



Germany

VET in Europe – 2016 Country Report

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TABLE OF CONTENTS

1.	External factors influencing VET	5
1.1	Population statistics	5
1.2	Economy and labour market	6
1.3	Educational attainment	7
2.	Providing VET in a lifelong learning perspective	8
2.1	Diagram of the national education and training system	8
2.2	Government-regulated VET provision	9
2.2.1	The role of central government	9
2.2.2	The role of state government	9
2.2.3	The role of social partners	9
2.3	VET at upper-secondary level	10
2.3.1	Apprenticeship	10
2.3.2	Other VET programmes at upper-secondary level	12
2.3.3	Teachers and trainers	14
2.4	VET at post-secondary level	14
2.4.1	Berufsoberschulen – BOSs	14
2.4.2	Fachoberschulen – FOSs	15
2.4.3	Additional qualifications	15
2.5	VET at tertiary level	16
2.5.1	Advanced vocational qualification	16
2.5.2	Health sector schools	16
2.5.3	Vocational programmes in higher education	16
2.6	Other forms of VET	19
2.6.1	Continuing vocational training	19
2.6.2	Validation of non-formal and informal learning as well as qualifications acquired abroad	22
3.	Shaping VET qualifications	23
3.1	Developing standards	23
3.2	Shared responsibilities	24
3.3	Final exams	24
3.4	Anticipation of future skills needs	25
3.5	German qualifications framework – DQR	26
4.	Promoting participation in VET	28
4.1	Promoting participation in IVET	28
4.2	Promoting participation in CVET	30
4.3	CVET for the unemployed	31
4.4	Guidance and counselling	32
	List of abbreviations	34
	References	35
	Annex 1: Tables	40
	Annex 2: Figures	53
	Annex 3: Laws and regulations	55

LIST OF TABLES

Table 1:	Apprenticeship	11
Table 2:	School-based IVET at upper secondary level	12
Table 3:	Students in other youth programmes	13
Table 4:	Students enrolled in upper secondary education by programme orientation (values and share of total), 2014	13
Table 5:	Types of teachers and trainers in the German VET system	14
Table 6:	Students in VET at post-secondary (non-tertiary)	15
Table 7:	Students enrolled in post-secondary non-tertiary education by programme orientation (values and share of total), 2014	15
Table 8:	Students in VET at tertiary level	18
Table 9:	Students in tertiary education in Germany	19
Table 10:	CVET teachers and trainers	21
Table 11:	The German qualifications framework	27
Table 12:	IVET financing	28
Table 13:	Total population (on 1st of January), 2008, 2010, 2012, 2014, 2015, 2016	40
Table 14:	Age-specific demographic trends in Germany (%)	40
Table 15:	Projected old-age dependency ratio (%)	40
Table 16:	2014 population by migration status and age group	41
Table 17:	Real GDP growth rate – volume (%), change on previous year	41
Table 18:	Key figures for the German labour market	42
Table 19:	Employment rates by age group and highest level of education attained (%), 2008, 2012, 2014 and 2015	43
Table 20:	Unemployment rates by age group and highest level of education attained (%), 2008, 2012, 2014 and 2015	44
Table 21:	Educational attainment of the population aged 25–64 by ISCED level (%), 2015	45
Table 22:	Early leavers from education and training (%), 2008–15	45
Table 23:	Public IVET expenditure	46
Table 24:	Apprenticeship contracts supply/demand	48
Table 25:	Apprentices with a newly concluded training contract by highest general school qualification and area of responsibility, 2009 to 2014	48
Table 26:	Participation in CVET by company size in Germany (%)	50
Table 27:	Public CVET expenditure	50
Table 28:	Number of new and modernised training occupations (2006–15)	52

LIST OF FIGURES

Figure 1:	The German education and training system	8
Figure 2:	Participation rates in occupationally related continuing training by employment status 2007 and 2014 (%)	20
Figure 3:	Procedure for updating of training regulations	24
Figure 4:	Funding structure of IVET in enterprises – Apprenticeships	53
Figure 5:	Funding structure of IVET in vocational schools	54

1. EXTERNAL FACTORS INFLUENCING VET

Germany is a federation made up of 16 states (*Länder*). Berlin is both Germany's capital and seat of government. When it was founded, the federal republic of Germany adopted a social market economy, combining free enterprise within a competitive economy with social progress.

There is a distinct cooperative federalism within the state sector, both horizontally between states and between individual states and the federal government. Unless specified otherwise in the constitution (*Grundgesetz*), governmental tasks fall under the competence of the individual states, which also have legislative power in certain areas. Through the federal council (*Bundesrat*), they play a role in the legislation and administration of the federation and in issues related to the European Union.

Educational and cultural legislation and administration are primarily the responsibility of the states. In the field of vocational education and training (VET), the federal government is responsible for in-company training, while the states are responsible for school-based parts of vocational training, and hence also for vocational schools. The German VET system (both initial and continuing VET) and its governance are characterised by a strong partnership between the state, employers and trade unions.

1.1 Population statistics

The German population is estimated at 82,162,000 people as of 1 January 2016. The population had been steadily falling since 2006 (2006: 82,437,995/2008: 82,217,837/2010: 81,802,257/2012: 80,327,900)¹, but this trend was reversed in 2013, due to the above-average migration surpluses (net migration in 2015 : +1.1 mn). Demographic changes will represent a major challenge for VET, its future structure and its capacity to ensure a supply of skilled workers.

The ageing of the currently strong middle-aged population cohorts will lead to significant shifts in the age structure. In 2013, the base year, 18.2% of the population were below 20, 61% were between 20 and 65, and

20.9% were 65 or older. By 2060, almost one in three (31.7%) will be at least 65², and there will be twice as many 70-year-olds as new-born children (STATISTISCHES BUNDESAMT 2015a, p. 6).

The 16–20 age group will shrink by around 20% by 2050 (STATISTISCHES BUNDESAMT 2015a, p. 54). There will also be a change in young people's educational decisions. There is a general trend towards higher level qualifications: at the secondary level, there is a trend towards general education, i.e., the higher education entrance qualification (*Abitur*), and thus more students enrolling in higher education programmes, especially dual study programmes at universities of applied sciences (*Fachhochschulen*). As a result, there is an increase in competition between the VET and the general education/higher education sectors at all qualification levels (ISCED 3 and 6).

In comparison to the EU-28 average, Germany has a higher projected ratio of people older than 65: by 2020, the share will be 4 percentage points higher. By 2080, the projected over-65 dependency of the EU-28 is 51%. The forecast is that the German rate will be 8.9% higher than the EU average³.

The decrease in the overall number of people aged between 20 and 65 will produce a shift towards an older working age population. In 2013, 19.7% of the total population were 20- to 30-year-olds, 44.7% were aged between 30 and 50 and 35.6% were between 50 and 65 (STATISTISCHES BUNDESAMT 2015a).

In 2014, the latest data available, 16.4 million people came from a migration background in a narrow sense⁴, 473,000 more than in 2013. The overall population increased by 286,000 persons during the same period (from 80.611 million in 2013 to 80.897 million in 2014). This means that the proportion of the population with a migration background in a narrow sense rose slightly, from 19.7% to 20.3%⁵. (STATISTISCHES BUNDESAMT 2015b, p. 7)

1 See Annex 1, Table 13.

2 See Annex 1, Table 14.

3 See Annex 1, Table 15.

4 The population group with a migration background consists of anyone who immigrated into the territory of today's Federal Republic of Germany after 1949, as well as all foreigners born in Germany and all persons born in Germany who have at least one parent who immigrated into the country or was born as a foreigner in Germany. A person's migration status is determined based on their immigration, naturalisation and citizenship characteristics and those of their parents. This definition typically covers first- to third-generation immigrants. Data on German nationals born in Germany, whose migration background is based on the characteristics of their parents, are only collected every four years if they do not live with their parents in the same household, so they are not included in the data on persons with migration background *in a narrow sense*. (STATISTISCHES BUNDESAMT 2015b)

5 See also Annex 1, Table 16.

Most of the population with a migration background originate from Turkey (17.4%), followed by Poland (9.9%), the Russian Federation (7.3%) and Italy (4.7%). The only significant non-European country of origin is Kazakhstan, which accounts for 5.6% of people. Most of the (late) ethnic German repatriates or resettlers⁶ come from the successor states of the former Soviet Union (1.4 million, especially from the Russian Federation (555,000) and Kazakhstan (568,000)). Poland (570,000) and Romania (209,000) are also significant countries of origin (STATISTISCHES BUNDESAMT 2015b, p. 7).

The educational attainment of people with a migration background differs considerably from the rest of the population. Specifically, 13.4% of people with a migration background have no general school leaving qualifications (ISCED 2 and 3) and 38.4% have no VET qualification as opposed to 1.7% and 14.5%, respectively, in the rest of the population. These figures do not consider people still in training (STATISTISCHES BUNDESAMT 2015b, p. 8).

Transition from general education to VET is often difficult and lengthy for young people with a migration background. The latest (2014) BA/BIBB survey among former VET applicants shows that slightly less than a third (32%) of young people with a migration background registered with the federal employment agency (BA) had begun some form of training: 27% had started an apprenticeship and 5% had taken up school-based VET. In contrast, 47% of those without a migration background had begun some form of training: 42% had started an apprenticeship and 5% had gone into school-based VET (see also BIBB 2016, p. 196).

As of 2015, a maximum of a third of recognised refugees are estimated to be potentially interested in dual VET (approximately 46,000, one third of 140,915). But the estimates for numbers who would actually be able to find an apprentice placement are unclear, since there is no representative data on their school pre-qualification or current German language skills (BIBB 2016, p. 73).

Among 25- to 65-year-olds, individuals with a migration background are approximately twice as likely to be unemployed (7.7% of the total labour supply) or only marginally employed (10.3% of the total labour supply) as those without such a background (4.1% and 6.2% of the total labour supply, respectively) (STATISTISCHES BUNDESAMT 2015b, p. 8). Persons in active employment with a migration background are also almost twice as likely to be workers receiving hourly wages as their counterparts

(32.1% compared to 17.2%) and, accordingly, less likely to be salaried employees or civil servants. They tend to work primarily in manufacturing, trade, and the hotel and restaurant sectors: 62.8% of all persons with migration background work in these three sectors compared to only 51.6% of persons without such a background (STATISTISCHES BUNDESAMT 2015b, p. 8).

1.2 Economy and labour market

Increased international competition, German reunification (1990) and the introduction of the euro (2002) have all had an impact on Germany's economy and labour market. Following a slight recovery in 2004–05, economic growth receded in 2006–07. The global financial crisis of 2008 continues to influence economic growth rates and future labour market indicators. While the growth rate of GDP volume was down in Germany (and Europe) in 2009, it rose to 4.1% in 2010, the highest level ever since reunification. This boom is driven by traditional exports and domestic private consumption. Compared to 2010 (4.1%), the growth rate of GDP volume declined in 2012 (0.4%) but was still above the EU average (2012: -0.5%). Since 2014, the growth rate of GDP volume has been up again in Germany (2014: 1.6%) and the EU-28. In 2015, the growth rate of GDP volume (1.7%) was below the European average (2.0%)⁷.

Germany has undergone a substantial shift from an industrial to a service economy. Today, the service sector is by far the largest sector⁸.

The employment rate has not changed significantly, although there are signs of a slight increase in overall employment relating to the individual age groups. Overall, Germany's employment rate is significantly above the EU average (in 2015: EU-28: 33.0% 15–24 year-olds; 78.2% 25–49 year-olds; 61.8% 50–64 year-olds/DE: 45.3% 15–24 year-olds; 83.6% 25–49 year-olds; 73.0% 50–64 year-olds)⁹.

The labour market situation has improved in recent years. The unemployment rate has fallen steadily, as illustrated by the unemployment rate among 50–64 year-olds. In 2008, this rate was 7.9% (above the then EU average of 5.1%), but it has decreased continuously since then (2012: 5.4%; 2014: 4.8% and 2015: 4.3%). This puts it at 2.8 percentage points below the current EU average (7.1%). Youth (aged 15–24) unemployment in Germany also fell in 2012 to 8.0%. After increasing to 9.4% in 2013, it fell again in 2014

6 Ethnic German immigrants from Eastern Europe and the former Soviet Union (*Aussiedler* and *Spätaussiedler*). As a rule, they possess German citizenship.

7 See Annex 1, Table 17.

8 See Annex 1, Table 18.

9 See Annex 1, Table 19.

to 7.7% and further in 2015 to 7.2%. By way of contrast, average youth unemployment in the EU remains quite high (23.2% in 2012; 22.2% in 2014 and 20.4% in 2015)¹⁰.

1.3 Educational attainment

A high proportion of people in Germany have upper or post-secondary level qualifications (59.1% in 2015 compared to an EU average of 46.5%). One reason for this is the longstanding tradition of VET in the form of the dual system¹¹. In terms of higher education (ISCED 5-8), Germany has been slightly under the EU average in recent years. However, the proportion of persons aged 25 to 64 with a low level of qualification has consistently been far below the EU average (in 2014: 13.1% compared to an EU-28 average of 24.1%/in 2015: 13.2% compared to an EU-28 average of 23.5%)¹².

The share of early school leavers in 2015 was 10.1%, slightly below the EU average of 11.0%. Since 2006, the share of early leavers from education and training has slowly decreased (2006: 13.7%/2008: 11.8%/2011: 11.6%/2012: 10.5%/2013: 9.8%/2014: 9.5%)¹³. These young adults find it particularly difficult to secure a training position or job. Various state programmes have been developed to provide them with support and funding (see Chapter 4.1).

Nevertheless, educational attainment is at a good level: Participation at upper secondary level and in the post-secondary non-tertiary sector is particularly high, and tertiary attainment is on the rise¹⁴ (e.g., master craftsperson qualifications have been assigned to EQF level 6 – see Chapter 2).

10 See Annex 1, Table 20.

11 Apprenticeship is described as dual because training is conducted in two places of learning (see also Section 2.3.1).

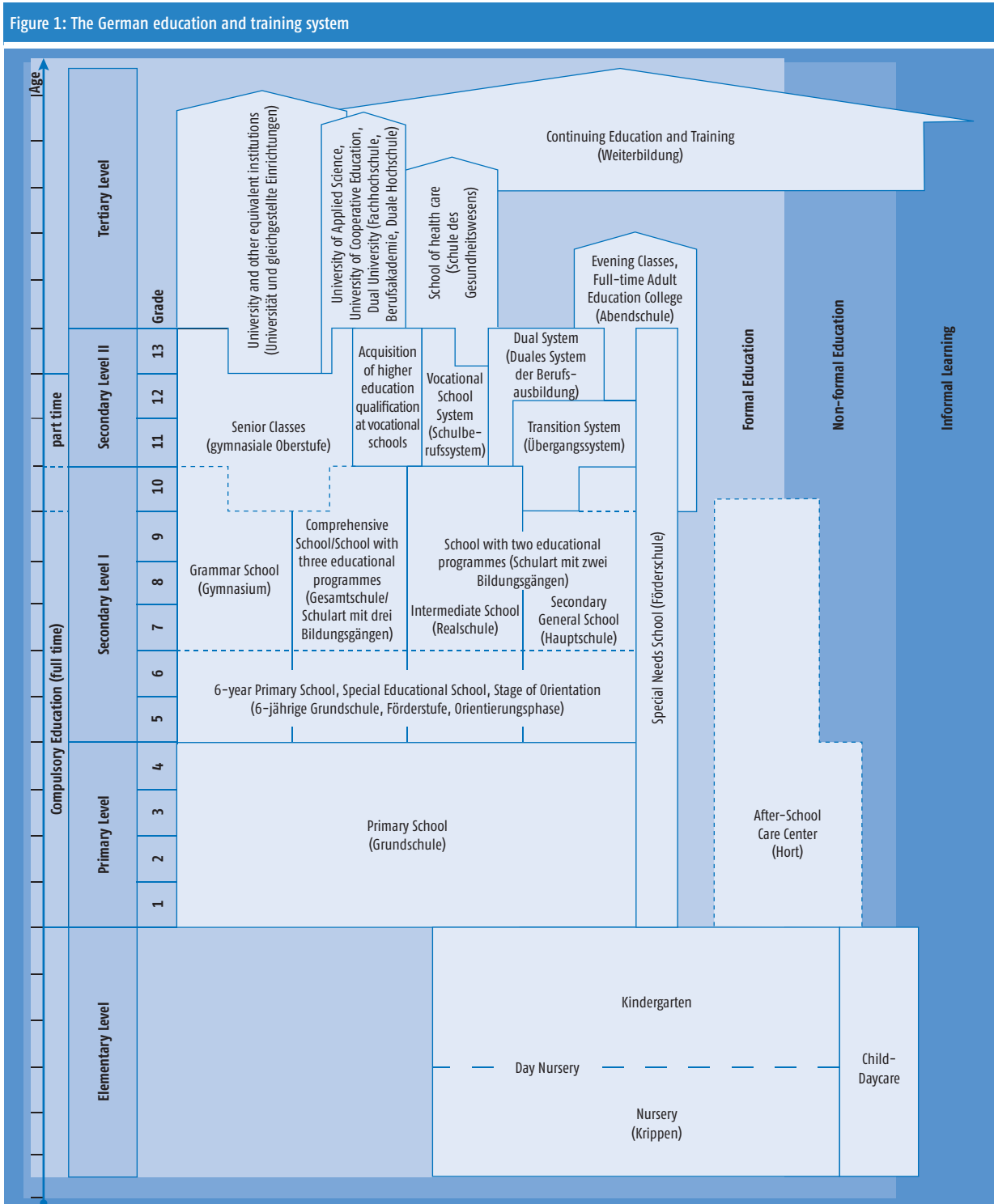
12 See Annex 1, Table 21.

13 See Annex 1, Table 22.

14 See Annex 1, Table 21, Table 22.

2. PROVIDING VET IN A LIFELONG LEARNING PERSPECTIVE

2.1 Diagram of the national education and training system



Source: Autorengruppe Bildungsberichterstattung (Hrsg.): Bildung in Deutschland 2016. Ein indikatoren-gestützter Bericht mit einer Analyse zu Bildung und Migration. Bielefeld 2016.

2.2 Government-regulated VET provision

Vocational education in Germany is offered in full time schools or within the framework of the dual system (*duals System*) which is the core of VET in Germany. The system is described as dual because training is conducted in two places of learning: companies and vocational schools. The dual system is based on a close cooperation between employers, trade unions and the government. Social dialogue and codetermination are important for reforms to be accepted. The social partners – employers and trade unions – have considerable influence on the content and form of VET to ensure their requirements and interests are taken into account. Responsible action by all participants – beyond each group’s particular interests – is a precondition for the efficiency of the dual system.

Nationally, the Federal Institute for Vocational Education and Training (*Bundesinstitut für Berufsbildung*, BIBB) is the core institution for consensus building between all parties involved in VET. It conducts research on in-company training and provides services and advice to the federal government and VET providers. Its four-party main board advises the government on fundamental issues of in-company vocational training and is involved in setting standards and designing training regulations.

The Vocational Training Act (BBiG) defines which institutions are in charge of supervising VET provision. These are referred to as ‘competent bodies’ (*zuständige Stellen*), and play a crucial role at the regional level. They include professional chambers as well as various federal and state authorities. Their tasks are: ensuring the suitability of training centres; monitoring training in enterprises; advising enterprises, trainers and apprentices; establishing and maintaining lists of training contracts; organising the exam system and holding final exams. Each competent body has a tripartite vocational training committee whose members represent employers, trade unions and teachers. These committees must be informed and consulted on all important VET issues and decide on regulations for implementing VET.

2.2.1 The role of central government

VET is based on nationally recognised occupations and vocational training regulations which guarantee a national standard (see Section 3.1). The federal government is responsible for designing the dual system training content for the occupations it has recognised. The nationally binding recognition of the training occupations ensures the basic principles agreed with industry and the states are taken into account, and that training for a recognised occupation adheres to the regulations adopted by the federal government. The federal government’s responsibilities are not limited to implementing joint agreements; it also takes independent measures to promote dual training.

These measures include individual support programmes such as those stipulated in the federal education and training assistance act (*Bundesausbildungsförderungsgesetz*, BAföG). Financial support is offered during training and Federal Employment Agency prevocational training measures to help people overcome the economic difficulties that impede vocational qualification and ensure a more balanced training market and secure and improve occupational mobility. There are also special funding programmes which, for example, aim to create additional training positions in less popular regions. The federal government provides funding for special research projects to ensure VET is constantly updated. The Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung*, BMBF) is responsible for general VET policy issues. These include, for example, the Vocational Training Act (*Berufsbildungsgesetz*, BBiG), the annual VET report, the legal supervision and funding of the Federal Institute for Vocational Education and Training (BIBB) and the implementation of programmes to improve VET.

It is the task of the federal ministries responsible for each occupational field to recognise individual occupations requiring formal training. In the vast majority of cases, this is the Federal Ministry of Economic Affairs and Energy (*Bundesministerium für Wirtschaft und Energie*, BMWi). BMBF approval is always required. The BMBF thus provides coordination and guidance for VET policy for all training occupations.

2.2.2 The role of state government

According to the Constitution, responsibility for school education lies with the state ministries of education and cultural affairs. Their ministers participate in a standing committee (*Kultusministerkonferenz*, KMK) to ensure a certain degree of uniformity and comparability, especially in school and higher education policies. KMK decisions are only recommendations, and only become legally binding when passed by the individual state parliaments. The states have vocational training committees, with equal representation of employers, employees and the highest state authorities. They advise the state governments on vocational training issues in schools and also contribute to designing schemes that support disadvantaged youths and provide opportunities for additional qualifications that require school-based training.

2.2.3 The role of social partners

Employer and employee representatives play an important role at the national, state and regional/local, sectoral and enterprise levels. As indicated above, these representatives are members of the BIBB’s main board together

with the federal and state governments and participate in their vocational training committees and those of the competent bodies.

Organising apprenticeship/dual training requires a complex but clear division of responsibilities. Employers and unions play a central role in initiatives for change, because the structure of vocational training must meet the demands of industry. If there is a need for change – e.g., in qualification requirements – representatives of the federal government, state governments, industry and trade unions agree on the basic principles for this such. Work on the training regulations and framework curricula is ongoing and continuously coordinated among individual partners (see Chapter 3).

As self-governing bodies, the chambers of industry and commerce, the chambers of crafts and the appropriate professional boards for the liberal professions have all been assigned public tasks as ‘competent bodies’ in dual training (see above). Training advisers from the chambers verify the capacity of companies and ability of trainers to train and advise both companies and apprentices. They receive training contracts, check, register and monitor them and provide counselling services. The chambers also oversee the overall organisation of exams by fixing dates and establishing exam boards (see Section 3.3).

At the sectoral and enterprise level, the Works Constitution Act (*Betriebsverfassungsgesetz*) in the private sector and the Staff Representation Acts (*Personalvertretungsgesetze*) for the public service in the states grant works or staff councils numerous rights to cooperate in shaping initial vocational education and training (IVET) and continuous vocational education and training (CVET) and be involved in related matters. These rights are used to negotiate apprenticeship remuneration and educational leave within collective bargaining, plan and implement in-company training, appoint trainers, put specific in-company education and training measures in place or conclude employment contracts once training is complete.

2.3 VET at upper-secondary level

2.3.1 Apprenticeship

An apprenticeship in the dual system normally lasts three years¹⁵. On average, young people take up VET between the age of 16 and 18. Compulsory education must have been completed before starting VET. There are no further formal access requirements for the dual system,

but companies select their apprentices and the majority of them hold either the intermediate secondary school leaving certificate (*Realschule*) or the upper secondary school leaving certificate *Abitur* (higher education entrance qualification). In the dual system, the vocational school is an autonomous place of learning. Its task is to provide basic and specialised vocational training and to extend previously acquired general education. The primary aim of training is to enable young people to acquire comprehensive vocational competence. They should be able to fulfil their duties as employees efficiently, effectively, innovatively, autonomously and in cooperation with others. This array of competences must be demonstrated in exams regulated by law (Vocational Training Act). Final exams are geared to vocational practice, i.e., to the work requirements and processes of the occupation. As a rule, a final exam covers four or five fields typical of the occupation. Performance in general subjects is evaluated via school reports (for more information on exams, see Section 3.3).

In the dual system, apprentices attend part-time vocational school one or two days per week, where they are mainly taught theoretical and practical knowledge related to their occupation; they attend classes on general subjects such as economics, social studies and foreign languages. Systematic teaching at vocational school is a necessary supplement to process-oriented training within a company, which is more based on specific in-house requirements.

Training positions are offered in both private and public enterprises, in practices of the liberal professions and, to a very limited extent, in private households. Enterprises enter into a contract with apprentices, where they bear the costs of the in-company training and pay the trainee remuneration. This is regulated by collective agreement and increases with every year of training, averaging about a third of the starting pay for a trained skilled worker. The professional competences to be acquired through in-company training are specified in training regulations and included by the training enterprise in an individual training plan. The binding requirements of the training regulations guarantee a uniform national standard. For teaching in vocational schools, a framework curriculum is drawn up for every recognised training occupation in accordance with the training regulations. However, small and medium-sized enterprises (SME) are often unable to provide all the stipulated learning content: they may lack suitable training personnel, or, owing to their particular specialisation, may not cover all the training content themselves. There are various ways to overcome these problems:

15 Some occupations only require two years and there are also regulations allowing a shorter training period for trainees with an *Abitur* (the school leaving certificate allowing entry to higher education).

Table 1: Apprenticeship

Type of educational programme	Main economic sectors	Corresponding ISCED level and orientation	Balance between school- and work-based training	Average duration of studies	Transfer to other pathways	Admission requirements
Dual system of vocational education and training	In every sector	354	School and work based	Mostly 3 years	Fachschule, Fachakademie, Fachoberschule, Berufsoberschule, School of healthcare	Completion of full-time compulsory education, no further requirements (but companies select their apprentices)

Source: Compiled by the authors

- a) inter-company vocational training centres (*überbetriebliche Berufsbildungsstätten, ÜBS*) designed to supplement in-company training; education institutions offer periods in these training centres, which are often sponsored by autonomous bodies in the relevant sectors of industry. The federal ministry of education supports sponsors with investment subsidies (for buildings and infrastructure). The BIBB is responsible for promoting inter-company training centres and supporting the planning, establishment and development of these facilities;
- b) enterprises can form joint training structures (*Ausbildungsverbände*). There are four traditional models for this:
- ▶ lead enterprise with partners (*Leitbetrieb mit Partnerbetrieben*): one enterprise takes the lead and bears overall responsibility for training; however, parts of the training are conducted in various partner enterprises;
 - ▶ training to order (*Auftragsausbildung*): some training takes place outside the regular enterprise, perhaps in a nearby large enterprise with a training workshop, on the basis of an order and against reimbursement of costs;
 - ▶ training consortium (*Ausbildungskonsortium*): several SMEs sign a cooperation agreement and work together on equal footing. They take on apprentices and train them independently. If an enterprise cannot cover a specific area of content, the apprentice moves to another enterprise (rotation principle).
 - ▶ training association (*Ausbildungsverein*): enterprises establish an organisation which takes over administrative tasks such as contracting, while the enterprises conduct training. Association structures usually comprise a general meeting and a honorary committee. A statute regulates members' rights and obligations.

After a continuous increase in new apprenticeship contracts since 2005, there has been a decline since 2008, the year of the financial crisis (with one exception, in 2011: 569,379 new apprenticeship contracts). The decrease stabilised in 2014 and 2015: 1.4% fewer apprenticeship contracts were signed in 2014 than in the previous year, and in 2015 (522,093 new contracts) there were only 0.2% less compared to 2014¹⁶.

The apprenticeship market continues to be characterised by increasing matching problems. It is becoming more difficult each year to match companies' training supply (2015: 563,055) with young people's demand for training positions (2015: 602,886). This is particularly clear from the fact that vacant positions (2015: 40,960, 10.4% more than 2014 and highest value since 1995) as a proportion of provision has once again increased, from 6.6% to 7.3%. On the other hand, the number of unsuccessful applicants as a proportion of the officially identified demand for 2015 is still comparatively high, at 13.4%. Once again, the skilled crafts and trades sector was particularly affected by a shortage of applicants. Many public policy measures are aiming to counteract these developments (see Chapter 4).

Individual types of school leaving qualification differ among apprentices with newly concluded training contracts.¹⁷ As in the past years, the largest group in 2014 was those with the intermediate secondary school leaving certificate (*Realschulabschluss*), at 42.8% (220,191). Just under 30% (144,537) had a lower secondary school leaving certificate (*Hauptschulabschluss*). Almost as many (134,808), or more than one in four (26.2%), of those concluding a training contract were in possession of a higher education entrance qualification (*Abitur*). The proportion of new trainees without a school leaving certificate was very low, at 2.9% (15,015) (BIBB 2016, p. 165). The absolute figures and the shares of new apprentices

16 See Annex 1, Table 24.

17 See Annex 1, Table 25.

without a lower secondary school leaving certificate, with a lower secondary school leaving certificate and with an intermediate lower secondary school leaving certificate have been declining since 2009. In contrast, there have been significant increases (both in absolute terms and in relation to other types of school leaving qualification) in new apprentices with higher education entrance qualifications. The proportion of newly concluded training contracts accounted for by this group rose from 20.3% in 2009 to 26.2% in 2014. When differentiating this figure by federal state, it must be noted that from 2011 to 2013 there were “double upper secondary school cohorts” (due to the shift from nine to eight years of secondary education in grammar schools) in several states, which may still have exerted an effect on the newly concluded training contracts in 2014 (BIBB 2016, p. 160).

Dividing apprentices with a newly concluded training contract by area of responsibility, it is clear that these are correlated with different school leaving qualifications. The proportion of new apprentices with a higher education entrance qualification has increased in almost all areas in the past years. The highest proportions of new trainees with a higher education entrance qualification were registered in the public sector (49.9%), in trade and industry (32.3%) and in the liberal professions (26.1%). The parallel decline in the proportions of trainees without a lower secondary school leaving qualification continued in all areas in 2014. The highest level of lower secondary school qualification can be identified in the area of house-keeping (51.7%), but this share has fallen in recent years.

The general school leaving qualifications for apprentices with a newly concluded training contract are distributed very differently across the federal states. There is a clear east-west discrepancy for apprentices without

the lower secondary school leaving qualification: In the east, the proportion of new training contracts concluded by apprentices without a lower secondary school leaving certificate was almost twice as high as in the west in previous years (2014: 4.5% as opposed to 2.7%). The proportion of new apprentices with an intermediate secondary school leaving certificate (48.9%) was also higher than in the west (41.8%). In contrast, in the west there was a somewhat higher proportion of apprentices with a lower secondary school leaving qualification than in the east (28.8% and 23.6%, respectively). The west also registered a slightly higher proportion of trainees with a higher education entrance qualification (west: 26.7%, east: 23.0%). Compared to the previous years, there has been a higher rise in this figure in the west (2011: 23.1%) than in the east (2011: 22.9%) (BIBB 2016, p. 162).

A VET qualification can also be acquired along with a bachelor’s degree during dual studies programmes (i.e., at a university of applied sciences) (see Section 2.5).

2.3.2 Other VET programmes at upper-secondary level

In parallel to the dual system, there is a wide range of school-based programmes (ISCED levels 3-4), which differ in terms of entry requirements, focus, types and levels of qualifications they lead to:

- (a) programmes at full-time vocational schools (*Berufsfachschule*) prepare students to work in many occupational areas (duration: one to three years, depending on the occupational area and specialisation and the type/level of qualification). Where these schools do not offer a full vocational qualification, attendance can be credited as the first year of training in the dual system if certain conditions are met. The entry requirement is

Type of educational programme	Main economic sectors	Corresponding ISCED level and orientation	Balance between school-based and work-based training	Average duration of studies	Next educational level	Admission requirements
Programmes at full-time vocational school (<i>Berufsfachschule</i>)	Commercial, languages, craft, household and caring, artistic, health care	354	School-based	At least 1 year, mostly 3 years	<i>Fachschule</i> , <i>Fachakademie</i> , <i>Fachoberschule</i> , <i>Berufsoberschule</i> , School of health care	Lower secondary school leaving certificate, leaving certificate from intermediate secondary school
Programmes providing general upper secondary and vocationally oriented education (<i>Fachgymnasium</i>)	Economics, technology, nutrition, agriculture, IKT technology	344	School-based	2 or 3 years	University, University of applied science, University of Co-operative Education, Dual University	Leaving certificate from intermediate secondary school

Source: Compiled by the authors

Type of educational programme	Main economic sectors	Corresponding ISCED level and orientation	Balance between school- and work-based training	Average duration of studies	Transfer to other pathways	Admission requirements
Pre-vocational training year	For orientation	254	Entirely school-based	1 or 2 years	Vocational training	No access requirements
Basic vocational training year	For orientation, i.e., economic and technical sector	351	School-based or cooperative school and practice based	1 year	Vocational training, Full-time vocational school	Completion of the general full-time compulsory education (9 years of compulsory schooling) and transfer to Class 10

Source: Compiled by the authors

the lower secondary school leaving certificate or the certificate obtained on completion of grade 10 (intermediate level, *Realschule*). Full-time vocational schools are generally regulated by state legislation, with the exception of healthcare, which is subject to federal law. Entitlement to study at a *Fachschule*, *Fachakademie* or school of healthcare can be acquired in some educational programmes. Large numbers of students also attend schools for nurses, midwives, etc. (*Schulen des Gesundheitswesens*), which provide training for non-academic occupations in the healthcare sector, such as nursing and paediatric nursing, midwifery, therapeutic massage and occupational therapy. Many of these schools are attached to hospitals providing both theoretical and practical training;

- (b) programmes providing general upper secondary and vocationally oriented education (*Fachgymnasium*) last three to four years, depending on whether the learners also acquire a vocational qualification. An intermediate secondary school leaving certificate is required. These programmes usually lead to the higher education entrance qualification.

In general, there are many progression routes between school-based and dual vocational training and from vocational training to higher education.

Young people with social disadvantages, learning difficulties or handicaps and young people with migrant backgrounds with an inadequate command of German have different possibilities for preparatory training (*Berufsausbildungsvorbereitung*) (see Table 3):

- (a) pre-vocational training year (*Berufsvorbereitungsjahr – BVJ*): the BVJ is a one-year course of training, usually offered full-time by schools and designed to prepare young people for the demands of vocational training. The majority of participants do not have a secondary school leaving certificate. However, this can be acquired in the course of the BVJ, thus improving the holder's prospects in the market for training positions;
- (b) basic vocational training year (*Berufsgrundbildungsjahr – BGJ*): basic vocational education can be completed either as a year at school (full-time) or in joint fashion at an enterprise and school. Successful completion of the BGJ can be credited as the first year of vocational training in the training occupations assigned to the relevant occupational field. In the BGJ, students receive basic educational knowledge in a specific occupational field (e.g., metalworking techniques, electrical engineering, business and administration).

In Germany, slightly more students chose the general educational pathway (52.2%) than vocational education

Table 4: Students enrolled in upper secondary education by programme orientation (values and share of total), 2014

	ISCED3 TOTAL	ISCED 3 gen (num)	ISCED 3 gen (%)	ISCED 3 voc (num)	ISCED 3 voc (%)	ISCED 3 voc wbl/school (num)	ISCED 3 voc wbl/school (% voc)
EU 28	21,266,026	11,190,837	52.62	10,075,189	47.38	:	:
DE	2,579,952	1,347,181	52.22	1,232,771	47.78	1,064,689	86.37

Source: Eurostat; Unesco-Eurostat-OECD (UEO) Data collection on education and training systems. Pupils at ISCED level 3 by programme orientation. Date of extraction: 11.07.2016.

Description: GEN = general; VOC = vocational; VOC WBL/SCHOOL = school and work-based vocational programmes
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=educ_uoe_enrs04

Table 5: Types of teachers and trainers in the German VET system

Type of training	Type of Staff
Dual system of training	<ul style="list-style-type: none"> ▶ Trainers (instructors) or masters within companies (certified educators/trainers in professional education, certified educators/trainers in initial and continuing vocational education, including the responsible VET managers in large companies); ▶ VET teachers in vocational schools (Two categories: 1. university-trained teachers for job-related theory and general education subjects; 2. <i>Werklehrer</i> (master craftsmen or technicians with additional further training) imparting practical skills) ▶ Instructors and trainers within inter-company VET centres (ÜBS)
Special VET for disabled persons leading to dual system diplomas	VET teachers/trainers within private institutions
Full-time vocational schools	VET teachers in vocational schools (see above)
Learning facilitators	Youth workers in training schemes for the disadvantaged, training counsellors in the chambers, vocational guidance counsellors employed by the federal employment agencies, etc.

Source: Compiled by the authors

(47.8%) in 2014. But this is only a small part of the picture. In 2010, more students took part in VET (51.5%) than in general education (48.5%) (Hippach-Schneider/Hensen 2012). This is mainly due to the importance of the dual system pursued by the majority of VET students (86.4% of those enrolled in VET in 2014 chose the dual system) after leaving the general education system, whether holding the intermediate secondary school leaving certificate or even the upper secondary school leaving certificate (*Abitur*). This shows that there is still overall consensus in Germany about dual VET. Particularly due to how it links learning and work, as well as schools and companies, the dual training system in Germany appears to be a successful model for structuring the transition from school to working life.

2.3.3 Teachers and trainers

Teachers are employed in the various vocational schools, while trainers are skilled workers in enterprises who provide trainees with the knowledge and practical skills required for an occupation. In addition to teachers and trainers, the staff at VET workshops for disabled people also includes psychologists, doctors and social workers. There are different types of learning facilitators, e.g., the training counsellors from the chambers who advise trainees and employers on issues connected with training, and the vocational guidance counsellors employed by the federal employment agency.

2.4 VET at post-secondary level

There are many ways in which school-leavers can enter working life, with options to combine work and study becoming more prevalent.

2.4.1 Berufsoberschulen – BOSs

Senior vocational schools (*Berufsoberschulen*; BOSs) have been established in some states¹⁸ to allow those completing vocational training in the dual system to obtain a higher education entrance qualification. After two years of full-time education, they lead to the subject-restricted higher education entrance qualification (*fachgebundene Hochschulreife*) and, with a second foreign language, to the general higher education entrance qualification (*Allgemeine Hochschulreife*). BOSs may also operate on a part-time basis, with a correspondingly longer duration. Admission to the vocational post-secondary school requires the leaving certificate from intermediate secondary school (*Mittlerer Schulabschluss*) and at least two years' successful vocational training or at least five years' relevant practical experience. BOSs offer training in technical skills, business, agronomy, nutrition and home economics, social affairs and design. Students are allocated to a programme based on the initial vocational training already completed or previous employment.

18 Berlin, Brandenburg, Schleswig-Holstein, Hamburg, Lower Saxony, Bremen, North Rhine-Westphalia (specialised upper secondary school, *Fachoberschule*, FOS, years 11 and 12 are the equivalent of the BOS), Rhineland-Palatinate, Baden-Württemberg and Bavaria.

2.4.2 Fachoberschulen – FOSs

Specialised upper secondary schools (*Fachoberschulen*; FOSs) cover grades 11 and 12 and build on the leaving certificate from intermediate secondary school (*Mittlerer Schulabschluss/Realschule*) or a qualification recognised as equivalent. Federal states may also include grade 13. Completion of grade 13 leads to a subject-specific or general higher education entrance qualification. Training includes classroom teaching and professional practice. Professional practice takes place during the first year of the course in the form of a traineeship at a company or equivalent institutions. Teaching takes place during grade 12 or may also be part-time with correspondingly longer duration. Applicants who hold an intermediate secondary school leaving certificate, who have completed relevant vocational education and training or who are able to demonstrate appropriate occupational experience are admitted into grade 12 of the FOS (*Fachoberschule*).

2.4.3 Additional qualifications

Additional qualifications (*Zusatzqualifizierung*) were introduced to ensure that learning in formal, non-formal or informal¹⁹ contexts is complementary to state-recognised qualifications. Thus, any of the standard national qualifications can be brought up to date and tailored more closely to requirements. Additional qualifications can round off an initial vocational training programme, substantially extend an initial training profile or even anticipate elements of a formal advanced training occupation.

Additional qualifications to supplement initial vocational training open up the possibility of acquiring additional competences, such as foreign language classes or particular engineering courses. Since 2009, there is a new option to gain an additional qualification during the training in the dual system. These can be certified by the relevant company, vocational school or chamber (www.ausbildungplus.de/).

Table 6: Students in VET at post-secondary (non-tertiary) level

Type of educational programme	Main economic sectors	Corresponding ISCED level and orientation	Balance between school- and work-based training	Average duration of studies	Transfer to other pathways	Admission requirement
Specialised programmes at <i>Fachoberschule</i> and <i>Berufsoberschule</i>	Economics, social affairs, design, technology, health-care/nursing.	444	<i>Fachoberschule</i> – Work- (traineeship) and school-based; <i>Berufsoberschule</i> – school-based	1 to 3 years	University of applied sciences, University of co-operative education, Dual university	Leaving certificate from intermediate secondary school and (1) two years' successful vocational training or (2) five years' practical experience

Source: Compiled by the authors

Table 7: Students enrolled in post-secondary non-tertiary education by programme orientation (values and share of total), 2014

	ISCED 4 TOTAL	ISCED 44 gen (num)	ISCED 44 gen (%)	ISCED 45 voc (num)	ISCED 45 voc (%)	ISCED 45 voc wbl/school (num)	ISCED 45 voc wbl/school (% voc)
DE	769,170	72,218	9.4	696,951	90.6	364,516	52.3

Source: Eurostat (UOE). Students at ISCED level 4 by programme destination. Date of extraction: 11.07.2016

Description: GEN = general; VOC = vocational; VOC WBL/SCHOOL = school and work-based vocational programmes
http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=educ_uoe_enrs07

¹⁹ Definitions by Cedefop:

Non-formal learning: embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support); non-formal learning is intentional from the learner's point of view.

Informal learning: resulting from daily activities related to work, family or leisure (not organised or structured in terms of objectives, time or learning support); informal learning is in most cases unintentional from the learner's perspective.

2.5 VET at tertiary level

The tertiary education sector comprises various types of institutions and programmes.

2.5.1 Advanced vocational qualification

In addition to higher education programmes (see Section 2.5.3), there are also advanced vocational education programmes in tertiary education that lead to a nationally recognised tertiary level vocational qualification (EQF levels 5 to 7) (i.e., *Meister*, *Techniker* or *Fachwirt* qualifications). Unlike the training regulations for IVET in the dual system, these federally regulated advanced training regulations do not contain a curriculum; however, they do define and describe examinations. Other features which must be specified in the advanced training regulations include (§ 53 para. 2 BBiG, § 42 para. 2 HwO):

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

Admission to an examination generally requires a completed course of vocational training and/or appropriate vocational experience. These regulations are laid down by the BMBF by agreement with the competent ministries and following consultation with the primary board (Hauptausschuss) of the BIBB.

Advanced vocational training as a *Meister* entitles the holder to practise a craft trade independently, to employ and train apprentices and opens up access to courses at craft academies, universities of applied sciences (UASs, *Fachhochschulen*) or even universities. Data about this programme are not fully recorded in the ISCED-97 statistics for two reasons. First, the examinations do not generally require a participation in a preparatory course. And second, even if a huge number of examinees were to participate in preparatory classes, these courses offered by the chambers are not seen as part of the education system. There is political pressure to remedy this lack of transparency in international statistics and to include all programmes that meet the ISCED-2011 level definition in the near future.

Trade and technical schools

Trade and technical schools are regulated according to state law. Entrance requirements vary by subject area: An applicant normally needs a qualification in a recognised training occupation relevant to the chosen subject and relevant work experience of at least one year, or a qualification from a full-time vocational school and relevant work experience of at least five years.

These training programmes, which may be full-time or part-time, lead to a state vocational qualification in accord-

ance with state law. School attendance lasts between one and three years for full-time courses. Trade and technical schools provide qualifications to adopt 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. These schools (and, in Bavaria, ‘specialised academies’) exist for the following occupational fields: agriculture, design, technology, business and social care. They end with a final state examination under state law.

2.5.2 Health sector schools

Nationally, the two- to three-year health sector schools are considered tertiary institutions, and under state regulation approximately two thirds of their contents are theoretical, while the other third is devoted to practical training in hospitals and other healthcare institutions. They are assigned to ISCED level 65 (formerly 5B), because in addition to ISCED 2, work experience and/or a previous vocational qualification are required for admission, both of which are currently classified at level 35 (formerly 3B).

2.5.3 Vocational programmes in higher education

Universities, universities of applied sciences (UASs, *Fachhochschulen*), dual universities (*Duale Hochschulen*) and universities of cooperative education (*Berufsakademien*) also offer dual study programmes (EQF level 6). These all combine two learning venues (i.e., the workplace and the education institution) and fall into three categories:

- ▶ Dual programmes with a training component combines a course of study with training in a recognised occupation in a company. In addition to the degree, students obtain a vocational qualification. As a general rule, enrolling in a dual programme with a training component requires a higher education entrance qualification (*Allgemeine Hochschulreife* or *Fachhochschulreife*) and an employment contract.
- ▶ Dual programmes with a work experience component combine a course of study with extended practical placements with an employer. Students obtain a university degree but not a recognised vocational qualification. The practical components go far beyond the practice-based semester and work placements of conventional degree programmes. As a rule, enrolling in a dual study programme with a work experience component requires a higher education entrance qualification.

These two types of programmes are classified as part of IVET provision and account for the overwhelming majority of provision. Around a quarter of all UAS programmes are dual study programmes.

- ▶ Dual programmes with an employment component are primarily aimed at people who have already completed vocational or professional training and/or have a number of years of professional experience. They are designed to offer further professional development and combine a course of study with professional experience that is directly relevant to the course. No higher education entrance qualification is required. The amount of time the student spends in the classroom and at the place of work is agreed in a contract between the institution, the student and the employer. This kind of programme is classified as CVET.

In recent years, there has been a steady increase in the provision of dual study programmes. Enterprises obtain highly qualified and motivated young workers and institutions of higher education benefit from the extensive contact with the world of work, creating a distinctive image for themselves by offering demand-based courses of study. Students obtain high-quality training that improves their labour market and career prospects, which benefits them both financially and in terms of time. Dual study programmes integrated with training have the following characteristics:

- ▶ alternation between theory phases in the institution of higher education or academy and practical phases in the training enterprise;
- ▶ regulation of practical training in a training, student-employee or unpaid-trainee contract;
- ▶ closely interwoven vocational activity content in the training enterprise and acquisition of theoretical knowledge in the institution of higher education/academy;
- ▶ close coordination of and cooperation between the institution of higher education and enterprise.

The most common combination is a course of business management plus commercial training. However, engineering or computer science courses can also be combined with technical training. There is a wide range of possible subject areas, with insurance, mechatronics, commercial law, health economy, mathematics and media informatics being just a few examples.

The three most common types of venue for dual study programmes are described below.

2.5.3.1 Universities of applied sciences (*Fachhochschulen*)

The course structure and organisation of teaching and study in UASs emphasise application and focus on the requirements of occupational practice.

Of 381 institutions of higher education, 223 are UASs or other colleges without the right to award doctorates (www.hochschulkompass.de/ [accessed: 01.09.2016]). The numbers of students and the programmes of study offered vary widely, leading to particular subject and regional profiles for individual UASs.

Studying in a UAS requires a higher education entrance qualification (*Abitur/Hochschulreife*), a subject-specific secondary school leaving certificate confirming such a standard, or a secondary school leaving certificate. Bachelor degree courses usually run for six semesters, with an additional four semesters for a Master's degree. UASs specialise in courses of study in the following fields: engineering sciences, economic sciences/commercial law, social affairs, administration and administration of justice, computer science, design, mathematics, information and communication technology and healthcare/nursing. In 2014, UASs provided 67% of all dual and initial study programmes (AusbildungPlus 2014; https://www.bibb.de/dokumente/pdf/Duales_Studium_in_Zahlen_2014_online_version.pdf, accessed: 12.09.2016). For the 2014/15 semesters, there were 219 UASs, both private and public (Bildungsbericht 2016, <http://www.bildungsbericht.de/de/bildungsberichte-seit-2006/bildungsbericht-2016>, accessed: 12.09.2016).

2.5.3.2 The Baden-Wuerttemberg Cooperative State University (*dual university*)

The Baden-Wuerttemberg Cooperative State University has its main seat in Stuttgart and is the first university in Germany to integrate academic studies and work experience. It developed from a university with cooperative education status. Like other universities, it is simultaneously a legal entity of public law and a state institution. It combines the structure of a university of cooperative education – particularly, the participation of training companies and institutions – with the dual learning principle. The conversion to dual university status means the new institution can award doctorates. One of the main innovations is the mandate to establish cooperative research projects. Collaboration with partner enterprises and institutions can thus be intensified, and steps can be taken to make academic studies more up-to-date. In 2014, the Baden-Wuerttemberg Cooperative State University provided 14% of all dual and initial study programmes (AusbildungPlus 2014; accessed on 12.09.2016: https://www.bibb.de/dokumente/pdf/Duales_Studium_in_Zahlen_2014_online_version.pdf).

2.5.3.3 Universities of cooperative education (*Berufsakademien*)

Universities of cooperative education (*Berufsakademien*) are higher education establishments providing academic-focused VET that is simultaneously geared towards practice through a dual training system. They exist in Baden-Württemberg, Bavaria, Saxony, Thuringia and

Berlin. Enterprises bear the costs of in-company training and pay the trainee remuneration for training, including for theoretical training in the vocational academy. Depending on the law of the relevant state, enrolling in a vocational academy requires both a training contract and a higher education entrance qualification (*Hochschulreife*), subject-specific secondary school leaving certificate confirming such a standard or secondary school leaving certificate qualifying for UASs (*Fachhochschulreife*). In certain states, applicants without one of these certificates but with a vocational qualification may be granted admission. After concluding a training contract, applicants are registered with the university of cooperative education by their training enterprise. Training leads to bachelor qualifications. The most common study courses are in economics, engineering and social affairs. State law normally lays down a period of study of three years. Training in universities of cooperative education takes place partly in accordance with study or training plans drawn

up by agreement between the education institution, enterprises and social partners, and also partly through vocational-academic training and examination directives in accordance with framework criteria from the relevant ministries. In October 2004, the Standing Conference of Ministers for Education and Cultural Affairs of the *Länder* (KMK) decided that training programmes at universities of cooperative education leading to bachelor qualifications should be accredited as equivalent to bachelor qualifications from other universities, thus opening up access to Master’s courses. Equivalence criteria were implemented, based on teaching staff and the scope of the theory and practice-based training elements.

In 2014, the universities of cooperative education provided 12.5% of all dual and initial study programmes (AusbildungPlus 2014; accessed on 12.09.2016: https://www.bibb.de/dokumente/pdf/Duales_Studium_in_Zahlen_2014_online_version.pdf).

Table 8: Students in VET at tertiary level

Type of educational programme	Main economic sectors	Corresponding ISCED level and orientation	Balance between school-based and work-based training	Average duration of studies	Transfer to other pathways	Admission requirements
Dual study programmes (universities, universities of applied sciences, dual university, universities of cooperative education)	Engineering sciences, economic sciences/ commercial law, social affairs, administration and administration of justice, computer science, design, mathematics, information and communication technology, healthcare/nursing.	645–748	Partly school and practice based	3 or up to 5 years	Master’s programmes	Training contract and a certificate confirming higher education entrance qualification (subject-specific or general)
Advanced vocational qualification (<i>Meister, Techniker, Fachwirt</i>) (assessment/certification by the chambers)	Crafts, commerce, industry	554–655	Work-based	2 to 5 years	Bachelor programmes	IVET qualification, work experience
Advanced vocational programmes (trade and technical schools)	Agriculture, design, technology, business, social care	655	School-based	1 to 3 years	Bachelor programmes	IVET qualification, work experience
Health sector schools	Healthcare sector	453	Schools attached to hospitals, theoretical and practical training	2 or 3 years	Vocational extension school	Secondary education first stage certification and work experience/ or preceding vocational qualification

Source: Compiled by the authors

Table 9: Students in tertiary education in Germany

ISCED-2011	2013		2014	
	Number of students enrolled	Share in age group 20-24 years (%)	Number of students enrolled	Share in age group 20-24 years (%)
Level 5	540	0.0	476	0.0
Level 6	1,635,907	18.8	1,734,827	20.2
Level 7	930,366	7.6	962,201	8.0
Level 8	213,200	0.1	214,700	0.1
Levels 5-8	2,780,013	26.5	2,912,203	28.4

Source: Eurostat. Date of extraction: 18.07.2016

<http://ec.europa.eu/eurostat/web/education-and-training/data/database>

2.6 Other forms of VET

2.6.1 Continuing vocational training

Publicly promoted CVET is targeted at various groups, from unemployed people with no school-leaving or vocational qualifications to executives. The aims, content and duration of courses vary accordingly.

Continuing in-company training may take place inside or outside a company, but the company usually pays for provision and it usually takes place during regular working hours. There are a large number of collective agreements containing training provisions (often in conjunction with other issues requiring regulation such as industrial safety and environmental protection, personnel and skills development, company and work organisation, remuneration arrangements, working hours, etc.) (Faulstich 2003, p. 46). The collective agreement on training (*Tarifvertrag zur Qualifizierung – TVQ*) in the metal and electricity industries of 2001 is the benchmark here. In that agreement, continuing in-company training is defined as qualification measures which serve to enable employees to:

- understand the continuous development of specialised, methodological and social knowledge within their field of work (maintenance qualification);
- meet the new requirements in their own field of work (adaptation qualification);
- assume another, equally skilled or more skilled task.

But the content of in-company CVET has changed. Where the goal used to be imparting qualifications related to a specific field, the focus is now on key competences, particularly methodical and personal competences (self-de-

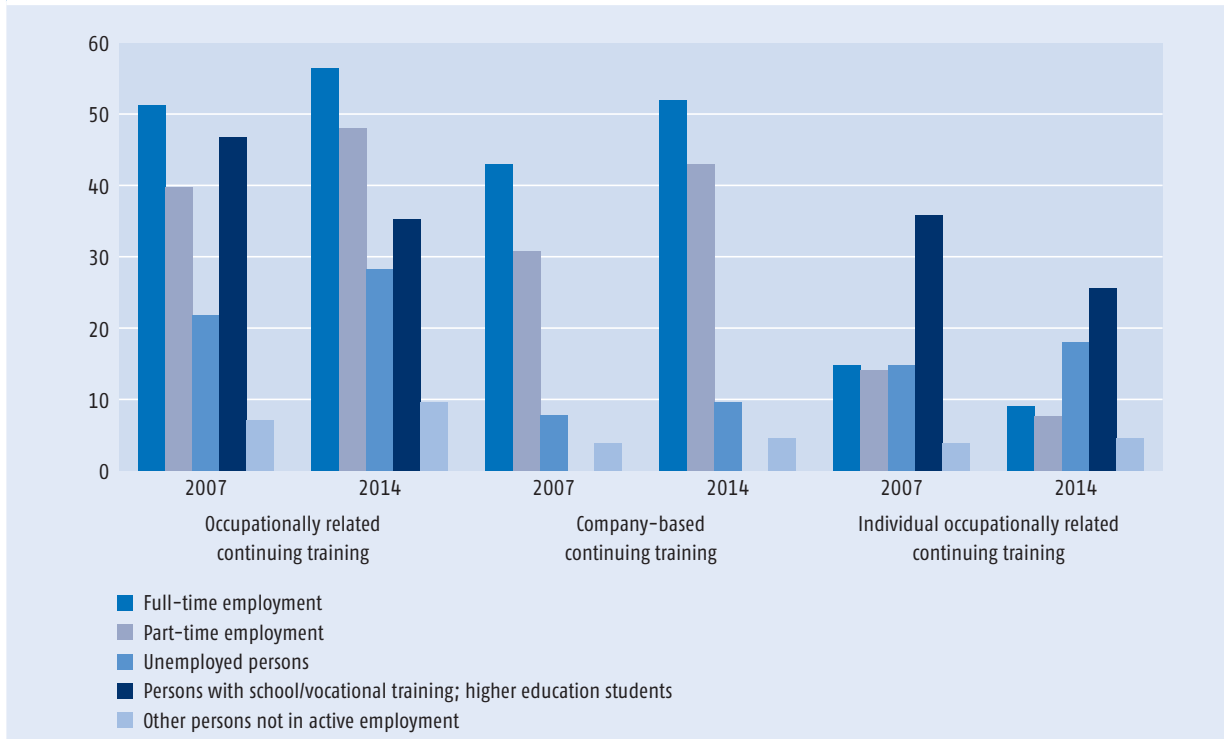
pendent action, capacity for teamwork, customer orientation) (Busse and Heidemann, 2005).

2.6.1.1 Training providers, target groups and participation

The most important providers are private-sector educational/training establishments. Others include public-sector establishments, chambers, establishments of trade and professional associations, social welfare/church establishments and universities/colleges. The figures from 2015 show that private institutions made up the largest proportion of active continuing training providers, accounting for 46.1% of the total. Of these, 29.7% were commercial enterprises and 16.4% operated on a non-profit making basis. Institutions run by major societal groups (churches, political parties, trade unions, foundations, associations, clubs and similar) represent 14.6% of the provider spectrum. These are followed by adult education centres (11.5%), institutions with close links to trade and industry (9.4%) and vocational schools (8.9%). Taken together, the remaining types of providers account for a tenth of all providers (these are: company-based training institutes: 4.0%; institutes of higher education/universities of applied sciences, academies: 3.7% and others: 1.7%) (BIBB 2016, p. 321).

In 2014, 54% of companies offered further education (based on the results of the *IAB-Betriebspanel*)²⁰. Accordingly, the majority of CVET takes place within companies or with their support. According to the results of the Adult Education Survey (AES), 39% of 25- to 64-year-olds participated in in-company further education in 2014 (compared to 37% in 2012). However, the share of participants in further education among employees performing simple tasks remains low (17%) (BIBB 2016, p 295).

Figure 2: Participation rates in occupationally related continuing training by employment status 2007 and 2014 (%)



Source: Author’s illustration based on the Adult Education Survey (AES); BIBB 2016, p. 299.

As shown above, participation rates in job-related continuing training differ by employment status: full-time employees have the highest rate (56% in 2014), followed by part-time employees (48% in 2014). 35% of apprentices and students took part in occupational further education compared to 28% of registered unemployed persons and only 10% of other unemployed persons (i.e., retirees, housewives) (BIBB 2016, p 298).

One possible reason for the relatively high level of participation in individual CVET by registered unemployed persons (18%) is that, in certain cases, state benefits are connected to such participation. The aim is to improve people’s skills profiles or adapt it to meet changed labour market condition to improve their chances of reintegration into the labour market.

In 2014, the participation rate in job-related continuing training was highest (50%) in the youngest age group (25-34 years) for the first time. This was closely followed by the next youngest age group (35-49 years) at 48%. The participation rate among the oldest age group (50-64 years) was by far the lowest at 37%. Similarly, participation rates rise with the level of school leaving certificate (BIBB 2016, p 300).

2.6.1.2 Funding mechanisms

Most expenditure is related to continuing vocational training. However, some spending on general, political, cultural and academic research training is also included, since such areas cannot always be clearly separated from spending on continuing vocational training. The federal government contributes to financing continuing training via funding programmes from various ministries. Spending on such programmes is consolidated within budgets to form funds. The federal states participate in financing continuing training in a similar fashion. Acting together with local government, and in some case municipal associations, the federal states continue to finance adult education centres (*Volkshochschulen – VHSs*), teacher training institutes and other continuing training institutes²¹.

2.6.1.3 Quality assurance mechanisms

Since 2001, the BIBB has compiled the CVET monitor or ‘wbmonitor’ (<https://wbmonitor.bibb.de/index.php/http://www.bibb.de/de/2160.php>) to monitor developments in continuing training and make such developments transparent. Thus, for the last 15 years the BIBB has conducted regular surveys of CVET providers to gather information on practitioners’ views on current topics and problems in CVET. Since 2006, the responsibility for

21 See Annex 1, Table 27.

Table 10: CVET teachers and trainers	
Place of Work (most important providers of CVET)	Type of Occupation
Private or public VET schools	Teachers (see Section 2.3.3)
State CVET institutions, i.e., colleges of continuing education sponsored directly by the state, which offer provision for public employees. The most significant of these are the in-service training courses for teachers run by the states.	Teachers
Community adult education centres (<i>Volkshochschulen</i>): these exist throughout the country.	<ul style="list-style-type: none"> ▶ Unpaid volunteers, ▶ People that teach a few hours outside of their normal jobs (often school teachers), ▶ Freelance workers who sell their courses on a commercial basis.
Chambers of industry and commerce, and of craft trades and agriculture, which offer a broad range of CVET and contribute particularly to the professionalisation and training of the work force by recognising qualifications.	Subject specialists with varied specific educational qualification (full-time, part-time, freelance)
Company-based CVET. Many large companies have established their own internal training centres.	Company employees (full-time, part-time or volunteer), Certified educators/trainers in initial and continuing vocational education, Certified educators/trainers in professional education
The German Federation of Trade Unions (<i>DGB</i>) maintains the largest institutions of continuing vocational education.	Subject specialists with varied specific educational qualification (full-time, part-time, freelance)
Commercial CVET institutions, whose number and range of provision have grown considerably. They target those who can pay, particularly in the areas of foreign language teaching and data processing, and take an active part in competing for public funds, notably under the employment promotion act.	Employees and freelance subject specialists
Institutes of distance education.	Employees and freelance subject specialists
Training organisations within the various economic sectors, which organise vocational and industrial continuing education, especially in SMEs.	Employees and freelance subject specialists
Higher education institutions, which have an obligation to CVET under the basic higher education act. Some higher education institutions and vocational higher education institutions have their own CVET centres. Many offer CVET in cooperation with other providers, trade unions and employers.	Teachers

Source: Compiled by the authors

‘wbmonitor’ has resided with the BIBB and the German institute for adult education (DIE), the Leibniz Centre for Lifelong Learning.

Stiftung Warentest, an independent foundation for testing product quality, has established a separate department for carrying out CVET tests. The aim is to develop comparative training tests that can complement existing quality assurance systems. Test results are published to enhance awareness among providers that accept vouchers of credit for education/training of the importance of quality in the measures they provide. Since 2008, CVET tests have been allocated routine funding by the BMBF.

In 2004, an ordinance on recognising and licensing continuing training (*Anerkennungs- und Zulassungsverordnung – Weiterbildung – AZWV*) was introduced to improve competition and transparency in vocational continuing education as promoted by the federal employment agency (*Bundesagentur für Arbeit – BA*). The employment agencies entrusted external certification bodies with the inspection of continuing education providers. The 2004 ordinance was revised in 2012 (*AZAV*): The education and placement vouchers issued by the employment agencies may only be redeemed by certified providers, for certified measures, in accordance with the social security code (*Sozialgesetzbuch SGB III*). Amongst other things, providers must prove that they apply a recognised quality assurance system.

2.6.1.4 Teachers and trainers

Germany has a wide variety of professionals acting as teachers or trainers in CVET. Their formal qualifications range from none to a university diploma, their occupational status from retired or unemployed to qualified employees in training institutions. No common standard exists for what constitutes a CVET teacher or trainer. Where continuing vocational training takes place in public-sector establishments (e.g. trade, and technical schools, colleges), the training, employment and activities of the staff teaching in them are based on the criteria laid down in the relevant state legislation for teaching staff.

2.6.2 Validation of non-formal and informal learning as well as qualifications acquired abroad

Legally, competences acquired through non-formal and informal²² learning are not recognised in the same way as formal learning. There are barely any regulatory provisions governing the recognition of cross-cutting competences or specialised competences (as distinct from occupation-specific qualifications and skills). Moreover, the issue is widely viewed as less important by those involved in policy and practice. The federal system has few nationwide provisions for recording and certifying informal education. The formal education system makes little use of competences acquired informally in terms of admission procedures, training and study programmes, and certification at upper secondary level and in higher education. The various qualitative and quantitative certification procedures (examination boards, assessments, etc.) are not used in a differentiated fashion, and there is no coordination of such procedures.

2.6.2.1 External final examinations

The most important tool for assessing non-formal and informal learning outcomes is admission to final examinations under Section 45 (2) of the Vocational Training Act (*BBiG*), known as the ‘*Externen-Prüfung*’ (examination for external candidates, i.e., those not involved in a formal vocational training programme). Under this provision, people can be admitted to a final examination for a recognised occupation requiring formal training (training occupation) if they furnish evidence that they have been employed in the relevant occupation for a period at least one and a half times as long as prescribed for the period of initial training.

Credit can be obtained for a higher level of general educational attainment, such as the entrance qualification for

specialised upper secondary school (*Fachoberschulreife*), which shortens the period of employment for which evidence must be produced. A previous relevant IVET programme in a different training occupation can also be credited towards the required periods of employment.

In 2014, 6.0% of all final examinations were external examinations, almost identical with the previous year’s figure. There is, however, considerable variation in the proportions of external examinations between individual fields. By some distance, housekeeping is the area where external examinations are most significant for acquiring a vocational qualification, with just under 45% of candidates in the reporting year taking external examinations. In contrast, external examinations are virtually irrelevant for liberal occupations, at just under 1%. Other figures include 1.2% in the craft trades, 3.0% in the public sector, 7.6% in trade and industry and 11.1% in agriculture (BIBB 2016, p 192).

2.6.2.2 Assessment and recognition of foreign vocational qualifications and skills

The federal government’s law on assessing professional qualifications, which came into force in 2012, has proven an effective instrument in helping people with qualifications acquired outside Germany to integrate into the labour market and in securing a supply of skilled workers. In its first three years, more than 44,000 applications to recognise vocational qualifications and skills were made, three quarters of which were judged to be fully equivalent. Most of the qualifications recognised were in the regulated professions, especially healthcare.

Information and guidance are essential to success in the recognition process. The federal government has established a range of comprehensive services, such as the “Recognition in Germany” website (www.anerkennung-in-deutschland.de), the counselling network of the “Integration through Qualification (IQ)” programme and the “Working and Living in Germany” telephone hotline, a project run jointly by the Federal Employment Agency (BA) and the Federal Office for Migration and Refugees (BAMF). A BMBF project with the association of German chambers of commerce and industry to have recognition consultants provide personal consultancy for people interested in having their qualifications recognised while still in their countries of origin (ProRecognition) started at the end of 2015. In addition, the funding and residency options available for updating training where a foreign qualification has not been judged to be fully equivalent to a German qualification were substantially expanded in 2015.

22 Definitions by Cedefop:

- ▶ Non-formal learning: embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support); non-formal learning is intentional from the learner’s point of view.
- ▶ Informal learning: resulting from daily activities related to work, family or leisure (not organised or structured in terms of objectives, time or learning support); informal learning is in most cases unintentional from the learner’s perspective.

3. SHAPING VET QUALIFICATIONS

The central feature of the VET system is the close partnership between employers, trade unions and the government. The employers and the unions assume responsibility through their codetermination in shaping VET. Without this codetermination, social partners would be unwilling to take responsibility. This connection forms the basis of a working ‘public-private partnership’ (PPP). The dual system links theory and practice in a variety of ways and thereby ensures a good combination for imparting occupational skills and key qualifications. The goal of training is to acquire professional action competence, i.e., a broad-based qualification instead of narrow understanding of specific activities.

A key element of dual VET is training occupations (*Ausbildungsberufe*). These form the basis for in-company training and are complemented by the respective framework curricula from the school-based part of apprenticeships. They comprise VET standards, occupational characteristics, a two- or three-year training plan and examination regulations. In-company training for young people under 18 is only permitted in recognised training occupations. The Vocational Training Act defines the requirements that these training occupations must meet, thus ensuring binding quality standards and the protection of minors (BIBB, 2014a). Since it is a federal government responsibility to decide on these training occupations, they are called ‘state-recognised training occupations’²³.

3.1 Developing standards

Training regulations are issued for recognised training occupations by the relevant ministry, usually the Federal Ministry for Economic Affairs and Energy (BMWi), in agreement with the Federal Ministry of Education and Research (BMBF). These form the legal framework and contain minimum standards for the in-company part of initial training for the individual occupations (BIBB, 2014a).

The development of new training regulations and framework curricula (or the adaptation of existing ones to meet changing vocational practices) follows a standardised procedure, involving the federal government, state governments, employers, trade unions and vocational education researchers (BIBB 2014a).

The Vocational Training Act (BBiG) stipulates that training regulations shall specify:

- (a) the name of the training occupation;
- (b) the duration of training – which shall not be less than two and not more than three years;
- (c) the training occupation profile, i.e., what a learner is expected to know, understand and be in a position to do;
- (d) the framework training curriculum – a guide to structuring the learning process in terms of time and content;
- (e) the exam requirements.

These key points, also referred to as ‘benchmarks’, form the basis for a proposed revision or development of a new occupation. Once a proposal has been submitted to the relevant ministry, training regulations are drawn up in three steps:

- (a) Defining the ‘benchmarks’:
These are set in a meeting (‘an application interview’) at the relevant ministry (in most cases the BMWi) in which the social partners and the federal and state governments participate;
- (b) Elaboration and coordination:
Training regulations for the enterprises and framework curricula for vocational schools are prepared and coordinated. Social partner umbrella associations are asked to designate experts to design the training occupation together with the BIBB. The work on the training regulation framework curricula is coordinated with the work on the corresponding framework curricula for vocational schools drawn up by state representatives to ensure they complement each other (BIBB 2014a);
- (c) Adoption of the regulation:
The relevant federal/state coordinating committee (KoA) approves the new training regulation and the school framework curriculum. The committee comprises representatives from the state ministries responsible for VET, the BMBF and the ministries responsible for the respective training regulations, usually the BMWi (BIBB 2014a).

Between 2006 and 2015, new regulations were drafted for 149 training occupations: 130 of these were updates, 19 were newly introduced²⁴.

23 See Annex 1, Table 28.

24 See Annex 1, Table 28.

3.2 Shared responsibilities

Cooperation between government and social partners is essential. Employers and trade unions jointly formulate the requirements for the occupational standards. All co-operation related to VET is based on consensus; no regulations concerning initial or further VET may be issued against the declared will of either of the social partners. As a rule, the initiative to update the content or structure of a training occupation or to develop an entirely new occupation comes from industry associations, from the top-level employer organisations, from trade unions or the BIBB. After hearing the views of all parties involved, the responsible federal ministry decides whether to proceed in consultation with the state governments, since they are responsible for the school regulations and curricula (school-based part of apprenticeships). In many cases, BIBB issues an opinion or, particularly when larger scale revisions are being considered, conducts research before the ministry takes its decision. The BIBB provides the platform for this process and also coordinates and moderates it.

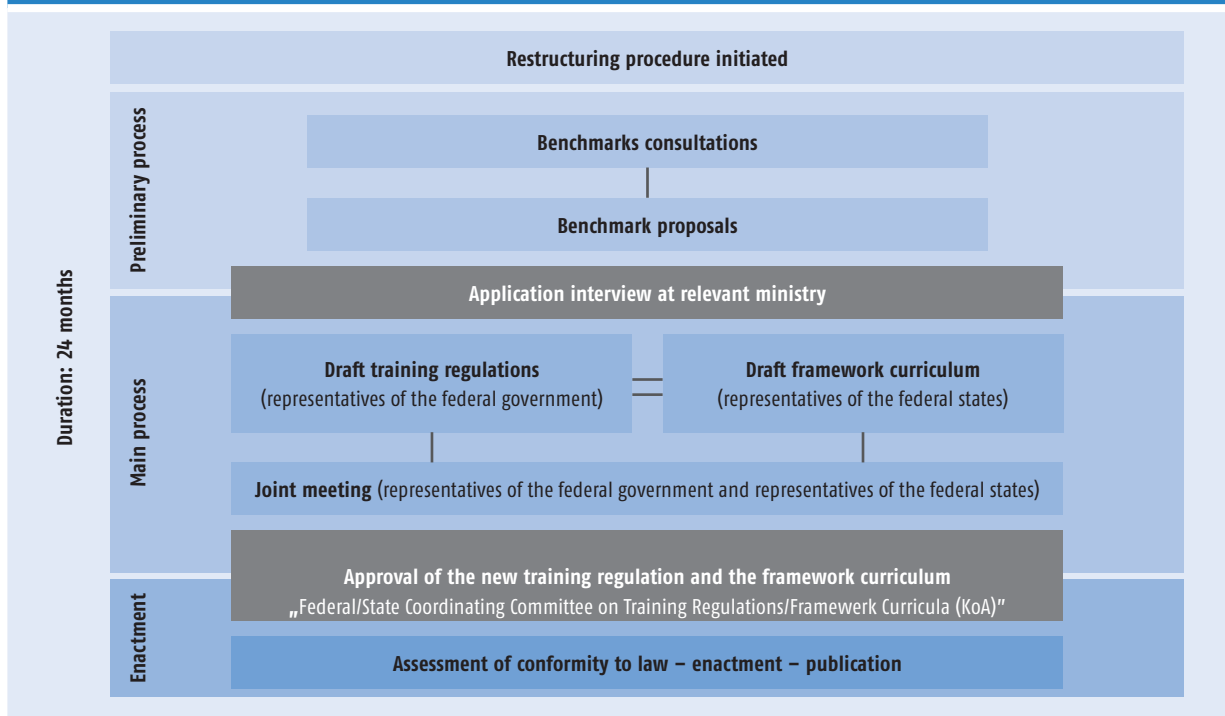
The competent federal minister²⁵ commissions the BIBB to draw up the new training regulation involving the social partners and the state governments. The federal and state

state governments have agreed to limit the duration of the development process to around a year. The date when the new regulation is supposed to enter into force is normally set in the meeting that starts the process ('application interview'). Development of the training regulation content and the design of the corresponding framework curriculum for the school-based part of the programme occur in parallel. The latter is the task of the states, with one of them taking the lead. The content development phase is followed by a joint meeting between the federal and state governments. This meeting ensures correlation between the two curricula. The agreed draft training regulation is subsequently submitted to the BIBB board, which then formally recommends the federal government enacts the training regulation. The KoA also endorses the draft. Once its conformity to law has been assessed by the federal ministry of justice, the competent ministry finally enacts the new training regulations in agreement with the BMBF. The training regulations are then published in the *Federal Gazette*.

3.3 Final exams

Final exams are geared to the work requirements and processes of the relevant occupation. As a rule, a final exam covers four or five fields relevant to the occupation. Performance in general subjects, such as languages and

Figure 3: Procedure for updating of training regulations



Source: Author’s illustration following Barbara Lorig et al. in: bwp, No. 20, June 2011 http://www.bwpat.de/ausgabe20/lorig_etal_bwpat20.pdf, Assessed: 23.08.2016

25 Usually the Federal Ministry of Economic Affairs (BMWi).

mathematics, is evaluated within the framework of school reports. Depending on the occupation, these exams take various forms. Duration may vary, especially in assignments that take the form of a work sample and/or work task, but should not be less than one and not exceed seven hours overall (excluding preparation and post-processing). For written assignments, a period of two hours is usually allocated. Oral exams usually last 30 minutes.

Enterprises and vocational schools conduct training, but the chambers ('competent bodies') are responsible for the exams. For this purpose, they must establish exam committees for each occupation with at least three members (one representative each for employers and employees and a vocational school teacher). The certificate is issued by the chamber. The exam structure is laid down by the related training regulations which apply nationwide and specify a uniform standard.

3.4 Anticipation of future skills needs

Systematic recording and research of future skills needs was initiated in the 1999 resolutions by the Alliance for Jobs, Training and Competitiveness (*Bündnis für Arbeit, Ausbildung und Wettbewerbsfähigkeit*) and implemented within the subsequent initiative for early identification of skills needs launched by the BMBF. Its most important resource is the research network FreQueNz, www.frequenz.net/; [accessed 06.09.2016]. The network includes several research institutions, an education organisation, the BIBB, the Trade Union Confederation (DGB) and the Employers' Organisation for Vocational Training (KWB).

The BIBB monitors new skills requirements using different and complementary approaches:

(a) Occupational and qualifications projections. The BIBB and the Institute for Labour Market and Occupation Research (IAB) are working together to develop forecasting model calculations on labour market developments by 2025. This study breaks new methodological ground by tracing the routes between occupations learned and those actually adopted (occupational flexibility). Longer-term developments in occupational fields and qualifications can now be displayed in a more differentiated manner. This makes it possible to take necessary action at an early stage to improve the match between supply and demand in the labour market. Link: <http://kooperationen.zew.de/dfgflex/links/>

datensaetze-deutschland/bibbiab-erhebungen.html [accessed 06.09.2016];

- (b) The projections show, for instance, areas where a considerable shortage of skilled workers may occur and which skills levels are at risk of being affected by unemployment (www.qube-projekt.de [accessed 06.09.2016];
- (c) Company surveys help build a comprehensive picture of technological and organisational developments and the associated skills requirements. Such surveys are conducted regularly among the companies represented on the BIBB panel. Known as the reference company system (*Referenz-Betriebs-System*, RBS), these are more than 2,000 training and non-training firms which vary in size, sector (e.g., industry, services, crafts), legal form, length of time in operation and main occupations (of their employees). There are also surveys in selected sectors geared towards particular fields of work. These yield sufficiently differentiated and empirically verified information on the requirements in individual occupations. Link: <https://www.bibb.de/de/12471.php> [accessed 06.09.2016];
- (d) Job advertisement analyses yield empirically verified information on the demand for skilled workers in the job market and the (ideal) qualification profiles desired by companies²⁶;
- (e) Advertiser surveys determine whether vacancies have been filled and, if not, why not²⁷;
- (f) Surveys of guidance staff generate expertise on in-company strategies for change and skills development²⁸;
- (g) Representative surveys of people in employment ascertain their perceptions of expertise requirements, job profiles, working conditions and continuing education and training needs²⁹;
- (h) Regular surveys of continuing education providers gather data on the implementation, reception and modifications to courses, along with experience and assessments of trends in training establishments;
- (i) Structural and longitudinal studies of CVET courses listed in the KURS database yield information on changes and trends in provision.

These BIBB research activities focus on changes in existing fields of work or the emergence of new fields, and the accompanying development in qualification requirements, including the factors which influence these. In addition to quantitative assessment, the BIBB's qualification development also identifies qualitative trends. The BMBF also supports the development of a 'labour market radar' (*Arbeitsmarktradar*), a future-oriented labour market monitoring

26 <http://www.bibb.de/arbeit-im-wandel> [accessed 06.09.2016].

27 <http://www.bibb.de/arbeit-im-wandel> [accessed 06.09.2016].

28 <https://www.destatis.de/DE/Startseite.html> [accessed 06.09.2016].
Link: <https://expertenmonitor.bibb.de/index.php> [accessed 06.09.2016].

29 <https://www.destatis.de/DE/Startseite.html> [accessed 06.09.2016].

<http://www.bibb.de/arbeit-im-wandel> [accessed 06.09.2016].

<http://www.bibb.de/de/11148.php> [accessed 06.09.2016].

<http://de.statista.com/> [accessed 06.09.2016]

system³⁰. The states and several regions pursue individual early identification activities (e.g., regional monitoring of qualification developments, skill needs surveys). Social partners are also involved in early identification, mainly in the context of modernising initial and further training regulations (see Section 3.2) (Scharlowsky, 2007). All these activities help ensure that VET adapts to and meets qualification needs. Investigations into skill needs and qualification development are also carried out by:

- (a) sector-specific associations, such as the Association of Engineers (VDI) and the German Association of Information Technology, Telecommunications and New Media (BitKom);
- (b) The Institute for Labour Market and Occupation Research (IAB)³¹;
- (c) several foundations, such as the Hans-Böckler Foundation³², Friedrich-Ebert Foundation³³, Konrad-Adenauer Foundation³⁴ and the Bertelsmann Foundation³⁵;
- (d) other stakeholders.

3.5 German Qualifications Framework – DQR

The German Qualifications Framework (*Deutscher Qualifikationsrahmen*, DQR) was adopted by a working group in 2011 (see also www.dqr.de [accessed 06.09.2016]). In 2012, a coordination meeting took place to clarify outstanding issues related to assigning qualifications to DQR levels. Participants included the KMK, representatives from the BMBF and the Federal Ministry of Economics and Technology, the Confederation of Skilled Crafts, the Federal Association of Employer Associations, the Trade Union Confederation and the BIBB.

DQR levels were formally linked to those of the EQF in December 2012 (see http://www.dqr.de/media/content/German_EQF_Referencing_Report.pdf, which explains the process). The DQR entered into force in May 2013. Like the EQF, it has eight reference levels. The DQR is not yet comprehensive, as the allocation of general education qualifications will be developed during the five-year introductory phase.

However, there is consensus that the DQR should include all educational sectors and that the comparability of general and vocational education must be adequately reflected.

The comparability of general education and VET is expressed, for instance, in the fact that qualifications from the academic sector and VET have been allocated to DQR levels 6 and 7 (including Bachelor, Meister [master crafts-person], *Fachwirt* [business management specialist], and *Fachschule* [full-time vocational school] degrees such as *Techniker* [technician] and IT professional)³⁶ (BMBF/KMK, 2013; pp. 8, 9).

This nuance is particularly important to understand, since:

- (a) medium-level VET qualifications ('skilled workers') make up a large share of those held by the working population and are a strong pillar of Germany's economy (BMBF/KMK, 2013);
- (b) access to many occupational fields which require higher education in other countries is achieved via dual training;
- (c) the share of higher education graduates in the workforce is therefore lower than in other European countries;
- (d) continuing and further training qualifications (see Sections 2.5 and 2.6) such as master crafts-person and technician are of comparatively higher importance. Initial and continuing VET are closely linked and support each other.

In order to adequately cover the particular characteristics of the German education and training system, the DQR develops the learning outcome oriented approach of the EQF by focussing on the German concept of 'vocational action competence': a holistic and integrated approach to competence acquisition during VET rather than one based on acquiring isolated skills and competences. The DQR and EQF can help citizens make their professional competences to potential employers in other EU countries and Germany more comprehensible and clarify the equivalence between certain vocational qualifications and academic qualifications. The respective DQR and EQF levels are shown on VET and continuing training certificates (BMBF/KMK, 2013). Since 2014, the DQR and EQF level has also been included on master crafts-person certificates.

To develop the DQR and coordinate the process, the BMBF and the KMK established a specific coordination group which was turned into a coordinating agency when the DQR came into force (B-L-KS DQR) (see also www.dqr.de; [accessed 23.08.2016]).

30 http://www.bmbf.de/pub/abschlussbericht_arbeitsmarktradar_gesamt.pdf [accessed 25.11.2014].

<http://www.iab.de/de/daten/arbeitsmarktbarometer.aspx> [accessed 06.09.2016].

31 <http://www.iab.de/de/befragungen.aspx> [accessed 06.09.2016]; <https://www.vdi.de/presse/publikationen/> [accessed 06.09.2016]; http://www.bitkom.org/de/markt_statistik/806.aspx [accessed 06.09.2016].

32 <http://www.boeckler.de/index.htm> [accessed 06.09.2016].

33 <http://www.fes.de/> [accessed 06.09.2016].

34 <http://www.kas.de/> [accessed 06.09.2016].

35 <http://www.bertelsmann-stiftung.de/cps/rde/xchg/bst> [accessed 06.09.2016].

Table 11: The German qualifications framework

DQR/ EQF level	Qualifications
1	Vocational training preparation [<i>Berufsausbildungsvorbereitung</i>] <ul style="list-style-type: none"> ▶ Employment agency measures (vocational preparation schemes) [<i>Maßnahmen der Arbeitsagentur (Berufsvorbereitende Bildungsmaßnahmen – BvB)</i>] ▶ Pre-vocational Training Year [<i>Berufsvorbereitungsjahr (BVJ)</i>]
2	Vocational training preparation [<i>Berufsausbildungsvorbereitung</i>] <ul style="list-style-type: none"> ▶ Employment agency measures [<i>Maßnahmen der Arbeitsagentur</i>] ▶ Year of pre-vocational training [<i>Berufsvorbereitungsjahr (BVJ)</i>] ▶ Introductory training for young people (<i>Einstiegsqualifizierung, EQ</i>) <i>Berufsfachschule</i> [full-time vocational school] (<i>Basic Vocational Training [Berufliche Grundbildung]</i>)
3	Dual vocational education and training (2-year training courses) <i>Berufsfachschule (Mittlerer Schulabschluss)</i> [full-time vocational school] (general education school leaving certificate obtained on completion of grade 10 at Realschule or, under certain circumstances, at other lower secondary school types)
4	Dual vocational education and training (three-year and three-and-a-half-year training courses) <i>Berufsfachschule</i> [full-time vocational school] (assistant occupations) <i>Berufsfachschule</i> [full-time vocational school] (full vocational qualification)
5	<i>IT-Spezialist (Zertifizierter)</i> [Information Technology Specialist (Certified)], <i>Servicetechniker (Geprüfter)</i> [Service Technician (Certified)]*
6	Bachelor <i>Fachkaufmann (Geprüfter)</i> [Commercial Specialist (Certified)], <i>Fachwirt (Geprüfter)</i> [Business Management Specialist (Certified)], <i>Meister (Geprüfter)</i> [Master Craftsman (Certified)], <i>Operativer IT-Professional (Geprüfter)</i> [Operative IT Professional (Certified)]* <i>Fachschule (Staatlich Geprüfter ...)</i> [<i>Fachschule (State-Certified ...)</i>]
7	Master <i>Strategischer IT-Professional (Geprüfter)</i> [Strategic IT Professional (Certified)]*
8	Doctoral studies

*The German Qualifications Framework Working Group agrees that additional further vocational training qualifications should be allocated in accordance with the procedure described in the DQR Manual.

Source: Ministry of Education and Research, BMBF/Standing Conference of the Ministers of Education and Cultural Affairs, KMK 2013 (Under: http://ec.europa.eu/ploteus/sites/eac-efq/files/German_EQF_Referencing_Report.pdf [accessed 23.08.2016]).

4. PROMOTING PARTICIPATION IN VET

In Germany, initial and continuing training is based on mixed financing by various public and private bodies. These include the BMBF, BMWi, the Federal Ministry of Labour and Social Affairs (BMAS), the Federal Employment Agency (BA), the states and their ministries of employment, economics, education or cultural affairs, the European Union, local authorities, companies, unions, chambers, associations, private institutions and, lastly, individuals themselves. In this respect, financing for IVET and continuing general and vocational education differs quite substantially from the schools and universities sector, which benefits from relatively comprehensive public funding (Hippach-Schneider, U.; Hensen, K. A. 2011, p. 96).

4.1 Promoting participation in IVET

In-company training in the dual system is usually financed by the individual enterprise, i.e., an enterprise decides whether or not it will offer training and in which occupations. It decides how many trainees it will take on, which quality standards will be observed within the legal framework and how much it wants to spend on training³⁶.

SMEs, in particular crafts companies, are important training suppliers, but are unable, or not fully able, to provide all the facets of training required by regulations. This is primarily due to the increasing division of labour in production processes, increasing specialisation and in some cases financial problems or accelerated technological change. The limited suitability of such enterprises as training providers is compensated for by supplementary external training measures in inter-company vocational training centres (überbetrieb-

liche *Berufsbildungsstätten*, ÜBSs) or through training structures (*Ausbildungsverbände*) (see Section 2.3.1.).

ÜBSs are mainly operated by public law bodies (e.g., municipalities, most chambers and guilds) or non-profit private law bodies (e.g., trade associations). Financing is mixed, with subsidies from the federal employment agency (BA), the central government (capital grants from the BMBF) and the states added to the resources of the responsible body. In 2009, BMBF-BMWi guidelines for funding ÜBSs and their development into competence centres entered into force. These guidelines ensure greater legal security and transparency for applicants as well as greater flexibility in funding and they extend ÜBSs' scope of action (see Section 2.3.1.).

Financing for training structures (*Ausbildungsverbände*) depends on their organisational form. In the 'lead enterprise with partner enterprises' model, the lead enterprise normally pays the apprentices' training remuneration, while the partners bear the personnel, plant and equipment costs arising in their areas of responsibility. In the 'training to order' model, in principle each party to the contract can provide training services against reimbursement of costs, but in practice SMEs usually finance the training services contracted out to a large enterprise with a training workshop.

The VET-related expenditure of the BA applies to both pre-VET and IVET (i.e., grants for young people). The data do not include the amounts spent on promoting the transition from IVET into the labour market, since these are classified as employment policy measures.

Table 12: IVET financing

Financing bodies	Expenditure (in EUR billions)			
	2010	2012	2014	2015
Public bodies (Federation, states, regions)				
Vocational schools within apprenticeships (dual system)	3.1	3.0	2.8	2.8
(Mainly) School-based VET	2.4	2.3	2.1	2.1
Other school-based types of VET (e.g., one-year basic vocational training, prevocational training year)	1.9	2.0	2.0	2.1
Inter-company VET centres (ÜBS)	0.04	0.04	0.04	0.04
Federal Employment Agency (BA)	1.8	1.4	1.1	1.0

Source: BIBB 2016, p. 256 f.

The contribution from public funding is complemented by the private sector and public services companies that provide training. According to the most recent BIBB calculations, based on a representative study for the training year 2012-13, the gross costs (i.e., IVET costs without returns from training) were around € 25.6 billion. Companies' net costs for IVET in the dual system were around EUR 7.7 billion, meaning gross and net costs have somewhat increased (by approx. € 2 billion each) since the last study based on 2007 data (BIBB 2016, p. 258).

Funding for vocational schools – specifically public ones – comes primarily from the public budget. The traditional division of tasks between states and municipalities means the former cover the bulk of personnel costs while the latter fund the majority of current material costs and material investments from their own revenues. States currently finance nearly 80% of vocational school expenditure. Mainly school-based VET (e.g., grants for pupils) and specific measures to promote VET (e.g. to create additional training positions) are also financed from state budgets. Specific information on all public funding activities is available on www.foerderdatenbank.de [accessed 24.08.2016].

The following information focuses on federal government standard funding and support, mostly regulated under the German Social Code (SGB II/III). There are also state regulations to support and enhance education and training activities in VET.

Prevocational training measures *(berufsvorbereitende Bildungsmaßnahmen – BvB)*

The federal employment agency (BA) provides prevocational training to young people and young adults below 25 who have not participated in IVET but have completed their compulsory general education, as stipulated in the social code (*Sozialgesetzbuch*), SGB III, Section 51. BA also subsidises VET for disadvantaged young people.

The measures include:

- (a) training support in the form of additional financial and socio-pedagogic assistance within the framework of an in-company training relationship;
- (b) vocational training in non-company establishments in a training occupation recognised under the Vocational Training Act (BIBG) and Crafts Code (HwO), leading to a qualification upon completion;
- (c) transitional support (continuation of training support following completion or discontinuation of training);
- (d) support for integration into employment in the form of additional financial and socio-pedagogic assistance.

Around 70,000 young people in need of extra support participated in a BA prevocational training measure in 2015. 47.8% of participants were employed in jobs subject

to social insurance contributions (integration rate) six months after completing the measure (Actual spending for 2015: € 224.9 million; www.arbeitsagentur.de).

Vocational training support grant *(Berufsausbildungsbeihilfe – BAB)*

Financial support (based on SGB III S. 56 and BAföG) is offered during in-company or extra-company vocational training and federal employment agency prevocational training measures to help people overcome the economic difficulties that can impede appropriate vocational qualification, to ensure a more balanced training market and secure and improve occupational mobility. The amount of the grant (from 1 Aug. 2016, max. € 622) is based on accommodation expenses, the apprenticeship pay received and the annual income of the apprentice's parents, partner or spouse. In 2015, around 100,000 apprentices received a vocational training support grant and about 24,500 obtained it during a prevocational training measure (actual spending for 2015: € 330.4 million) (BMBF 2016, p 103).

Introductory training for young people *(Einstiegsqualifizierung Jugendlicher – EQJ)*

The primary goal of introductory training is to give young people (no age limit) with limited prospects of being placed in training an opportunity to acquire or enhance modular qualifications towards a recognised occupation. Introductory training (SGB III, S.54a) also offers companies providing training an opportunity to get to know young people, not just in a brief job application interview, but to observe their skills and abilities over a period of six to twelve months in daily work processes.

Companies which offer introductory training enter into a contract with the young people concerned. Employers receive a subsidy of up to € 231 per month (from 1 August 2016) to remunerate trainees, plus a flat-rate contribution towards the average total social security amount payable. On completion of the work placement, participants receive a certificate issued by the competent body (e.g., chamber of industry and commerce, chamber of skilled crafts). In certain circumstances, up to six months' credit for the work placement can be offset against the qualifying period of a subsequent apprenticeship. 69% of those completing introductory training transfer into training six months after completing the introductory training measure.

Business and industry has made a commitment to provide 20,000 introductory training places in companies that will build bridges into training for young people as part of the Alliance for Initial and Further Training. Specific forms of introductory training are offered for disadvantaged young people (EQ-Plus) and those from migrant backgrounds,

and companies are specifically recruited to get involved in these. In 2015, around 17,500 young people began introductory training (Actual spending 2015: € 35.2 million; www.arbeitsagentur.de) (BMBF 2016, p 97).

Alliance for Initial and Further Training
(*Allianz für Aus- und Weiterbildung*)
www.aus-und-weiterbildungsallianz.de

In order to strengthen VET, the federal government established this new alliance at the end of 2014, together with employer associations, trade unions, state governments and the BMWi. It replaces the national pact for career training and development of skilled manpower. Funding is provided by the federal employment agency. The comprehensive strategy offers various instruments, for example training placement services, and particularly supports SMEs in training young people with special needs (i.e., with the new “assisted training” funding scheme).

Training support measures
(*Ausbildungsbegleitende Hilfen – AbH*)

During introductory training or company-based training, young people who require assistance can receive training support (SGB III § 75, see also above). Special classes and accompanying social and educational mentoring help trainees overcome language and educational deficits and/or help them acquire practical and theoretical occupational skills, knowledge and competences. Such measures may be considered if a company-based training contract is dissolved prematurely and support is needed until another can be started, or if continued support is needed to establish or consolidate an employment contract. Training support measures end no later than six months after an employment contract. Around 41,000 young people were provided with such support during vocational training or initial training by employment offices and Job Centres in 2015. Six months after completing the measure, 78.6% of participants were employed in jobs for which social insurance contributions are payable (actual spending for 2015: € 97 million; www.arbeitsagentur.de).

Educational Chains Leading to Vocational Qualifications initiative (*Abschluss und Anschluss – Bildungsketten bis zum Ausbildungsabschluss*)

This initiative aims to comprehensively secure young people’s success in education and training and to develop a structured and consistent funding and support policy by the federal government (BMBF, BMAS), BA and states for a vocational orientation and transition system. It focuses on analysing the potential of young people at an early stage, action-oriented career orientation options such as the vocational guidance programme (*Berufsorientierungspro-*

gramm – BOP), vocational orientation measures as defined in S. 48 of the German Social Code (SGB III), individual career start coaching, mentoring through training by volunteers, introductory training, support for apprentices during training and assisted training. To extend the range of the Educational Chains initiative, the BMBF started the process of agreements between the BA and federal and state governments in 2014. These agreements are a new and crucial step in establishing a more consistent vocational orientation and transition system and will enable funds to be coordinated and used more efficiently. Close and binding cooperation among the relevant federal and state government departments will clarify funding structures for vocational orientation and the transition from school into work in the Educational Chains initiative (BMBF 2016, p. 85).

Mobility programme for young people interested in vocational training from other European countries, MobiPro-EU (*Förderung der beruflichen Mobilität von ausbildungsinteressierten Jugendlichen aus Europa*)

Since the beginning of 2013, the federal government has supported young people from EU countries in taking up apprenticeship training (dual VET) in Germany. MobiPro-EU contributes to reducing the high youth unemployment rates in several EU countries and fostering occupational mobility. Originally, it also targeted young unemployed skilled workers. Since mid-2014, the programme has focused on training and project support rather than individual support. Here are some examples of measures eligible for support in this context: German language courses in the country of origin and in Germany, flat-rate reimbursement for travel and relocation expenses and payments to cover apprentices’ living expenses, along with socio-educational and vocational-pedagogic assistance. The programme is operated by BA’s international placement services (*Zentrale Auslands- und Fachvermittlung* <http://www.thejobofmylife.de/en/home.html> [accessed 26.08.2016])

4.2 Promoting participation in CVET

The state promotes participation in CVET with various support and funding instruments (e.g., grants, subsidies and loans to cover CVET and living costs). Some of them are regulated by law (e.g., the SGB) and others are in the form of programmes.

Upgrading Training Assistance Act (*Aufstiegsfortbildungsförderungsgesetz, AFBG, known as ‘Meister-BaföG’*)

This law gives craftspeople and other skilled workers a statutory entitlement to financial assistance to cover costs for further training and living expenses. This financial

support, jointly covered by the federal and state governments, comprises subsidies (or, from a certain amount, bank loans at favourable rates) for master craftsperson course and exam fees or other programmes leading to a comparable qualification. The AFBG, the equivalent to university student grants (BAföG), was amended in 2016 to improve the funding benefits it offers and expand available funding options. In 2015, the number of funding recipients was approx. 162,000 (2014: 171,815; 2012: 168,284; 2010: 166,000; Source BIBB 2016, p. 350; BMBF Press release 087/2016). In 2014, 31.8% of *Meister-BaföG* recipients were women (BIBB 2016, p. 351). Since the *Meister-BAföG* was introduced in 1996, it has made it possible for around 1.9 million people to upgrade their vocational skills and achieve occupational promotion by providing approx. 7.4 billion euros in funding. It is the most comprehensive and successful CVET funding instrument.

Continuing training grant (*Weiterbildungsstipendium*)

Since 1991, the BMBF has offered particularly gifted young workers a specific CVET grant (a similar programme exists in academic education). One of its aims is to underline the importance of continuing training throughout working life.

Admission onto the continuing training scholarship programme requires above average vocational ability and motivation. This can be demonstrated in the following ways:

- ▶ by a very good result in the final IVET exam;
- ▶ by particularly successful participation in a supra-regional vocational performance competition;
- ▶ by a well-founded proposal made by a company or vocational school.

In 2015, 5,862 new participants were selected (2012: 6,544; 2011: 6,082; 2010: 5,762; 2009: 6,111/BIBB 2013, p. 352). 13.2% of scholarship recipients were from a migrant background: the lowest share (5.0%) came from agricultural and housekeeping occupations; the highest (19.5%) from liberal professions (BIBB 2016, p. 354).

Funding is provided for the measure itself, for travel and accommodation costs and for costs of work materials. Scholarship recipients may apply for a total of € 6,000 for an unlimited amount of continuing training courses eligible for funding within the three-year funding period. They are required to bear 10% of costs themselves per course (BIBB 2016, p. 353).

Upgrading scholarship (*Aufstiegsstipendium*)

The BMBF's upgrading scholarship offers incentives to study to skilled workers with professional experience, whether or not they gained a higher education entrance

qualification at school. It was established for professionals with at least two years' work experience and with outstanding talents.

When qualified skilled professionals are already working, financial issues often prevent them from starting a course of studies. These scholarships provide additional incentives for further study and improve the career and promotion prospects of talented staff. It is the only academic programme supporting talented students who are combining work and study (over a third of the scholarship holders) or studying full-time for the duration of their course of studies (standard prescribed study period). The funding provided for full-time study is € 750 a month (plus a one-off childcare payment), with € 2,000 a year offered for those combining work and study.

Continuing education bonus (*Bildungsprämie*)

To encourage low and middle income groups to participate in continuing education and training, the federal government approved an additional financing scheme in 2008: premium vouchers and savings vouchers. The premium voucher reduces training costs by up to 50% of tuition fees (max € 500) for job-related training courses or courses that help improve people's employability. It targets employees and self-employed people who work at least 15 hours a week and have a maximum taxable income of EUR 20,000 (or 40,000 for couples; child allowances are taken into account) or are on parental leave. The voucher is valid for six months. People can receive vouchers every two years. This measure is supported by the ESF. The savings voucher provides a right to withdraw money from capital formation saving plans without losing the savings grant. This is open to all people who have such saving plans, regardless of their income (<http://www.bildungspraemie.info/>).

4.3 CVET for the unemployed

CVET is a key instrument in improving employment opportunities through upskilling and skills development measures (SGB III). Funding for CVET is not only open to people who have recently lost their jobs, but also to employed workers under certain circumstances. The employment agency or local authority providing basic income support for jobseekers decides whether CVET support is available.

General eligibility criteria

To be eligible for CVET, participation must be considered necessary to enable occupational integration, to avert pending unemployment or because the candidate does not have a vocational qualification. When identifying the

need for CVET measures, the employment agency or the authority providing basic income support for jobseekers must always take labour market conditions into account and decide, among others: whether the candidate could find employment without continuing training and education; whether other labour market policy instruments could be more appropriate; and whether the candidate could, in all likelihood, return to the labour market as a result of the training.

Education and training voucher

Persons meeting the general eligibility criteria are granted an education and training voucher (*Bildungsgutschein*) by the employment agency or the authority providing jobseeker support. This voucher contains data on the educational objective, the time required to reach this objective and information as to where the voucher applies in the region. The holder can redeem it at any educational institution of their choice which is accredited for funding under the conditions specified in the education voucher. The CVET activity must also be approved for funding and support. The education institution then charges the employment agency for the course costs on the basis of the education voucher. Information on approved CVET measures and providers can also be found in the database of the Federal Employment Agency (KURSNET <http://kursnet-finden.arbeitsagentur.de/kurs/> [accessed on 31.08.2016]).

Key services

By issuing an education and training voucher, the employment agency or authority providing basic income support for jobseekers confirms that some or all of the following CVET expenses will be covered: course costs, travel expenses, costs for external board and lodging and childcare expenses. Candidates are also entitled to receive unemployment benefit for the duration of the CVET programme if specific requirements are met. Regulations related to unemployment benefits remain unchanged for the duration of the CVET programme.

4.4 Guidance and counselling

Guidance and counselling provision is embedded in Germany's overall employment strategy as well as in its educational sector and lifelong learning strategy. Labour market policy has a long tradition of guidance and counselling; however, lifelong learning and lifelong and life-wide guidance and counselling have only recently become high level topics on the political agenda. Due to the country's constitution and its federal structure with split responsibilities between the federal government, 16 state governments and local municipalities, and between education, labour and youth ministries, guidance

policy and provision is also split between these sectors. Although there are several institutional links and cooperation agreements between labour market and education policy, there is so far no consistent cross-sectoral national lifelong guidance strategy.

Service provision

Since the 1920s, vocational guidance and counselling for youth and adults has been a legal obligation of the BA and its local employment agencies. Until 1998, the BA had a state monopoly on vocational guidance and counselling for young people moving from school to work. The BA also offers guidance and counselling services for adults, although there are multiple providers in this area, in particular further training institutions, some municipalities, non-profit organisations and private career counselling practitioners. Since the abolishment of the state monopoly, the private and semi-private market has grown considerably. This is partly due to limited regulations, for instance, concerning finances and providers' facilities (SGB III, § 289), with no stipulated qualification requirements for staff or quality standards. Nevertheless, the BA is still the largest and most important guidance and counselling service provider. This includes services for long-term unemployed from *Jobcenters* under the social code (SGB II) (www.arbeitsagentur.de [accessed 31.08.2016]).

Guidance and counselling in the education sector mainly focuses on vocational education, advice on educational career paths or individual learning difficulties. Services vary between states and schools. Following a formal agreement between the KMK and BA, school career education and the local employment agencies' vocational guidance services cooperate closely (KMK/BA 2004):

- (a) vocational education is an established element in general education curricula. It is embedded in different school subjects such as work studies (*Arbeitslehre*), economics and social studies (*Wirtschaft und Sozialkunde*), home economics, engineering, polytechnic education, etc. Vocational education in class is normally supported by a career counsellor from the local employment agency and supplemented in years 8, 9 or 10 by visits to the vocational information centre, to enterprises and by compulsory one- to three-week work placements in enterprises;
- (b) in addition, state governments have launched special programmes and provide funding for additional efforts to improve learners' career development and career management skills (DJI/Inbas 2010). Additional funding from the federal government and/or from the BA as well as from private enterprises, foundations or employer associations enables schools to carry out multiple guidance activities;
- (c) practice-oriented, systematic vocational guidance is being provided at inter-company vocational training centres (ÜBSs, see Section 2.3.1) and similar vocation-

al training facilities as part of a specific career guidance programme (*Berufsorientierungsprogramm – BOP*) to make the transition from (compulsory) general education to apprenticeships (dual vocational training) easier for learners. The BMBF supports these centres financially to help them fulfil this task. The programme started in 2008 and was established on a permanent basis in 2010. As of the end of December 2015, grants amounting to € 420 million have been approved, reaching around 965,000 pupils. These measures give young people the opportunity to spend two weeks at a vocational training facility gaining practical experience in three occupation-specific areas related to their potential. The aim is to achieve a sustainable improvement in school-to-work transition management (<http://www.berufsorientierungsprogramm.de/html/de/12.php>, [accessed on 31.08.2016]).

Recently, vocational orientation, work studies and initiatives to ease transition from school to apprenticeships/work have received much attention due to high unemployment, the risk of dropouts and low performers. Programmes like the Educational Chains initiative (*Bildungsketten*) and Job Start Coaches (*Berufseinstiegsbegleiter*) provide individual support for students at risk. Regional transition management (*Regionales Übergangsmanagement*) focuses on placing less able school leavers into apprenticeships to match the demand of enterprises and provide suitable training opportunities for all school leavers.

In addition to the regular student counselling services, more and more universities have established career services to ease the transition from academic education to the labour market.

Some large municipalities began to establish education guidance services in the 1980s – independent from the BA and private training providers – to ensure independent and high quality service delivery for citizens aiming to take up further education (*Kommunale Bildungsberatung*). Due to financial constraints, many of them had to close down, and by the end of the 20th century there was a lack of independent guidance provision, especially for adults and employed persons.

In order to implement and support the lifelong learning strategy, the BMBF launched a Learning Regions Network in 2001. With ministerial funding, local and regional networks were established to initiate regional lifelong learning and employment strategies including guidance and counselling provision. Training providers, employment agencies, chambers of commerce, enterprises, local schools and municipalities, trade unions, as well as other local actors and stakeholders participated in these networks. In most cases, guidance services formed an integral part of these networks. The funding period ended in 2007, by which time at least half of the local networks had succeeded in receiving stable municipality or state funding.

The follow-up programme, Local Learning (*Lernen vor Ort*), was designed to support municipalities in their efforts to establish efficient education management systems. This included educational monitoring and guidance. This programme helped establish or maintain many municipal career guidance services. In May 2015, the Local Learning network changed into the Foundations and Education network (<https://www.stiftungen.org/verband/was-wir-tun/initiativen-und-projekte/netzwerk-stiftungen-und-bildung.html>).

In addition to these comprehensive guidance services, there are numerous specific services for people with disabilities, people with migrant backgrounds, disadvantaged youths and women entering or re-entering the labour market. These services are often provided by non-profit organisations, funded either by federal or state ministries or public employment services. Many of them work only on a temporary financial basis and are not always well connected to other mainstream guidance services.

Here are some examples of online information and guidance tools which have been further developed in recent years: BERUFENET, studienwahl.de, bildungserver, KURSNET, InfoWebWeiterbildung iwwb (nfb 2011). The BMBF project “Continuing training consultancy: service hotline and internet site” is a new initiative, providing a national telephone service and website for training consultancy and identifying the conditions for such a service to be a success in various states. Ultimately, a national service was established (www.der-weiterbildungsratgeber.de; BMBF 2016, p 134).

LIST OF ABBREVIATIONS

AES	Adult Education Survey
AEVO	Ausbildereignungsverordnung [Ordinance on Trainer Aptitude]
AFBG	Aufstiegsfortbildungsförderungsgesetz [Upgrading Training Assistance Act]
AZAV (former AZWV)	Akkreditierungs- und Zulassungsverordnung Arbeitsförderung [Accreditation and Certification in Employment Promotion Ordinance]
BA	Bundesagentur für Arbeit [Federal Employment Agency]
BAföG	Bundesausbildungsförderungsgesetz [Federal Education and Training Assistance Act]
BAVBVO	Rechtsverordnung über die Bescheinigung von Grundlagen beruflicher Handlungsfähigkeit im Rahmen der Berufsausbildungsvorbereitung [Ordinance on the certification of the fundamentals of vocational proficiency in the context of preparation for vocational education and training]
BBiG	Berufsbildungsgesetz [Vocational Education and Training Act]
BIBB	Bundesinstitut für Berufsbildung [Federal Institute for Vocational Education and Training]
BMAS	Bundesministerium für Arbeit und Sozialordnung [Federal Ministry of Labour and Social Affairs]
BMBF	Bundesministerium für Bildung und Forschung [Federal Ministry of Education and Research]
BMWi	Bundesministerium für Wirtschaft und Energie [Federal Ministry of Economic Affairs and Energy]
BSW	Berichtssystem Weiterbildung [Continuing Education Reporting System]
DGB	Deutscher Gewerkschaftsbund [Federation of German Trade Unions]
DIE	Deutsches Institut für Erwachsenenbildung e.V. [German Institute for Adult Education]
DIHK	Deutscher Industrie- und Handelskammertag [Association of German Chambers of Industry and Commerce]
DJI	Deutsche Jugend Institut [German Youth Institute]
DQR	Deutscher Qualifikationsrahmen [German Qualifications Framework]
ECTS	European Credit Transfer System
ECVET	European Credit System for Vocational Education and Training
ENQA-VET	European Network for Quality Assurance in Vocational Education and Training
EQJ	Einstiegsqualifizierung Jugendlicher [Introductory training for young people]
EQF	European Qualifications Framework
ESF	Europäischer Sozialfonds [European Social Fund]
HEI	Higher Education Institution
HRK	Hochschulrektorenkonferenz [German Rectors' Conference]
HwO	Handwerksordnung [Crafts Code]
IAB	Institut für Arbeitsmarkt- und Berufsforschung [Institute for Labour Market and Occupation Research]
IHK	Industrie- und Handelskammer [Chamber of Industry and Commerce]
IKBB	Innovationskreis Berufliche Bildung [Vocational Education and Training Innovation Circle]
ISCED	Internationale Standardklassifikation für das Bildungswesen [International Standard Classification of Education]
IW	Institut der deutschen Wirtschaft [Institute for Business Research]
KMK	Ständige Konferenz der Kultusminister der Länder in der Bundesrepublik Deutschland [Standing Conference of Ministers for Education and Cultural Affairs of the States]
nfb	Nationales Forum Beratung in Bildung, Beruf und Beschäftigung e.V. (nfb) [National Forum for Guidance in Education, Professions and Employment]
SGB	Sozialgesetzbuch [Social Code]
StBa	Statistisches Bundesamt [Federal Statistical Office]
ÜBS	Überbetriebliche Berufsbildungsstätte [inter-company vocational training centre]

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ANNEX 1: TABLES

Table 13: Total population (on 1st of January), 2008, 2010, 2012, 2014, 2015, 2016

	2008	2010	2012	2014	2015	2016
EU 28	500,297,033 ^b	503,170,618 ^b	504,060,345 ^b	506,944,075 ^{ep}	508,293,358 ^{dep}	510,056,011 ^{bep}
DE	82,217,837	81,802,257	80,327,900 ^b	80,767,463	81,197,537 ^b	82,162,000 ^e

Note: The number of persons having their usual residence in a country on 1 January of the respective year. When usually resident population is not available, countries may report legal or registered residents.

p = provisional; e = estimated; b = break in time series Source: Eurostat, Demographic Statistics; Date of extraction: 05.07.2016.

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tps00001>

Table 14: Age-specific demographic trends in Germany (%)

	2013	2020	2030	2040	2050	2060
0–19	18.2	17.6	17.6	16.8	16.2	16.4
20–64	61.0	60.0	55.4	53.6	53.4	51.9
65+	20.9	22.4	27.0	29.6	30.4	31.7

Source: Statistisches Bundesamt (2015): Bevölkerung Deutschlands bis 206–13. koordinierte Bevölkerungsvorausberechnung (Variante 2). Date of extraction 05.07.2016.

<https://www.destatis.de/DE/Publikationen/Thematisch/Bevoelkerung/VorausberechnungBevoelkerung/BevoelkerungDeutschland2060.html>

Table 15: Projected old-age dependency ratio (%)

	2015	2020	2030	2040	2050	2060	2070	2080
EU 28	28.8	31.8	39.0	45.9	49.4	50.2	49.3	51.0
DE	32.7	35.8	46.8	55.6	57.3	59.2	59.8	59.9

Source: Eurostat – Population projections EUROPOP2013; aged 65+ divided by population aged 15–64 (projections); Date of data extraction: 05.07.2016.

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdde511>

Table 16: 2014 population by migration status and age group

Age from ... to ... years	Population						
	Total	Without migration background	With a migration background in a narrow sense*				
			Together	Germans		Foreigners	
	With	Without		With	Without		
	own experience of migration						
in 1 000							
Total	80,897	64,511	16,386	5,011	4,165	5,866	1,345
under 5	3,419	2,237	1,182	24	966	63	130
05–10	3,466	2,242	1,224	41	958	119	106
10–15	3,690	2,533	1,157	54	866	113	125
15–20	4,008	2,897	1,111	105	625	156	226
20–25	4,493	3,420	1,074	218	343	329	184
25–35	10,062	7,533	2,528	865	215	1,200	248
35–45	10,284	7,619	2,665	964	128	1,350	223
45–55	13,243	11,057	2,186	997	35	1,096	58
55–65	10,880	9,220	1,660	873	16	751	19
65–75	8,717	7,751	965	444	10	496	16
75–85	6,554	6,049	505	325	/	170	7
85–95	1,995	1,872	123	97	/	23	/
95 and more	86	81	/	/	–	/	/
Average age	44.5	46.8	35.4	48.0	12.9	43.0	24.5

/ = not available. – = not available.

* The population group with a migration background consists of all persons who have immigrated into the territory of today's Federal Republic of Germany after 1949, and of all foreigners born in Germany and all persons born in Germany who have at least one parent who immigrated into the country or was born as a foreigner in Germany. The migration status of a person is determined based on their own characteristics regarding immigration, naturalisation and citizenship and the relevant characteristics of their parents. This definition typically covers first to third generation immigrants. Data on German nationals born in Germany, whose migration background is based on the characteristics of their parents, are only collected every four years if the persons concerned do not live together with their parents in the same household, so they are not included in the data on persons with migration background *in a narrow sense*.

Source: Statistisches Bundesamt 2015, Mikrozensus. Date of extraction: 05.07.2016

<https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/Bevoelkerung/MigrationIntegration/Migrationshintergrund/Tabellen/MigrationshintergrundAlter.html>

Table 17: Real GDP growth rate – volume (%), change from previous year

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
EU 28	3.3	3.1	0.5	-4.4	2.1	1.8	-0.5	0.2	1.4	2.0
DE	3.7	3.3	1.1	-5.6	4.1	3.7	0.4	0.3	1.6	1.7

Source: Eurostat; Date of extraction: 06.07.2016

<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115>

Table 18: Key figures for the German labour market							
Persons in employment/ employees	2009	2010	2011	2012	2013	2014	2015
Persons in employment	40,892	41,020	41,577	42,060	42,328	42,703	43,056
Agriculture, forestry and fishing	667	661	670	666	641	651	634
Industry (excluding construction)	7,844	7,705	7,854	7,993	8,025	8,064	8,075
Including							
Manufacturing	7,277	7,138	7,285	7,417	7,451	7,491	7,508
Construction	2,312	2,331	2,376	2,412	2,428	2,443	2,436
Services sector	30,069	30,323	30,677	30,989	31,234	31,545	31,911
of which							
Trade, transport, accommodation and food services	9,481	9,476	9,619	9,710	9,756	9,827	9,924
Information and communication	1,189	1,162	1,176	1,203	1,218	1,227	1,210
Financial and insurance activities	1,225	1,214	1,201	1,201	1,202	1,200	1,198
Real estate activities	464	463	463	467	460	463	469
Business services	4,967	5,172	5,372	5,470	5,535	5,629	5,770
Other service activities ²	12,743	12,836	12,846	12,938	13,063	13,199	13,340
Employees	36,407	36,533	37,014	37,500	37,869	38,306	38,730
Agriculture, forestry and fishing	311	309	320	327	332	344	349
Industry (excluding construction)	7,544	7,416	7,568	7,707	7,746	7,793	7,812
Including							
Manufacturing	6,985	6,857	7,007	7,139	7,180	7,229	7,254
Construction	1,828	1,843	1,874	1,899	1,910	1,930	1,945
Services sector	26,724	26,965	27,252	27,567	27,881	28,239	28,624
of which							
Trade, transport, accommodation and food services	8,346	8,355	8,502	8,606	8,676	8,776	8,899
Information and communication	1,046	1,018	1,029	1,050	1,075	1,088	1,075
Financial and insurance activities	1,069	1,061	1,050	1,052	1,052	1,047	1,043
Real estate activities	394	393	392	396	398	405	409
Business services	4,174	4,371	4,530	4,632	4,692	4,802	4,944
Other service activities ²	11,695	11,767	11,749	11,831	11,988	12,121	12,254

¹ Classification of Economic Activities, 2008 edition (WZ 2008)

² Public services, education, health and other services.

Source: Statistisches Bundesamt 2016. Date of extraction: 06.07.2016

<https://www.destatis.de/EN/FactsFigures/NationalEconomyEnvironment/LabourMarket/Employment/TablesEmploymentAccounts/PersonsEmploymentSectorsEconomic.html>

Table 19: Employment rates by age group and highest level of education attained (%), 2008, 2012, 2014 and 2015							
	ISCED Levels	2008			2012		
		15-24	25-49	50-64	15-24	25-49	50-64
EU 28	0-2	24.5	67.1	43.7	20.1	60.7	43.5
	3-4	49.0	81.8	59.2	43.3	79.3	61.1
	5-8	62.0	89.1	74.5	54.4	86.5	75.6
	No resp.	5.0	76.1	55.5	5.5	73.4	65.2
	Total	37.3	80.2	56.3	32.5	77.6	58.4
DE	0-2	34.1	61.5	45.6	43.9	62.2	51.1
	3-4	63.9	81.9	62.5	64.0	84.2	68.4
	5-8	77.6	90.4	77.0	76.4	91.3	82.1
	No resp.	25.9	75.5	54.1	5.5	64.4	64.3
	Total	46.6	81.3	63.3	46.6	83.5	69.6
	ISCED Levels	2014			2015		
		15-24	25-49	50-64	15-24	25-49	50-64
EU 28	0-2	18.0B	59.5B	44.8B	18.1	60.2	45.5
	3-4	43.0B	79.2B	63.3B	43.9	79.6	64.4
	5-8	56.2B	86.3B	76.7B	58.3	86.7	77.7
	No resp.	6.0B	74.5B	65.1B	6.9	72.0	64.6
	Total	32.4B	77.6B	60.6B	33.0	78.2	61.8
DE	0-2	30.8B	61.0B	53.7B	30.0	62.0	54.0
	3-4	63.4B	84.9B	71.8B	63.4	85.1	72.5
	5-8	71.9B	90.7B	83.6B	71.7	90.5	84.1
	No resp.	:	75.0B	70.1B	27.9	67.1	62.2
	Total	46.1B	83.5B	72.3B	45.3	83.6	73.0

(:) no data available; B = break in time series; No resp. = no response.

ISCED 0-2: Pre-primary, primary and lower secondary education

ISCED 3-4: Upper secondary and post-secondary non-tertiary education

ISCED 5-8: Tertiary education

Source: EUROSTAT. Date of extraction: 06.07.2016

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_ergaed&lang=en

Table 20: Unemployment rates by age group and highest level of education attained (%), 2008, 2012, 2014 and 2015							
		2008			2012		
	ISCED Levels	15-24	25-49	50-64	15-24	25-49	50-64
EU 28	0-2	21.3	11.1	7.1	31.0	19.1	12.5
	3-4	13.0	5.7	5.2	20.4	8.8	6.6
	5-8	11.7	3.7	2.7	18.1	6.2	3.7
	No resp.	14.2u	5.4u	:	20.3	8.4	5.4u
	Total	15.6	6.3	5.1	23.2	9.9	7.4
DE	0-2	13.7	17.5	14.4	11.8	14.2	10.0
	3-4	8.1	6.7	8.4	5.5	4.9	6.0
	5-8	7.0	2.9	4.1	4.4	2.2	2.5
	No resp.	:	:	:	18.5	:	:
	Total	10.6	7.0	7.9	8.0	5.0	5.4
		2014			2015		
	ISCED Levels	15-24	25-49	50-64	15-24	25-49	50-64
EU 27	0-2	30.3B	19.8B	13.4B	28.0	18.5	13.0
	3-4	19.9B	8.8B	6.5B	18.1	8.2	6.0
	5-8	16.5B	6.3B	3.9B	15.4	5.7	3.7
	No resp.	20.1B	8.1B	4.7BU	20.1	7.2	3.9U
	Total	22.2B	9.8B	7.5B	20.4	9.0	7.1
DE	0-2	11.8B	13.9B	9.0B	11.4	13.1	8.5
	3-4	5.4B	4.4B	5.0B	4.7	4.1	4.6
	5-8	4.5B	2.4B	2.6B	4.4	2.4	2.2
	No resp.	:	:	:	:	:	:
	Total	7.7B	4.8B	4.8B	7.2	4.5	4.3

(:) no data available; B = break in time series; U = low reliability, No resp. = no response.

ISCED 0-2: Pre-primary, primary and lower secondary education

ISCED 3-4: Upper secondary and post-secondary non-tertiary education

ISCED 5-8: Tertiary education

Source: EUROSTAT. Date of extraction: 07.07.2016

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_urgaed&lang=en

Table 21: Educational attainment of the population aged 25–64 by ISCED level (%), 2015

Level of education			
	ISCED 0–2	ISCED 3–4	ISCED 5–6
EU 28	23.5	46.5	30.1
DE	13.2	59.1	27.6

ISCED 0–2: Pre-primary, primary and lower secondary education

ISCED 3–4: Upper secondary and post-secondary non-tertiary education

ISCED 5–6: Tertiary education

Source: Eurostat; EU Labour Force Survey, online database. Date of extraction: 07.07.2016.

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat_ifs_9903&lang=en

Table 22: Early leavers from education and training (%), 2008–15

	2008	2009	2010	2011	2012	2013	2014	2015
EU 28	14.7	14.2	13.9	13.4	12.7	11.9	11.2b	11.0
DE	11.8b	11.1	11.8b	11.6	10.5	9.8	9.5b	10.1

Note: Percentage of the population aged 18–24 with at most lower secondary education and not in further education or training during the last four weeks preceding the survey

Source: Eurostat, EU Labour Force Survey. Date of extraction: 07.07.2016.

<http://ep.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tsdsc410&plugin=1>

Table 23: Public IVET expenditure (part 2)

	2001	2010 ¹⁸	2012	2013	2014	2015	DS	SBS	ÜS	Enthält WB ¹⁹
	in Mrd. €	in Mrd. €	in Mrd. €	in Mrd. €	in Mrd. €	in Mrd. €				
Bundesagentur für Arbeit⁸										
Berufsausbildungsbeihilfen (BAB, betriebliche Berufsausbildung, berufsvorbereitende Bildungsmaßnahmen) einschließlich BAB-Zweitausbildung	0,405	0,579	0,454	0,390	0,356	0,310	X		X	
Lehrgangskosten für berufsvorbereitende Bildungsmaßnahmen	0,388	0,326	0,241	0,221	0,209	0,203			X	
Berufsausbildung benachteiligter Jugendlicher ¹⁴	0,811	0,672	0,491	0,416	0,342	0,303	X		X	
Ausbildungsbonus ¹⁵	–	0,036	0,021	0,012	0,001	0,000	X			
Einstiegsqualifizierung ¹⁰	–	0,055	0,039	0,031	0,028	0,026			X	
Maßnahmen zur vertieften Berufsorientierung ¹⁶	k.A.	0,066	0,059	0,005	0,036	0,033			X	
Sofortprogramm zum Abbau der Jugendarbeitslosigkeit	0,862	–	–	–	–	–			X	
Berufseinstiegsbegleitung für Jugendliche	–	0,055	0,053	0,066	0,078	0,088			X	
Förderung von Jugendwohnheimen ¹⁷	0,044	–	–	0,001	0,001	0,001	X	X	X	X

¹ Ist-Werte gemäß Haushaltsrechnungen des Bundes. Haushaltsansätze für 2013.

² Die Angaben enthalten die Ausgaben für Investitionen und laufende Zwecke.

³ Der Bund trägt 50 % der Gesamtförderung von Bund und Ländern.

⁴ Förderung für Schüler/-innen an Berufsfachschulen, Berufsaufbauschulen und in Fachoberschulklassen, die keine abgeschlossene Berufsausbildung voraussetzen. Ist-Werte für alle angegebenen Kalenderjahre gemäß BAföG-Statistik des Statistischen Bundesamtes. Die Angaben wurden zu 65 % dem Bund und zu 35 % den Ländern zugerechnet. Bis zum Datenreport 2012 wurde der Länderanteil nicht separat ausgewiesen.

⁵ Dem Zweck nach enthält diese Position eher Ausgaben für die berufliche Weiterbildung (Weiterbildungsstipendium) und die Förderung akademischer Bildung (Aufstiegsstipendium).

⁶ Bis zum Jahr 2011 weist diese Tabellenzeile die im entfallenen Titel „Förderung von Lehrgängen der überbetrieblichen beruflichen Bildung im Handwerk“ zusammengefassten Ausgaben des BMWi aus.

⁷ Die Programmausgaben werden seit 2012 nicht mehr in einem eigenen Titel ausgewiesen, sondern sind in den Titel „Fachkräftesicherung für kleine und mittlere Unternehmen“ integriert.

⁸ Ist-Ausgaben für das jeweilige Haushaltsjahr.

⁹ Seit 1. Oktober 2008 als Regelleistung im Rahmen des SGB III. Vorher als Sonderprogramm aus dem BMAS-Haushalt finanziert.

¹⁰ Ist-Werte für 2001, 2006 und 2010. Vorläufige Ist-Werte für 2011, Haushaltsansätze für 2012. Soll-Werte für 2013 lagen bei Redaktionsschluss nicht vor.

¹¹ Grundlage für die Schätzung der Ausgaben in den Kalenderjahren 2001, 2006, 2010 und 2011: Schülerzahlen der im jeweiligen Kalenderjahr endenden und beginnenden Schuljahre sowie Ausgaben für die beruflichen Schulen. Grundlage der Schätzung für das Jahr 2012: Schülerzahlen des Schuljahres 2011/2012 sowie Ausgaben für die beruflichen Schulen. Ab dem Datenreport 2011 wurde das Ausgabenkonzept von Nettoausgaben auf Grundmittel umgestellt. Da dies auch rückwirkend für die Jahre ab 2007 geschah, unterscheidet sich die Angabe für das Jahr 2010 leicht von der entsprechenden Angabe in früheren Datenreporten.

¹² Bis 2006: Veranschlagtes Mittelvolumen nach Angaben der Länder (einschließlich ESF-Mittel) für das im jeweiligen Kalenderjahr beginnende Ausbildungsjahr. Die Angabe für das Jahr 2006 enthält nicht die Programme des Landes Rheinland-Pfalz, da vom zuständigen Ministerium keine Informationen vorlagen. Die für die Jahre 2010 und 2011 ausgewiesenen Werte basieren auf einer BIBB-Erhebung, die Hinweise im Text sind zu beachten.

¹³ Entfallen seit dem 1. April 2012.

¹⁴ Voraussetzung für die Förderung ist gemäß § 33 SGB III die Beteiligung Dritter in Höhe von mindestens 50 %. Zum Anteil öffentlicher und privater Mittel im Rahmen dieser Kofinanzierung liegen jedoch keine Zahlen vor.

¹⁵ Nur Ausgaben für Leistungen nach Artikel 2, 3, 4, 6, 7 und Qualifizierungsanteil nach Artikel 9 (bei Quali-ABM nur Zuschüsse zur Qualifizierung) des Sofortprogramms, teilweise mitfinanziert aus ESF-Mitteln. Die Jahre 2006 ff. enthalten möglicherweise Restbeträge, die hier nicht ausgewiesen werden.

¹⁶ Die institutionelle Förderung im Bereich der Aus- und Weiterbildung wurde 2009 abgeschafft. Seit April 2012 können jedoch wieder Leistungen für den Aufbau, die Erweiterung, den Umbau und die Ausstattung von Jugendwohnheimen erbracht werden.

¹⁷ Für Angaben zu den Jahren 2007 bis 2009 siehe Datenreporte 2012 und 2013.

¹⁸ Positionen, die in signifikantem Umfang auch Weiterbildungsausgaben enthalten, sind mit Kreuz gekennzeichnet.

Quellen: Bundesministerium der Finanzen, Bundeshaushaltspläne

Bundesministerium der Finanzen, Haushaltsrechnung des Bundes

Statistisches Bundesamt, Fachserie 11, Reihe 2 – Berufliche Schulen

Statistisches Bundesamt, Fachserie 11, Reihe 7 – BAföG

Statistisches Bundesamt, Fachserie 14, Reihe 3.1 – Rechnungserg GesamtHH

Bundesagentur für Arbeit, Quartalsberichte

Bundesagentur für Arbeit, Statistiken zu Einnahmen und Ausgaben im Rechtskreis SGB II

Bundesagentur für Arbeit, Statistiken zu Einnahmen und Ausgaben in den Rechtskreisen SGB II und SGB III

Auskünfte des Statistischen Bundesamtes (Januar 2013) und der Bundesagentur für Arbeit (Januar 2014)

	2011	2012	2013	2014	2015	Development in 2015 compared to 2014 (%)
New Apprentice Contracts	569,379	551,259	529,542	523,200	522,093	-0.2
vacant positions	29,689	33,274	33,738	37,101	40,960	+10.4
still searching	72,319	75,984	83,564	81,188	80,791	-0.5
Supply	599,070	584,532	563,280	560,301	563,055	+0.5
Demand	641,700	627,243	613,107	604,389	602,886	-0.2

Source: BIBB 2016; p. 12

Area of responsibility	Year of reporting	Total new training contracts	Highest general school leaving qualification										
			No lower secondary school leaving certificate			Lower secondary school leaving certificate		Intermediate secondary school leaving certificate		Upper secondary school leaving certificate/higher education entrance qualification		No information available	
			Absolute terms	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Trade and industry	2014	312,147	7,965	2.6	68,949	22.3	132,675	42.9	99,972	32.3	2,586	-	
	2013	317,694	7,500	2.4	72,498	23.0	136,812	43.4	98,268	31.2	2,613	-	
	2012	333,183	7,887	2.4	79,335	24.0	144,291	43.6	99,210	30.0	2,457	-	
	2011	342,912	7,869	2.3	84,210	24.8	148,278	43.6	99,486	29.3	3,069	-	
	2010	332,571	8,163	2.5	84,591	25.7	147,882	44.9	88,965	27.0	2,970	-	
	2009	332,232	8,436	2.6	82,701	25.6	145,926	45.3	85,389	26.5	9,780	-	
Craft trades	2014	137,304	4,953	3.6	63,063	46.2	53,526	39.2	15,036	11.0	726	-	
	2013	139,320	5,337	3.8	68,229	49.2	51,318	37.0	13,926	10.0	510	-	
	2012	146,592	5,463	3.7	73,671	50.4	53,769	36.8	13,311	9.1	381	-	
	2011	152,838	5,877	3.9	79,278	52.0	55,050	36.1	12,279	8.1	354	-	
	2010	154,839	6,474	4.2	82,710	53.5	54,681	35.4	10,743	6.9	231	-	
	2009	155,589	8,070	5.2	83,448	53.7	54,135	34.8	9,729	6.3	207	-	
Public sector	2014	12,261	45	0.4	453	3.7	5,640	46.0	6,114	49.9	9	-	
	2013	12,174	42	0.4	411	3.4	5,559	45.7	6,150	50.6	9	-	
	2012	11,787	33	0.3	366	3.1	5,586	47.4	5,793	49.2	9	-	
	2011	12,195	30	0.2	483	4.0	5,976	49.0	5,697	46.8	9	-	
	2010	12,960	36	0.3	561	4.3	6,783	52.4	5,577	43.0	3	-	
	2009	13,500	15	0.1	618	4.6	7,239	53.7	5,619	41.7	12	-	

Table 25: Apprentices with a newly concluded training contract by highest general school qualification and area of responsibility, 2009 to 2014 (part 2)

Area of responsibility	Reporting year	Total new training contracts	Highest general school leaving qualification									
			No lower secondary school leaving certificate		Lower secondary school leaving certificate		Intermediate secondary school leaving certificate		Upper secondary school leaving certificate/higher education entrance qualification		No information available	
			Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Agriculture	2014	13,404	1,065	8.0	4,392	32.9	5,205	39.0	2,679	20.1	63	–
	2013	13,278	1,143	8.7	4,692	35.5	4,977	37.7	2,391	18.1	75	–
	2012	13,275	1,065	8.1	5,934	45.0	4,251	32.2	1,935	14.7	90	–
	2011	13,602	1,218	9.0	6,180	45.7	4,224	31.2	1,896	14.0	84	–
	2010	14,253	1,251	8.8	6,369	45.0	4,848	34.3	1,683	11.9	102	–
	2009	15,006	1,548	10.4	6,897	46.2	4,842	32.5	1,635	11.0	87	–
Liberal professions	2014	40,893	234	0.6	6,456	16.0	22,809	56.4	10,950	27.1	441	–
	2013	40,782	348	0.9	6,708	16.6	22,092	54.8	11,154	27.7	480	–
	2012	41,319	261	0.6	7,185	17.6	22,791	55.7	10,683	26.1	399	–
	2011	41,031	351	0.9	6,936	17.1	22,842	56.4	10,401	25.7	501	–
	2010	40,860	252	0.6	6,576	16.3	23,808	58.9	9,756	24.2	465	–
	2009	40,917	255	0.6	6,417	15.9	24,159	59.7	9,609	23.8	477	–
Housekeeping	2014	2,388	753	31.8	1,224	51.7	336	14.1	57	2.4	15	–
	2013	2,649	798	30.3	1,425	54.1	363	13.8	48	1.8	15	–
	2012	2,847	807	28.4	1,635	57.6	357	12.6	36	1.3	9	–
	2011	3,246	936	28.9	1,890	58.3	372	11.5	45	1.4	6	–
	2010	3,546	1,029	29.1	2,016	57.0	444	12.6	45	1.3	9	–
	2009	3,924	1,122	29.2	2,211	57.5	462	12.0	51	1.3	81	–
Total	2014	518,394	15,015	2.9	144,537	28.1	220,191	42.8	134,808	26.2	3,843	–
	2013	525,897	15,171	2.9	153,966	29.5	221,121	42.3	131,934	25.3	3,702	–
	2012	549,003	15,516	2.8	168,126	30.8	231,048	42.3	130,968	24.0	3,345	–
	2011	565,824	16,281	2.9	178,980	31.9	236,739	42.1	129,804	23.1	4,020	–
	2010	559,032	17,208	3.1	182,823	32.9	238,449	42.9	116,769	21.0	3,783	–
	2009	561,171	19,443	3.5	182,286	33.1	236,763	43.0	112,032	20.3	10,644	–

“No information available” also includes qualifications acquired abroad which cannot be aligned. Because it must be assumed that erroneous information has also been reported, these have not been included in the percentage calculations.

Source: „Datenbank Auszubildende“ des Bundesinstituts für Berufsbildung auf Basis der Daten der Berufsbildungsstatistik der statistischen Ämter des Bundes und der Länder (Erhebung zum 31. Dezember), Berichtsjahre 2009 bis 2014. For data protection reasons, absolute values have in each case be rounded to a multiple of 3. For this reason, the overall value may deviate from the total of the individual values. In: BIBB 2016, p. 165.

Table 26: Participation in CVET by company size in Germany (%)

	2005	2007	2008	2009	2010	2011	2012	2013	2014
1–9 Employees	34	37	40	36	35	44	44	43	44
10–49 Employees	62	63	68	62	62	69	70	69	70
50–499 Employees	84	86	88	82	84	91	90	91	91
500+ Employees	97	95	98	96	98	98	98	99	99
total	43	45	49	45	44	53	53	52	54

Participation in CVET: Proportion of companies, which have financed (in)direct CVET, out of all companies.

Source: IAB-Betriebspanel 2001-2014, projected data; in BIBB 2016, p. 303.

Table 27: Public CVET expenditure (part 1)

	2001	2010 ¹⁴	2012	2013	2014	2015	Aus- bildung ¹⁵
	in Mrd. €	in Mrd. €	in Mrd. €	in Mrd. €	in Mrd. €	in Mrd. €	
BMBF¹							
Internationaler Austausch und Zusammenarbeit in der beruflichen Bildung	0,007	0,010	0,012	0,013	0,009	0,011	X
Innovationen und Strukturentwicklung der beruflichen Bildung	k.A.	0,050	0,091	0,086	0,074	0,094	X
BIBB (Betrieb und Investitionen)	0,028	0,030	0,030	0,034	0,038	0,041	X
Begabtenförderung in der beruflichen Bildung	0,014	0,035	0,042	0,044	0,046	0,046	X
Aufstiegsfortbildungsförderungsgesetz (AFBG) ²	0,045	0,149	0,167	0,174	0,182	0,184	
Weiterbildung und lebenslanges Lernen	k.A.	0,048	0,077	0,060	0,051	0,045	
BAföG für Schüler in Fachschulklassen mit abgeschlossener BB ³	0,053	0,080	0,081	0,081	0,080	k.A.	
BMWi¹							
Berufliche Bildung für den Mittelstand – Fortbildungseinrichtungen ⁴	0,027	0,024	0,028	0,029	0,030	0,030	
BMAS⁵							
Förderung der beruflichen Weiterbildung im Rechtskreis SGB II ⁵	k.A.	0,827	0,572	0,558	0,558	0,563	X
Zuschüsse zum Arbeitsentgelt bei beruflicher Weiterbildung ungelerner und von Arbeitslosigkeit bedrohter Arbeitnehmer (AEZ-WB)	k.A.	0,001	0,000	0,000	0,001	0,001	X
Länder, Gemeinden, Zweckverbände⁶							
Fachschulen ⁷	0,566	0,608	0,675	0,688	0,696	0,716	X
BAföG für Schüler in Fachschulklassen mit abgeschlossener BB ³	0,029	0,043	0,044	0,044	0,043	k.A.	
Aufstiegsfortbildungsförderungsgesetz (AFBG) ²	0,013	0,051	0,047	0,049	0,051	0,052	
Volkshochschulen (FKZ 152), Programmbereich „Arbeit und Beruf“ ⁸	0,088	0,051	0,045	0,041	0,039	k.A.	
Sonstige Weiterbildung (FKZ 153) ⁹	0,485	0,333	0,318	0,321	0,334	0,386	X
Fort- und Weiterbildung der Lehrkräfte (FKZ 155)	0,130	0,091	0,116	0,114	0,128	0,123	
Weiterbildungsprogramme der Länder ⁹	k.A.	ca. 0.5	k.A.	k.A.	k.A.	k.A.	

Bundesagentur für Arbeit ⁵							
Berufliche Weiterbildung ¹⁰	6,982	0,958	0,674	0,857	1,023	1,068	
Zuschüsse zum Arbeitsentgelt bei der beruflichen Weiterbildung Beschäftigter ¹⁰		0,106	0,066	0,077			
Arbeitslosengeld bei beruflicher Weiterbildung ¹¹		0,962	0,771	0,935	1,034	1,060	
Förderung von Jugendwohnheimen ¹²	0,044	–	–	0,001	0,001	0,001	X
Aus Mitteln des ESF mitfinanzierte ergänzende Qualifizierungsangebote bei Bezug von Kurzarbeitergeld, Saison-Kurzarbeitergeld oder Transferkurzarbeitergeld ¹³	–	0,043	0,004	0,003	0,003	0,000	

¹ Ist-Werte gemäß Haushaltsrechnungen des Bundes. Haushaltsansätze für 2015.

² Die ausgewiesenen Werte geben keinen Aufschluss über die in der jeweiligen Periode tatsächlich an Geförderte ausgezahlten Mittel, vgl. Anmerkung im Text.

³ Förderung für Schüler in Fachschulklassen, die eine abgeschlossene Berufsausbildung voraussetzen. Ist-Werte für alle angegebenen Kalenderjahre gemäß BAFöG-Statistik des Statistischen Bundesamtes ohne Verrechnung von Darlehensrückzahlungen. Bis zum BIBB-Datenreport 2012 wurde der Länderanteil nicht separat ausgewiesen. Von 2013 bis 2012 wurden die Angaben zu 65% dem Bund und zu 35% den Ländern zugerechnet. Ab 2015 trägt der Bund die Finanzierung vollständig. Bis zum BIBB-Datenreport 2012 nicht berücksichtigt.

⁴ Bis zum Jahr 2011 wurden diese Ausgaben unter dem Haushaltstitel „Förderung überbetrieblicher Fortbildungseinrichtungen“ geführt. Erfasst ist die Förderung überbetrieblicher Berufsbildungsstätten mit Schwerpunktsetzung auf Fort- und Weiterbildungssaktivitäten.

⁵ Ist-Ausgaben für das jeweilige Haushaltsjahr.

⁶ Ist-Werte für 2001, Vorläufige Ist-Werte für 2012 bis 2014. Soll-Werte für 2015.

⁷ Grundlage für die Schätzung der Ausgaben in den Kalenderjahren 2001 und 2010 bis 2014: Zahl der unterrichteten Stunden je Schulart in den im jeweiligen Kalenderjahr endenden und beginnenden Schuljahren sowie Ausgaben für die beruflichen Schulen. Grundlage der Schätzung für das Jahr 2015: Zahl der unterrichteten Stunden je Schulart im Schuljahr 2014/15 sowie Ausgaben für die beruflichen Schulen im Kalenderjahr 2015. Bis zum BIBB-Datenreport 2014 erfolgte die Schätzung auf Basis von Schülertagen. Ab dem BIBB-Datenreport 2015 werden jedoch auch rückwirkend nur noch die auf Basis von Unterrichtsstunden geschätzten Werte ausgewiesen.

⁸ Geschätzt mit Hilfe der öffentlichen Ausgaben für Volkshochschulen laut Statistischem Bundesamt sowie dem anteiligen Unterrichtsvolumen im Programmbereich „Arbeit – Beruf“ laut VHS-Statistik (2010: 15,0%, 2012: 12,5%, 2013: 11,3%, 2014: 10,5%).

⁹ Die Funktion 153 fasst die ehemaligen Funktionen 151 (Förderung der Weiterbildung) und 153 (Andere Einrichtungen der Weiterbildung) zusammen. Der in der Jahresrechnungsstatistik unter Funktion 153 geführte Betrag weist unter Umständen eine in ihrer Höhe unbekannte Schnittmenge mit der BIBB-Schätzung des Mittelvolumens in Weiterbildungsprogrammen der Länder auf, vgl. Anmerkungen im Text. Darüber hinaus sind in der Positionen Ausgaben für allgemeine und politische Weiterbildung enthalten.

¹⁰ Diese Position fasst ab dem Jahr 2014 Ausgaben der BA zur Förderung beruflicher Weiterbildung (FbW) sowie die Zuschüsse zum Arbeitsentgelt bei der beruflichen Weiterbildung Beschäftigter (AEZ-WB) zusammen. Enthält u.a. auch Ausgaben zur „Flankierung des Strukturwandels (IFlaS)“ und „Qualifizierung Beschäftigter (WeGebAU)“. Aufgrund von Änderungen in der Ausgabenaggregation werden FbW und AEZ-WB nicht mehr separat ausgewiesen.

¹¹ Siehe Anmerkungen im Text.

¹² Die institutionelle Förderung im Bereich der Aus- und Weiterbildung wurde 2009 abgeschafft. Seit April 2012 können jedoch wieder Leistungen für den Aufbau, die Erweiterung, den Umbau und die Ausstattung von Jugendwohnheimen erbracht werden.

¹³ Gefördert werden gering qualifizierte Arbeitnehmer, die keine berufliche Ausbildung vorweisen können oder seit mindestens 4 Jahren anstatt der gelernten Tätigkeit einer anderen an- oder ungelernten Tätigkeit nachgehen.

¹⁴ Dargestellt werden aus Platzgründen nicht alle Jahre. Angaben zu den Jahren 2006 bis 2009 sowie für das Jahr 2011 finden sich in früheren Ausgaben des BIBB-Datenreports.

¹⁵ Positionen, die in signifikantem Umfang auch Ausgaben für die berufliche Erstausbildung enthalten, sind mit Kreuz gekennzeichnet.

Quelle: Bundesministerium der Finanzen, Bundeshaushaltspläne

Bundesministerium der Finanzen, Haushaltsrechnung des Bundes

Statistisches Bundesamt, Fachserie 11, Reihe 2 – Berufliche Schulen

Statistisches Bundesamt, Fachserie 14, Reihe 3.1 – Rechnungserg GesamtHH

Bundesagentur für Arbeit, Quartalsberichte

Bundesagentur für Arbeit, Monatliche Abrechnungsergebnisse (SGB II und SGB III)

Deutsches Institut für Erwachsenenbildung, Volkshochschulstatistik

Auskünfte des Statistischen Bundesamtes (Januar 2015).“

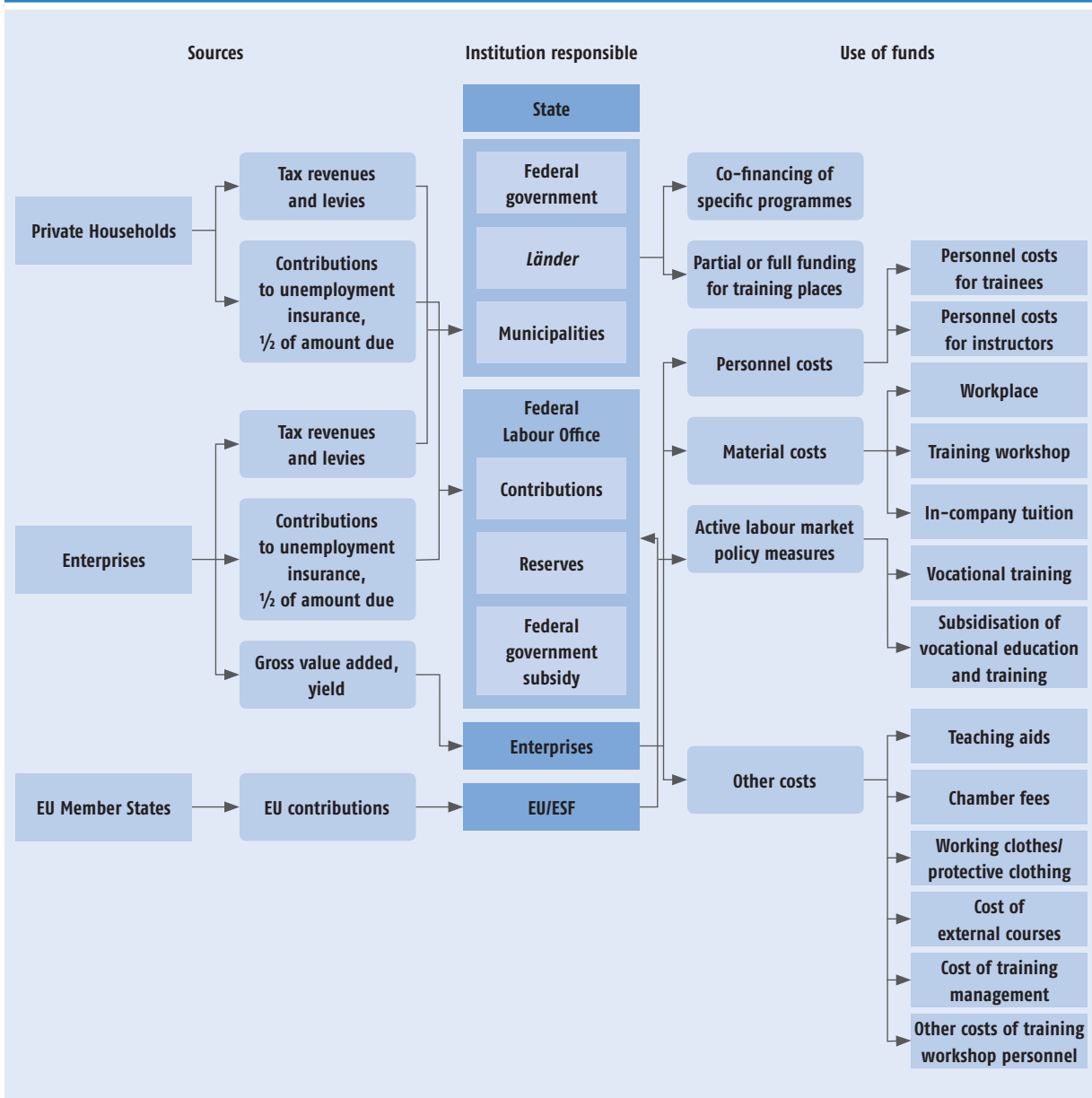
Table 28: Number of new and modernised training occupations (2006–15)

	New	Modernised	Total
2006	4	17	21
2007	3	20	23
2008	7	12	19
2009	2	12	14
2010	0	11	11
2011	1	15	16
2012	0	5	5
2013	2	12	14
2014	0	9	9
2015	0	17	17
Total	19	130	149

Source: BIBB 2016, p. 111.

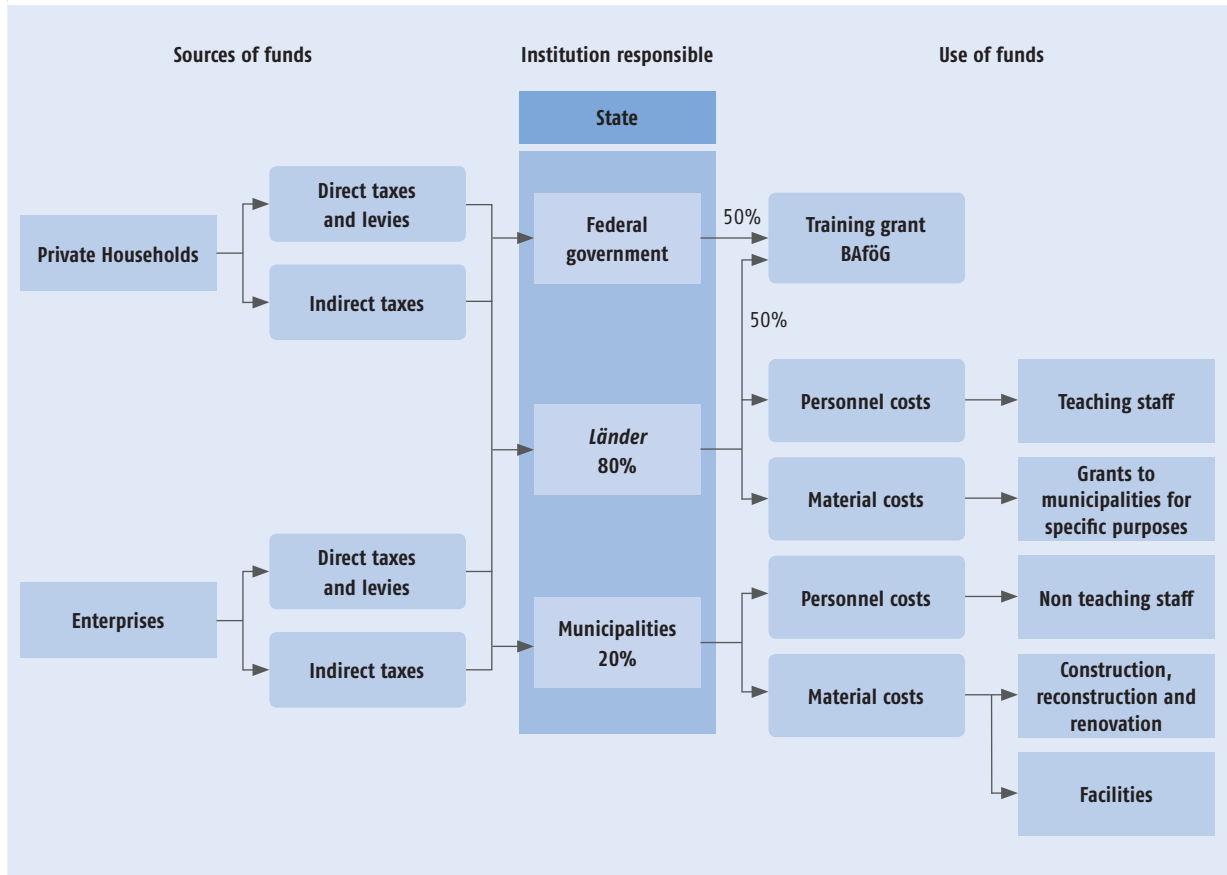
ANNEX 2: FIGURES

Figure 4: Funding structure of IVET in individual enterprises – Apprenticeship



Source: Hummelsheim, S., Timmermann, D.: The financing of vocational education and training in Germany. Financial portrait. Thessaloniki 2000

Figure 5: Funding structure of IVET in vocational schools



Source: Hummelsheim, S., Timmermann, D.: The financing of vocational education and training in Germany. Financial portrait. Thessaloniki 2000

ANNEX 3: LAWS AND REGULATIONS

IVET

Federal law – in-company training within apprenticeships (dual system)

1. **Grundgesetz** (GG; Constitution) of 23.5.1949, as most recently amended by Article 1 of the Law of 23.12.2014 (BGBl. I p. 2438):
Article 12 (1) stipulates free choice and practice of occupations;
Article 72 (2) confers on the federation the right to legislate on vocational education and training;
Article 74 (1) No 11: the concurrent legislative powers of the federation extend to economic matters and to labour law.
www.gesetze-im-internet.de/gg/BJNR000010949.html (accessed 01.09.2016)
2. **Berufsbildungsgesetz** (BBiG; Vocational Training Act) of 23.3.2005, (Federal Law Gazette, BGBl. I p. 931), most recently amended by Article 436 of the Ordinance dated 31.08.2015 (Federal Law Gazette, BGBl. I p. 1474). It establishes the framework conditions for VET, which fall under economy and labour laws. The 2005 law comprehensively reformed VET and combined the 1969 Vocational Training Act and the 1981 Vocational Education and Training Promotion Act (*Berufsbildungsförderungsgesetz*) which regulated VET planning, reporting and statistical documentation, formed the basis for VET research and other work of the Federal VET Institute (BIBB). The aim of the reform was to safeguard and improve youth training opportunities and high-quality VET for all young people, irrespective of their social or regional origins. Major innovations were: the recognition of max. 25% training periods completed abroad (of the overall training period) in order to foster international mobility, the amendment of the enabling standard for the promulgation of training directives by the BIBB and the amendment of the crediting of prior VET to the training period.
www.gesetze-im-internet.de/bbig_2005/BJNR093110005.html [accessed 01.09.2016]
3. **Betriebsverfassungsgesetz** (BetrVG; Works Constitution Act) of 15.1.1972, as amended by the Proclamation of 26.9.2001 (BGBl. I p. 2518), most recently amended by Article 3.4 of the Order of 20.04.2013 (BGBl. I p. 868). It prescribes the participation rights of works councils in promoting and implementing training measures.
www.gesetze-im-internet.de/betrvg/BJNR000130972.html [accessed 01.09.2016]
4. **Gesetz zur Ordnung des Handwerks** (*Handwerksordnung – HwO*; Crafts Code) of 17.9.1953, as amended by the Proclamation of 24.9.1998 (BGBl. I p. 3074; 2006 I p. 2095), most recently amended by Article 283 of the Order of 31.08.2015 (BGBl. I p. 1474). It regulates vocational training in the crafts sector together with the Vocational Training Act.
www.gesetze-im-internet.de/hwo/BJNR014110953.html [accessed 01.09.2016]
5. **Gesetz zum Schutz der arbeitenden Jugend** (*Jugendarbeitsschutzgesetz – JArbSchG*; Protection of Young People in Employment Act) of 12.4.1976, (BGBl. I p. 965), as most recently amended by Article 2 of the Order of 03.03.2016 (BGBl. I p. 369). It contains particular protective regulations for trainees and young employees.
www.gesetze-im-internet.de/jarbschg/BJNR009650976.html [accessed 01.09.2016]
6. **Ausbilder-Eignungsverordnung** (*AEVO*; Ordinance on Trainer Aptitude) of 16.2.1999 (BGBl. I p. 157, 700), as revised by the Order of 21.01.2009 (BGBl. I p. 88). It prescribes standards for the occupational and work-related teaching abilities of instructors.
www.gesetze-im-internet.de/ausbeignv_2009/BJNR008800009.html
7. **Sozialgesetzbuch III – Arbeitsförderung** (*SGB III*; Social Code, Volume III – Employment Promotion) of 24.3.1997 (BGBl. I p. 594), as most recently amended by Article 1 of the Law of 31.07.2016 (BGBl. I p. 1939). It regulates institutional and individual support for the unemployed and for those threatened with unemployment.
www.gesetze-im-internet.de/sgb_3/BJNR059500997.html [accessed 01.09.2016]
8. **Verordnung über die Bescheinigung von Grundlagen beruflicher Handlungsfähigkeit im Rahmen der Berufsausbildungsvorbereitung** (*Berufsausbildungsvorbereitungs-Bescheinigungsverordnung – BAVBVO*; Directive on Certification of Bases of Vocational Competence in the Context of Pre-Vocational Training) of 16.7.2003 (BGBl. p. 1472)
www.gesetze-im-internet.de/bavbvo/BJNR147200003.html [accessed 01.09.2016]

Länder law – vocational schools

9. **Article 7 (1) of the Grundgesetz** of 23.5.1949, under which the entire educational system is under the supervision of the state.
10. **Article 30 of the Grundgesetz** of 23.5.1949, which prescribes that the exercise of governmental powers and the discharge of governmental functions be incumbent on the states because of the federal structure.
11. **Articles 70, 71, 72, 73, 74 and 75 of the Grundgesetz** of 23.5.1949, which confer the right to legislate on educational matters on the states.

CVET

Federal law

12. **Berufsbildungsgesetz (BBiG; Vocational Education and Training Act)** of 23.3.2005, (BGBl. I p. 931), as most recently amended by Article 436 of the Ordinance dated 31.08.2015 (BGBl. I p. 1474). Under BBiG, vocational further training is structured and organised in further training and chamber regulations; re-training is organised in re-training regulations.
www.gesetze-im-internet.de/bbig_2005/BJNR093110005.html [accessed 01.09.2016]
13. **Betriebsverfassungsgesetz (BetrVerfG; Works Constitution Act)** of 15.1.1972, as amended by the Proclamation of 25.09.2001 (BGBl. I p. 2518), most recently amended by Article 3.4 of the Order of 20.04.2013 (BGBl. I p. 868). It confers on the works councils the right of consultation, participation and co-determination in continuing training issues.
www.gesetze-im-internet.de/betrvg/BJNR000130972.html [accessed 01.09.2016]
14. **Gesetz zur Ordnung des Handwerks (Handwerksordnung – HwO; Crafts Code)** of 17.9.1953, as amended by the Proclamation of 24.9.1998 (BGBl. I p. 3074; 2006; 2095), most recently amended by Article 283 of the Order of 31.08.2015 (BGBl. I p. 1474). It controls continuing training in crafts trades in conjunction with the Vocational Education and Training Act.
www.gesetze-im-internet.de/hwo/BJNR014110953.html [accessed 01.09.2016]
15. **Sozialgesetzbuch III – Arbeitsförderung (SGB III; Social Code, Volume III – Employment Promotion)** of 24.3.1997 (BGBl. I p. 594), as most recently amended by Article 1 of the Law of 31.07.2016 (BGBl. I p. 1939). Giv-

en the priority of integrating the unemployed into the primary labour market, it prescribes prioritising placement of unemployed people over recourse to labour promotion benefits and defines individual and institutional eligibility for support of occupational further training, occupational retraining and orientation training.

- www.gesetze-im-internet.de/sgb_3/BJNR059500997.html [accessed 01.09.2016]
16. **Gesetz zur Förderung der beruflichen Aufstiegsfortbildung (Aufstiegsfortbildungsförderungsgesetz – AFBG; Upgrading Training Assistance Act)** of 23.04.1996, as revised by the promulgation of 15.06.2016 (BGBl. I p. 1450). The new AFBG (“Meister-/Aufstiegs-BAföG”) supports participants in vocational upgrading training measures by providing financial assistance to cover training measures and living costs. The AFBG is designed to establish and expand participation in higher vocational qualification, strengthen the motivation of young skilled staff in Germany to get involved in continuing training and improve occupational promotion opportunities for every individual.
www.gesetze-im-internet.de/afbg/BJNR062300996.html [accessed 01.09.2016]
 17. **Gesetz zum Schutz der Teilnehmer am Fernunterricht (Fernunterrichtsschutzgesetz – FernUSG; Distance Learning Protection Act)** of 24.8.1976, as amended by the Proclamation of 4.12.2000 (BGBl. I p. 1670), most recently amended by Article 3 of the Law of 20.09.2013 (BGBl. I p. 3642). It regulates the licensing and form of contract of correspondence courses.
www.gesetze-im-internet.de/fernusg/BJNR025250976.html [accessed 01.09.2016]
 18. **Verordnung über die Voraussetzungen und das Verfahren zur Akkreditierung von fachkundigen Stellen und zur Zulassung von Trägern und Maßnahmen der Arbeitsförderung nach dem Dritten Buch Sozialgesetzbuch (Akkreditierungs- und Zulassungsverordnung Arbeitsförderung – AZAV, previously AZWV; Accreditation and Certification in Employment Promotion Ordinance)** of 16.6.2004 (BGBl. I p. 1100), as revised on 02.04.2012 (BGBl. I p. 504). Labour market instruments under Book III of the Social Code in particular, were reformed in 2011/2012 with the Act to Improve the Chances of Integration in the Labour Market (*Gesetz zur Verbesserung der Eingliederungschancen am Arbeitsmarkt*). The education and placement vouchers issued by the employment agencies may only be redeemed by certified providers, for certified measures.
www.gesetze-im-internet.de/azav/BJNR050400012.html [accessed 01.09.2016]

State law

19. **Continuing training and adult education laws**, some of which control the subsidisation of general, political and vocational continuing education and training events.
20. **The state education laws and framework agreements of the Standing Conference of State Ministers of Education and Cultural Affairs**, which regulate continuing education and training in specialised schools.
21. ***Bildungsurlaubsgesetze* (educational leave laws)**, currently in effect in 14 states (all except Bavaria and Saxony). They guarantee employees' entitlement to limited release from work to participate in continuing education and training and ensure uninterrupted wage or salary.

Abstract:

This is an overview of the vocational education and training (VET) system in Germany. Information is presented according to the following themes:

1. External factors influencing VET
2. Providing VET in a lifelong learning perspective
3. Shaping VET qualifications
4. Promoting participation in VET

This overview was prepared in 2016 and its reference year is 2015 or, if not available, 2014.

More detailed thematic information on VET systems of the EU and Germany can also be found at:

<https://www.bibb.de/en/26.php>

<http://www.cedefop.europa.eu/EN/Information-services/detailed-thematic-analyses.aspx>

Keywords: vocational education and training (VET) systems; initial vocational training; continuing vocational training; lifelong learning; VET policy development; financial crisis and VET policies; VET legislative and institutional frameworks; validation of non-formal and informal education; teachers and trainers; anticipation of skills needs; vocational guidance and counselling; VET financing mechanisms; allocation of national VET programmes; national and international qualification systems.

Geographic term: Germany



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