of work, the pedagogic approach of learning-process mentoring was developed in the CVET system for IT. This includes provision for the learning process to be supported by a mentor. According to the evaluation of the CVET system for IT, in practice this role is largely fulfilled by employees of the training providers10 which offer preparation courses for the IT Professional examination. Substantial variations are found in scope and focus. Frequently the focus is directed towards supporting the learner’s completion of the project documentation. In practice, companies are barely playing any part in targeted learning-process mentoring as yet. Generally, contact persons in the companies tend to offer professional support when the project is carried out within a work-placement firm as part of a full-time measure.

A further aspect of quality assurance built into the CVET system for IT is the obligation of continuing education participants at the Professional level to submit a proposal for the project (Operative Professionals) or case study (Strategic Professionals) they intend to carry out, and to conclude a target agreement with the board of examiners which stipulates key parameters for their implementation.

In addition to the above, advanced vocational training with elements of workplace learning is covered by all the regular quality assurance measures for advanced vocational training as described in Section 12.1.1.

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9 Project assignments are tasks to be completed independently. Their function is to demonstrate the ability to apply the rudiments of academic methods, use interdisciplinary thinking and practices, and present results appropriately.

10 Any continuing education provider is at liberty to provide preparatory courses. Courses in the area of CVET for IT are offered both by IHK-affiliated providers and other institutions.
5.2.2 Trade and technical schools

The provision at trade and technical schools consists of fully school-based continuing vocational education programmes. That is to say, it is the vocational school’s responsibility to teach all elements of the content.

Although the vocational schools organise, deliver and take responsibility for the entire provision of teaching, aspects of external learning venues also enter into the detailed design of the training courses.

All taught elements (including independent learning phases, work placements and projects) are supported by professional teachers at the trade and technical schools and taken into account for assessment purposes. Equally, all of the taught elements can feature in the final examination. By these two routes – assessment of all course elements including units of learning undertaken at an external learning venue, and inclusion in the final examination – aspects of advanced vocational training in the workplace are incorporated whilst maintaining quality standards. For systematic quality assurance, the schools make use of mechanisms and instruments of quality development, such as internal and external evaluation as well as individual feedback for teachers. Moreover, support systems exist, such as in-service teacher training, subject advisors, and trainers for the improvement of teaching quality.
6  Access routes, progression, qualifications frameworks

6.1  Access routes

6.1.1  Admission requirements to regulated advanced vocational training courses

Upgrading training (for the definition, see Section 1.2.1) is a phase that normally builds on qualification in a recognised occupation requiring formal vocational training (known as a "training occupation") or completion of a regulated IVET programme with several subsequent years of relevant occupational experience, and culminates in a recognised occupational qualification. If no initial vocational qualification is held, evidence of a longer period of practical experience can be presented in lieu. However, this is very rare, as the 2011 survey of qualification-holders by the German Association of Chambers of Industry and Commerce (DIHK) shows. Only 2 % of those who pass an advanced vocational examination under the auspices of the DIHK do not hold an initial vocational qualification (DIHK 2011, p. 10f). 84 % have undertaken a dual-system apprenticeship, 5.3 % a dual study course, and 4.6 % hold a university degree. Most of the qualification holders with a prior university degree had taken their Level 3 examination (see diagram in Section 1.2.1) or an examination in fields for which very few appropriate university degrees with such a strong practical emphasis exist. The particular function of advanced vocational training in these cases was to acquire additional competence, e.g. from the commercial domain, or to acquire specialised, in-depth and practice-oriented knowledge which was not covered so thoroughly during the degree, e.g. balance-sheet accounting or IT project management.

The nature and scope of the required occupational practice vary depending on the particular advanced occupational qualification. Normally the advanced vocational examination can be taken with just one to two years of relevant occupational experience after completion of the initial vocational qualification. An advanced vocational training course can be started immediately after obtaining the initial vocational qualification. Around 50 % of qualification-holders had accumulated more than nine years of occupational experience before taking the examination. There is a correlation here between the length of occupational experience and the return for the qualification-holder (see also Section 8.2). Approx. 13 % of qualification-holders had three years of occupational experience or fewer.

For many years, the majority of those completing upgrading training under the auspices of the chambers of industry and commerce (IHK) held a lower secondary school leaving certificate (Hauptschulabschluss) or intermediate secondary school-leaving certificate (Mittlere Reife). In the meantime, almost 40 % of qualification-holders have either a general or a subject-specific entrance qualification for higher education (allgemeine or fachgebundene Hochschulreife) or an upper vocational school-leaving certificate giving admission to a university of applied sciences (Fachhochschulreife). In particular, the share of those with the upper vocational school leaving certificate grew by 6 % between the period 2003 to 2007 and the period 2005 to 2010.

In order to be admitted to an advanced vocational examination before a competent body, a corresponding application must be submitted (“Model examination regulations for advanced vocational examinations” Musterprüfungsordnung für Fortbildungsprüfungen, § 8 para. 1 MPO-F-BBiG; Hauptausschuss des Bundesinstituts für Berufsbildung 2008). The final decision on admission is made by the competent body.

6.1.2  Trade and technical schools

The minimum requirements for entry to a trade and technical school are a qualification in a recognised training occupation which is deemed by the BBiG/HwO or by Länder provisions to be relevant to the given specialisation, plus a corresponding period of occupational experience of at least one year, plus a leaving certificate from the part-time vocational school for candidates who were subject to mandatory school attendance during the initial vocational training period.

The corresponding work experience (which may also take the form of a directed work experience placement) can be completed during the trade and technical school course. The duration of full-time trade and technical school training is then lengthened accordingly. In the business specialisation, in some cases an intermediate school-leaving certificate or an equivalent level of education is required. This is obligatory for the social care specialisation.

(Kultusministerkonferenz 2002)
6.2 Progression to other education and training programmes

Progression is not a new topic of the current decade. Since the 1960s, a lack of permeability has been identified as a structural deficiency of the German education and training system. The “Recommendations of the Innovation Circle on Vocational Education” passed in 2007 under the direction of the Federal Ministry of Education and Research (BMBF), (www.bmbf.de/pub/IKBB-Broschuere-10_Leitlinien.pdf, in German), call for comprehensive permeability at the interfaces and transitions between school and IVET, IVET and CVET, and between VET and higher education.

Born of the conviction that transitions between the sub-systems of education and training must be made easier in order to give individuals the optimum chance of developing their knowledge, capabilities and skills, the Federal Ministry of Education and Research launched a pilot initiative named “DECVET – development of a credit transfer system in vocational education and training”. Since autumn 2007, those involved in this initiative have systematically tested whether and to what extent a credit transfer system might improve the recording, award and transfer of credit for learning outcomes. The aim is to identify and test all possible potential for credit transfer at interfaces throughout the dual system (website: http://www.decvet.net/index.php?new_changed_lang=1; accessed: 13.10.2011).

6.2.1 Transitions from VET into higher education

At the “Advancement through Education” summit held in October 2008 in Dresden, the federal and Länder governments agreed to promote the transition from vocational education and training, including CVET, into higher education institutions by means of an “advance-ment package” (Aufstiegs paket). These measures should significantly increase the numbers of vocationally qualified individuals commencing university studies without a school-based university entrance qualification by 2012.

An important step on the way to widening access to higher education is the resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (KMK) on “Higher education entrance for vocationally qualified applicants without a school-based higher education entrance qualification” of 06 March 2009 (Kultusministerkonferenz 2009) and its implementation by Germany’s Länder. In the resolution, the Länder reached consensus on common criteria for access to higher education for applicants holding a vocational qualification but no university entrance entitlement from school. Accordingly, holders of vocational upgrading-training qualifications such as Meister, Techniker, Fachwirt (master/foreman/certified supervisor, technical engineer, certified senior clerk) or similar are awarded a general entrance qualification for higher education. Holders of vocational qualifications without an upgrading training qualification receive a
subject-specific higher education entrance qualification, if they have completed relevant initial vocational training lasting at least two years and can demonstrate three years of relevant occupational experience, and either pass an aptitude test or successfully complete a probationary year of studies. So far the ratio of students commencing higher education without a conventional university entrance qualification has remained at just above 1 % (BMBF 2011, p. 13).

The “Common structural guidelines of the Länder for the accreditation of Bachelor’s and Master’s study courses”, updated by the KMK in 2010, also open up the option that in defined exceptional cases, access to continuing-education Master’s degree programmes can be granted via an entrance examination as a substitute for a first degree conferring a professional qualification (like the German Bachelor’s degree). This route would suit holders of vocational upgrading qualifications, giving them a means of accessing a Master’s degree course if they can pass the entrance examination and fulfil other possible entrance prerequisites.

The DIHK survey of qualification-holders (DIHK 2011, p. 26) clearly shows the desire to pursue continuing education at university level, particularly among those without a higher education entrance qualification. 21.4 % of those surveyed who held an intermediate school-leaving certificate expressed such a wish, as did 13.8 % of those with a lower secondary school-leaving certificate as the highest school-leaving qualification.

Apart from the question of access, the transfer of credit for prior learning is a key aspect of the theme of permeability (irrespective of a credit transfer system in the form envisaged for DECVET, see above). Holders of vocational qualifications, particularly those from advanced vocational training, possess a wide variety of highly relevant specialist competencies, by virtue of which they are well equipped for appropriate degree programmes. In the context of the new BMBF initiative to promote measures supporting the transition from vocational into higher education, supportive measures are being developed (bridging courses, mentoring, structural measures to support credit-transfer in practice, etc.) to facilitate the transition of vocationally qualified candidates onto university degree programmes. Under the BMBF initiative to support the “Accreditation of prior learning from vocational education & training and work for higher education programmes” (ANKOM), the feasibility of awarding credit for vocationally-acquired competencies towards university degrees has been proven for different combinations of academic and vocational specialisations, and practicable credit-transfer procedures have been developed (Freitag and Loroff 2011). Procedures for the transfer of credit for vocational qualifications towards university degrees have been piloted in a few German Länder (Stamm-Riemer and Hartmann 2011).

6.2.2 Transition from IVET to advanced vocational training

Linkages from initial vocational education and training (IVET) to advanced vocational training are supported by the type of qualification known as additional qualifications (Zusatzzertifikate), see Section 1.2.3. This is done particularly by making a start on a recognised advanced qualification, or elements of it, during a dual-system apprenticeship.

In the past few years, even at the stage of updating the training regulations for dual-system IVET, increasing attention is being paid to subsequent advanced vocational training opportunities. For example, alongside the development of the IVET qualification of Produktionstechnologe (production technologist), a nationally-recognised advanced vocational training regulation for Prozessmanager/-in Produktionstechnologie (process manager in production technology) was developed concurrently (Borch and Zinke 2008). The initiative was instigated by the responsible industry association, which argued that given the rapid pace of technological development, staff needed appropriately high standards of vocational training in order to maintain competitiveness.

Likewise, the conceptual design of the CVET system for IT and the corresponding system of advanced and continuing vocational education in electrical and electronics occupations are models of integrated initial and advanced vocational training (see Section 5.1).

6.3 Possible impacts of the National Qualifications Framework on postsecondary education and training programmes

At the time of compiling this report, the German National Qualifications Framework (Deutscher Qualifikationsrahmen, DQR) is still at the draft stage. The DQR encompasses all qualifications from across all sectors of the German education and training system. It is intended to improve the comparability and contribute to the appropriate assessment of German qualifications within Europe; in the national context it will make orientation within the German education and training system substantially easier, support permeability by making equivalences and differences between
qualifications more transparent; and not least, it aims to support an emphasis on learning outcomes in training and qualification processes (outcome-orientation).

The DQR describes specialist competences (subdivided into knowledge and skills) and personal competences (subdivided into social competence and autonomy) in terms of eight reference levels with which all qualifications can be aligned, whether they are acquired in general, higher or vocational education. Initially, only formal (complete) qualifications will be aligned to the framework. It is envisaged that the outcomes of non-formal/informal learning will be aligned at a later time.

The alignment of recognised qualifications – which can be expected by 2012 at the latest – is carried out on the guiding principle that every qualification level can fundamentally be attained by means of various educational pathways. At the same time, the alignment of qualifications from the German education and training system to the levels of the DQR does not replace the existing system of access requirements. The attainment of one particular DQR level does not automatically give access to the next. Equally, the attainment of a level is decoupled from any implications under collective bargaining or pay legislation.

The possible consequences set out below for the postsecondary/non-academic sector are based on the assumption that the national framework is used as an instrument of reform.

The orientation to learning outcomes and competence, which is established as a characteristic design feature of school-based IVET and advanced vocational training, will also increasingly prevail in the design of both advanced vocational training regulations and the corresponding examinations.

Since the learning-outcome categories of the DQR contain a specific “knowledge” column, the standards of professional knowledge to be acquired with post-secondary education and training will be more clearly formulated.

The descriptors of the four competence categories (knowledge, skills, social competence, autonomy) at eight levels will result in a certain diversification of qualification profiles. The standardisation/differentiation of the three Levels of postsecondary education and training programmes will be stepped up (cf. diagram in Section 1.2.1).

The qualifications framework’s consistent orientation towards learning outcomes and competence will entail a different and more elaborate form of certification.

By positioning vocational qualifications on the higher levels alongside the qualifications from universities and universities of applied sciences, the hitherto somewhat ignored competition between them is made explicit, and possibly intensified. On the other hand, the intended assignment of Level 2 trade and technical school qualifications and advanced vocational qualifications to the same reference level as university-awarded Bachelor’s degrees could bring about higher recognition for vocational qualifications within the overall structure of education and training.

Some competent bodies (e. g. chambers of industry and commerce, chambers of skilled crafts) have already begun – with support from Länder ministers of economic affairs – to award a “Bachelor Professional” qualification. In the view of both the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (KMK), this is something that the competent bodies are not entitled to do. Advanced vocational qualifications have an independent profile which is well-known and recognised in vocational and workplace practice. This profile needs to be more sharply defined in order to pave the way for advancement and career opportunities for holders of an initial vocational qualification.
7 Second-chance qualification options and equal opportunities

7.1 Role of the postsecondary VET system in offering second-chance qualification options for returners

Federally-regulated upgrading training

Upgrading training or taking an advanced vocational examination can also be an attractive option for unemployed individuals or lateral entrants to particular field. Use can be made of this option to gain a first vocational qualification where lateral entrants have not previously acquired a formal occupational qualification but have nevertheless attained a good position within a company on the basis of longstanding occupational experience (see Section 6.1.1). This is particularly the case in information technology, since formal vocational training pathways in IT were not fully meeting the actual demand at the beginning of the IT boom. To some extent, the costs of upgrading training measures for unemployed people are financed by the Federal Employment Agency (Bundesagentur für Arbeit) (Götzhaber, Jablonka et al. 2011, p. 42)

But upgrading training also provides a qualification option for people who identify themselves as in need of second-chance training. “Late developers” who had problems during their school years with the school setting, the meaningfulness of learning or a general lack of direction, can acquire a recognised advanced vocational certificate by the second-chance qualification route. Apart from boosting their own self-esteem, it also constitutes a publicly visible achievement and, from Level 2 of the advanced vocational training model upward, opens up access to higher education.

Trade and technical schools

Returners who fulfil the prerequisites for entry are accepted onto trade and technical school courses. Alongside a recognised continuing vocational qualification, other qualifications can also be gained, such as the intermediate school-leaving certificate or a university of applied sciences entrance qualification.

These schools offer vocationally-qualified individuals the opportunity to acquire a tertiary-level-equivalent qualification without having to hold a formal higher education entrance qualification. Thus, they open up a route to non-university-based higher vocational training and qualification.

7.2 Significance of the postsecondary VET system in fostering equal opportunities

In the 7th survey of qualification-holders by the German Association of Chambers of Industry and Commerce (DIHK 2011), mentioned above, a question was included for the first time about the migrant background of respondents (p. 12). The 9.6 % of individuals from a migrant background as a share of holders of an upgrading training qualification is significantly below the share they make up of Germany’s total population (19 %). Great potential is seen in this area with regard to meeting future demand for skilled workers. More information and advisory work will be aimed at increasing this share.

The respondents from migrant backgrounds are slightly more likely than average to hold a lower secondary school-leaving certificate, as do a significantly raised proportion of those with an upper vocational school-leaving certificate giving access to a university of applied sciences. The rate of qualification-holders with a general higher education entrance qualification is roughly equal to that of respondents without a migrant background. The proportion of those who acknowledge a positive impact as a result of advanced vocational training is 4.5 % lower in the first group, i.e. 62.5 % compared to 67 %. For the improvements achieved (career advancement, salary, etc.) the figures are congruent.

Trade and technical schools

For the trade and technical schools, the situation is somewhat less favourable. Out of the 50,799 leavers from advanced technical schools and specialised academies in the school year 2008/09, only 1,647 were from migrant backgrounds. That is a 3.2 % share, which reveals potential to raise this figure.
8 Transition into the labour market

8.1 Benefits of different types of education and training

There are several dimensions to the benefits of vocational education. In addition to the economic benefit, such as the question of transition into the labour market for example, the benefit of VET can be considered from the viewpoint of companies, from the viewpoint of the training participants as individuals, or from a social and societal perspective.

There is a considerable consensus that company-based dual-system IVET in Germany opens up the opportunity of employment as a qualified skilled worker to people from all groups in society, and thus creates an important foundation for social integration and an equal stake in society (Kremer 2008, p. 2; Berger and Pilz 2009, p. 21). Dual-system initial vocational training is a permanent and well-regarded element in the social perception of the education and training system. At the end of the school year 2009/2010, around half of school-leavers were seeking a company-based apprenticeship (BIBB 2011c, p. 83f). The OECD also concedes the high social status of the VET system in Germany, noting that it provides qualifications in a broad spectrum of occupations and adapts flexibly to changing labour market requirements (Hoeckel and Schwartz 2010).

The attractiveness and social recognition of dual-system IVET is also apparent from the high proportion of new trainees with a higher education entrance qualification (20.4 %) in the year 2009 (BIBB 2011c, p. 161). School-leavers with a higher education entrance qualification do not just appreciate the merits of dual system IVET, however. Whilst they are attending trade and technical school, around 22 % of these upper secondary school leavers with a higher education entrance qualification opt for a training course at a full-time vocational school (Berufsfachschule) leading to an occupational qualification (Hall and Schade 2005, p. 25).

The attractiveness of vocational education and training for high-achieving young people can also be detrimental in effect, however. In 2009, 63 % of those completing their first apprenticeship contract in the dual system had an intermediate or upper secondary school-leaving certificate, whereas only 37 % had a lower secondary school-leaving certificate or none at all (BIBB 2011c, p. 161).

In the view of some educational researchers, such transition rates show “[...] that the dual system is tending to lose one of its traditionally great strengths, that of integrating children from less well-educated groups into working life by means of initial vocational training” (Autorengruppe Bildungsberichterstattung 2008, p. 158). The policy sphere is attempting to counteract this trend with programmes and initiatives. But equally, business and industry recognise their duty to make sufficient apprenticeship places available and, in the National Pact for Training 2010-2014, reached an agreement with the German federal government and the Länder, against the backdrop of long-term demographic trends and in order to avoid a possible shortage of skilled workers, to make targeted and intensified efforts to provide opportunities for young people who had previously had difficulties in gaining access to IVET.

In the meantime, the number of young people who fail to find an apprenticeship on leaving general education has dropped markedly, part of which is certainly attributable to the demographic trend. Whereas in 2005 more than 417,600 young people ended up in the so-called “transition system”, by 2010 the figure was “only” around 323,700 (-22.5 %) (Dionisius, Lissek et al. 2011).

Transition into the labour market

At what is known as the Second Threshold, the transition from IVET into the labour market, crucial foundations are laid for the subsequent career path. Notably, 57 % of apprentices remained in their training company in 2009 (BIBB 2011c, p. 198).

In the period from 2000 to 2008, almost 47 % of those who have completed a dual-system initial vocational qualification are integrated into employment three years after qualifying.11 Six years after qualification, the figure is 51 %. Three years on, 7.5 % are undertaking additional training; six years on, the figure is 6.8 %. Three years after qualifying, almost 17 % are in employment with minor potential for precariousness; 12 six years on, this applies to only 14.7 %. Three years after completing IVET, barely 10.4 % are registered as jobless; six years afterwards, the figure is 9 % (BIBB

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11 Permanent employment contracts with normal income
12 Full-time jobs with a short-term employment contract and full-time or part-time jobs with permanent employment contracts and low income
2011c, p. 266ff.). This data shows that transition into the labour market within the first three years of qualifying is successfully achieved by a very high percentage, and that over the next few years the figure continues to stabilise and improve.

All in all, the transition from dual-system IVET into the labour market functions extremely well, supported by the system’s distinctive orientation towards recognised occupations and the in-company setting, making use of the part-time vocational school-based element for the acquisition of not only occupational but also generic competences. The strong practice-based emphasis of dual-system IVET rooted in recognised occupations also means that in the first few years after completion of the qualification there is very little necessity for CVET. Analyses from a BIBB research project suggest that a large body of knowledge and skills which are mastered in the course of IVET in Germany would be covered, in other countries, as part of CVET following a school-based IVET programme (Pfeifer 2008, p. 28). This in part explains Germany’s average performance in international comparisons of data on participation in CVET. Also see Section 3.5

8.2 Benefits of postsecondary vocational education and training (Elaboration on 8.1)

A few years after gaining an initial vocational qualification, a phase of upgrading training often follows in which the targeted acquisition of competence results in a further extension of occupational competence. This acquisition of competence may take the form of developing a specialisation, but more generalist competencies can also be in demand as key components of upgrading training, e.g. the upgrading training programme to qualify as a Betriebswirt (certified business management specialist).

Upgrading training is a significant career path for holders of an initial vocational qualification from the dual system, in particular. The 7th DIHK survey of qualification-holders conducted in 2011 shows that almost two-thirds of them notice positive impacts on their career development after taking the advanced vocational examination. The positive development most frequently mentioned by qualification holders – promotion – is apparent from the question as to the hierarchical position or function in which the respondents were employed before and after the advanced vocational examination. The number of administrators, skilled workers and foremen has fallen whilst the number of individuals in specialist and management positions has distinctly risen (p. 21). 73 % of respondents stated that they had been promoted or gained wider responsibilities, and 66 % had benefited financially (DIHK 2011, p. 18). 60 % of those who had noted a financial gain quantify it at up to EUR 450 gross per month. However, a study by the Cologne Institute for Economic Research (Institut der deutschen Wirtschaft, IW) shows that in comparison to the beginning of the 1990s, the proportion of 25 to 64-year-olds with a master/foreman/certified supervisor or technical engineer qualification and living in high-income households has declined from 27 % to 19 % in 2009. The proportion living in medium-income households has risen from 59 % to 66 % (Institut der deutschen Wirtschaft 2011). An indicator of the value attached to upgrading training by companies is shown by the 2011 DIHK survey of qualification holders (DIHK 2011, p. 23). Somewhat more than one-third of respondents surveyed receive financial support from their employers. Almost 25 % were supported by means of a leave of absence.

Meisterbrief (master diploma)

It is also possible to gain a Meisterbrief (master diploma) by means of advanced vocational training. This opens up better prospects in the skilled crafts, in particular, but career opportunities also exist for qualified masters in industry, in other branches of business, and in the public sector. Masters of a skilled craft are also entitled to train apprentices. Furthermore, the advanced vocational training they receive in company management, business administration and industrial education lays the foundation for self-employment and the establishment of their own firm. It has been shown that newly-established skilled crafts enterprises run by qualified master craftspersons have a substantially higher survival rate than start-ups in other branches of business, because the business know-how necessary for self-employment in such matters as bookkeeping, cost accounting, pricing etc., is taught in the course of advanced vocational training. (Source: http://www.hwk-aachen.de/bildung/weiterbildung/meisterfortbildung.html, in German)

A master diploma is also a necessary prerequisite in order to manage a skilled crafts enterprise in certain cases, namely in the skilled crafts subject to mandatory authorisation. Annex A of the Crafts and Trades Regulation Code (HwO) provides information on which businesses are recognised as requiring mandatory authorisation. Currently this applies to 41 trades, e.g.: builders and concreters, chimney-sweeps, bakers, butchers, roofers, metalworkers, etc.

The HwO was liberalised in 2004. At that time, as an initiative to encourage business start-ups, mandatory
authorisation was suspended for 53 of the original 94 fully-fledged skilled crafts which could only be run by a master craftsperson. The assignment of the remaining skilled crafts requiring mandatory authorisation to Annex A is based particularly on the potential hazards associated with the occupations in question. Nevertheless, the possibility remains open of taking a master craftsperson’s examination in order to certify quality.

Owners of businesses subject to mandatory authorisation are listed in the Handwerksrolle or register of craftspeople. This is maintained by the competent chamber of skilled crafts, and relates to its own district.

Higher education entrance qualification

Those who complete the advanced vocational training courses mentioned under 1.2.1 and 1.2.2 are entitled, under the KMK Framework Agreement of March 2009 (Kultusministerkonferenz 2009) to direct access to all courses of study at all universities without any prior examination. This agreement was transposed into law by the Länder within the framework of their responsibilities. (see a synoptic overview by the KMK, dating from July 2011: http://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2011/2011_07_00-Synopse-Hochschulzugang-berufl-Qualifizierter.pdf; in German, accessed: 07.11.2011), also see Section 6.2, Progression.

Trade and technical school qualification-holders

Employees with a trade and technical school qualification occupy a middle-management function which is assigned to the level between a master/foreman/certified supervisor certificate and a degree from higher education. Due to the shortage of university-educated skilled workers in almost all technical areas, companies are increasingly trying to compensate for this skills shortage by means of non-university training and qualifications. In this regard, the trade and technical schools are gaining ever more importance, resulting in even greater labour-market transferability of trade and technical school qualifications than has existed until now. The economic and human resources situation in productive enterprises leads to a situation, in many cases, where suitable members of staff are encouraged to take part in advanced vocational training, combined with a job offer in a new function on successful completion of the qualification.

As above, another possibility which exists (depending on the qualification) is that of self-employment and entry in the crafts register, which represents an additional prospect for qualification-holders in technical areas and can result in the creation of additional jobs.

In the social care sector, the qualifications give access to regulated occupations, i.e. in order to work in certain fields of social pedagogy – alongside the very few relevant degrees in Social Pedagogy from universities of applied sciences - this is the qualification required in order to obtain a skilled position in a children’s day-care establishment, for example. The extent of training provision in this area is coordinated with the declining number of jobs so that adequate post-qualification employment opportunities are ensured.

The labour-market transferability of these qualifications in the business sector is also very good, since advanced vocational training qualifies people for a variety of possible employment options. In addition to operational management tasks in positions with a business administration function, these may include in-house project management and participation in business organisation development and business-wide process optimisation.
9 Financing and incentives

9.1 Relationship of state support, employer provision and individually financed post-secondary VET

The state contribution to the financing of post-secondary education and training can be broken down into demand-oriented and supply-oriented support. Demand is essentially supported by funding the living costs and educational expenditures of individuals. Expenditure by the German federal government under the Upgrading Training Assistance Act (Aufstiegsfortbildungsförderungsgesetz, AFBG, see Section 9.3) in 2010 was in the region of EUR 149 million (Haushaltsrechnung des Bundes 2010). This accounts for 78% of relevant public spending. The Länder provided the remaining 22% or approx. EUR 42 million. The main beneficiaries of this spending were individuals preparing for federally-regulated advanced vocational examinations or chamber exams.

In official statistics, however, this expenditure is only shown aggregated with the expenditure on other kinds of vocational schools. Abstracting from other factors and calculating on the basis of the number of taught hours per week in the various vocational schools, around EUR 528 million of total expenditure can be attributed to the trade and technical schools (excluding the vocational schools for healthcare occupations) for the calendar year 2010.13 This also subsumes public subsidies for the independently-run trade and technical schools.

The Länder (together with the municipal authorities) are also responsible for the basic financing of the trade and technical schools (supply orientation). In some cases, trainees in such trade and technical school classes also receive support under the Upgrading Training Assistance Act (AFBG) (cf. Section 9.2).14 In 2010 this amounted to some EUR 124 million, of which 65% is borne by the German federal government and 35% by the German Länder.14

The number of taught hours and learners are only reported by school year in German official statistics. The calculations relating to the calendar year 2010 are therefore based on a weighted arithmetic mean of the school years 2009/10 and 2010/11 (Sources: Statistisches Bundesamt 2010a, 2011d). Total public expenditure on vocational schools in 2010 amounted to some EUR 7.8 billion (Source: Information from the Federal Statistical Office on the basis of budget estimate statistics (Haushaltsansatzstatistik) for October 2011: provisional “actual” values for 2010). These include the expenditure for health-sector vocational schools. For these, however, no information is available on the number of taught hours. The expenditure attributable to them is therefore estimated, making use of trainee numbers, and deducted from total expenditure before the remaining expenditure is distributed across the other vocational schools, including trade and technical schools, by means of the number of taught hours. Since schools in the health sector are frequently privately run and thus receive a lower volume of public subsidies, the estimate of expenditure on the other vocational schools and trade and technical schools is probably on the low side. On the other hand, training in health and social care occupations also takes place at trade and technical schools in some of the German Länder. Around half of trade and technical school learners were trained in these occupations in the school year 2010/11. These are effectively omitted from the present report. Accordingly, the calculated value for trade and technical schools in relation to the training courses relevant for this report’s purpose is overstated.

13 In some cases, trainees in such trade and technical school classes also receive support under the Upgrading Training Assistance Act (AFBG) (cf. Section 9.2 and footnote 22).

14 As the source for AFBG support, the corresponding section of the federal government budget was used, since this item is intended to show the cost to public budgets. This heading covers both grants to recipients of AFBG support as well as interest subsidies and reimbursement of loan defaults to KfW (the lender). On the other hand, it was necessary to use BAföG statistics as the source for BAföG payments (Statistisches Bundesamt 2011a), because these are the only source in which the assistance granted to trade and technical school learners with a full initial vocational qualification is reported separately.

15 The number of taught hours and learners are only reported by school year in German official statistics. The calculations relating to the calendar year 2010 are therefore based on a weighted arithmetic mean of the school years 2009/10 and 2010/11 (Sources: Statistisches Bundesamt 2010a, 2011d). Total public expenditure on vocational schools in 2010 amounted to some EUR 7.8 billion (Source: Information from the Federal Statistical Office on the basis of budget estimate statistics (Haushaltsansatzstatistik) for October 2011: provisional “actual” values for 2010). These include the expenditure for health-sector vocational schools. For these, however, no information is available on the number of taught hours. The expenditure attributable to them is therefore estimated, making use of trainee numbers, and deducted from total expenditure before the remaining expenditure is distributed across the other vocational schools, including trade and technical schools, by means of the number of taught hours. Since schools in the health sector are frequently privately run and thus receive a lower volume of public subsidies, the estimate of expenditure on the other vocational schools and trade and technical schools is probably on the low side. On the other hand, training in health and social care occupations also takes place at trade and technical schools in some of the German Länder. Around half of trade and technical school learners were trained in these occupations in the school year 2010/11. These are effectively omitted from the present report. Accordingly, the calculated value for trade and technical schools in relation to the training courses relevant for this report’s purpose is overstated.
schools; around 31% of trade and technical school learners who took final examinations in the school year 2010/11 did so at independently-run schools (Statistisches Bundesamt 2011d). If the listed expenditures are added – disregarding the methodological problems – then in 2010 at least EUR 843 million was spent from the public purse on postsecondary VET (without taking the support programmes into consideration).16

There are no official statistics that can be used to help determine individual expenditure. Therefore it can only be estimated very roughly. It is known from a study by Beicht/Krekel/Walden (Beicht, Krekel et al. 2006) that individuals in Germany spent an extrapolated amount of EUR 13.8 billion on continuing education and training in 2002.17 On average for all participants, around 27% of continuing education expenses in the study were attributed to a category labelled “upgrading courses” (“Aufstiegsweiterbildungen”). This equates to some EUR 3.7 billion. Costs per participant amounted to EUR 1,268. The assignment of the surveyed training participants to the category of “upgrading courses” was based on the interviewees’ own self-assessment, however. Judging from the scale, it can be assumed that the term “upgrading courses” was interpreted very broadly, so that in principle the category subsumes measures of any kind which the respondents might have associated with career advancement, e.g. in-house management courses, and not exclusively courses leading to qualifications such as master/foreman/certified supervisor, technical engineer and certified senior clerk which are eligible for support under the Upgrading Training Assistance Act (AFBG). The latter should make up a significantly smaller proportion, as is attested by the number of AFBG support recipients, which was around 88,000 in 2002. An estimated EUR 379 million in self-funded costs for trade and technical school attendance must also be added.18

Percapita individual expenditure of trade and technical school learners was EUR 692 on average.19 The total individual expenditure in 2002, thus calculated, amounted to around EUR 4 billion. Alternatively, the study permits consideration of continuing education measures with a duration of 50 hours or over. Within this category, the self-funded costs amounted to EUR 10.8 billion in total.20

More recent data of a comparable nature on individual expenditure is not currently available.

Companies can also pay a share of the financing of postsecondary education and training if they expect to benefit from it. Unlike the case of IVET in the dual system, however, there is little or no information as to the extent of such support. However, the European Continuing Vocational Training Survey (CVTS III) does supply data for the expenditure on advanced and continuing vocational training by German companies with at least 10 employees. From this, the Federal Statistical Office extrapolated a figure of EUR 7.9 billion for the year 2005, not including staff absence costs (Statistisches Bundesamt 2008). However, only a small proportion of this must have been applicable to the postsecondary sector. An unpublished BIBB survey suggests that the direct expenditure of German companies with at least 5 employees on upgrading training courses for their employees amounts to between EUR 0.5 billion and EUR 1 billion. Here, in contrast to the estimated individual costs, only master/foreman/certified supervisor, technical engineer, certified senior clerk qualifications and chamber examinations were counted.21

16 The heading of public expenditure disregards municipal support for trainees, such as school transport. It is not possible to assess to what extent this also benefits trade and technical school trainees already holding a full initial vocational qualification. Furthermore – where schools use public buildings free of charge – it can be argued that this, too, is a contribution of significant monetary value. However, the Federal Statistical Office does not calculate any notional premises costs because this contravenes the principles of international education statistics (see Statistisches Bundesamt 2010b, p. 92-93).

17 Includes direct costs (like participant fees, learning materials, travel costs, accommodation costs, meals and child care) and indirect costs (loss of income). The estimated total number of CVET participants was 27.4 million (p. 61).

18 This is the figure obtained if the estimated total number of CVET participants, i.e. 27.4 million persons in 2002 (p. 61) is multiplied by the percentage of persons stating that they attended a trade and technical school course in 2002 (p. 26), and by the average self-funded costs of trade and technical school courses, i.e. EUR 692 (p. 68).

19 However, in the cited study, expenditure on trade and technical school courses could not be separated reliably from expenditure on upgrading training programmes. Some double counting is therefore a possibility. Furthermore, it is thought that respondents may interpret the concept of trade and technical school course broadly, with the result that the responses include training courses for which a full initial vocational qualification is not a prerequisite, as at the trade and technical school providing initial vocational training in the health sector.

20 This figure is obtained from the percentage of participants on programmes of different lengths (50 to under 100 hours, 100 to under 250 hours, 150 to under 500 hours, 500 hours or more, see p. 87), the self-funded direct costs per participant on average by course length (p. 90-91) and the total number of CVET participants, i.e. 27.4 million persons in 2002 (p. 61).

21 The comments on the shares of funding borne by individuals and companies disregard the fact that both groups partly refinance their expenditures by means of tax allowances. Companies can claim certain expenditures as business expenses and individuals can set them off against tax as work-related deductions. The contribution of the public purse to financing increases accordingly. To be added is the state’s loss of tax revenue and social security contributions resulting from reductions in working hours and hence pay.
9.2 State financing of postsecondary vocational education and training in comparison with academic educational provision

Support of individuals

Maintenance support for people in initial and continuing vocational education and training in Germany is governed by three statutory bases: the Federal Education and Training Assistance Act (Bundesausbildungsförderungsgesetz, BAFöG), the Upgrading Training Assistance Act (Aufstiegsfortbildungsförderungsgesetz, AFGB) and the Third Book of the Social Code (Sozialgesetzbuch III, SGB III) in which the vocational training grant scheme (Berufsausbildungsbihilfe, BAB) is regulated. Their respective scopes of application divide up broadly as follows: wholly school-based and university-based IVET is supported under the Federal Education and Training Assistance Act (BAFöG), in-company IVET under the vocational training grant scheme (BAB), and recognised upgrading training, for which a recognised initial occupational qualification or equivalent is a prerequisite, under the Upgrading Training Assistance Act (AFGB). Only the AFBG and the BAFöG are relevant to the postsecondary sector considered in this report.

Essentially, the AFBG relates to federally-regulated advanced vocational training and chamber-regulated training while the BAFöG relates to school-based and academic education and training. In certain cases, overlaps or clashes arise between these delimited areas. In the academic sector, the BAFöG alone is applicable. The AFBG is used to fund the costs of training courses, examinations and the skilled-craft masterpiece (all independent of income and assets) and – for full-time courses – to contribute to maintenance (depending on income and assets), partly as a grant and partly as a loan (see Section 9.3).

Depending on income and family situation, the possible monthly maintenance grant varies. For a single person without children, under the current legislation the maximum amount is EUR 238 (maximum eligible rate including loan element in this case: EUR 697). For a married person with two children, for example, the rate is up to EUR 448 (maximum eligible rate in this case: EUR 1332). Single parents can receive an additional childcare allowance of EUR 113 per qualifying child. On average a person claiming support received around EUR 212 per month in 2010 as a maintenance grant (full-time recipients only, excluding childcare grant) (Statistisches Bundesamt 2011b). The additional monthly maintenance loans claimed reached an average level of EUR 436 per person in full-time training. For a single person without children, the maximum possible rate is currently EUR 459 (EUR 884 for a married person with two children). Averaged over all recipients of support (on both full-time and part-time advanced vocational courses, with different durations of support), the per-capita average total grant per year is around EUR 1378. The average for full-time recipients amounted to EUR 1851 and for part-time recipients, EUR 844. Overall around EUR 165 million in grants was paid in the year 2010.

Compared with AFBG support, the conditions for BAFöG support are more restrictive. The means-assessment also takes parental income into account and the disregardable assets provisions are less generous. Furthermore, BAFöG support can only be awarded – with certain specified exceptions – if the trainee has not reached the age-limit of 30 by the beginning of the phase of training to which the training grant applies. Furthermore, the BAFöG makes no provision for uplift rates for recipients who are married or have children, although the same entitlement exists to a childcare grant of EUR 113 per child as under the AFBG. Under the BAFöG, however, the rate is reduced to EUR 85 for every subsequent child whereas under the AFBG it remains constant. And finally, nothing corresponding to the funding of course fees and the skilled-craft masterpiece exists under the BAFöG.

The maximum eligible rate under the BAFöG is dependent on the type of school. For students at universities, it is currently EUR 670 (including health and nursing care insurance supplement), half of which is paid as a grant. In reality, depending on the type of university, recipients in the year 2010 received an average of between EUR 431 and EUR 451 (including loan

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22 For example, candidates preparing for master craftsman/ certified supervisor examinations may be enrolled at a trade and technical school so that BAFöG support is also a possibility.

23 Retrospectively waived loans are not yet taken into consideration in the grant amounts reported by the Federal Statistical Office. The grant “effectively” received by the recipient of support after the loan waiver is correspondingly higher.

24 Source: information from the Federal Statistical Office, November 2011. It should be borne in mind that the reference value includes all individuals who received any support in 2010, even if only for a brief period of time.

25 This section focuses on the comparison of grants to advanced vocational trainees in the postsecondary and tertiary sectors. Therefore, reference is made only to grants awarded within a period according to AFBG (Upgrading Training Assistance Act) statistics. These deviate from the calculation results used in the previous section to show the cost to public budgets, because they include, among other things, the cost of waived loans and the state’s subsidisation of interest on the loans granted.

26 For Master’s degree courses the applicable age limit is 35 years.
element and taking account of the 100% childcare grant (Statistisches Bundesamt 2011a). For courses at publicly-run universities in 2010, BAföG grants amounting to around EUR 1 billion were awarded. When comparing the amounts of support in the tertiary and the postsecondary sectors, it must be borne in mind that university students do not have to pay their own course fees, with the exception of the tuition fees levied in a few of the German Länder. The pure maintenance grants under the BAföG payments received by students are at a similar level to the BAföG payments received by students.

Learners at trade and technical schools, who must meet the prerequisite of holding an initial qualification in a recognised occupation, can claim payments to finance their training courses in a recognised occupation. The BAföG payments for trade and technical school trainees are awarded in the form of 100% grants, however, unlike those for students. Whether support under the ABFG or the BAföG is more favourable for the person concerned depends upon such factors as their age, their family situation, their personal assets, the income of their parents or spouse, and the level of any school fee that may be payable. In 2010, BAföG grants to trade and technical school trainees amounted to around EUR 124 million. The average monthly grant per recipient was EUR 441.

What is striking is the higher grant element in the support paid to trade and technical school trainees with a recognised initial vocational qualification in comparison to students. However, since trade and technical school courses are designed to take less time than degree courses – normally 2 years – it is likely that over the total period of support, the grants paid to students and trade and technical school trainees are, on average, roughly similar in amount.

Basic funding

The academic sector’s equivalent of the basic funding of the trade and technical schools is the state subsidies paid to universities. Like schooling, academic education in Germany is essentially a Länder responsibility. Accordingly, the Länder substantially provide funding for universities and other higher education institutions, contributing 89% according to the 2010 “Education finance report” (Bildungsfinanzericht 2010) (Statistisches Bundesamt 2010b, p. 48). Overall public subsidies in the year 2007 amounted to EUR 19.3 billion, with EUR 22.8 billion earmarked for the year 2010. The German national average for current expenses per student in 2008 (excluding investment) amounted to EUR 6,100 (disregarding unusually cost-intensive courses in the fields of human medicine and health sciences) (p. 50). The total cost of a Bachelor’s degree plus a subsequent Master’s degree to a German university is around EUR 48,400. For the same combination of qualifications at universities of applied sciences, the costs come to only about EUR 20,400 (Statistisches Bundesamt 2011e, p. 43).

Individuals’ contributions

Finally, students and trainees on postsecondary training courses make their own contributions to the financing of their training. In the tertiary sector, tuition fees are the main element to mention. In 2007 these came to a total of EUR 718 million, and as much as EUR 875 million in 2008 (Statistisches Bundesamt 2010b, p. 50). The charging of fees is the responsibility of the German Länder. According to Studentenwerk, the German National Association for Student Affairs, fees are charged in six Länder of up to EUR 500 per semester (www.studentenwerke.de/pdf/Uebersicht_Studienbuehren.pdf, in German, accessed: 20.07.2011). Some German Länder refrain from charging any fees at all. But fees can also be payable at trade and technical schools if the funding bodies responsible for their non-personnel costs (municipalities or Länder) so decide. Information on the extent to which this happens is not available. The direct costs of upgrading training courses, on the other hand – unless state-subsidised – must be met by the participants themselves. The previously cited study by Beicht/Krekel/Walden (Beicht, Krekel et al. 2006) provides indications of the self-funded costs in the area of postsecondary education and training. For “upgrading courses”, in the broad sense discussed above, these amounted to EUR 1,268 per participant in the year 2002. In relation to continuing education and training courses of at least 50 hours in length, however, a figure of EUR 393 per person is obtained.²⁷ Learners on trade and technical school courses paid an average of EUR 692. These figures include not only course fees, however, but also books and equipment, travel costs, accommodation and childcare costs and indirect costs, i. e. the loss of income incurred.²⁸ Equivalent information for the tertiary sector is not available.

²⁷ Cf. footnote 20.

²⁸ Another consideration in interpreting the scale of magnitude is that the expenditures in question are annual. Longer training programmes may have started or ended in the reference year, and only given rise to lower costs in that year. Moreover, purely school-based training measures can be included, for which course fees are not normally incurred (see footnote 19). Generally the concept of upgrading training was interpreted very broadly by those surveyed (cf. Section 9.1). Financial support by the state or the employer is already deducted.
9.3 Incentive systems, supporting participation

The central instrument for supporting individual participation in postsecondary education and training in the sense intended in this report is the Upgrading Training Assistance Act (AFBG). There is a legal entitlement to such support, provided that the personal prerequisites are met. In particular, the person wishing to claim support must hold an initial vocational qualification recognised under the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO), or a comparable qualification in a recognised occupation regulated in federal or Land law, or qualifications equivalent to one of the above. To be eligible for support, measures must provide targeted preparation for advanced vocational examinations regulated in public law under BBiG or HwO, or for equivalent advanced vocational qualifications. In particular, the course length must amount to at least 400 taught hours. The level of support for course and examination fees is up to EUR 10,226, of which 30.5% is provided as a grant and the rest as a loan. If the examination is passed, 25% of the loan can then be waived, and up to a further 66% for individuals embarking on self-employment or taking over a business. In addition, up to 50% of the costs of the examination piece, or up to a maximum of EUR 1,534, are supported on a loan basis. The instrument is rounded off with a maintenance element for full-time advanced vocational courses, 44% of which is awarded as a grant after deduction of the incremental amount dependent on family situation (EUR 155 deduction for single persons; for families, the incremental amounts for spouse and children are deducted). Support is limited to 24 months for full-time programmes and 48 months if the programme is completed part-time. In 2010, around 166,000 persons were supported in this way. The financial expenditure for such support in 2010 amounted to some EUR 519 million, of which EUR 165 million were awarded as grants (repayments not offset, (Statistisches Bundesamt 2010b)).

Added to this is the “continuing education grant” (Weiterbildungsstipendium), the purpose of which is to enable high-achieving skilled workers below the age of 25 to participate in upgrading training. In comparison to AFBG support, the range of eligible measures is somewhat broader; e.g. study programmes in conjunction with employment also qualify for this form of support. Moreover, no further conditions are attached to the grant and the self-funded portion, at 10%, is also lower. This makes the continuing education grant a comparatively unbureaucratic instrument for supporting especially high achievers. However, the maximum support amount of EUR 5,100 (as from 2012: EUR 6,000) for a maximum of three years is somewhat lower, and no maintenance grant is paid. In principle, the continuing education grant can also be combined with AFBG support, in which case the latter is reduced accordingly. At the end of 2010 over 17,800 talented AFBG support recipients were receiving support. The volume of funding planned for 2012 is EUR 22.7 million (information from the BMBF, November 2011).

Beyond this, a range of programmes exist to support CVET for people in employment. Often a voucher is issued, which recipients can apply to a continuing education programme of their choice, provided that they contribute a specified self-funded share. In most cases the grant amounts to EUR 500. However, the resources made available in this way are probably used for shorter courses to a great extent, so that much lesser proportions are attributable to the postsecondary sector (see Section 9.1). The same applies to support programmes for the benefit of companies.

Companies do, however, benefit from the fact that training expenditure as a business expense lowers taxable profits and hence tax. The company’s contributions to training are thus indirectly subsidised through the tax system. Furthermore, repayment clauses can be agreed with employees whereby the latter undertake (partially) to reimburse the contributions paid by the employer if the employee leaves the firm before the expiration of a defined period of time. This prevents the companies’ incentive to invest in training from being undermined by the risk of employee departure (Leber 2000).

Aside from this, collective financing agreements exist in individual sectors. These set out that companies will pay a certain fixed amount or percentage of total wages and salaries into a fund, which can then be called down for continuing education purposes. This is intended to prevent a situation where just a few companies in the sector are investing in continuing education whilst other companies poach their skilled workers once they are fully qualified (following IVET or CVET). For the postsecondary sector described here, however, these are of marginal importance at the most. A well-known example in Germany is the “Collective agreement on initial vocational education and training in the scaffolding...
trade” (Tarifvertrag über die Berufsausbildung im Gerüstbauhandwerk). Collectively agreed regulations of this kind are implemented privately in Germany. Although the state takes a positive view of such developments, it confines itself to a supporting role, as in the context of the “Social partners guideline” (Sozialpartnerrichtlinie) for example (see http://www.initiative-weiter-bilden.de/fileadmin/pdfs/downloads/Sozialpartnerrichtlinie.pdf, in German). For this reason, the trade unions in particular are demanding the introduction of a fund on a statutory basis (Bosch 2010).

29 For example, this collective agreement facilitates support for the recognised upgrading training course to qualify as a Gerüstbalkonnenführer (Scaffolding gang foreman).
10 Teaching and training

Training and qualification of advanced vocational teachers and trainers

10.1 Teachers and tutors involved in chamber preparation courses

Normally the teachers and tutors involved in preparation courses are equipped with a relevant initial vocational qualification in a recognised occupation and longstanding occupational experience. Frequently they had already been appointed members of boards of examiners. However, there are no uniformly defined standards.

The quality of courses and teachers is reviewed by surveying the participants in preparation courses, and monitoring the pass rates of examination candidates.

10.2 Teachers at trade and technical schools

The educational mission of vocational schools, and hence of trade and technical schools, is characterised by a particular combination of vocational and general education, developing personal qualities and building proficiency for employment, developing competence and acquiring qualifications (Bader 2008). This mission has a reciprocal interaction with the qualifications of teaching staff, which span a range of requirements from “expert in occupational know-how” to “educator”. Fulfilling these requirements is a particular challenge for teaching staff.

Two types of teachers can be distinguished at vocational schools: firstly, academically-qualified teachers trained at universities, known as Lehrer für Fachpraxis (teachers of vocational practice). Teachers with a university degree normally have senior civil servant status. Teacher training consists of two phases: university studies in the different vocational fields of specialisation at Master’s degree level, and a subsequent period of preparatory service, after which the Second State Examination must be taken. In hands-on subject areas, Beamte des gehobenen Dienstes für die Fachpraxis (senior civil servants for vocational practice) known as Fachlehrer (technical teachers) are also employed. Technical teachers do not need a university degree but have, instead, a relevant professional background, a master/foreman/certified supervisor, technical engineer or equivalent qualification, and formal training in educational practice.

Teachers with university training

University studies

Four basic models of degree courses can essentially be distinguished (Bader 2008):

- Teacher training courses for vocational schools (qualification: First State Examination for entry to the profession),
- “Diplom” degree courses with industrial-technical specialisations (qualification: “Diplom”, in some cases combined with the First State Examination, e.g. Diplom-Berufspädagoge/-in (graduate vocational educator), Diplom-Ingenieurfädagoge/-in (graduate educator in engineering), Diplom-Gewerbelehrer/-in (graduate educator in industry)),
- “Diplom” degree courses in business education (qualification: Diplom-Handelslehrer/-in (graduate commerce teacher)),
- Consecutive degree courses (qualification: Master’s degree)

As a rule, these degree courses are offered by universities or equivalent academic institutions of higher education (e.g. technical universities). In some of the German Länder, cooperation models between universities of applied sciences and teacher-training universities are also authorised.

The fundamental prerequisite for admission to a teacher training degree is a general higher education entrance qualification (Allgemeine Hochschulreife). In order to satisfy the requirements of the educational mission of the vocational schools, the rules of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (KMK) provide for an additional company-based vocational teaching practice placement, part or all of which is commonly completed before studies commence. Some examples of vocational specialisations in teacher training are business and administration, building technology, metal technology, electrical technology and electronics, health and personal care, social pedagogy and information technology (Kultusministerkonferenz 2007).
Preparatory service/practitioner training (Referendariat)

Preparatory service is undertaken at state teacher training institutes in cooperation with schools. It is usually two years in duration. Arrangements vary from one German Land to another for the state teacher training institutes run in cooperation with universities, which are also responsible for teacher in-service training.

Teachers of vocational practice

Teachers of vocational practice give autonomous instruction in the practical skills required for basic and technical education and training. They assist in the preparation and execution of experiments and exercises as part of or in addition to lessons in the theoretical aspects of the subject.

The cumulative admission requirements for this type of teaching are: an intermediate secondary school leaving certificate or equivalent recognised educational qualification, and the initial vocational qualification in a recognised occupation plus a relevant trade and technical school course lasting at least three semesters or master/foreman/certified supervisor examination, and at least two years occupational experience (Kultusministerkonferenz 1973).

Teacher-training to become a Lehrer für Fachpraxis an Berufsbildenden Schulen (teacher of vocational practice in vocational schools) lasts for 18 months. It is coordinated by the competent ministries in the Länder and the respective Land examination authorities.

During teacher training, the applicant is inducted into the profession of “teacher of vocational practice” and familiarised with the objectives and the educational mission of the vocational schools, and in particular, with the didactics and methods of the particular subjects to be taught.

The theoretical training takes place at a state teacher training institute for vocational school teachers. The practical training takes place at a teacher-training school and takes the form of classroom observations and supervised teaching but also autonomous teaching. This training concludes with a final examination (“Examination in education for the teaching profession of ‘Teacher of vocational practice in vocational schools’”).

Fully trained teachers of vocational practice who have several years of professional experience at vocational schools and who successfully gain a university degree have the possibility of employment at a University of applied sciences as a technical teacher in their occupational field.

Shortage of teachers

Currently there is a shortage of teachers in individual vocational specialisations, for example in the fields of electrical technology and electronics and metal technology. On the one hand, attempts are being made to attract school leavers to undertake initial teacher training degrees in these vocational specialisations by means of broad provision of information and advice. On the other hand, steps are being taken to enable university graduates with several years of occupational experience to move into vocational teaching. These so-called lateral entrants gain the necessary educational qualifications by means of a training programme in conjunction with employment. Furthermore, skilled workers from within the company are also deployed as part-time teachers for specialist initial vocational training content.
11 Career guidance

11.1 Career guidance measures for participants in IVET and for potential applicants

Three different phases of vocational development can be distinguished, each of which is flanked with guidance provision. These are the phases of prevocational training, initial vocational training, and continuing vocational education.

A large number of guidance institutions and a heterogeneous group of guidance target-groups exist for each of these developmental phases. There is very little coordination, if any, between the advisory services of the different institutions. What is lacking is a coherent, integrated guidance system which encompasses all phases of training and all career and vocational progression options.

Guidance in initial vocational education and training

Even during IVET, trainees receive information about the career options opened up to them by participation in continuing vocational education and training. This topic is dealt with both in occupation-specific and in generic lessons at vocational schools, e.g. in the “Business and social studies” subject area. For the industrial-technical occupations, “advanced vocational training and retraining, state support measures, mobility and flexibility of the individual” is a mandatory element of the IVET curriculum (KMK resolution of 07.05.2008; http://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2008/2008_05_07-Wirtschafts-Sozialkundeent-Berufsschule.pdf, in German, accessed: 10.10.11). Furthermore, the “Framework agreement on the vocational school” (Rahmenvereinbarung Berufsschule, KMK resolution of 15.03.1991; http://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/1991/1991_03_15-Rahmenvereinbarung-Berufsschule.pdf; in German, accessed: 10.10.11) expressly states that one of the objectives of the vocational school is to “stimulate a willingness to undertake advanced and continuing vocational education and training”. Accordingly, the guidance of trainees is a mandatory task of vocational schools even during initial vocational education and training.

Guidance during employment

Employed or unemployed individuals can call upon the guidance services of the public employment agencies. Guidance on continuing general and vocational education is also offered by the municipal authorities, e.g. at community adult education centres, or at their independent education and continuing education counselling centres. In some cases, these are initiated or supported by the German federal government or by Länder programmes, such as the government-funded “Learning locally” (Lernen vor Ort) programme (2009-2012) (http://www.bmbf.de/de/13536.php; in German, accessed: 10.10.11).

Beyond this, employed people can also obtain guidance from the chambers on matters of continuing vocational education or indeed self-employment. Likewise, the trade unions offer guidance to their members on job-related continuing education.

11.2 Training and qualification of career guidance professionals

So far there are no general statutory regulations in Germany on the qualifications, or the initial and continuing vocational education and training and occupational status of educational and vocational career guidance professionals. The providers are too diverse and too heterogeneous in their tasks and structures for this to be possible. The guidance providers define the requirements themselves.

The career guidance professionals at the Federal Employment Agency (Bundesagentur für Arbeit, BA) are trained at the University of the Federal Employment Agency (Hochschule der BA, HdBK), where they complete an interdisciplinary Bachelor’s degree course. In addition, initial and continuing vocational training programmes are held internally for BA staff wishing to move into career guidance.

As part of the BMBF-funded project “Guidance campaign in the skilled crafts – developing an education and training guidance system” (Beratungs-
offensive Handwerk – Entwicklung eines Bildungsberatungssystems) a training programme for a Berater/in in der beruflichen Bildungsberatung (guidance counsellor in vocational education guidance) was developed and piloted. (DGB and FBH 2009).

11.3 Careers information for VET participants and career guidance professionals

Over the last few years, public-law providers have created a large number of Internet portals and databases. The most important of these are listed below.

**Online offerings from the education and training sector (selected)**

- The [German Education Server](http://www.bildungsserver.de) (Deutscher Bildungsserver) and the corresponding Länder education servers are the largest databases on education and training systems and their structures. They also contain information on training and school guidance provision (www.bildungsserver.de) and the

- [InfoWebWeiterbildung](http://www.infowwb.de) (www.infowwb.de) continuing education website with comprehensive search options for courses, local guidance and funding options.

- The [German Rectors’ Conference](http://www.hochschulkompass.de) (Hochschulrektorenkonferenz, HRK) maintains the Hochschulkompass, and extensive Internet portal on academic education and continuing education, on degree courses, and on international academic study options (www.hochschulkompass.de).

- The [Standing Conference of the Ministers of Education and Cultural Affairs of the Länder](http://www.kursnet.arbeitsagentur.de) (Kultusministerkonferenz, KMK) in association with the Federal Employment Agency provides comprehensive Internet portals on degree-course and career choice for school pupils and upper secondary school leavers, which gives equal coverage to both academic and non-academic initial vocational training and degree courses (www.studienwahl.de and www.berufswahl.de, in German).

**Online offerings from the Federal Employment Agency**

- **Jobbörse** (“Job exchange“): a platform for job and apprenticeship vacancies which matches applicants to vacancies and provides tools for managing applications and applying online (http://jobboerse.arbeitsagentur.de), in German;

- **E-Learning programmes for job searching and applications**, e.g. for graduates (https://lernboerse.arbeitsagentur.de), in German;

- **BERUFENET** (“Careers net“): comprehensive database of occupational profiles and vocational fields, continuing education opportunities, career and labour market information (http://berufenet.arbeitsagentur.de), in German, and **BERUFETV**, films, videos and slides of different occupations and vocational fields (http://berufe.tv), in German;

- **KURSNET** (“Course net“): a comprehensive nationwide database on school-based initial and continuing vocational education opportunities, degree courses and rehabilitation measures (www.kursnet.arbeitsagentur.de), in German;

- **“planet-beruf”, a career choice programme for lower secondary school pupils, school-leavers, teachers and parents** (www.planet-beruf.de), in German;

- **abi.de**, an online portal for upper secondary school-leavers with the Abitur general university entrance qualification (www.abi.de), in German.

Source: Jenschke, Schober et al. 2011
12 Quality assurance

Quality assurance of postsecondary VET provision (with the exception of on-the-job training, see 5.2 above)

12.1 Advanced vocational training regulations and chamber regulations

In advanced vocational training regulated under the Vocational Training Act (Berufsbildungsgesetz, BBiG) and the Crafts and Trades Regulation Code (Handwerksordnung, HwO), the legislator imposes far-reaching formal specifications on the structure of regulations and on the examination system. At the same time, the social partners are involved in the process of drafting course recommendations and conducting examinations, all of which is aimed at fostering an overarching layer of quality assurance of advanced vocational training.

The provision of courses in preparation for examinations takes place independently of the examinations, on the basis of supply and demand. Quality assurance of these measures is the responsibility of the individual training providers but is supported and steered by legislative provisions governing the eligibility of participants for individual support. The separation of courses and examinations is, at the same time, another important element of quality assurance in VET in Germany.

Quality assurance in the development of advanced vocational training regulations and chamber regulations

The legal bases of regulated advanced vocational training and of the ordinances on master craftsperson training in the skilled crafts are the Vocational Training Act (Berufsbildungsgesetz, BBiG) and the Crafts and Trades Regulation Code (Handwerksordnung, HwO).

To ensure the uniform interpretation of the Vocational Training Act, the Board of the Federal Institute for Vocational Education and Training (Hauptausschuss des Bundesinstituts für Berufsbildung, HA BIBB), a federal-level body involving the social partners and representatives of the Länder, can issue recommendations. With regard to advanced vocational training, the Board of BIBB has issued guidelines for the examination regulations of the competent bodies and a recommendation on the procedure for developing federal-level ordinances and chamber regulations.¹⁰

The Board of BIBB has to be consulted on advanced vocational training regulations, with the exception of the ordinances on master craftsperson training in the skilled crafts, before these are passed by the Federal Ministry of Education and Research (BMBF) or by the competent sectoral ministry. The Federal Ministry of Economics and Technology (BMWi) is responsible for issuing the ordinances on master craftsperson training. It has passed ordinances governing this area which include quality standards for the examination procedure (AMVO¹³ and MPVerVO¹⁵). In terms of the content of master craftsperson examinations, and hence the occupational competence to be demonstrated by the examinee, the quality standard is likewise specified in the AMVO and in the master craftsperson examination profile in the legally defined “Ordinance on the master craftsperson examination”.

¹⁰ “Model examination regulations for advanced vocational examinations pursuant to §56 para. 1 in conjunction with §47 para. 1 BBiG (Musterprüfungsordnung für Fortbildungsprüfungen gemäß §56 Absatz 1 in Verbindung mit §47 Absatz 1 BBiG) http://www.bibb.de/dokumente/pdf/ha-empfehlung_128_mpo_bbig.pdf (25.11.2011); “Model examination regulations for advanced vocational examinations pursuant to §42c para. 1 in conjunction with §38 HwO” (Musterprüfungsvorschrift für Fortbildungsprüfungen gemäß §42c Absatz 1 in Verbindung mit §38 HwO) http://www.bibb.de/dokumente/pdf/ha-empfehlung_127_mpo_handwerk.pdf (25.11.2011); “Recommendation for advanced vocational training regulations issued by competent bodies” (Empfehlung für Fortbildungsregelungen der zuständigen Stellen): http://www.bibb.de/dokumente/pdf/empfehlung_051-fortbildungsreg_zust_stellen_196.pdf (25.11.2011); “Recommendation on criteria and procedures for the issuance of advanced vocational training regulations and their structure” (Empfehlung über Kriterien und Verfahren für den Erlaß von Fortbildungsordnungen und deren Gliederung; passed by the predecessor body of the Board of BIBB): http://www.bibb.de/dokumente/pdf/empfehlung_036_-_erla__von_fortbildungsordnungen_123.pdf (25.11.2011)


¹⁵ “Ordinance on admission and general examination procedure for the master craftsperson’s examination in the skilled crafts and in craft-like trades” (Verordnung über das Zulassungs- und allgemeine Prüfungsverfahren für die Meisterprüfung im crafts Verlässlichkeit bevorzugt und in handwerkähnlichen Gewerben (Meisterprüfungsvorschriftenverordnung - MPVerVO) of 17. December 2001, Federal Law Gazette I p. 4154) amended by the ordinance of 26 October 2011 (Federal Law Gazette I p. 2145)
The Vocational Training Act provides for the appointment of state-level committees in the Länder and of vocational education and training committees within each individual competent body. The role of these committees is to oversee VET whilst also constantly endeavouring to improve its quality. Their members consist of representatives of the social partners in equal numbers.

For the drafting of advanced vocational training regulations at the national level, the Federal Institute for Vocational Education and Training (BIBB) is directed by the competent ministry to prepare a draft in collaboration with experts from company practice. These experts are nominated by the top-level organisations of the social partners. As an alternative to this procedure, the advanced vocational training regulation can be developed in the competent ministry in collaboration with the relevant sectoral ministry, generally on the basis of a proposal by the social partners. The chamber regulations are compiled by the competent bodies and issued following a resolution of the vocational education and training committee concerned.

Under an internal agreement among the skilled crafts, draft ordinances for master craftsperson training are prepared by industry associations and skilled-craft trade unions under the moderation of the German Confederation of Chambers of Skilled Crafts (Deutscher Handwerkskammertag, DHKT). Compliance with the agreement is a prerequisite for the issue of the ordinance by the competent ministry, the Ministry of Economics and Technology (BMWi).

Additional conditions are specified in an agreement of the DGB and the top-level organisations of German industry (DGB and KWB 2008), which are also aimed at quality assurance. Thus, it must be demonstrated that regulations by the competent bodies (known as chamber regulations) comprise more than 200 hours of organised learning in preparation for the examination. For regulations covering the whole of Germany, course recommendations (framework curricula) must be developed concurrently in the time leading up to their issuance. The drafts are normally compiled by the top-level organisations of the competent bodies and the social partners.

Quality assurance for the competent bodies

The competent bodies are responsible for conducting the examinations. To this end, they set up autonomous boards of examiners, which are composed of competent representatives of employees and employers in equal numbers, and at least one vocational school teacher. Boards of master craftsperson examiners in the skilled crafts are governed by additional regulations. The examination tasks are drafted by the boards of examiners or in question-setting committees appointed according to the same legal rules. The appointment of an independent examination committee with at least three members is a key component of quality assurance in VET in Germany.

According to the agreement of the DGB and the top-level organisations of industry (DGB and KWB 2008), central examinations can be held for federally-regulated advanced vocational training regulations, with the exception of the skilled crafts. In practice, central examination tasks are set for around 50 different recognised advanced vocational qualifications, which should act as an additional quality assurance instrument.

DIHK-Bildungs-GmbH, which is responsible for the quality assurance of the centrally-set examination tasks, has introduced a separately certified quality assurance system for the procedure of compiling, distributing and applying the examination tasks (Pfeiffer, Nickel et al. 2009, p. 36). At the beginning of the year 2008, 20 IHKs had undergone this external certification procedure on a voluntary basis.

Quality assurance in the implementation of exam preparation courses

The reform of the Upgrading Training Assistance Act (Aufstiegsfortbildungsförderungsgesetz, AFBG) which entered into force on 1 July 2009, includes the provision that in future, applicants will only be eligible for upgrading training assistance (also referred to as the “Meister-BAföG”) under the Act (AFBG, see Section 9.1) if their training provider has a quality assurance system.

Somewhat in excess of 5% of participants in advanced vocational training take courses by distance learning. These courses have to be state recognised. In addition, the Federal Institute for Vocational Education and Training (BIBB) has the task of contributing to the improvement and expansion of distance learning.

The Federal Institute for Vocational Education and Training supports advanced vocational training in Germany, e.g. by evaluating federally-regulated (nationwide) advanced vocational training regulations.
12.2 Trade and technical schools

The framework specified by the KMK defines the scope and objectives of trade and technical school courses, and thus sets a recognised standard for the acceptance and mutual recognition of qualifications. Ensuring compliance is the responsibility of the competent school supervisory authorities in each of the German Länder.

The quality assurance systems established in the Länder combined with the support measures operated by state school supervisory authorities guarantee a high standard of quality. These quality assurance systems normally comprise a quality analysis of the school, consisting of elements of internal and external evaluation, along with the further-reaching instrument of target agreements to ensure the continuous improvement of the school.
13 Policy development and initiatives

13.1 Developments in the past ten years

In significantly increasing participation in CVET in Germany and stimulating the continuing development of the sector, the Federal Ministry of Education and research (BMBF) set up the Innovation Circle on Continuing Education and Training (Innovationskreis Weiterbildung, IKWB). In March 2008, this body put forward ten “Recommendations for a strategy to shape lifelong learning” (Empfehlungen für eine Strategie zur Gestaltung des Lernens im Lebenslauf) http://www.bmbf.de/pub/empfehlungen_innovationskreis_weiterbildung.pdf, in German, accessed: 14.10.2011). Initiatives and programmes were subsequently conceived with which the federal government intends to make a contribution to implementing these recommendations.

In 2008 the federal and Länder governments launched the “Advancement through education and training” (Aufstieg durch Bildung) qualification initiative, in the course of which more than 80 programmes and projects were linked up. The aim is to improve education and training opportunities for all. It is an initiative which spans the whole of life and all phases of learning, from early childhood education, through support for young people embarking on vocational or academic training pathways, to continuing vocational education and specialist qualification.

Financial incentives for continuing vocational education and training are provided by the Upgrading Training Assistance Act (AFBG, see Section 9.2), for example, which safeguards an individual entitlement to support for vocational upgrading training courses, and the BMBF “Learning subsidy” (Bildungsprämie) programme, which incentivises individual CVET with a premium voucher and supports “savings plans for education and training” (Bildungssparen) (BMBF 2011, p. 73).

As part of an active labour market policy, the public employment agencies including the consortia (Arbeitsgemeinschaften) and authorised municipal providers, invested around EUR 8.4 billion in initial and continuing vocational education and training in 2010, of which EUR 3.3 billion alone was spent on supporting CVET, see Chapter 9.

Regional training structures will be strengthened by the “Local learning” (Lernen vor Ort) support programme. Its aim is to develop a manageable municipal education and training system in which the diverse forms of education, training and guidance provision are better aligned and coordinated with one another. The interfaces between the different life-stages and phases of education are placed at the forefront of activities.

Improved progression at the interfaces of initial and continuing vocational education and training and between vocational and academic education is expressly called for in the “Recommendations of the Innovation Circle on Vocational Education” (“Empfehlungen des Innovationskreises Berufliche Bildung, IKBB”) of 2007 (http://bmbf.de/pub/IKBB-Broschuere-10_Leitlinien.pdf, in German, accessed: 25.10.2011), see Section 6.2, and supported via the programmes, initiatives and resolutions set out in that document.

Two conceptual developments, in particular, can be noted in the design of federally-regulated advanced vocational training regulations. Firstly, examination tasks based on work processes result in a greater emphasis on linking learning to the concrete work processes in companies. Secondly, more attention will be paid to competence acquired in the workplace, and to making this certifiable within the framework of a continuing vocational education system; see Section 5.1, on the CVET system for IT and CVET in electrical and electronics occupations.

Following the resolutions of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (Kultusministerkonferenz, KMK) on reform in the education and training system, whereby detailed regulations should be dispensed with as a means of promoting greater tolerance and diversity, a thorough revision process was concluded with the reform of the “Framework agreement on the trade and technical schools” in 2002. In order to allow room for innovative approaches and for the development of different but equivalent instruments of quality development and quality assurance, and at the same time to ensure the necessary compatibility of qualifications, the previously valid individual agreements on the different subject areas were combined into a joint standard framework agreement, based on a common core of both subject-specific and general quality standards.

Structurally, this reduced the depth of regulation, particularly in the area of timetabling, to a minimum. At the same time, the description of training requirements and objectives was carried out with a consistent orientation to the principle of competence development. By virtue of this, the possibility is created for the vocational schools with their trade and technical
school courses to heighten their profile in a regional coordination process with industry, and to develop into regional competence centres.

13.2 Current and planned developments

New study courses

The competition, “Advancement through education: open universities” (Aufstieg durch Bildung: offene Hochschulen) is part of the “Advancement through education and training” qualification initiative. Its purpose is to support “innovative, demand-oriented and sustainable concepts of universities,” e.g. concepts for degree programmes or modules in conjunction with employment, dual study courses, and courses and modules with extended phases of workplace practice, and other provision of courses, modules and certificates geared towards lifelong academic learning.

On target group for such efforts are employed people, e.g. working Bachelor’s graduates and holders of vocational qualifications – including those without a formal university entrance qualification – for whom new opportunities for university-based continuing education are to be developed and opened up. An overview of projects currently being supported can be found at: http://www.wettbewerb-offene-hochschulen-bmbf.de/gefoerdtete-projekte; in German, accessed: 25.10.2011. The first round of the competition was launched in 2011, and will be followed up with a second round in 2014.

Higher education entrance

In its resolution on “Higher education entrance for vocationally qualified applicants without a school-based higher education entrance entitlement” (Hochschulzugang für beruflich qualifizierte Bewerber ohne schulische Hochschulzugangsberechtigung) of 6 March 2009, the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) laid the foundations for opening up access to university for vocationally qualified applicants. In future this will give access to university, regulated according to standard criteria, both to holders of continuing vocational education qualifications such as the technical engineer or master/foreman/certified supervisor certificates and to holders of federally-regulated or chamber-examined advanced vocational qualifications under the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO). This agreement, which has since been transposed into law in all the German Länder, makes an important contribution to increasing the permeability of the education system and the equivalence of general and vocational education. It markedly widens the group of individuals entitled to access higher education.

Credit for prior vocational competence

Both the German federal government and the Länder pursue the aim of improving the award of credit towards university courses in recognition of competencies acquired through work or through initial and advanced vocational education and training, and vice versa.

Trade and technical schools

In order to facilitate advancement opportunities by means of compatible qualification routes in the higher education sector, a competence-oriented qualification profile for the initial training of nursery teachers was drawn up for trade and technical schools in the social care sector. This specifies the occupational competencies that a skilled worker must possess in order to practise the occupation sufficiently competently to meet the required standards.
14 Self–assessment – strengths and challenges

Structurally, advanced vocational training in Germany is the core element within a diverse range of continuing education provision after completion of an initial vocational qualification in a recognised occupation. It is highly regarded both by individuals and by society at large. In view of the central importance of lifelong learning for Germany as a centre of highly specialised industries, all politically involved actors will continue to devote close attention to keeping the content, form and structure of advanced vocational training provision under constant review.

The involvement of experts from workplace practice, of employers and trade unions in the development of advanced vocational training regulations ensures that the advanced vocational training profiles reflect the qualification requirements of companies and, at the same time, meet the training and qualification needs of employees. This works to the benefit of both employers and employees by ensuring that advanced vocational qualifications are highly usable. This is a particular strength of postsecondary education and training in Germany.

The involvement of employers and trade union consequently means that the postsecondary education and training provision responds well to and reflects labour market demand. The federally-regulated advanced vocational training regulations are, in fact, almost exclusively initiated by the social partners (employers and trade unions), whilst the demand of regional markets is additionally met by chamber-regulated provision. This does not rule out gaps in provision in individual cases.

Likewise, the trade and technical schools provide high-quality, recognised qualifications which are tailored to the needs of the regional economy, thus ensuring that their qualification holders are highly employable. In some specialisations, trade and technical schools also offer integrated provision of additional qualifications.

Qualifications obtained via upgrading training and from trade and technical schools lead to recognised occupational certificates and titles, providing a means of career advancement without a university degree and thus give people a stake in the development of society. This in turn fosters individual willingness to engage in life-long and life-wide learning.

Learning in the workplace is not always sufficiently anchored in existing training provision. Regulated advanced vocational training is effectively organised in courses, even if it is not obligatory to attend a preparation course for federally-regulated or chamber-regulated examinations. One innovation here is found within the CVET system for IT, where the first-Level qualifications of advanced vocational training (Spezialisten, specialists) are fundamentally based on learning in the workplace. De facto, however, this level is not especially relevant (as yet).

In Germany there is a very broad diversity of provision of regional, Land-specific and chamber-specific advanced vocational training regulations in courses. In principle this diversity is positive. Transparency could be improved, however, with a common and constantly updated information system (as also pointed out by Weiß 2010). Regional disparities can also arise, so that some provision is difficult to access, in purely physical terms, for some people. Distance learning provision would be a possible means of changing this.

The state gives financial incentives for postsecondary education and training. One example is assistance for learners under the Upgrading Training Assistance Act (Aufstiegsfortbildungsförderungsgesetz, AFBG), also known as “Meister BAföG” assistance. Support on the part of employers could be improved, e.g. by greater integration of advanced vocational training into workplaces and the work process, see CVET for IT.

The heterogeneous group of teachers, trainers and tutors in postsecondary VET generally possess good specialist competence thanks to longstanding experience of workplace practice. In certain technical occupational fields, it is a challenge particularly for the teachers of vocational practice to keep pace with the often rapid pace of technological progress and, at the same time, to build their educational competence.

There are diverse forms of guidance provision. Nevertheless, there is room to improve and link up different forms of provision. Guidance professionals are often not sufficiently well informed about qualifications/certificates; little information tailored to their needs exists in written form. The tendency towards individualisation, diversification of education and training provision, and delegation of advanced vocational training choices to the individual makes too many demands on some; it gives rise to selectiveness and segmentation. What is needed are networked structures between individuals, guidance professionals and employers.
Irrespective of high participant numbers, a **deficit in perception** about the training provision at trade and technical schools is noted among the general public. This should be counteracted with targeted public relations work, seeking the involvement of the labour administration’s guidance systems. The demand for trade and technical school provision could be increased if the labour administration gave more prominence to this option in the context of retraining assistance.

Despite the high quality of this highly-regarded training, which is to be reflected in the intended alignment of federally-regulated advanced vocational training occupations and trade and technical school qualifications with Level 6 of the DQR/EQF, there is no standardised system of credit transfer whereby competences acquired on these training courses can be counted towards a subsequent relevant degree course.

**Summary self-evaluation**

The most important **strengths** of the postsecondary VET system can be summarised as follows:

- Advanced vocational training is connected with initial vocational training and builds on it.
- Characteristically, provision is in touch with and relevant to practice.
- Advanced vocational training is function-oriented and responsive to need.
- The system can respond rapidly when needs change.
- Upgrading training for higher positions provides a real alternative to a higher education degree.
- Regulated advanced vocational training enjoys a high level of social recognition and acceptance.
- Standard nationwide regulations ensure comparability and vouch for quality.
- Sufficient permeability to give access to higher education is largely ensured.

The **challenges** to be mentioned are as follows:

- Participation in regulated CVET has been declining in some areas for approx. ten years; there is a need to improve public perception of the existing provision by means of better positioning, and to motivate more individuals to participate.
- The structures for continuing education guidance should be more transparent; coordination should take place among providers.
- The continuous modernisation and innovation pressure exerted by economic and technological development calls for constant adaptation and continuous development, both in the training and qualification of teaching staff, and in the standards governing training and examinations.
- The awarding of credit towards university degree programmes for competencies which have been acquired and certified on advanced vocational training courses must be improved.
- To ease the transition from vocational into higher education, action is still needed to develop and implement concrete forms of provision, e.g. bridging courses, mentoring programmes or degree courses for people in employment.
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