VET Data Report Germany 2016/2017

Facts and analyses to accompany the Federal Government Report on Vocational Education and Training – Selected findings

Federal Institute for Vocational Education and Training

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The Federal Ministry of Education and Research (BMBF) has the statutory duty to monitor developments in vocational education and training and to submit a report regarding such developments (Report on Vocational Education and Training) to the Federal Government on 1 April each year (§ 86 Vocational Training Act, BBiG). The Federal Institute for Vocational Education and Training (BIBB) is required to assist in the preparation of the Report on Vocational Education and Training (§ 90 Paragraph 3, 1b).

In the spring of 2008, the BMBF took the decision to reform and restructure the Report on Vocational Education and Training. The restructuring took account of the recommendation made by the BIBB Board that the Report on Vocational Education and Training should be separated into a political part to be consulted upon and adopted by the Federal Government and a non-political part for which BIBB would be responsible. Since 2009, BIBB has issued the "[Year] Data Report to accompany the Report on Vocational Education and Training. Information and analyses on the development of vocational education and training". This Data Report represents the central source of information and main data basis for the BMBF Report on Vocational Education and Training. The BMBF provides funding for the preparation and publication of the Data Report.

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Preface

Up-to-date education reporting, presented in a structured manner, is an indispensable precondition for identifying trends in the development of the VET system and for reacting to them adequately. The Data Report of the Federal Institute for Vocational Education and Training (BIBB) reports regularly and systematically on the current situation and the newest developments in vocational education and training. It is based on empirical data and social research analyses and forms the data basis for the Report on Vocational Education and Training of the Federal Ministry of Education and Research (BMBF). Both the editing of the Report on Vocational Education and Training by the BMBF and the participation of BIBB in preparing the Report on Vocational Education and Training are tasks regulated by law in the Vocational Training Act (BBiG §§ 86, 90).

Initial and continuing vocational education and training is traditionally accorded a high degree of importance in Germany. It offers a combination of work and learning that facilitates high quality qualifications in line with the requirements of trade and industry and thus acts as an essential guarantor in terms of securing the innovative ability and competitiveness of Germany as an economic location. At the same time, initial and continuing vocational education and training lays the foundations for societal participation by opening up individual career and life prospects. More than half of each age cohort (52.4% in 2015) commences training in one of around 326 training occupations recognised pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO). At the end of 2015, there were approximately 1.34 million trainees in Germany as a whole.

This English version of the Data Report provides a selection of the main findings and sums up two reports published in 2016 and 2017. The first chapter presents the current situation in initial vocational training, and the second chapter presents the continuing vocational education and training and both highlight changes that have taken place over the course of time. This report also includes statistics on public financing of initial and continuing vocational education and training. Each year the VET Data Report includes a specific thematic focus. The third chapter is dedicated to the analysis of refugees in the German vocational education and training system; many data on that specific topic are available throughout the report. The full text of the report in German as well as additional information are available on the internet portal at **www.bibb.de/datenreport**. The German version also includes references, which are not included in this English summary. Using this website interested parties have accessed to all statistics underpinning the report.

Previous issues of the Data Report in English are available on the Internet portal **http://datenreport.bibb.de/html/index_en.html**. BIBB has increased the number of its publications in English to support international VET cooperation and research. Access is granted via the BIBB Internet website (**www.bibb.de**). The German language 2016/2017 Data Report is available on the BIBB website (**https://www.bibb.de/datenreport/de/index.php**).

The 2016/2017 Data Report in English provides valuable insights into the German VET system as a contribution to the debate on the role of VET in society and the economy. It is meant to support understanding of German VET system by practitioners, decision makers and researchers from abroad by providing updated data. We are looking forward to any feedback you may have on the Data Report. We will be pleased to receive ideas, remarks and constructive criticism (**datenreport@bibb.de**).

Prof. Dr. Friedrich Hubert Esser
President

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1. Initial vocational and training indicators

The dual system is at the core of vocational education and training in Germany. It is based on the Vocational Training Act of 1969 (amended in 2005) and is still the main pathway for the young generation into employment. Every young person who has completed full-time compulsory education has access to dual vocational training. A characteristic of this training path are two learning venues – the company and the part-time vocational school. The companies sign contracts with applicants under private law and train them in line with the binding provisions of vocational training directives which guarantee a national standard. This is monitored by the "competent bodies", mainly the chambers (of industry and commerce, crafts, agriculture, doctors, lawyers) but also by competent bodies in the public service or via the purview of the churches.

The dual system provides broad vocational training and competences for 326 recognised training occupations (in 2016). The duration of programmes in the dual system is usually 3 years, although some last 2 and some 3 ½ years. After completing their training in the dual system, the majority of participants then take up employment as a skilled worker. Later on, many of them make use of the opportunities for continuing vocational education and training. Outside the dual system, there are also VET pathways in full-time vocational schools (about 15% of an age cohort). The programmes of these pathways take between 1 and 3 years, depending on the particular vocational orientation and objective.

1.1 Key facts in brief

Training supply stable, more unfilled training places

According to a BIBB survey of newly concluded training contracts and the training market statistics produced by the Federal Employment Agency, training supply remained stable compared to the previous year. The number of training places offered by companies was 546,300. This means that firms and companies in Germany made 1,400 (+ 0.3%) more training places available than in the previous year. Nevertheless, the number of unfilled training places rose further (+ 1,900 or + 4.5% to 43,500). This means that the number of unfilled training places as a proportion of total company-based provision was 8.0%. This was once more above the level of the previous year (2015: 7.6 %).

Small fall in the number of newly concluded training contracts

Despite the marginal increase in the amount of company-based training supply, there was no rise in the number of training contracts concluded. According to the results of the BIBB survey as of 30 September 2016, this figure again fell slightly to 520,300 (- 1,800 or - 0.4%). The number of company-based contracts remained virtually constant at 502,800 (- 500 or - 0.1%). By way of contrast, the number of extra-company training contracts decreased to 17,600 (- 1,300 or - 7.0%).

Fall in the demand for training places

In 2016, the number of young people seeking to enter training was once again below the level of the previous year. Demand was 600,900, - 0.4% compared to 2015. Because demand fell more sharply than supply, the ratio between supply and demand shifted further in the favour of potential applicants. The progression rate of young people interested in entering training was marginally lower (2015: 64.8%, 2016: 64.7%).

High numbers of applicants still seeking to secure a training place

Alongside 20,600 unplaced applicants, a further 60,100 young people were still attempting to find a training place as of the cut-off date of 30 September 2016, meaning that a total of 80,600 applicants were unplaced at this deadline. This figure fell slightly compared with the previous year (2015: 81,000, - 400 or - 0.5%). The number of applicants still seeking a training place as a proportion of overall demand was 13.4%, the same level as in the previous year.

Increase in the transitional area

Following a significant fall in the numbers of young people entering the transitional sector between 2005 and 2014 (- 165,000 or - 39.5%), an increase has once again been recorded recently. According to the "Integrated Training Reporting Flash Report" for 2016, the number of persons commencing a transitional scheme in 2016 was 298,800. This was significantly above the figure for

the previous year of 266,200 (+ 32,600 or + 12.2%). As in the year before, this rise can essentially be attributed to German language programmes for young refugees and migrants. The pre-vocational training year saw a particular gain in significance (+ 45.4%).

Decline in company participation in training

Analyses conducted by the Federal Institute for Vocational Education and Training (BIBB) on the basis of the employment statistics of the Federal Employment Agency (BA) show that company participation in training has been falling in recent years. Whereas the training participation rate was around 24% for a long period of time, in 2015 it had decreased to 20.0% (2014: 20.3 %). Consideration needs to be accorded to the considerable differences according to economic sectors and company sizes. As in the previous year, the decline was caused by a fall in the training participation rate by the smallest category of company (1–9 employees) which, however, makes up the critical mass of firms in Germany.

Securing a future basis of skilled workers

In light of the developments described, securing a basis of skilled workers represents a major challenge in Germany. The prognosis of supply and demand for 2017 assumes that there will be a small fall in training provision accompanied by an increase in potential demand.

Against such a background, it will be important to exploit all areas of potential for dual vocational education and training. Possible approaches include continuing to foster interest in dual VET from young people with higher education entrance qualification. Currently, the proportion of those training entrants is 27.7%. The same applies with regard to attracting interest from young women. Compared to 2015, the number of training contracts concluded with females fell by 3,500 (- 1.7%) to 204,100. By way of contrast, the number training contracts entered into by young men rose by 1,700 (+ 0.5%) to reach 316,200. Persons from a migrant background are disproportionately likely to remain without a vocational qualification. According to BIBB calculations conducted on the basis of the micro census, the ratio of migrants aged between 20 and 34 with their own personal experience of immigration who are without a formal qualification is 29.8% (for the purpose of comparison, the corresponding figure for Germans not from a migrant background is 8.8 %). The integration and employment of refugees constitute a further considerable challenge.

Modernisation of vocational education and training

A total of 137 training occupations have been updated since 2007. Nine modernised occupations entered into force in the year 2016. Increasing digitalisation of the world of work is, however, also creating new qualification requirements.

1.2 The VET market in 2016

1.2.1 Supply of and demand for apprenticeship placement

Training place supply

563,800 training places were on offer across Germany in 2016. Extra-company provision declined by 1,300 (- 7.0%) to 17,600 places, whereas the number of company-based training places offered rose by 1,400 (+ 0.3%) to reach 546,300. This meant that training place supply remained virtually unchanged compared to the previous year (+ 60 or + 0.0%). In 2016, demand for training places fell by 0.4% 600,900 compared to the previous year (see Table 1).

Insofar as ascertainable via the training market statistics produced by the Federal Employment Agency and via the differentiation by areas of responsibility contained within these figures, the growth in company-based training provision in 2017 is likely mainly to be due to a positive development in the liberal professions (which saw an increase of 1,400 or 3.1% to 46,700). By way of contrast, a fall of 1,000 places or 0.3% to 564,000 company-based training places is likely to have occurred in trade and industry, although this was in turn offset by further increases in the craft trades (+ 500 or + 0.3%), in the public sector (+ 600) and in agriculture (+ 100).

Training place demand

Development in training place demand over the past twelve years has been materially determined by the fall in the number of school leavers brought about due to demographic reasons and by structural school qualifications shifts towards the upper secondary school leaving certificate on the part of these school leavers. Between 2004 and 2015, the national number of general school leavers had already fallen by 119,400 to 826,000. Without the additional effects produced by increased immigration of refugees (which cannot as yet be clearly evaluated), the figure for 2016 would have seen a further drop of 5,000 school leavers as compared to 2015. The number of school leavers not in possession of a higher education

Table 1: **Training market development from 2009 to 2016 (cut-off date 30 September) (part 1)**

	2009	2010	2011	2012	2013	2014	2015	2016	Development in 2016 compared to 2015	
									Absolute terms	%
Germany										
Training place supply	581,871	579,762	599,826	585,309	564,168	561,471	563,754	563,808	+57	+0.0
▶ Company based[1]	536,070	538,719	569,367	559,404	542,487	541,077	544,887	546,258	+1,371	+0.3
▶ Extra company[2]	45,801	41,043	30,459	25,905	21,681	20,394	18,864	17,550	-1,314	-7.0
Training place demand[3]	652,947	640,416	641,796	627,378	613,284	604,590	603,198	600,933	-2,265	-0.4
Supply and demand ratio[3]	89.1	90.5	93.5	93.3	92.0	92.9	93.5	93.8	+0.4	.
▶ Company based	82.1	84.1	88.7	89.2	88.5	89.5	90.3	90.9	+0.6	.
Unfilled company-based training places	17,564	19,802	30,446	34,051	34,625	38,269	41,592	43,478	+1,887	+4.5
▶ % proportion of unfilled places	3.3	3.7	5.3	6.1	6.4	7.1	7.6	8.0	+0.3	.
Unsuccessful potential applicants	88,640	80,456	72,417	76,119	83,742	81,388	81,037	80,603	-435	-0.5
▶ % proportion of unsuccessful applicants	13.6	12.6	11.3	12.1	13.7	13.5	13.4	13.4	-0.0	.
New training contracts	564,306	559,959	569,379	551,259	529,542	523,200	522,162	520,332	-1,830	-0.4
▶ Company based	518,505	518,916	538,920	525,354	507,861	502,806	503,295	502,782	-516	-0.1
Persons interested in training[4]	867,000	847,380	835,719	826,710	816,231	812,388	805,407	803,613	-1,794	-0.2
▶ Progression rate in %	65.1	66.1	68.1	66.7	64.9	64.4	64.8	64.7	-0.1	.
Western Germany										
Training place supply	480,081	484,308	509,970	500,040	483,516	480,270	482,016	481,827	-189	-0.0
▶ Company based[1]	457,212	461,832	491,274	482,469	468,675	466,530	469,017	469,368	+351	+0.1
▶ Extra company[2]	22,869	22,476	18,693	17,568	14,841	13,743	12,999	12,456	-540	-4.2
Training place demand[3]	543,249	539,349	548,889	537,915	529,086	520,644	518,949	516,660	-2,292	-0.4
Supply and demand ratio[3]	88.4	89.8	92.9	93.0	91.4	92.2	92.9	93.3	+0.4	.
▶ Company based	84.2	85.6	89.5	89.7	88.6	89.6	90.4	90.8	+0.5	.
Unfilled company-based training places	14,772	16,011	25,084	27,685	28,219	31,363	33,989	35,532	+1,542	+4.5
▶ % proportion of unfilled places	3.2	3.5	5.1	5.7	6.0	6.7	7.2	7.6	+0.3	.
Unsuccessful potential applicants	77,940	71,052	64,004	65,562	73,787	71,735	70,924	70,365	-558	-0.8
▶ % proportion of unsuccessful applicants	14.3	13.2	11.7	12.2	13.9	13.8	13.7	13.6	-0.0	.
New training contracts	465,309	468,297	484,884	472,353	455,298	448,908	448,026	446,295	-1,731	-0.4
▶ Company based	442,440	445,821	466,191	454,785	440,457	435,165	435,027	433,836	-1,191	-0.3
Persons interested in training[4]	718,512	713,382	710,553	705,195	698,007	693,687	686,847	685,071	-1,776	-0.3
▶ Progression rate in %	64.8	65.6	68.2	67.0	65.2	64.7	65.2	65.1	-0.1	.

Table 1: **Training market development from 2009 to 2016 (cut-off date 30 September) (part 2)**

	2009	2010	2011	2012	2013	2014	2015	2016	Development in 2016 compared to 2015	
									Absolute terms	%
Eastern Germany										
Training place supply	101,661	95,340	89,724	85,149	80,577	81,117	81,672	81,969	+297	+0.4
▶ Company based[1]	78,729	76,773	77,958	76,812	73,740	74,463	75,804	76,875	+1,071	+1.4
▶ Extra company[2]	22,932	18,567	11,766	8,334	6,840	6,651	5,868	5,094	-774	-13.2
Training place demand[3]	109,683	101,049	92,892	89,439	83,904	83,664	84,192	84,198	+6	+0.0
Supply and demand ratio[3]	92.7	94.3	96.6	95.2	96.0	97.0	97.0	97.4	+0.3	.
▶ Company based	71.8	76.0	83.9	85.9	87.9	89.0	90.0	91.3	+1.3	.
Unfilled company-based training places	2,662	3,676	5,229	6,244	6,334	6,823	7,536	7,932	+396	+5.3
▶ % proportion of unfilled places	3.4	4.8	6.7	8.1	8.6	9.2	9.9	10.3	+0.4	.
Unsuccessful potential applicants	10,684	9,386	8,396	10,535	9,660	9,370	10,058	10,161	+102	+1.0
▶ % proportion of unsuccessful applicants	9.7	9.3	9.0	11.8	11.5	11.2	11.9	12.1	+0.1	.
New training contracts	98,997	91,662	84,495	78,903	74,244	74,292	74,136	74,037	-99	-0.1
▶ Company based	76,068	73,095	72,729	70,569	67,404	67,641	68,268	68,943	+675	+1.0
Persons interested in training[4]	148,389	133,902	125,073	121,398	117,396	116,856	116,502	117,504	+1,002	+0.9
▶ Progression rate in %	66.7	68.5	67.6	65.0	63.2	63.6	63.6	63.0	-0.6	.

[1] Company based = not (predominantly) publicly financed
[2] Extra-company = (predominantly) publicly financed.
[3] In accordance with the new extended definition within the meaning of the Vocational Training Act (BBiG). Pursuant to §86, the Report on Vocational Education and Training is required to state the "number of persons registered with the Federal Employment Agency (as of 30 September) as seeking a training place".
[4] (Institutionally recorded) persons interested in training are deemed to be all those who have either signed a training contract or who were at least registered as a training applicant with the Federal Employment Agency.
Retrospective corrections for earlier years were taken into account in the calculation. This further particularly applies to the inclusion of so-called "training programmes for upper secondary school leavers" which may (also) lead to a qualification in a recognised training occupation.
For data protection reasons, all values which relate to the BIBB survey as of 30 September have been rounded to a multiple of three.

Source: Federal Institute for Vocational Education and Training survey as of 30 September, Federal Employment Agency, training market statistics as of 30 September (special calculations for preparation of the Report on Vocational Education and Training), calculations conducted by the Federal Institute for Vocational Education and Training

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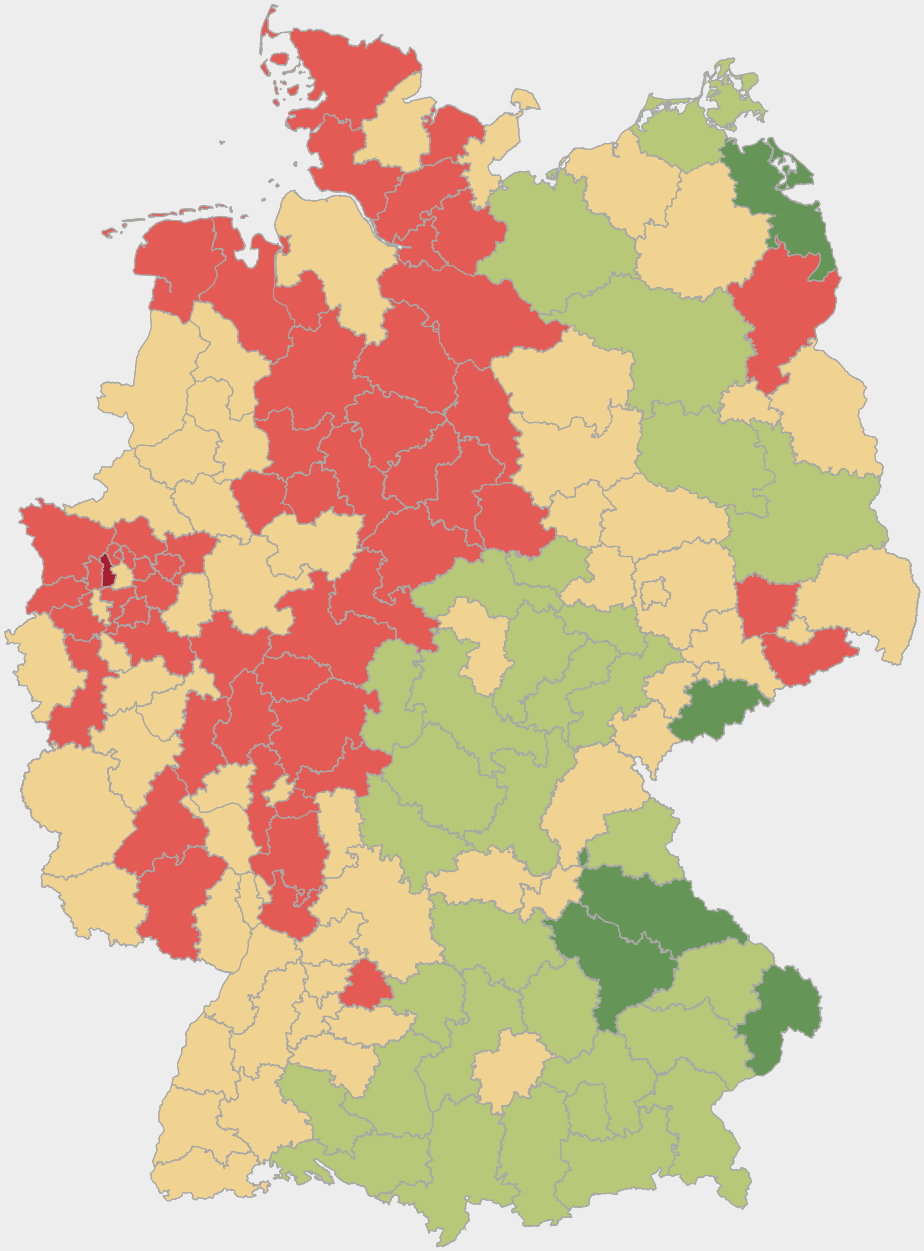
entrance qualification, who make up the main clientèle of dual vocational education and training, has undergone a particular decrease since 2004. There were 714,800 such school leavers in 2004 as opposed to 543,000 in 2015 (- 171,500). Without the refugees, the figure for 2016 would probably have shown a further drop of 10,800.

Alongside the general decline in the number of school leavers and the structural change that has occurred in this group (lower proportions of persons not in possession of a higher education entrance qualification); there has also been a significant decrease in the scope of training place demand over recent years. In 2016, only 600,900 potential training place applicants were registered in the country as a whole (see Table 1). This represented a decline in demand of 2,300 persons (- 0.4%) compared to the previous year.

Figure 1: **Regional supply-demand ratio in 2016 (extended supply-demand ratio)**



Extended supply-demand ratio	Number of regions
under 80	1
80 to 90	55
90 to 100	61
100 to 110	32
over 110	5

Source: Federal Institute for Vocational Education and Training survey as of 30 September, Federal Employment Agency, training market statistics as of 30 September (special calculations for preparation of the Report on Vocational Education and Training), calculations conducted by the Federal Institute for Vocational Education and Training

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Ratio between supply and demand

Because training place supply has largely remained stable at a national level whilst demand has decreased slightly, the supply-demand ratio has improved as in previous years. Across Germany as a whole, there were 93.8 training places for every 100 potential training place applicants. As a regional comparison shows (see Figure 1), market conditions from the point of view of potential applicants in many employment agency districts in the South and East of Germany were significantly more favourable than in districts in the North and West of the country.

Unsuccessful participation in the market

The number of registered company-based VET places still unfilled as of 30 September has risen significantly over recent years. This trend continued in 2016. 43,500 training places remained vacant nationally. This meant that the number of unfilled training places as a proportion of the officially calculated total supply reached 8.0% (Table 1). As in previous years, the greatest recruitment problems were experienced in the craft trades sector. Nevertheless, 2016 brought an end to the negative trend in respect of the number of places remaining vacant in this branch. At a national level, the second largest proportion of unfilled training places recorded in 2016 was in the area of responsibility of trade and industry. The public sector had only very slight recruitment problems compared to all other areas of responsibility (Table 2).

Nationally speaking, the number of applicants registered with the Federal Employment Agency as still searching for a training place as of 30 September and thus defined as unsuccessful potential applicants was 80,600 persons. This figure remained virtually unchanged compared to the previous year. Unsuccessful potential training place applicants now include increasing numbers of young people interested in training who are in possession of a higher education entrance qualification. This figure rose from 13,700 to 22,300 between 2009 and 2016. During the same period, the number of such persons as a proportion of all applicants still seeking a training place increased

Table 2: **Number of unfilled training places as a proportion of company-based training provision in 2016 by areas of responsibility**

	New training contracts	of which: Primarily publicly financed	Unfilled company-based training places	Company-based training provision	Proportion of vacant training places (in %)
	Column 1	Column 2	Column 3	Column 4	Column 5
Area of responsibility				Columns 1 + 2 + 3	Columns 4 + 5
Trade and industry	304,302	8,874	24,621	320,052	7.7
Craft trades	141,768	6,207	14,041	149,604	9.4
Public sector	13,800	45	155	13,911	1.1
Agriculture	13,614	1,023	530	13,122	4.0
Liberal professions – dispensing chemists	1,326	12	33	1,347	2.4
Liberal professions – doctors	15,822	27	532	16,329	3.3
Liberal professions – veterinary surgeons	2,283	0	72	2,352	3.1
Liberal professions – dentists	12,780	45	1,048	13,782	7.6
Liberal professions – lawyers	5,475	3	390	5,862	6.7
Liberal professions – tax consultants	6,879	42	143	6,981	2.0
Housekeeping	2,139	1,275	N/A	N/A	N/A
Maritime sector	141	0	N/A	N/A	N/A
N/A	0	0	1,913		–

Please note – for data protection reasons, all values which relate to the BIBB survey of newly concluded training contracts have been rounded to a multiple of three.

Source: Federal Institute for Vocational Education and Training survey as of 30 September, Federal Employment Agency, training market statistics as of 30 September (special calculations for preparation of the Report on Vocational Education and Training), calculations conducted by the Federal Institute for Vocational Education and Training

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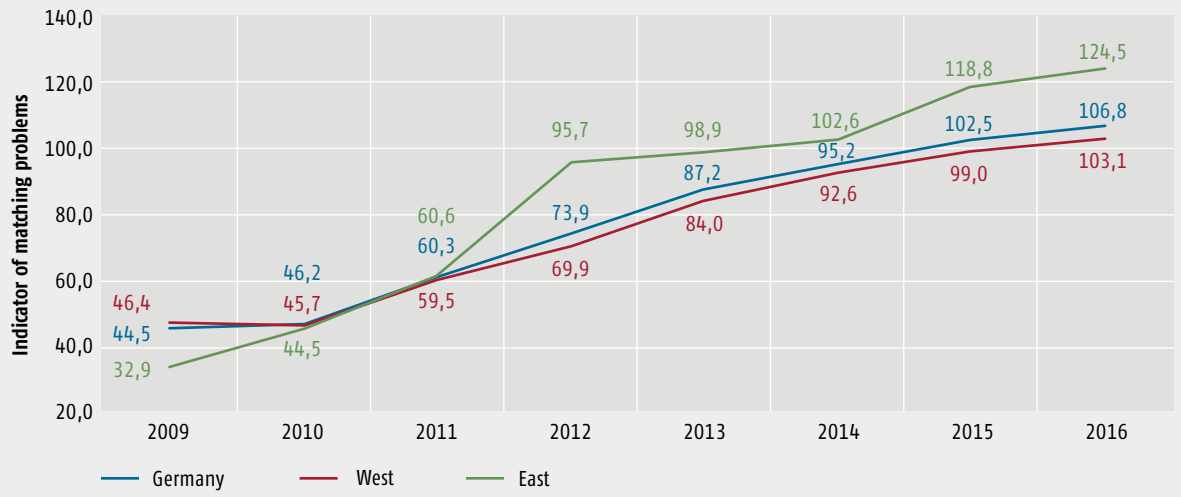
Figure 2: **Development of matching problems between 2009 and 2016 (Germany as a whole and in comparative terms for West and Eastern Germany)**



Source: Federal Institute for Vocational Education and Training survey as of 30 September, Federal Employment Agency, training market statistics as of 30 September (special calculations for preparation of the Report on Vocational Education and Training), calculations conducted by the Federal Institute for Vocational Education and Training

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from 15.5% to 27.7%. A reverse development occurred in the case of applicants with a lower secondary school leaving certificate. The number of such young people amongst all applicants still seeking a training place fell from 29,100 to 22,700 between 2009 and 2016. As a consequence, only 28.2% of the applicants still seeking a training place in 2016 held a lower secondary qualification. The corresponding figure for 2009 was 32.9%. In 2016, matching problems increased compared to the previous year as a result of the further rise in the proportion of unfilled training places and a consistently high ratio of unsuccessful potential applicants. Both West and Eastern Germany were affected by growing matching problems (see figure 2).

Regional market imbalances are one of the main reasons for matching problems on the training market. A comparison of regional proportions of unfilled training places and unsuccessful potential training place applicants makes it clear that regions with particularly severe recruitment problems often tend to have low numbers of unsuccessful applicants whilst few training places are likely to remain unfilled in regions with especially strong supply difficulties. A further reason for the increasing matching problems is the fact that supply and demand are insufficiently aligned at occupational level. As table 3 shows, there are both occupations that suffer from severe recruitment problems and numerous occupations in which many potential applicants fail to secure a training place. Across all sectors, these two phenomena (on the one hand occupations with recruitment problems but with no great supply issues and on the other hand occupations with supply problems but no significant recruitment difficulties) add up to relatively high numbers of vacant places and of potential applicants who are still seeking a training place.

Progression of persons interested in training

In 2016, the number of all persons institutionally recorded as being either temporarily or permanently interested in dual vocational education and training in the reporting year 2015/2016 and in respect of whom suitability for entry to such training could be assumed was 803,600. This was 1,800 fewer or 0.2% less than in the previous year.

Destination of persons interested in training

Table 4 shows the destination of persons institutionally recorded as being interested in training in 2016, differentiating between national figures and the circumstances in the 16 federal states. Across Germany as a whole, 64.7% of persons interested in training were ultimately able to commence dual VET. In 2016, 15.5% or 124,700 of the persons interested in training remained within the educational system in another way. The number of persons interested in training who can be acquired for dual VET within a region or federal state depends heavily on the number of company-based and extra-company training places which are available to them. However, the rate of

Table 3: **Occupations with above average recruitment and supply problems in 2016**

Occupation[1]	Company-based supply		Training place demand		(company) supply-demand ratio	Proportions of unsuccessful market participants (in %)	
	Total	Unfilled on 30.09	Total	Still searching as of 30.09		Proportion of unfilled places in company-based provision	Persons still searching as a proportion of demand
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Occupations with recruitment problems	**Absolute terms**	**Absolute terms**	**Absolute terms**	**Absolute terms**	**Column 1/3**	**Column 2/1**	**Column 4/3**
Restaurant specialist	4,671	1,596	3,342	237	139.7	34.2	7.1
Butcher	2,169	722	1,563	92	138.6	33.3	5.9
Salesperson specialising in foodstuffs	10,077	3,293	7,275	357	138.5	32.7	4.9
Professional caterer	2,484	713	1,845	71	134.6	28.7	3.8
Tinsmith	588	152	462	23	127.3	25.9	5.0
Baker	3,606	866	3,042	220	118.6	24.0	7.2
Concreter	723	168	618	37	117.2	23.2	6.0
Scaffolder	480	111	402	31	120.0	23.1	7.7
Hotel clerk	606	134	519	46	117.0	22.1	8.9
Industrial cleaner	1,377	300	1,158	70	118.9	21.8	6.1
Specialist in furniture, kitchen and removal services	675	144	561	23	120.4	21.4	4.1
Stone mason and stone sculptor	414	86	366	27	113.4	20.8	7.4
Cook	11,166	2,244	9,999	855	111.7	20.1	8.6
Animal caretaker	408	80	372	33	109.7	19.6	8.8
Glazier	582	114	516	41	113.0	19.6	7.9
Occupations with supply problems	**Absolute terms**	**Absolute terms**	**Absolute terms**	**Absolute terms**	**Column 1/3**	**Column 2/1**	**Column 4/3**
Animal keeper	618	9	1,206	571	51.2	1.5	47.3
Visual marketing designer	636	30	1,155	545	54.9	4.7	47.1
Audiovisual media producer	642	15	1,182	547	54.4	2.3	46.3
Sports and fitness administrator	1,998	147	2,832	972	70.6	7.4	34.3
Electronics technician for information and telecommunications systems	1,548	94	2,091	614	73.9	6.1	29.3
Designer of digital and print media	3,105	78	4,359	1,270	71.2	2.5	29.1
Biological laboratory technician	513	3	690	178	74.4	0.6	25.8
Photographer	639	43	810	206	78.9	6.7	25.5
Bookseller	408	14	525	131	77.4	3.4	24.9
Chemical laboratory technician	1,671	43	2,169	540	77.0	2.6	24.9
Tourism and leisure agent	405	28	513	127	79.0	6.9	24.7
Veterinary assistant	2,358	76	2,967	684	79.5	3.2	23.1
Specialist in media and information services	528	7	672	151	78.6	1.3	22.4
Florist	1,170	72	1,482	327	78.9	6.2	22.1
Events manager	2,055	49	2,580	563	79.6	2.4	21.8

[1] The list only includes training occupations in the dual system (BBiG/HwO) which are of at least three years' duration and in which a minimum of 400 training places were offered in 2016.

Please note – for data protection reasons, all values which relate to the BIBB survey as of 30 September have been rounded to a multiple of three.

Source: Federal Institute for Vocational Education and Training survey as of 30 September,
Federal Employment Agency, training market statistics as of 30 September,
calculations conducted by the Federal Institute for Vocational Education and Training

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participation in dual vocational education and training by those interested in training also depends on the degree to which the occupational structure of existing training place provision at a local level corresponds to the specific training wishes of young people and to their alternative options.

Results of post-placement

Between October 2016 and January 2017, 68,300 persons recognised as being suitable applicants for training re-registered or registered for the first time with the advisory and placement services with a view to still finding a training place for the 2016/2017 training year, which had been running since the late summer. Compared to the applicants registered in the regular 2015/2016 reporting year, applicants in this post-placement phase contained more persons with characteristics that tend on average to make placement more difficult. 53.4% were already aged 20 or above ("regular" applicants 34.4%). 53.6% had left school in 2015 or earlier ("regular" applicants 42.2%). 18.7% held foreign nationality ("regular" applicants 13.7%), and 32.3% had achieved no qualification higher than the lower secondary school leaving certificate ("regular" applicants 28.0 %).

Across the country as a whole, 6,100 or 8.9% of all applicants registered for the post-placement phase progressed to a vocational education and training place. Progression rates vary only slightly if differentiated in accordance with regional origin (federal states) and personal characteristics. In addition, younger applicants, applicants with higher level school qualifications and applicants with German nationality all tend to be more successful. Nevertheless, the effects of these personal characteristics on successful progression also tend to be relatively slight. From an institutional point of view, the low progression rates in the post-placement phase particularly result from the fact that placement several weeks and months after the beginning of a new training year is fundamentally difficult. Companies which offer training places align themselves in particular to the commencement of the new training year in the late summer. This means that places made available after 30 September usually relate to the next training year. The only occasions which trigger most companies' interest in finding trainees for the training year which has already started are recruitment problems or premature contract dissolutions. In January 2017, 50,700 or 74.2% of applicants in the post-placement phase were still seeking a training place. Just under 22,600 of these currently had an alternative option in place whilst 28,100 did not. The remaining 11,500 or 16.9% of applicants had moved on to other destinations and had terminated their placement remit. Including this last group of persons, this means that a total of 62,300 of all the 68,300 applicants registered in the post-placement phase had either not achieved their placement goal or else had ended their endeavours prematurely.

1.2.2 Newly concluded training contracts (BIBB survey)

For the purpose of the survey of newly concluded training contracts as of 30 September 2016, the competent bodies responsible for vocational education and training notified the Federal Institute for Vocational Education and Training (BIBB) of 520,332 newly concluded training contracts nationally for the period from 1 October 2015 to 30 September 2016. The reduction of 1,870 contracts represents a decline of 0.4%.

The Federal Institute for Vocational Education and Training survey of newly concluded training contracts as of 30 September differentiates 13 areas of responsibility. For the purposes of evaluation, reports for the public sector and for the liberal professions are often conflated so that seven areas of responsibility are shown. In 2016, growth in the numbers of newly concluded training contracts were recorded for four areas. These were the craft trades (+0.2 %), the public sector (+3.9 %), agriculture (+0.5 %) and the liberal professions (+3.3 %). Decreases were reported for the areas of trade and industry (-1.3 %), housekeeping (-5.5 %) and the maritime sector (-16.0 %). Tables 5 and 6 show the developments in detail.

60.8% of new training contracts were concluded with men (2015: 60.2 %). 204,135 new training contracts were concluded with women (39.2%). This represents a continuation of the trend of recent years. In the case of the BIBB survey as of 30 September, a differentiation is made between training contracts which encompass the "regular" duration stipulated in the training regulations and such contracts in respect of which a shortening in the duration of at least six months is agreed at the outset. For the 2016 survey, 78,165 newly concluded training contracts with a shortening of the duration of training were registered with the competent bodies (15.0% of the total number of newly concluded training contracts).

The trend towards a decrease in the number of contracts stipulating a shortening of the duration of training at the time of conclusion indicates a real (and not merely statistical) growth in training contracts featuring the regular duration of training (Table 7).

For the purpose of analysis of the training places market, follow-up contracts are not evaluated as newly concluded training contracts. This is connected with the fact that young people do not appear on the training places

Table 4: **Destination of persons interested in training in 2016**

	Germany	Baden-Württemberg	Bavaria	Berlin	Brandenburg	Bremen	Hamburg	Hessen	Mecklenburg-Western Pomerania	Lower Saxony	North Rhine-Westphalia	Rhineland Palatinate	Saarland	Saxony	Saxony-Anhalt	Schleswig-Holstein	Thuringia
Total number of persons interested in training	**803,613**	**106,188**	**126,819**	**30,204**	**17,424**	**8,964**	**18,477**	**61,047**	**11,967**	**89,691**	**191,838**	**40,752**	**10,464**	**27,792**	**15,870**	**30,831**	**14,250**
Destination (in %)																	
Conclusion of a new training contract	64.7	69.7	73.6	54.5	59.9	66.5	72.1	61.0	65.8	60.9	59.8	63.4	68.4	66.6	67.8	64.8	70.4
▸ Company-based	62.6	67.9	72.2	51.8	55.6	62.8	69.5	58.4	61.3	59.2	58.3	61.2	65.4	61.3	63.0	62.9	64.9
▸ Extra company	2.2	1.7	1.4	2.7	4.3	3.7	2.6	2.6	4.5	1.8	1.5	2.2	3.0	5.3	4.8	1.9	5.4
Other destination in the educational system	**15.5**	**15.2**	**14.5**	**10.9**	**12.4**	**13.4**	**9.6**	**17.3**	**12.6**	**17.3**	**17.4**	**16.5**	**16.5**	**15.1**	**14.1**	**12.9**	**12.5**
▸ School education	8.9	10.1	9.0	6.2	6.5	4.9	4.2	9.1	5.3	11.2	9.6	9.0	8.4	5.6	5.9	6.6	7.2
▸ Higher education study	1.5	1.0	1.2	1.1	1.7	1.3	0.8	1.9	1.6	1.2	2.1	1.4	2.2	1.3	1.5	1.2	1.9
▸ Prevocational training year	0.3	0.2	0.5	0.1	0.1	0.9	3.0	0.5	0.3	0.1	0.1	0.3	0.0	0.6	0.8	0.2	0.3
▸ Basic vocational training year	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	1.7	1.8	0.1	0.1	0.0
▸ Internship	0.6	1.0	0.4	0.5	0.5	0.6	0.3	0.5	0.5	0.4	0.6	0.6	0.5	0.3	0.6	0.5	0.2
▸ BA vocational preparation schemes	1.7	1.2	1.6	0.6	1.7	0.8	0.3	2.4	0.8	2.0	2.2	2.0	1.5	1.7	0.7	1.6	1.3
▸ Other BA funding measures	0.3	0.2	0.2	1.0	0.7	0.7	0.2	0.2	0.5	0.4	0.3	0.3	0.4	0.4	0.3	0.5	0.3
▸ Introductory training	0.3	0.2	0.2	0.1	0.3	0.3	0.2	0.2	0.4	0.2	0.5	0.5	0.2	0.3	0.4	0.6	0.2
▸ Remain in previous VET	1.7	1.3	1.2	1.2	1.0	3.9	0.5	2.2	3.3	1.6	1.8	2.4	1.6	3.0	3.7	1.5	1.2
Not-for-profit services	**1.4**	**1.8**	**0.8**	**0.8**	**1.6**	**0.7**	**0.8**	**1.6**	**2.1**	**1.3**	**1.3**	**1.8**	**1.0**	**2.3**	**2.2**	**1.4**	**1.7**
▸ Army, civilian service	0.2	0.1	0.1	0.1	0.3	0.1	0.0	0.2	0.4	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2
▸ Federal/Youth Voluntary Service	1.2	1.7	0.7	0.7	1.3	0.6	0.7	1.5	1.7	1.1	1.1	1.6	0.8	2.0	1.9	1.2	1.5
Employment	**4.2**	**4.1**	**3.0**	**4.5**	**4.4**	**4.1**	**3.0**	**4.6**	**3.8**	**4.8**	**4.7**	**4.7**	**3.6**	**3.3**	**3.4**	**4.4**	**3.6**
Destination unresolved or unclear	**14.2**	**9.2**	**8.0**	**29.4**	**21.8**	**15.3**	**14.5**	**15.5**	**15.6**	**15.7**	**16.8**	**13.6**	**10.5**	**12.7**	**12.5**	**16.5**	**11.8**
▸ Still wish to progress ("unplaced")	2.6	0.9	0.9	5.6	5.4	2.3	6.3	2.6	3.6	2.1	3.5	1.7	0.8	2.0	1.8	5.5	2.4
▸ No information regarding destination ("destination unknown")	11.6	8.3	7.1	23.7	16.3	13.0	8.2	12.9	12.0	13.5	13.2	11.9	9.7	10.7	10.6	11.0	9.4

Source: Federal Institute for Vocational Education and Training, BIBB survey of newly concluded training contracts, Federal Employment Agency training market statistics, special calculations for preparation of the Report on Vocational Education and Training, calculations conducted by the Federal Institute for Vocational Education and Training

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Table 5: **Number of newly concluded training contracts in 2016 and change compared to 2015 by federal states and areas of responsibility**

	Newly concluded training contracts																							
	Of which in the area of responsibility of																							
	Total																							
		Development		Trade and Industry	Development		Craft trades	Development		Public sector	Development		Agriculture	Development		Liberal professions	Development		Housekeepings	Development		Maritime sector	Development	
		Absolute terms	%		Absolute terms	%		Absolute terms	%		Absolute terms	%		Absolute terms	%		Absolute terms	%		Absolute terms	%		Absolute terms	%
Baden-Württemberg		165	0.2	44,229	-132	-0.3	20,109	-123	-0.6	1,911	30	1.6	1,497	63	4.3	5,850	249	4.5	390	78	24.9	.	.	.
Bavaria	93,384	1,209	1.3	52,911	-342	-0.6	26,748	420	1.6	1,944	84	4.5	2,256	93	4.3	9,237	927	11.2	291	24	9.4	.	.	.
Berlin	16,446	-93	-0.6	9,363	-270	-2.8	3,996	66	1.7	819	3	0.4	234	21	10.3	2,025	138	7.4	9	-51	-85.2	.	.	.
Brandenburg	10,434	33	0.3	6,060	51	0.9	2,793	12	0.5	465	21	5.0	510	-3	-0.4	558	-39	-6.4	48	-15	-23.4	.	.	.
Bremen	5,961	165	2.8	3,846	30	0.8	1,281	45	3.6	186	27	17.6	39	0	-2.4	549	66	13.9	45	-6	-9.8	12	0	0.0
Hamburg	13,320	-192	-1.4	9,141	-162	-1.8	2,538	-6	-0.2	189	-24	-11.3	138	-6	-4.9	1,215	0	0.0	33	3	13.3	66	3	3.1
Hessen	37,266	-546	-1.4	22,416	-450	-2.0	10,008	-24	-0.2	1,014	15	1.5	726	30	4.2	3,096	-108	-3.4	3	-6	-77.8	.	.	.
Mecklenburg-Western Pomerania	7,869	27	0.4	4,695	-12	-0.3	2,019	51	2.6	297	39	15.6	399	-3	-1.0	405	-27	-6.3	48	-18	-25.8	6	-3	-25.0
Lower Saxony	54,663	90	0.2	29,460	156	0.5	16,695	-117	-0.7	1,449	33	2.3	2,235	57	2.7	4,494	15	0.3	291	-33	-10.2	42	-21	-33.3
North Rhine-Westphalia	114,732	-2,040	-1.7	69,084	-2,334	-3.3	28,947	93	0.3	2,988	144	5.1	2,409	-21	-0.9	10,884	99	0.9	423	-24	-5.2	.	.	.
Rhineland Palatinate	25,851	-387	-1.5	14,379	63	0.4	7,902	-345	-4.2	612	-12	-2.1	687	-39	-5.2	2,127	-30	-1.3	147	-24	-14.5	.	.	.
Saarland	7,158	30	0.4	4,326	12	0.3	1,980	-57	-2.8	96	-9	-8.6	132	-24	-14.8	579	96	20.1	45	9	22.2	.	.	.
Saxony	18,495	-48	-0.3	11,121	-144	-1.3	4,944	48	1.0	648	39	6.6	765	33	4.4	915	15	1.6	102	-39	-27.1	.	.	.
Saxony-Anhalt	10,764	120	1.1	6,603	-108	-1.6	2,913	234	8.7	369	78	26.7	408	-54	-11.9	390	-6	-1.3	81	-21	-21.4	.	.	.
Schleswig-Holstein	19,974	-225	-1.1	10,425	-120	-1.1	6,300	-117	-1.8	510	-3	-0.8	813	-21	-2.4	1,842	33	1.8	66	9	17.9	15	-6	-27.3
Thuringia	10,026	-138	-1.4	6,246	-177	-2.8	2,592	72	2.8	300	51	21.1	369	-60	-14.2	405	-12	-2.7	114	-12	-9.4	.	.	.
Western Germany	**446,295**	**-1,731**	**-0.4**	**260,214**	**-3,279**	**-1.2**	**122,508**	**-225**	**-0.2**	**10,902**	**285**	**2.7**	**10,932**	**132**	**1.2**	**39,867**	**1,350**	**3.5**	**1,734**	**33**	**1.9**	**135**	**-24**	**-15.5**
Eastern Germany	**74,037**	**-99**	**-0.1**	**44,088**	**-663**	**-1.5**	**19,260**	**483**	**2.6**	**2,898**	**234**	**8.8**	**2,682**	**-69**	**-2.5**	**4,695**	**72**	**1.6**	**405**	**-156**	**-27.8**	**6**	**-3**	**-25.0**
Germany	**520,332**	**-1,830**	**-0.4**	**304,302**	**-3,942**	**-1.3**	**141,768**	**258**	**0.2**	**13,800**	**519**	**3.9**	**13,614**	**66**	**0.5**	**44,562**	**1,422**	**3.3**	**2,139**	**-123**	**-5.5**	**141**	**-27**	**-16.0**

For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

Source: Federal Institute for Vocational Education and Training, survey as of 30 September 2016

Table 6: **Newly concluded training contracts by areas of responsibility in Germany from 2000 to 2016**

	Results in the counting period of 1 October of the previous year to 30 September																	2016 vs. 2015	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	absolute terms	%
Germany																			
Trade and industry	334,419	337,221	311,364	308,565	322,758	316,164	336,936	367,485	369,195	333,405	331,044	342,783	332,622	317,265	311,733	308,244	304,302	-3,942	-1.3
Craft trades	199,482	188,463	173,889	165,783	168,291	157,026	162,603	179,697	170,070	155,583	155,178	154,506	147,327	142,137	141,234	141,513	141,768	258	0.2
Public sector[1,2]	15,576	15,381	14,814	13,821	15,129	14,172	14,082	13,413	13,227	13,725	13,554	12,402	12,009	12,216	12,417	13,281	13,800	519	3.9
Agriculture	14,736	13,695	13,992	15,009	15,192	14,784	15,813	15,903	15,327	14,646	13,923	13,482	13,260	13,158	13,164	13,551	13,614	66	0.5
Liberal professions[1]	52,494	54,318	53,253	49,407	46,539	43,617	42,111	44,556	43,947	42,675	42,441	42,612	43,095	42,051	42,051	43,140	44,562	1,422	3.3
Housekeeping[1]	4,848	5,025	4,830	4,899	4,875	4,119	4,320	4,473	4,272	3,996	3,582	3,345	2,763	2,559	2,421	2,262	2,139	-123	-5.5
Maritime sector	141	135	183	147	195	297	288	360	306	279	240	249	183	156	183	168	141	-27	-16.0
Total	**621,693**	**614,238**	**572,322**	**557,634**	**572,979**	**550,179**	**576,153**	**625,884**	**616,341**	**564,306**	**559,959**	**569,379**	**551,259**	**529,542**	**523,200**	**522,162**	**520,332**	**-1,830**	**-0.4**
Western Germany																			
Trade and industry	255,996	258,693	237,339	234,093	246,837	244,095	259,002	289,371	296,934	271,026	273,903	289,428	283,017	271,335	266,034	263,496	260,214	-3,279	-1.2
Craft trades	156,483	150,024	139,476	133,536	135,936	127,680	131,661	147,561	142,482	131,841	132,723	134,226	128,418	124,122	122,970	122,736	122,508	-225	-0.2
Public sector[1,2]	11,709	11,520	11,214	10,605	11,433	10,950	10,764	10,146	10,149	10,563	10,698	9,891	9,564	9,717	9,969	10,617	10,902	285	2.7
Agriculture	10,176	9,222	9,492	10,062	10,395	10,095	10,974	11,358	11,172	11,133	10,668	10,749	10,593	10,530	10,392	10,800	10,932	132	1.2
Liberal professions[1]	45,183	47,172	46,467	43,128	40,668	38,376	36,771	39,018	38,679	37,536	37,419	37,863	38,442	37,467	37,518	38,517	39,867	1,350	3.5
Housekeeping[1]	3,405	3,420	3,288	3,189	3,423	2,685	2,775	3,006	2,895	2,943	2,661	2,493	2,142	1,977	1,845	1,701	1,734	33	1.9
Maritime sector	126	132	150	138	186	279	270	327	294	267	225	231	177	150	177	162	135	-24	-15.5
Total	**483,081**	**480,183**	**447,426**	**434,748**	**448,875**	**434,163**	**452,214**	**500,787**	**502,605**	**465,309**	**468,297**	**484,884**	**472,353**	**455,298**	**448,908**	**448,026**	**446,295**	**-1,731**	**-0.4**
Eastern Germany																			
Trade and industry	78,420	78,528	74,025	74,472	75,924	72,069	77,934	78,111	72,261	62,379	57,138	53,355	49,605	45,930	45,699	44,751	44,088	-663	-1.5
Craft trades	42,999	38,439	34,410	32,247	32,355	29,346	30,945	32,136	27,588	23,739	22,455	20,283	18,909	18,015	18,264	18,777	19,260	483	2.6
Public sector[1,2]	3,867	3,858	3,600	3,216	3,699	3,219	3,318	3,267	3,078	3,162	2,859	2,511	2,445	2,499	2,448	2,664	2,898	234	8.8
Agriculture	4,557	4,473	4,500	4,950	4,797	4,689	4,839	4,545	4,155	3,513	3,255	2,733	2,667	2,628	2,772	2,751	2,682	-69	-2.5
Liberal professions[1]	7,311	7,146	6,786	6,282	5,868	5,241	5,340	5,538	5,268	5,139	5,022	4,749	4,653	4,581	4,533	4,623	4,695	72	1.6
Housekeeping[1]	1,443	1,608	1,542	1,710	1,452	1,434	1,545	1,467	1,374	1,056	921	852	621	582	576	561	405	-156	-27.8
Maritime sector	12	3	33	9	12	18	21	30	12	12	15	15	3	6	6	9	6	-3	-25.0
Total	**138,612**	**134,055**	**124,896**	**122,886**	**124,104**	**116,019**	**123,939**	**125,097**	**113,739**	**98,997**	**91,662**	**84,495**	**78,903**	**74,244**	**74,292**	**74,136**	**74,037**	**-99**	**-0.1**

[1] Not including new training contracts for which other bodies (chambers) are responsible.
[2] Not including career track training in the civil service
For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.
Source: Federal Institute for Vocational Education and Training, survey as of 30 September

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Table 7: **Newly concluded training contracts 2016 by structural characteristics (proportions in %)**

		Federal states of western Germany	Eastern federal states including Berlin	Germany
All areas	New training contracts	446,295	74,037	520,332
	With female trainees	39.5%	37.5%	39.2%
	With abbreviated term	15.8%	10.1%	15.0%
	In two-year occupations	8.1%	10.5%	8.4%
	Pursuant to § 66 BBiG/§ 42m HwO	1.4%	3.4%	1.7%
	Primarily publicly financed	2.8%	6.9%	3.4%
Trade and industry	New training contracts	260,214	44,088	304,302
	With female trainees	38.4%	36.3%	38.1%
	With abbreviated term	12.6%	9.9%	12.2%
	In two-year occupations	13.0%	16.0%	13.4%
	Pursuant to § 66 BBiG	1.0%	2.8%	1.2%
	Primarily publicly financed	2.2%	6.8%	2.9%
Craft trades	New training contracts	122,508	19,260	141,768
	With female trainees	23.3%	24.1%	23.4%
	With abbreviated term	23.1%	10.8%	21.5%
	In two-year occupations	2.0%	3.7%	2.2%
	Pursuant to § 42m HwO	1.4%	3.0%	1.6%
	Primarily publicly financed	4.0%	6.9%	4.4%
Public sector	New training contracts	10,902	2,898	13,800
	With female trainees	63.8%	62.4%	63.5%
	With abbreviated term	10.9%	2.8%	9.2%
	In two-year occupations	0.0%	0.0%	0.0%
	Pursuant to § 66 BBiG	0.0%	0.0%	0.0%
	Primarily publicly financed	0.4%	0.0%	0.3%
Agriculture	New training contracts	10,932	2,682	13,614
	With female trainees	23.3%	27.1%	24.1%
	With abbreviated term	36.3%	15.7%	32.2%
	In two-year occupations	0.0%	0.0%	0.0%
	Pursuant to § 66 BBiG	8.4%	13.6%	9.4%
	Primarily publicly financed	5.9%	14.1%	7.5%
Liberal professions	New training contracts	39,867	4,695	44,562
	With female trainees	92.8%	89.7%	92.5%
	With abbreviated term	10.3%	10.7%	10.4%
	In two-year occupations	0.0%	0.0%	0.0%
	Pursuant to § 66 BBiG	0.0%	0.0%	0.0%
	Primarily publicly financed	0.3%	0.2%	0.3%
Housekeeping	New training contracts	1,734	405	2,139
	With female trainees	90.0%	85.2%	89.1%
	With abbreviated term	10.4%	6.4%	9.7%
	In two-year occupations	0.0%	0.0%	0.0%
	Pursuant to § 66 BBiG	56.2%	87.2%	62.1%
	Primarily publicly financed	52.8%	88.6%	59.6%
Maritime sector	New training contracts	135	6	141
	With female trainees	8.8%	0.0%	8.5%
	With abbreviated term	2.2%	0.0%	2.1%
	In two-year occupations	0.0%	0.0%	0.0%
	Pursuant to § 66 BBiG	0.0%	0.0%	0.0%
	Primarily publicly financed	0.0%	0.0%	0.0%

Source: Federal Institute for Vocational Education and Training (BIBB), survey as of 30 September 2016.
For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

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Table 8: **Newly concluded training contracts, follow-up contracts with rate of change compared to the previous year divided by areas of responsibility in Germany**

Area of responsibility	2014			2015						2016					
	Newly concluded contracts	Follow-up contracts	Total	Newly concluded contracts	CR[1]	Follow-up contracts	CR[1]	Total	CR[1]	Newly concluded contracts	CR[1]	Follow-up contracts	CR[1]	Total	CR[1]
Germany															
Trade and industry	311,733	6,027	317,763	308,244	-1.1	6,147	2.0	314,391	-1.1	304,302	-1.3	6,048	-1.6	310,350	-1.3
Craft trades	141,234	1,260	142,494	141,513	0.2	1,029	-18.4	142,539	0.0	141,768	0.2	960	-6.6	142,728	0.1
Public sector	12,417	0	12,417	13,281	7.0	0	.	13,281	7.0	13,800	3.9	0	.	13,800	3.9
Agriculture	13,164	0	13,164	13,551	2.9	0	.	13,551	2.9	13,614	0.5	0	.	13,614	0.5
Liberal professions	42,051	.	42,051	43,140	2.6	.	.	43,140	2.6	44,562	3.3	.	.	44,562	3.3
Housekeeping	2,421	3	2,421	2,262	-6.5	0	-100.0	2,262	-6.6	2,139	-5.5	0	.	2,139	-5.5
Maritime sector	183	.	183	168	-8.2	.	.	168	-8.2	141	-16.0	.	.	141	-16.0
Total	**523,200**	**7,290**	530,490	**522,162**	-0.2	**7,173**	-1.6	529,335	-0.2	**520,332**	-0.4	**7,008**	-2.3	527,337	-0.4
Western Germany															
Trade and industry	266,034	5,061	271,098	263,496	-1.0	5,235	3.4	268,731	-0.9	260,214	-1.2	5,118	-2.3	265,332	-1.3
Craft trades	122,970	1,077	124,047	122,736	-0.2	867	-19.4	123,603	-0.4	122,508	-0.2	831	-4.4	123,339	-0.2
Public sector	9,969	0	9,969	10,617	6.5	0	.	10,617	6.5	10,902	2.7	0	.	10,902	2.7
Agriculture	10,392	0	10,392	10,800	3.9	0	.	10,800	3.9	10,932	1.2	0	.	10,932	1.2
Liberal professions	37,518	.	37,518	38,517	2.7	.	.	38,517	2.7	39,867	3.5	.	.	39,867	3.5
Housekeeping	1,845	3	1,848	1,701	-7.8	0	-100.0	1,701	-7.9	1,734	1.9	0	.	1,734	1.9
Maritime sector	177	.	177	162	-9.6	.	.	162	-9.6	135	-15.5	.	.	135	15.5
Total	**448,908**	**6,141**	455,049	**448,026**	-0.2	**6,102**	-0.6	454,128	-0.2	**446,295**	-0.4	**5,946**	-2.6	452,241	-0.4
Eastern Germany															
Trade and industry	45,699	966	46,665	44,751	-2.1	912	-5.7	45,660	-2.2	44,088	-1.5	930	2.1	45,018	-1.4
Craft trades	18,264	183	18,447	18,777	2.8	159	-12.6	18,936	2.7	19,260	2.6	129	-18.8	19,389	2.4
Public sector	2,448	0	2,448	2,664	8.9	0	.	2,664	8.9	2,898	8.8	0	.	2,898	8.8
Agriculture	2,772	0	2,772	2,751	-0.7	0	.	2,751	-0.7	2,682	-2.5	0	.	2,682	-2.5
Liberal professions	4,533	.	4,533	4,623	2.0	.	.	4,623	2.0	4,695	1.6	.	.	4,695	1.6
Housekeeping	576	0	576	561	-2.4	0	.	561	-2.4	405	-27.8	0	.	405	-27.8
Maritime sector	6	.	6	9	33.3	.	.	9	33.3	6	-25.0	.	.	6	-25.0
Total	**74,292**	**1,149**	75,441	**74,136**	-0.2	**1,071**	-6.8	75,207	-0.3	**74,037**	-0.1	**1,059**	-1.0	75,096	-0.1

[1] CR: rate of change compared to previous year

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For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

Source: Federal Institute for Vocational Education and Training, Survey as of 30 September 2016

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market as applicants when continuing their vocational education and training. This means that information on follow-up contracts is not taken into account in the calculation of training supply and demand. As a service of trade and industry and the competent bodies, this information is presented in table 8. In the case of the 2016 survey, it is also clear that the statistical implementation of a uniform understanding of follow-up contracts has not proved possible. This means that an under-recording must continue to be assumed.

1.3 Training placement (statistics of the Federal Employment Agency)

The Federal Employment Agency (BA) operates a nationwide network of local offices. In the field of vocational education and training, its tasks include the provision of career guidance to young people and young adults, VET placement and financial support for vocational education and training. The training placement services of the BA are primarily aligned to dual vocational education and training pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO). Utilisation of the BA's placement services is voluntary both for companies and young people. Between March and September each year, the BA records monthly statistics for registered training places and training place applicants. Alongside the information collected within the scope of the BIBB survey of newly concluded training contracts as of 30 September, the data of the training market statistics of the Federal Employment Agency is used to calculate the training market figures, i.e. the ratio between overall supply of and overall demand for training places in a given training year.

Since 2005, the providers of basic social security benefits (the BA and local government providers) have been responsible for training placement of young people who require assistance within the meaning of German Social Security Code II. These young people are now looked after by so-called Job Centres rather than by the employment agencies.

1.3.1 Registered training places

In the 2016 reporting year, a total of 546,947 training places were registered with the employment agencies and the Job Centres operating as a joint institution of the BA and the local government provider of basic social security benefits. This represented an increase of 15,949 registered places or 3.0% compared to the previous year.

It should be noted that the figures stated for registered places include for the first time certain training programmes for upper secondary school leavers which were not previously taken into account in the BA training market statistics. A total of 517,789 company-based training places were registered in the 2016 reporting year. This represented 94.7% of all reported places. In 2016, the training area of trade and industry accounted for the largest proportion of registered training places (table 9).

1.3.2 Registered training place applicants

In the reporting year 2016, a total of 547,728 young people were registered with the employment agencies and Job Centres as potential training place applicants. This constituted a reduction in the number of applicants of 0.6% compared with the previous year. No significant changes compared to the previous year could be ascertained with regard to the structure of characteristics exhibited by applicants in the 2016 reporting year (Table 10).

1.3.3 Destination of the training place applicants

By the end of the reporting year on 30 September 2016, 264,447 or 48.3 % of applicants had progressed to vocational education and training. The vast majority of these received an unfunded training place (240,837 or 91.1%). 169,329 or 30.9 % of applicants opted for an alternative to VET. 93,402 or 17.1% of the applicants did not contact the employment agencies or Job Centres again. At the end of the 2016 reporting year, many of the 169,329 applicants who had progressed to an alternative destination were in school-based training (42.1 %) (Table 11).

Young women made up a proportion of 40.5% of the total of 80,603 applicants not placed in VET in the 2016 reporting year. This was slightly below their proportion of all registered applicants (41.8%). Only a small number of applicants not placed in VET had failed to achieve a lower secondary school leaving certificate (1.6%). 28.2% were in possession of the lower secondary school leaving certificate. 39.0% had acquired the intermediate secondary school leaving certificate and 27.8% had obtained a higher education entrance qualification. The school qualifications achieved by the applicants not placed in VET were thus scarcely lower than those of the total group of registered applicants in overall terms. Nevertheless, it is conspicuous that a relatively large proportion of applicants not placed in VET (50.9%) had last attended a vocational school whilst relatively few (41.1%) had last

Table 9: **Vocational education and training places registered with the employment agencies and Job Centres in the reporting years 2016 and 2015[1]**

	Reporting year 2016[2]						Reporting year 2015[2]					
	Germany		Federal states of Western Germany		Federal states of Eastern Germany		Germany		Federal states of Western Germany		Federal states of Eastern Germany	
	Absolute	%	Absolute	%	Absolute	%	Absolute	%	Absolute	%	Absolute	%
Type of training places												
Company-based training places	517,789	94.7	434,851	95.3	82,804	91.7	499,403	94.0	420,396	94.5	78,769	91.8
Extra-company training places	29,158	5.3	21,682	4.7	7,476	8.3	31,595	6.0	24,542	5.5	7,053	8.2
Areas of training												
Trade and industry	316,077	57.8	262,722	57.5	53,286	59.0	304,333	57.3	253,362	56.9	50,827	59.2
Craft trades	125,135	22.9	106,436	23.3	18,681	20.7	121,691	22.9	104,157	23.4	17,521	20.4
Public sector	13,925	2.5	11,078	2.4	2,847	3.2	12,704	2.4	10,206	2.3	2,498	2.9
Agriculture	6,440	1.2	4,251	0.9	2,189	2.4	6,462	1.2	4,242	1.0	2,220	2.6
Liberal professions	36,326	6.6	32,078	7.0	4,242	4.7	36,088	6.8	32,143	7.2	3,940	4.6
N/A	49,044	9.0	39,968	8.8	9,035	10.0	49,720	9.4	40,828	9.2	8,816	10.3
Total[3]	**546,947**	**100.0**	**456,533**	**100.0**	**90,280**	**100.0**	**530,998**	**100.0**	**444,938**	**100.0**	**85,822**	**100.0**

[1] Not including places registered with Job Centres operated by authorised local government providers (JC zkT). According to estimations of the BA, there is only a small number of unfunded training places that are registered with the JC zkT's without having been at the same time reported to the local employment agencies (Federal Employment Agency 2016e). Information for the 2015 reporting year deviates from numerical values previously stated because certain training programmes for upper secondary school leavers are now included.

[2] Period in each case is 1 October of the previous year to 30 September.

[3] Because of cases that cannot be allocated, the total training place figures shown for western Germany and eastern Germany are slightly lower than the total stated for the whole of Germany.

Source: Federal Employment Agency, calculations by the Federal Institute for Vocational Education and Training VET Data Report Germany 2016/2017

attended a general school. The opposite situation applied in the case of the group of all registered applicants. 41.4% and 51.3% had most recently attended a vocational school and a general school respectively.

16.1% of the applicants not placed in VET held foreign nationality. This means that the proportion of foreigners in this group was somewhat higher than in the total group of applicants (13.7%). Of the applicants not placed in VET, 70.2% were aged 18 and above and 39.1% had already reached the age of 20 or more. This means that there were also differences in terms of age structure as compared to all registered applicants. 63.9% of the latter were aged 18 and more, and 34.4% were 20 and above. With regard to the structure of characteristics exhibited by the applicants not placed in VET in the 2016 reporting year, no significant changes compared to the previous year were recorded in overall terms.

1.3.4 Origin of training place applicants in terms of prior schooling

Of the total of 547,728 persons registered as applicants in the 2016 reporting year, 42.2 % had already left general or vocational school prior to the reporting period (October 2015 to September 2016). Table 12 presents registered applicants by various characteristics.

Relatively high deviations were identified between the federal states of western Germany and eastern Germany with regard to destination of applicants. At the end of the 2016 reporting year, a total of 50.8% of the applicants in the federal states of western Germany who had left school in previous years were in (funded or unfunded) vocational education and training. The corresponding proportion for applicants who were school leavers in the current year was slightly lower (49.5%). The picture was different in the federal states of eastern Germany, where progression to VET was more likely in overall terms compared to western Germany. Applicants who had completed their schooling in previous reporting years were much less likely to be in vocational education and training than

Table 10: **Gender, school qualification, school attended, nationality and age of applicants registered with the employment agencies and Job Centres in the 2016 and 2015 reporting years[1]**

Characteristics of applicants	2016 reporting year					
	Germany[2]		Federal states of western Germany		Federal states of eastern Germany	
	Absolute	%	Absolute	%	Absolute	%
Gender						
Male	319,031	58.2	264,601	58.2	52,756	58.3
Female	228,696	41.8	190,087	41.8	37,795	41.7
School leaving qualification						
Not achieved lower secondary school leaving certificate	8,273	1.5	6,291	1.4	1,980	2.2
Lower secondary school leaving certificate	145,164	26.5	120,301	26.5	24,775	27.4
Intermediate secondary school leaving certificate	225,640	41.2	185,004	40.7	39,799	44.0
University of Applied Sciences entrance qualification	75,658	13.8	68,855	15.1	6,564	7.2
General higher education entrance qualification	72,523	13.2	58,177	12.8	13,404	14.8
No information available	20,470	3.7	16,060	3.5	4,030	4.5
School attended						
General school	281,050	51.3	214,698	47.2	64,957	71.7
Vocational school	226,828	41.4	207,805	45.7	18,660	20.6
Institute of higher education/Universities of Cooperative Education	27,132	5.0	22,546	5.0	4,239	4.7
N/A	12,718	2.3	9,639	2.1	2,696	3.0
Nationality						
German	472,070	86.2	387,366	85.2	84,562	93.4
Foreign	75,008	13.7	66,798	14.7	5,864	6.5
of which: Turkish	24,715	4.5	23,326	5.1	1,389	1.5
Italian	5,748	1.0	5,236	1.2	110	0.1
Age						
Aged 15 and below	16,085	2.9	14,754	3.2	1,329	1.5
16 to 17 years	181,832	33.2	147,312	32.4	34,463	38.1
18 to 19 years	161,344	29.5	136,345	30.0	24,818	27.4
20 to 24 years	153,900	28.1	130,275	28.7	22,315	24.6
Aged 25 and above	34,567	6.3	26,002	5.7	7,627	8.4
Total[2]	**547,728**	**100.0**	**454,688**	**100.0**	**90,552**	**100.0**

[1] Period in each case is 1 October of the previous year to 30 September. Information for the 2015 reporting year deviates from numerical values previously stated because certain training programmes for upper secondary school leavers are now included.
[2] Deviations between the overall figures and totals of individual values are caused by information that cannot be allocated.
Source: Federal Employment Agency, calculations by the Federal Institute for Vocational Education and Training

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their counterparts who had left school in the current year. The figures in this regard were 48.9% and 60.3% respectively.

Of the total of 547,728 applicants in the 2016 reporting year, 185,150 had also been registered as training place applicants in one or more of the previous five reporting years. This represented a proportion of 33.8%. This applied to 154,607 applicants in the federal states of western Germany, or 34.0% of the total of 454,688 training place applicants. The corresponding figure in the federal states of eastern Germany was 30,401 applicants who had been registered in previous years. This constituted 33.6% of all 90,552 applicants. In 2016, the total of 185,150 applicants who had received support from an employment agency or Job Centre in previous reporting years were significantly less likely to progress to vocational education and training (43.2%) than the total group of all applicants (48.3%). Between 2014 and 2016, the relative number of applicants already registered in one of

Table 11: **Destination of applicants registered with the employment agencies and Job Centres in the 2016 reporting year as of 30 September 2016**

Nature of destination	Total		Status of the placement remit							
			Placement remit concluded				Placement remit ongoing			
			Progression to VET		Alternative or unknown destination		Alternative destination		No alternative destination (unplaced applicants)	
	Absolute	%	Absolute	%	Absolute	%	Absolute	%	Absolute	%
Progression to VET	**264,447**	**100.0**	**264,447**	**100.0**						
Of which:										
Unfunded VET	240,837	91.1	240,837	91.1						
Funded VET	23,610	8.9	23,610	8.9						
Alternative destination	169,329	100.0			109,276	100.0	60,053	100.0		
Of which:										
School-based training	71,304	42.1			53,479	48.9	17,825	29.7		
Higher education study	12,145	7.2			10,531	9.6	1,614	2.7		
Prevocational training year	2,676	1.6			1,295	1.2	1,381	2.3		
Basic vocational training year	1,552	0.9			835	0.8	717	1.2		
Internship	4,503	2.7			1,493	1.4	3,010	5.0		
Remain in previous VET	13,752	8.1			5,914	5.4	7,838	13.1		
Of which:										
Unfunded VET	4,641	2.7			3,492	3.2	1,149	1.9		
Funded VET	9,111	5.4			2,422	2.2	6,689	11.1		
Employment	33,620	19.9			22,595	20.7	11,025	18.4		
Army	1,299	0.8			1,121	1.0	178	0.3		
Federal/Youth Voluntary Service	9,758	5.8			5,960	5.5	3,798	6.3		
Vocational preparation scheme	13,143	7.8			3,358	3.1	9,785	16.3		
Vocational preparation scheme – rehabilitation measure	498	0.3			339	0.3	159	0.3		
Introductory training	2,574	1.5			623	0.6	1,951	3.2		
Other funding (including rehabilitation funding)	2,505	1.5			1,733	1.6	772	1.3		
No alternative destination (unplaced applicants)	**20,550**	**100.0**							**20,550**	**100.0**
Destination unknown	**93,402**	**100.0**			**93,402**	**100.0**				
Total (line percentages)	**547,728**	**100.0**	**264,447**	**48.3**	**202,678**	**37.0**	**60,053**	**11.0**	**20,550**	**3.8**

[1] Period is 1 October of the previous year to 30 September.

Source: Federal Employment Agency, calculations by the Federal Institute for Vocational Education and Training VET Data Report Germany 2016/2017

the five preceding reporting year expressed as a proportion of all registered applicants increased slightly in overall terms from 33.3% in 2014 to 33.7% in 2015 and to 33.8% in 2016.

1.3.5 Overall training market figures

At the end of the reporting year (cut-off date 30 September), the overall training place market figures are informed on the supply side by the training places reported as still being vacant by the employment agencies and Job Centres and on the demand side by the applicants still registered as not placed in VET at this time. The number of training contracts newly concluded between 1 October

Table 12: **Gender, school qualification and destination of applicants registered with the Employment agencies and Job Centres in the 2016 reporting year[1] by year of leaving school – Germany**

Characteristics of applicants	Total		Year of leaving school[2]							
			Left school in the reporting year		Left school before the reporting year		of which:			
							Left school in the previous year		Left school two years previously or earlier	
	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Gender										
Male	319,031	58.2	183,158	58.5	133,672	57.8	54,969	56.8	78,703	58.5
Female	228,696	41.8	129,921	41.5	97,616	42.2	41,744	43.2	55,872	41.5
School leaving qualification										
Not achieved lower secondary school leaving certificate	8,273	1.5	2,014	0.6	5,913	2.6	2,240	2.3	3,673	2.7
Lower secondary school leaving certificate	145,164	26.5	66,611	21.3	78,054	33.7	25,586	26.5	52,468	39.0
Intermediate secondary school leaving certificate	225,640	41.2	144,423	46.1	80,897	35.0	32,578	33.7	48,319	35.9
University of Applied Sciences entrance qualification	75,658	13.8	52,034	16.6	23,558	10.2	13,406	13.9	10,152	7.5
General higher education entrance qualification	72,523	13.2	47,970	15.3	24,450	10.6	14,233	14.7	10,217	7.6
N/A	20,470	3.7	27	0.0	18,417	8.0	8,670	9.0	9,747	7.2
Nature of destination										
School/higher education/practical placement	92,180	16.8	87,608	28.0	4,459	1.9	2,788	2.9	1,671	1.2
Vocational education and training	278,199	50.8	160,184	51.2	116,866	50.5	58,797	60.8	58,069	43.1
Of which:										
Unfunded VET	245,478	44.8	154,363	49.3	90,108	39.0	49,018	50.7	41,090	30.5
Funded VET	32,721	6.0	5,821	1.9	26,758	11.6	9,779	10.1	16,979	12.6
Employment	33,620	6.1	6,610	2.1	26,629	11.5	6,758	7.0	19,871	14.8
Charitable/social services	11,057	2.0	8,244	2.6	2,804	1.2	1,926	2.0	878	0.7
Support measures	18,720	3.4	11,547	3.7	7,100	3.1	2,927	3.0	4,173	3.1
No information regarding destination	113,952	20.8	38,886	12.4	73,431	31.7	23,517	24.3	49,914	37.1
Total	**547,728**	**100.0**	**313,079**	**100.0**	**231,289**	**100.0**	**96,713**	**100.0**	**134,576**	**100.0**

[1] Period is 1 October of the previous year to 30 September.
[2] In the 2016 reporting year, no information regarding year of leaving school was available for a total of 3,360 applicants.
Source: Federal Employment Agency, calculations by the Federal Institute for Vocational Education and Training

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of the previous year and 30 September are respectively added to these figures in order to determine total supply of and total demand for training places. On 30 September 2016, 43,478 or 7.9% of the total of 546,947 training places registered for placement in the reporting year remained vacant. This represented virtually no change in the relative proportion compared to the previous year (7.8%). Of the total of 547,728 training place applicants registered in the 2016 reporting year, 80,603 were not placed in VET as of 30 September, i.e. endeavours to place these applicants were continuing. The relative proportion of applicants not placed in VET was 14.7%, precisely the same figure as in the previous year.

Finally, we would like briefly to address the question of the extent to which the data of the BA training market statistics sheds light on overall events on the training market. As already emphasised at the outset, utilisation of the BA's placement services is voluntary both for companies and young people. This means that the number of training places registered falls a long way short of representing all the VET places to be filled.

Table 13: **Training places registered with the employment agencies and Job Centres and registered applicants in the reporting years from 2009 to 2016[1] – both in absolute terms and respectively in relation to all (company-based) training places on offer or to all persons institutionally identified as being interested in training (part 1)**

Region/ reporting year	Registered training places in relation to overall supply of training places						Registered applicants in relation to all persons interested in training		
	Total number of training places			*Company-based* training places					
	Total number of training places registered with the BA[2]	Total supply of training places[3]	Training places registered with the BA as a % of total supply of training places	*Company-based* training places registered with the BA[2]	Total supply of *company-based* training places[4]	Company-based training places registered with the BA as a % of total supply of company-based places	Applicants registered with the BA	Persons institutionally recorded as being interested in training[5]	Registered applicants as a % of persons interested in training
Germany[6]									
2009	478,455	581,870	82.2	411,499	536,069	76.8	562,876	866,999	64.9
2010	486,947	579,761	84.0	429,057	538,718	79.6	559,661	847,380	66.0
2011	524,378	599,825	87.4	473,722	569,366	83.2	547,273	835,717	65.5
2012	523,092	585,310	89.4	484,593	559,405	86.6	563,305	826,712	68.1
2013	513,932	564,167	91.1	481,650	542,486	88.8	562,841	816,232	69.0
2014	520,144	561,469	92.6	489,676	541,075	90.5	561,145	812,386	69.1
2015	530,998	563,685	94.2	499,403	544,821	91.7	550,910	805,339	68.4
2016	546,947	563,810	97.0	517,789	546,260	94.8	547,728	803,613	68.2
Federal states of western Germany									
2009	383,588	480,081	79.9	343,626	457,212	75.2	452,084	718,511	62.9
2010	397,502	484,308	82.1	359,631	461,832	77.9	463,150	713,381	64.9
2011	429,032	509,968	84.1	396,023	491,275	80.6	455,496	710,552	64.1
2012	433,924	500,038	86.8	405,632	482,470	84.1	469,899	705,193	66.6
2013	428,172	483,517	88.6	404,817	468,676	86.4	470,131	698,006	67.4
2014	434,343	480,271	90.4	412,214	466,528	88.4	467,645	693,688	67.4
2015	444,938	481,928	92.3	420,396	468,929	89.7	458,118	686,760	66.7
2016	456,533	481,827	94.8	434,851	469,371	92.6	454,688	685,072	66.4

Table 13: **Training places registered with the employment agencies and Job Centres and registered applicants in the reporting years from 2009 to 2016[1] – both in absolute terms and respectively in relation to all (company-based) training places on offer or to all persons institutionally identified as being interested in training (part 2)**

Region/ reporting year	Registered training places in relation to overall supply of training places						Registered applicants in relation to all persons interested in training		
	Total number of training places			*Company-based* training places					
	Total number of training places registered with the BA[2]	Total supply of training places[3]	Training places registered with the BA as a % of total supply of training places	*Company-based* training places registered with the BA[2]	Total supply of *company-based* training places[4]	Company-based training places registered with the BA as a % of total supply of company-based places	Applicants registered with the BA	Persons institutionally recorded as being interested in training[5]	Registered applicants as a % of persons interested in training
Federal states of eastern Germany									
2009	94,052	101,659	92.5	67,123	78,727	85.3	110,633	148,388	74.6
2010	89,003	95,338	93.4	68,989	76,771	89.9	96,340	133,900	71.9
2011	94,878	89,724	105.7	77,231	77,958	99.1	91,605	125,072	73.2
2012	88,785	85,147	104.3	78,578	76,813	102.3	93,198	121,398	76.8
2013	85,559	80,578	106.2	76,632	73,738	103.9	91,395	117,395	77.9
2014	85,584	81,115	105.5	77,245	74,464	103.7	90,432	116,856	77.4
2015	85,822	81,693	105.1	78,769	75,825	103.9	89,540	116,524	76.8
2016	90,280	81,969	110.1	82,804	76,875	107.7	90,552	117,505	77.1

[1] Period in each case is 1 October of the previous year to 30 September. Information for the 2009 to 2015 reporting years deviates from numerical values previously stated because certain training programmes for upper secondary school leavers are now included.
[2] Not including places registered with Job Centres operated by authorised local government providers (JC zkT). From the 2013 reporting year, figures include places from the automated BA cooperation procedure.
[3] Number of newly concluded training contracts (BIBB survey as of 30 September) plus the number of places reported to the BA as unfilled as of 30 September.
[4] Number of newly concluded *company-based* training contracts (BIBB survey as of 30 September, newly concluded training contracts in overall terms minus training contracts that are predominantly publicly funded) plus the number of places reported to the BA as unfilled as of 30 September.
[5] Number of newly concluded training contracts (BIBB survey as of 30 September) plus difference between the total number of applicants registered with the BA and the number of applicants progressing to training.
[6] Because of cases that cannot be allocated, the total training place figures shown for Western Germany and eastern Germany are slightly lower than the total stated for the whole of Germany.

Source: Federal Employment Agency, calculations by the Federal Institute for Vocational Education and Training

If training places registered with the BA are related to the total supply of training places thus formed, the following picture emerges. In the 2016 reporting year, the relative proportion of registered training places accounted for 97.0% of total supply. The corresponding figure with regard to company-based places was 94.8% (table 13). A consideration of the development since 2009 reveals a continuing rise in the amount of registered training places as a proportion of total training place supply. This is in line with the well-known connection that the degree to which the companies engage the BA always rises when it becomes more difficult to fill company-based training places because of declining demand, something which has been the case over the past few years. Nevertheless, the level of involvement of the BA seems to be unusually high in purely arithmetical terms at far above 90%.

The total number of all persons institutionally recorded as being interested in training is calculated by adding the number of persons who are registered with the BA but have not progressed to VET to the number of newly concluded training contracts. If the training applicants registered with the BA is related to the group of persons interested in training thus formed, we arrive at a figure of 68.2%. We can therefore conclude that it was far from the case that all young people interested in dual VET availed themselves of the placement services of the BA in the 2016 reporting year.

1.4 Forecast of training place supply and training place demand for 2017

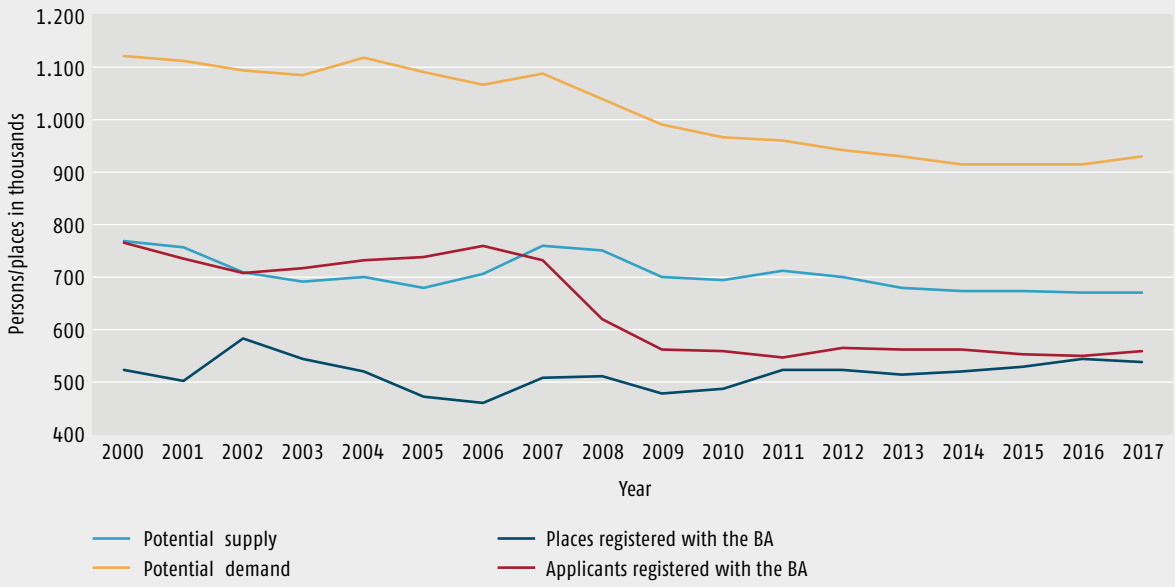
The amount of training place supply depends on numerous determinants. Some of these exert reciprocal effects on one another, and changes are difficult to predict in some cases. Alongside quantitatively measurable factors such as development of the overall economy, the labour market and demographically driven demand for training places, these determinants also include effects which are hard to quantify. They may have emerged from policy initiatives (such as the 2015–2018 Alliance for Initial and Continuing Training), or it may simply be the case that no meaningful database is in place (for example, vocational education and training demand from refugees). For this reason, the Federal Institute for Vocational Education and Training (BIBB) has commissioned the establishment of an "Economic Prognosis and Simulation Model for the Training System" (PROSIMA) in order to assess training place supply. PROSIMA is a complex prognosis model based on time series which takes account of a wide range of cause variables influencing the development of the supply of training places.

The forecast of training place supply and demand for 2016 was substantially influenced by the unknown demand for training places from refugees. In order to take this uncertainty into account, scenarios were calculated in order to map the ways in which training place supply would react to a gradual increase in demand. The analysis of the training places market as of 30 September 2016 shows that PROSIMA was able to describe the effect mechanisms correctly. According to the prognosis of the German Council of Economic Experts and the Federal Ministry for Economic Affairs and Energy (BMWi), economic growth in 2017 will be somewhat slower compared to the previous year. The BMWi expects that GDP will grow by 1.4% in real terms. This will represent a fall in the growth rate of 0.5 percentage points compared to the 1.9% achieved in 2015. The economy is continuing on an upward path, something which is mainly being driven by stable development in the domestic economy. As every year, PROSIMA is also used as a basis for forecasting economic development. Its prognosis of growth of 1.9% is slightly more optimistic than the German Federal Bank's prediction of 1.8%. The following PROSIMA results for the year 2017 are based on the prognosis of the Federal Ministry for Economic Affairs and Energy and need to be viewed in the following context:

- Economic development continues to be positive, but growth is forecast to be slightly weaker than in 2016 (1.4% as opposed to 1.9%).
- Willingness on the part of companies, professional practices and government authorities to register training places with the BA has increased over recent years whereas potential supply has declined slightly.
- Without taking young refugees into account, potential demand and the number of applicants registered with the BA would once again fall marginally compared to 2016. Nevertheless, the assumption is that the number of refugees in training will rise in comparison with 2016. This means that demand for training places could increase due to demographic reasons for the first time since 2007.

Figure 3 depicts the development of potential supply and demand and the number of applicants and training places registered with the BA from 2000 to 2017. As far as demand potential and registered applicants are concerned, the forecast values for 2017 already include the assumption that a further 20,000 young refugees will be registered with the BA for VET places in addition to the level of demand that can be derived from previous demographic development and thus increase potential demand. The assumption in terms of potential supply is that there will be only a slight fall of 3,000 places compared to 2016. By way of contrast, the number of registered places is expected to fall by 6,000 to 541,000. The number of registered training places traditionally

Figure 3: **Supply and demand potential and applicants and places registered with the BA as of 30 September from 2000 to 2007**



Source: Federal Employment Agency, Lösch/Maier (2017), own representation

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reacts more sensitively to changes in economic development than the potential supply figure.

Table 14 presents the results of development under the constraints outlined. For the year 2017, the expectation is that there will be only a slight fall in the number of training places on offer from 563,800 in 2016 to 560,100 in 2017. This decline is mainly driven by economic development. By way of contrast, training place demand (extended definition) will increase marginally from 600,900 in 2016 to 604,800 in 2017. This slight fall in training place supply and small increase in training place demand will be accompanied by a rise in the number of newly concluded training contracts.

All of the estimates for 2017, in particular with regard to unplaced applicants and the evaluation of unfilled training places, are associated with uncertainties that go beyond the respective econometric confidence intervals calculated. PROSIMA is unable to differentiate between refugees and non-refugees. The figure of 20,000 refugees interested in training has been plausibilised against the background of previous findings.

For the results in table 14, a further assumption is made that companies, professional practices and government authorities will not deviate from their former training behaviour and will not, for example, register more training places with the BA than can be construed from past development. Economic development is also characterised by uncertainty. The latest forecasts oscillate between growth rates of 1% and 1.8%. Sensitivity analyses show that even slight changes will exert a considerable influence on the number of newly concluded training contracts. As long as the objectives enshrined in the Alliance for Initial and Continuing Training continue to be adhered to and more training places are both created and registered with the BA, the number of newly concluded training contracts could rise significantly. However, such a scenario would not then be accompanied by a fall in the number of unfilled training places to the extent that is shown in table 14.

As far as the state side is concerned, reference may be made to the possibilities afforded by introductory training or the services provided by vocational education and training assistance benefits, assisted training and training support measures. All of these help companies, professional practices and government authorities in their delivering of training. There is also a focus on using language support and/or school-based second-chance training measures as a vehicle to provide refugees with the skills they need to enter vocational education and training and thus increase their chances of placement.

Table 14: **Estimate of development of the training market to 30 September 2017 (information in 000's)**

	Actual value 2016	Prognosis for 2017				
		Lower limit of the confidence interval	**Points estimate via PROSIMA**	Upper limit of the confidence interval	**Change compared to 2016**	Standard deviation of points estimate[1]
Training place provision	**563.8**	543.0	**560.1**	577.1	**-3.8**	8.7
Unfilled training places	**43.5**	27.5	**36.9**	46.4	**-6.6**	4.8
Training place demand (extended definition)	**600.9**	587.7	**604.8**	621.9	**+3.9**	8.7
Training place demand (old definition)	**540.9**	526.1	**542.6**	559.1	**+1.7**	8.4
Unplaced applicants	**20.6**	16.7	**19.5**	22.2	**-1.1**	1.4
Applicants continuing to search with an alternative as of 30 September	**60.1**	58.4	**62.2**	66.0	**+2.1**	2.0
Supply and demand ratio (extended definition)	**93.8**	90.8	**92.6**	94.4	**-1.2**	0.9
Supply and demand ratio (old definition)	**104.2**	101.2	**103.2**	105.2	**-1.0**	1.0
Newly concluded training contracts	**520.3**	507.1	**523.1**	539.2	**+2.8**	8.2

[1] Measurement of the uncertainty of the points estimate. Doubling the standard deviation enables an approximate estimation of the upper and lower values area (confidence interval), within which the true value is assumed to lie (five percent probability of error).

Source: Federal Institute for Vocational Education and Training, Federal Employment Agency, Lösch/Maier (2016) VET Data Report Germany 2016/2017

1.5 Recognised training occupations

Various trends influence the future developments with regard to the updating of recognised training occupations pursuant to the Vocational Training Act (BBiG)/Crafts and Trades Regulation Code (HwO). They encompass digitalisation in vocational education and training, the interplay between upgrading and deskilling in skilled work, changes in training requirements leading to new occupations and initial and continuing training as a driver for the diffusion of new technologies.

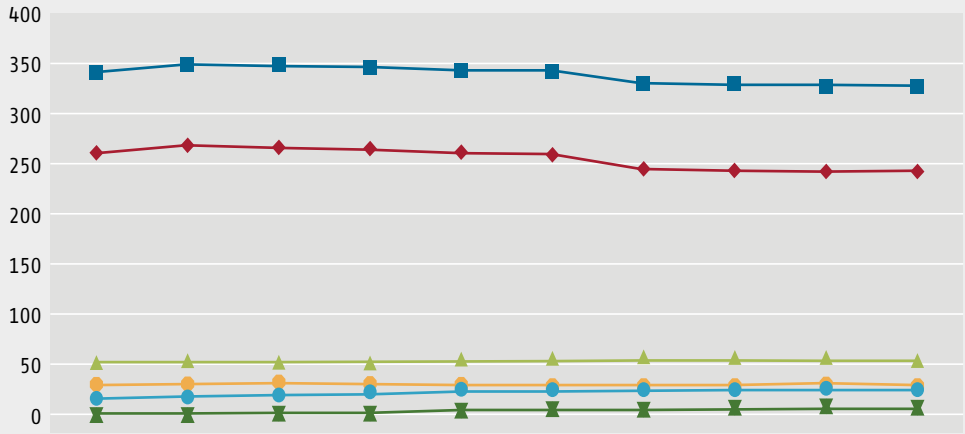
1.5.1 Number and structure of recognised training occupations pursuant to BBiG/HwO

The following descriptions and definitions relate to occupations that are or are considered to be state recognised pursuant to the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO)[1]. In 2016, the number of BBiG and HwO recognised training occupations decreased from 327 to 326 compared to the previous year (see figure 4).

The number of training occupations for which credit transfer for further VET courses can be given has increased from 2007 (19 training occupations) to 2016 (21 training occupations). During the same period, there was also an increase in the number of training occupations which can be credited towards other training occupations from 47 (2007) to 67 (2016).

1 Pursuant to § 104 Paragraph 1 BBiG, recognised apprenticeships, semi-skilled occupations or comparably regulated training occupations whose occupational profiles, vocational education and training plans, examination requirements and examination regulations are applicable until the enactment of training regulations in accordance with § 4 BBiG constitute state recognised occupations within the meaning of § 4 BBiG including such occupations recognised prior to 1 September 1969.

Figure 4: **Structure of recognised training occupations 2007 to 2016**



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Mono occupations[1]	262	270	267	266	262	261	244	242	241	242
Occupations with specialism	51	51	51	52	53	54	56	56	55	55
Occupations with main focus	29	30	31	30	29	29	29	29	31	29
Overall	342	351	349	348	344	344	329	327	327	326
Occupations with elective qualifications[2]	15	18	20	21	25	25	26	27	27	27
Occupations with additional qualifications[2]	0	0	1	1	6	6	6	7	8	8

[1] The mono occupations include old training occupations (enacted prior to the BBiG of 1969) and a comparably regulated training occupation (pursuant to § 104 Paragraph 1 BBiG).
[2] Elective and additional qualifications are not taken into account in the total number of training occupations.
Source: Federal Institute for Vocational Education and Training, Index of Recognised Training Occupations (various years) VET Data Report Germany 2016/2017

1.5.2 New and modernised training occupations

Between 2007 and 2016, a total of 137 training occupations were updated. These comprised 122 modernised training occupations and 15 new training occupations. Nine modernised occupations entered into force in the year 2016 (Table 15).

1.6 Training in the dual system

1.6.1 Significance of dual vocational education and training

This chapter presents dual vocational education and training pursuant to the BBiG/HwO in comparison to other stages in education and training. The aims are to align dual VET within the context of the overall education and training system and to define its significance vis-à-vis other educational sectors. Particular use is made in this regard of data from the "Integrated Training Reporting System" (iABE). This information is especially suitable for such a consideration because it covers young people aged between 15 and 24 (population data). This age group forms the central reporting focus of the entire Data Report.

In respect of the question as to in which educational sectors young people of a certain age are located, a useful approach is to relate young people within a particular age group (population data) to the resident population of the relevant age (e.g. young people in VET pursuant to BBiG/HwO aged between 15 and 24 as opposed to the resident population aged between 15 and 24). With regard to the following analysis, consideration needs to be accorded to the fact that young people spend different periods of time in the various types of education and training provision. Whereas the duration of most BBiG/HwO training programmes is three years, a course of higher education study may take more than five years. Some measures in the "transitional sector" even have a duration of less than

Table 15: **New and modernised training occupations 2016**

New or modernised	Title	Duration of training	Training area[1]	Structural characteristics				Credit transfer		Examination modality[2]
				Mono occupation	With main focuses	With specialisms	With elective qualifications	Credit transfer can be given for the occupation	Credit transfer can be used to enter the occupation	
Modernised	Plant mechanic for sanitary, heating and air conditioning systems	42	CT, TI	yes	no	no	no	no	no	EFE
Modernised	Roofer	36	CT	no	yes	no	no	no	no	traditional
Modernised	Event technology specialist	36	TI	yes	no	no	no	no	no	traditional
Modernised	Fish farmer	36	AG	no	no	yes	no	no	no	traditional
Modernised	Engraver	36	CT	yes	no	no	no	no	no	EFE
Modernised	Audiologist	36	CT	yes	no	no	no	no	no	traditional
Modernised	Designer of digital and print media	36	CT, TI	no	no	yes	yes	no	no	traditional
Modernised	Decorative metal worker	36	CT	no	no	yes	no	no	no	EFE
Modernised	Roller shutter and sunshade mechatronics technician	36	CT	yes	no	no	no	no	no	EFE

[1] Training areas: TI = trade and industry, CT = craft trades, PS = public sector, LP = liberal professions, AG = agriculture
[2] Examination modality: traditional = intermediate and final or journeyman examination, EFE = extended final or journeyman examination

Source:

Ordinance on vocational education and training in the occupation of plant mechanic for sanitary, heating and air conditioning systems (SHKAMAusbV) of 28 April 2016

Ordinance on vocational education and training in the occupation of roofer (DachAusbV) of 28 April 2018 (Federal Law Gazette, BGBl., I of 2 May 2016 p. 994)

Ordinance on vocational education and training in the occupation of event technology specialist (VfAusbV) of 3 June 2016 (BGBl., I of 08/06/2016 p. 1307)

Ordinance on vocational education and training in the occupation of fish farmer (FischwAusbV) of 26 February 2016 (BGBl., I of 07/03/2016 p. 312)

Ordinance on vocational education and training in the occupation of engraver (GrAusbV) of 3 June 2016 (BGBl., I of 08/06/2016 p. 1298)

Ordinance on vocational education and training in the occupation of audiologist (HörAkAusbV) of 28 April 2016 (BGBl., I of 2 May 2016 p. 1012)
First Amendment Ordinance of 5 September 2016 (BGBl., I of 16/09/2016 p. 2139)

Ordinance to amend the Ordinance on vocational education and training in the occupation of Designer of digital and print media and to rescind training regulations in the occupation of flexographer of 5 February 2016 (BGBl., I of 15/02/2016 p. 175)

Ordinance on vocational education and training in the occupation of decorative metal worker (MetallbAusbV0) of 6 June 2016 (BGBl., I of 17/06/2016 p. 1335)

Ordinance on vocational education and training in the occupation of roller shutter and sunshade mechatronics technician (RSMAusbV) of 3 May 2016 (BGBl., I of 09/05/2016 p. 1123)

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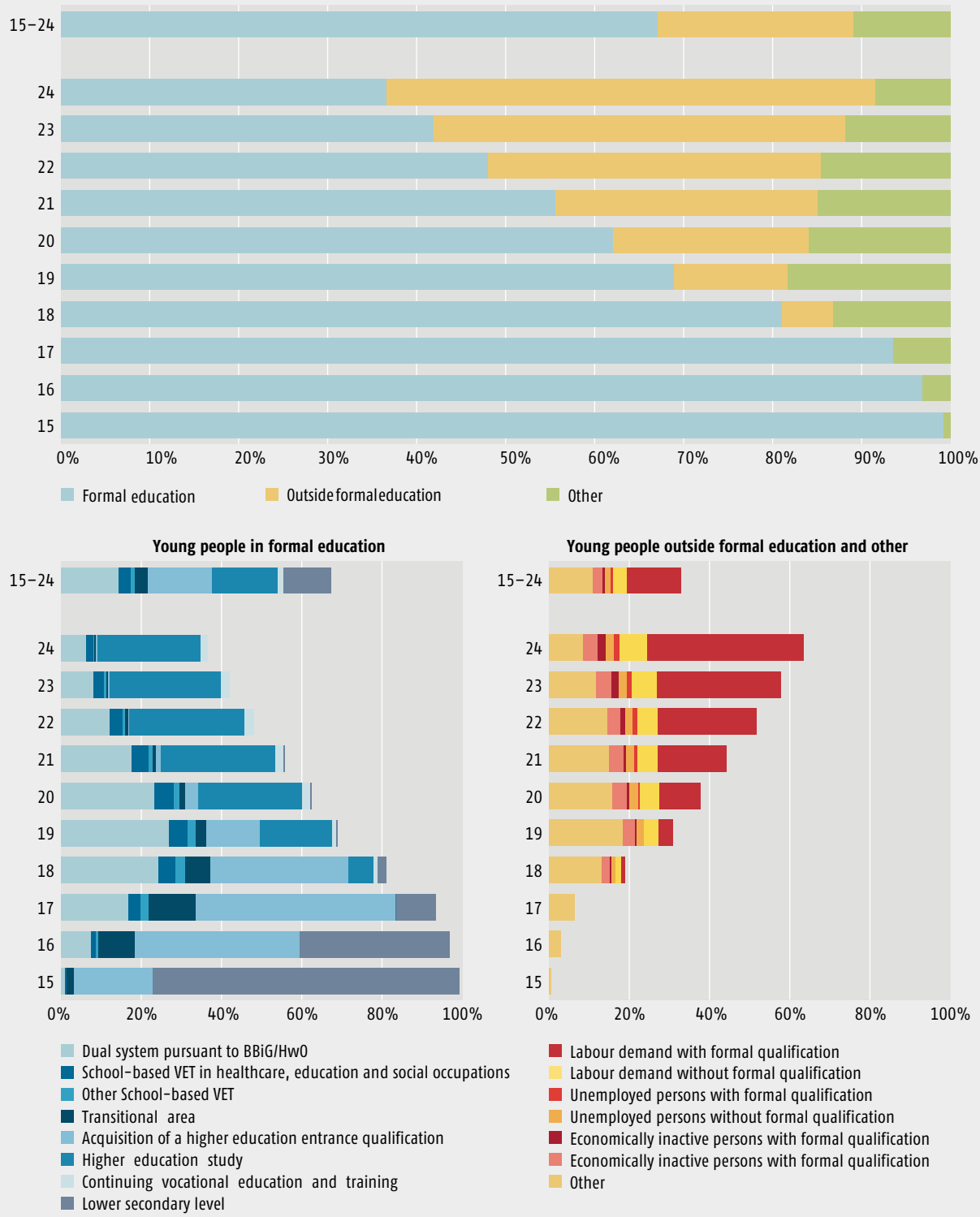
Figure 5: **Proportion of young people in educational sectors and accounts by years of age in 2015 in % (population data)**



Source: "Integrated Training Reporting System (iABE)" based on data provided by the Federal Statistical Office, the Statistical Offices of the federal states and the Federal Employment Agency, data status: 18.11.2016, Population Forecast GENESIS-Online, accessed: 04.01.2017

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a year. This means that young people in dual training will usually be recorded for three successive survey years in the population of the "vocational education and training sector", whereas a young person participating in a measure in the "transitional sector" will normally only be counted once in a single year in this particular population.

Figure 5 provides a summary of the stages of education, training and employment in which young people aged between 15 and 24 were located in the year 2015. This consideration of age cohorts was informed by data from the iABE, data from the Population Forecast of the Federal Statistical Office and data from the microcensus. Because the data sources used vary in terms of aspects such as cut-off dates and collection procedures, we have undertaken an estimate. For this reason, the percentage values displayed in the chart have been rounded to whole figures in order to be transparent regarding this approach. 14% of the resident population in the 15 to 24 age group were in dual vocational education and training pursuant to the BBiG/HwO. This means that dual VET constitutes a significant qualification stage for this age group.

An age-independent consideration of all entrants to the education and training system is undertaken below. Such a consideration enables a comparison to be made as to the extent of demand in various educational sectors in order, for example, to plan training capacities or identify educational trends. In this case, entrants to a sector were related to all entrants to the education and training system.

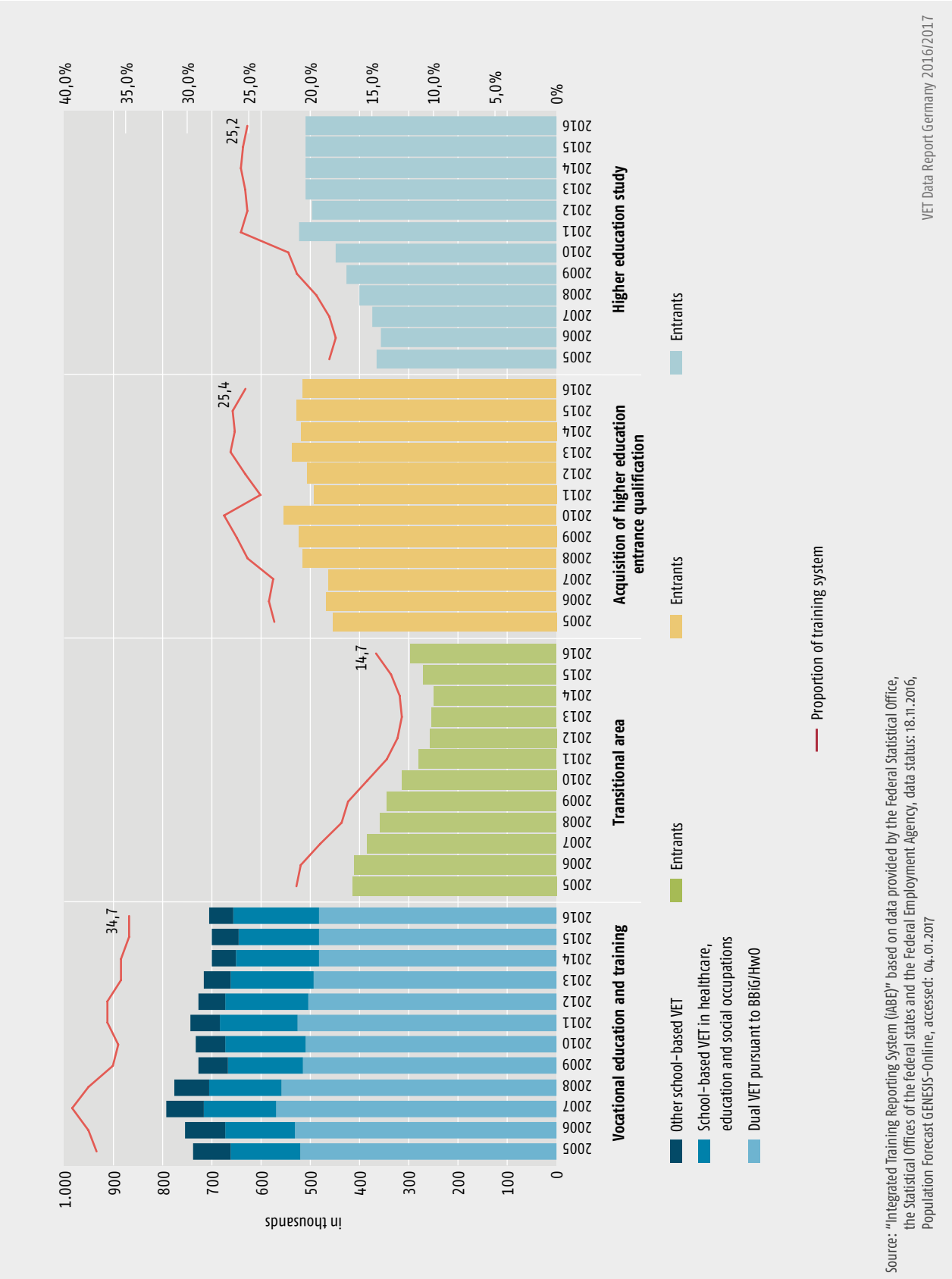
In 2016, 34.7% (705,407) of entrants to the education and training system commenced fully qualifying vocational education and training. Of these, 68.1% began dual training pursuant to the BBiG/HwO, whilst 31.9% entered school-based VET. Vocational education and training programmes in healthcare, teaching and social professions accounted for 24.7% of the latter. 298,781 young people (14.7%) progressed to the "transitional sector". 25.4% (514,875) wished to acquire a higher education entrance qualification. At the same time, 25.2% (511,020) commenced a "course of higher education study" (Figure 6).

If a comparison is made between entrants to dual VET and entrants to higher education whilst taking account of the fact that whilst foreign students have arrived from abroad German young people have also commenced a course of higher education study in other countries, it is revealed that more people have still entered dual VET than have started a programme of higher education study. The "vocational education and training" sector, which includes both dual VET pursuant to BBiG/HwO and school-based vocational education and training programmes, was also an object of demand from more young people in overall terms. In summary, it may be concluded that the IABE data indicates a trend towards higher level training.

This trend remains stable for the period of consideration from 2005 to 2016, even if controls are made for variances between federal states, school leavers, foreign students and supply of training places. Nevertheless, if these factors are controlled, no aversion to dual VET pursuant to BBiG/HwO is shown. This can presumably be explained by the fact that the ratio of those without formal qualifications was declining in the period of observation and thus the number of young people in the "transitional sector" also reduced. At the same time, because figures in the "transitional sector" have been rising again since 2014 accompanied by a slight increase in the proportion of unskilled persons, we may reasonably suppose that this demand reservoir for dual VET is now likely to have been exhausted.

In table 16, the sectors of the education and training system are compared with regard to the characteristics available to the IABE of gender, nationality and prior school learning.

Figure 6: **Development of sectors in the education and training system from 2005 to 2016 – absolute and relative terms (100% = all persons entering the training system)**



Source: "Integrated Training Reporting System (iABE)" based on data provided by the Federal Statistical Office, the Statistical Offices of the federal states and the Federal Employment Agency, data status: 18.11.2016, Population Forecast GENESIS-Online, accessed: 04.01.2017

Table 16: **Entrants to the educational sectors by selected characteristics**

Entrants	2016		2015					
	Absolute	Proportion Female (in %)	Proportion non-German (in %)	No lower secondary school leaving certificate (in %)	With lower secondary school leaving certificate (in %)	With intermediate secondary school leaving certificate[1] (in %)	With University of Applied Sciences/ general higher education entrance qualification (in %)	No information available / Other
Training system	2,030,083	48.5	14.1	4.4	13.5	47.1	33.0	2.0
Vocational education and training	705,407	49.6	8.6	2.6	22.1	52.2	21.8	1.3
▸ Dual VET pursuant to BBiG/HwO	480,169	39.8	8.5	3.7	24.6	48.1	22.0	1.6
▸ School-based VET – overall	174,380	77.9	8.8	0.2	19.5	54.4	25.2	0.7
▸ Other school-based VET (including civil service training)	50,858	45.5	8.1	0.4	7.4	83.0	8.8	0.5
Integration into vocational training (transitional sector)	298,781	34.7	26.4	25.7	42.6	22.7	1.5	7.5
Higher education entrance qualification	514,875	52.8	6.9	0.1	0.4	99.1	0.2	0.3
Higher education study	511,020	50.5	22.6	0	0	0	98.2	1.8

[1] Including school-based part of University of Applied Sciences entrance qualification

Source: "Integrated Training Reporting System" and "Integrated Training Reporting Flash Report" based on data provided by the Federal Statistical Office, the Statistical Offices of the federal states and the Federal Employment Agency. Data status: 18/11/2015 and 14/03/2016

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1.6.2 Total number of training contracts in the Vocational Education and Training Statistics

The following chapter considers the total population data of trainees both in overall terms and differentiated according to the individual areas of responsibility and selected characteristics (gender, origin) on the basis of data from the Vocational Education and Training Statistics[2]. On 31 December 2015, 1,337,004 persons were registered as trainees in dual vocational education and training pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO) in Germany as a whole. This represents a small fall of 21,546 (-1.6 %) compared to the previous year. Although the population data fluctuates considerably over the course of time, there has been a continuous decline since 2008. The consequence of this is that the 2015 reporting year saw the total number of trainees fall to its lowest level since 1992 (table 17). One of the reasons for these changes is the fact that developments in the economic and employment system are reflected in the dual system. Secondly, the significant decrease in population numbers over recent years have been caused by a substantial demographic collapse in the young resident population. Over the past years, this has applied to eastern Germany in particular.

The amount of women as a proportion of all trainees in the dual system declined once more in the 2015 reporting year, falling to 38.1% (509,547 female trainees). This means that the proportion of women reached its lowest level for 20 years and was 2.7 percentage points lower than in 1992. According to the Applicant Survey carried out by the Federal Employment Agency (BA) and the Federal Institute for Vocational Education and Training (BIBB), the reasons for this gender imbalance also has much to do with different occupational wishes. Literature on career choice shows that women have a much lower propensity for technical occupations. They are primarily interested in commercial and service occupations and are disproportionately more likely to wish to enter school-based vocational education and training. In the wake of tertiarisation, i.e. the shift towards a service society, increasing numbers of men are also entering training in the service sector. This is introducing more male competition and thus further exacerbating the already high degree of competitive pressure amongst female applicants in their preferred occupations.

Proportion of foreigners in dual training occupations

The proportion of trainees holding a foreign passport has fallen sharply since the beginning of the 1990s. Whereas foreigners made up 8% of all trainees in 1994, this proportion had virtually halved by 2006 (4.2%). Over recent years, it has once again increased steadily to reach 6.5 % (87,390 trainees) in 2015. This represented a further rise compared to the previous year (2014: 6.1 %) (table 18). The decrease in the proportion of foreigners amongst trainees in the dual system since the 1990s is also partly due to the fact that more people have gained German citizenship. The proportion of foreigners amongst the general resident population fell likewise. On the other hand, it is also likely that considerable shortages on the training market in the past have contributed towards the creation of a longer and more difficult transitional phase, particularly for foreign young people. The number of foreigners as a proportion of trainees is, however, not a suitable indicator for an assessment of the extent of integration into dual vocational education and training. In order to respond to such a question, the proportion of foreigners amongst trainees needs to be related to the proportion of foreigners of relevant age within the resident population. This takes place via the analysis of the training entrant rate of young people. However, the proportion of foreigners is a suitable vehicle for a comparison of areas of responsibility or for analyses at the level of individual occupations.

1.6.3 Newly concluded contracts in the Vocational Education and Training Statistics

Training contracts commenced in the calendar year and undissolved as of 31 December are recorded as “newly concluded training contracts” by the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states. The current situation on the training market is presented via the number of newly concluded contracts recorded in the BIBB survey as of 30 September 2016 rather than on the basis of the Vocational Education and Training Statistics.

Table 19 shows that a total of 516,639 new training contracts which had not been dissolved as of 31 December 2015 were entered into in the 2015 reporting year. This means that the number of new training contracts remained virtually unchanged compared to the previous year (518,394, -0.3%). Development vis-à-vis the

2 The Vocational Education and Training Statistics of the Federal Statistical Office and the Statistical Offices of the Federal States (referred to in abbreviated form as the Vocational Education and Training Statistics) are a total annual survey of data relating to dual vocational education and training pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO). The survey period in each case is the calendar year, although a number of values (total population of trainees, in some cases newly concluded contracts) are also determined at a cut-off date (31 December) (and were reported in this fashion until 2006).

Table 17: **Trainees by areas of responsibility[1], whole of Germany, 1992 to 2015**

Year	Total number of trainees	Trade and industry	Craft trades	Public sector	Agriculture	Liberal professions	Housekeeping	Maritime sector[2]
1992	1,666,209	841,605	553,449	71,355	32,604	154,560	12,072	570
1993	1,629,312	786,513	567,744	73,512	29,685	158,862	12,633	366
1994	1,579,878	723,981	588,102	66,732	29,409	158,973	12,351	327
1995	1,579,338	702,867	615,351	56,721	31,257	160,350	12,486	309
1996	1,592,226	707,322	627,813	49,374	33,894	160,593	12,903	327
1997	1,622,679	736,284	630,903	47,613	37,413	156,588	13,536	342
1998	1,657,764	778,884	624,981	48,183	40,089	151,137	14,097	390
1999	1,698,330	833,016	616,872	47,457	40,386	146,598	13,638	363
2000	1,702,017	860,811	596,163	46,320	38,922	146,247	13,170	387
2001	1,684,668	876,141	564,480	45,453	37,530	147,585	13,107	372
2002	1,622,442	850,158	527,853	45,237	37,053	148,812	12,945	387
2003	1,581,630	838,368	502,365	43,338	38,292	145,731	13,137	396
2004	1,564,065	837,915	489,171	44,019	40,398	138,711	13,362	486
2005	1,553,436	848,217	477,183	43,365	41,313	130,419	12,300	639
2006	1,570,614	872,805	476,616	42,972	42,024	123,642	11,778	780
2007[3]	1,594,773	910,320	475,065	38,994	42,894	114,870	11,667	963
2008	1,613,343	934,221	471,039	38,043	42,204	116,664	11,172	–
2009	1,571,457	909,072	455,568	37,980	41,028	117,015	10,794	–
2010	1,508,328	873,402	434,907	37,587	38,667	113,682	10,086	–
2011	1,460,658	850,689	414,207	37,998	36,624	111,861	9,276	–
2012	1,429,977	841,062	400,131	35,967	34,764	109,854	8,196	–
2013	1,391,886	825,156	381,387	34,932	33,585	109,443	7,386	–
2014	1,358,550	805,398	369,501	34,713	33,441	108,822	6,675	–
2015	1,337,004	790,257	361,656	36,087	33,510	109,299	6,195	–
	-1.6	-1.9	-2.1	4.0	0.2	0.4	-7.2	

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training. Apprentices who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades.

[2] Since 2008, the area of responsibility of the maritime sector has no longer taken part in the Vocational Education and Training Statistics.

[3] Since 2007, extensive technical reporting adjustments have meant that data is not precisely comparable with previous years.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 1992 to 2015. For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

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Table 18: **Foreigners as a proportion of all trainees by areas of responsibility[1], Germany 1992 to 2015 (in %)**

Year	Total number of trainees	Trade and industry	Craft trades	Public sector	Agriculture	Liberal professions	Housekeeping	Maritime sector[2]
1992	7.2	6.4	9.4	2.6	1.2	7.5	2.4	0.9
1993	7.8	6.9	9.8	3.0	1.2	8.3	2.7	1.6
1994	8.0	7.2	9.7	3.1	1.4	8.5	2.9	0.9
1995	7.7	7.0	9.0	3.1	1.8	8.6	3.6	1.0
1996	7.3	6.7	8.3	2.7	1.6	9.0	4.1	0.9
1997	6.8	6.3	7.6	2.4	1.4	8.8	4.5	0.9
1998	6.3	5.9	7.0	2.4	1.1	8.2	4.7	1.5
1999	5.9	5.6	6.6	2.3	0.9	8.0	3.9	1.7
2000	5.7	5.2	6.4	2.1	0.9	8.2	4.2	1.6
2001	5.5	5.0	6.2	2.2	0.8	7.9	4.3	0.0
2002	5.3	4.7	6.0	2.0	0.9	8.3	4.2	0.8
2003	5.0	4.4	5.7	2.1	0.8	8.3	4.1	2.3
2004	4.6	4.0	5.3	1.8	0.8	7.7	4.2	2.5
2005	4.4	3.8	5.1	1.7	0.8	7.3	4.0	2.4
2006	4.2	3.7	4.8	1.7	0.8	7.1	3.7	1.5
2007[3]	4.3	3.9	4.9	1.5	0.7	7.7	3.2	1.3
2008	4.5	4.1	5.2	1.5	0.7	8.1	3.6	–
2009	4.8	4.3	5.5	1.8	0.8	8.5	4.1	–
2010	5.1	4.5	5.9	1.7	0.7	9.1	4.6	–
2011	5.3	4.7	6.1	1.7	0.8	9.4	5.3	–
2012	5.5	4.9	6.3	1.9	0.9	10.0	5.8	–
2013	5.7	5.1	6.7	2.0	0.9	9.8	6.1	–
2014	6.1	5.4	7.2	2.0	1.2	11.4	5.6	–
2015	6.5	5.7	7.7	2.1	1.4	11.5	6.1	–

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training. Apprentices who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades.

[2] Since 2008, the area of responsibility of the maritime sector has no longer taken part in the Vocational Education and Training Statistics.

[3] Since 2007, extensive technical reporting adjustments have meant that data is not precisely comparable with previous years.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 1992 to 2015. For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

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previous year varied from -3.2% to +1.4% between the federal states.

Vocational education and training contracts which are primarily publicly funded are used to place young people who are at a disadvantage on the market (unable to find a training place because of a shortage of apprenticeships), young people who are socially disadvantaged, young people with learning difficulties and young people with a disability. Of all newly concluded training contracts for the 2015 reporting year, 3.9 % were reported in the Vocational Education and Training Statistics as being mainly publicly funded. This represented a repeated slight fall in this proportion compared to the previous year (4.2 %). The possibility of part-time vocational education and training was enshrined in the Vocational Training Act of 2005. Pursuant to § 8 Paragraph 1 Clause 2 BBiG, part-time vocational education and training contacts are VET contacts in which daily or weekly training time is shortened. Despite a small increase in prevalence, including in the 2015 reporting year, they still only account for a very small proportion of all newly concluded training contracts. Only 0.4% of all new training contracts (2,043) were reported as being part-time VET contracts. Their proportion did not exceed 0.9% in any federal state.

Alongside prior participation in basic vocational training or vocational preparation, previous vocational education and training may constitute a further reason for shorter training contracts. The Vocational Education and Training Statistics differentiate between three characteristics of previous vocational education and training. These are 1) previous VET successfully completed, 2) previous VET not successfully completed and 3) previous school-based VET successfully completed. At least one of these types of prior learning was reported for a total of 10.8% of newly concluded training contracts (multiple responses were possible). There are indications that previous vocational education and training continues to be under-recorded.

Training entrants and other types of newly concluded training contracts

Not all new training contracts are concluded by training entrants. The number of newly concluded training contracts can therefore not be equated with the number of training entrants to the dual system (pursuant to BBiG or HwO). A newly concluded contract represents a contractually related characteristic that also occurs in the following circumstances.

1. A training contract is prematurely dissolved, and a new training contract is concluded in a different dual training occupation (change of occupation within the dual system) and/or with a different company providing training (change of company providing training within the dual system).

2. A previous two-year programme of dual VET (BBiG/HwO) is carried on via a “continuation occupation” (follow-up contracts within the dual system).

3. Following successful completion of a programme of dual vocational education and training, a further training contract that does not constitute a follow-up contract is concluded in an occupation in the dual system (multiple training programmes within the dual system).

If training entrants are also delineated by agreed duration of contract rather than merely by information regarding previous vocational education and training, approximately 88% of new contracts can be identified as having been concluded by entrants (table 20). The remaining 12% are distributed across those who have already successfully completed a course of VET (around 4%) and those who switch contracts. The latter are persons who have previously already concluded a dual training contract and, once this contract has been dissolved, go on to conclude another training contract in the same or in a different training occupation (change of training occupation or of company within the dual system).

Only persons with a significant period of shortening (at least six months) are deemed to be contract switchers. Others are still counted as training entrants. Newly concluded training contracts reported as having been concluded subsequent to completion of previous dual VET can be further sub-divided into multiple instances of training within the dual system and so-called follow-up contracts.

According to the delineation used here, just under 1.4% of the newly concluded training contracts are follow-up contracts, i.e. continuations of two-year VET programmes previously completed in the dual system. Just under 2.7% of new contracts thus represent multiple instances of training within the dual system. The percentage values stated arose in the 2015 reporting year and have been largely stable since 2008 (the first year in which such differentiations could be made).

Table 19: **Newly concluded training contracts by areas of responsibility and by federal states in 2014 and 2015**

State	Total new training contracts		Trade and industry		Craft trades		Public sector		Agriculture		Liberal professions		Housekeeping	
	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
Baden-Württemberg	74,037	73,968	45,309	45,150	19,251	19,245	1,854	1,917	1,536	1,518	5,685	5,760	402	375
Bavaria	91,977	92,481	53,916	54,216	26,145	25,926	1,626	1,818	2,094	2,118	7,926	8,139	270	264
Berlin	15,918	15,855	9,498	9,198	3,723	3,864	690	789	231	201	1,701	1,725	78	78
Brandenburg	10,077	10,221	6,078	5,997	2,454	2,673	411	414	462	501	582	567	90	66
Bremen2	5,544		3,834		1,068		126		54		426		36	
Hamburg	12,780	12,900	9,003	9,045	2,352	2,337	162	153	138	126	1,089	1,206	36	30
Hessen	37,041	36,750	23,199	22,908	9,234	9,276	969	1,008	723	681	2,919	2,877	-	-
Mecklenburg-Western Pomerania	7,851	7,767	4,887	4,767	1,842	1,887	243	252	408	399	396	402	75	63
Lower Saxony	55,896	54,714	31,047	30,027	16,677	16,506	1,377	1,359	2,133	2,061	4,317	4,443	342	321
North Rhine-Westphalia	115,419	115,956	71,352	70,833	28,887	28,854	2,544	2,781	2,370	2,460	9,759	10,557	510	471
Rhineland Palatinate	26,394	25,716	15,075	14,469	7,770	7,641	594	627	672	714	2,109	2,103	174	162
Saarland	6,924	6,699	3,990	3,927	2,094	1,989	87	90	144	159	564	495	45	39
Saxony	18,228	18,321	11,301	11,286	4,632	4,734	540	597	756	744	879	858	117	102
Saxony-Anhalt	10,695	10,368	6,723	6,525	2,703	2,592	336	294	432	465	420	393	84	99
Schleswig-Holstein	19,431	19,344	10,452	10,290	6,075	6,060	447	480	813	819	1,641	1,698	-	-
Thuringia	10,185	10,032	6,480	6,393	2,400	2,400	258	249	438	432	480	435	129	126
Germany as a whole[2]	**518,394**	**516,639**	**312,147**	**308,868**	**137,304**	**137,049**	**12,261**	**12,954**	**13,404**	**13,455**	**40,893**	**42,084**	**2,388**	**2,229**

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training. Apprentices who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades. The area of responsibility of trade and industry reports the housekeeping occupations for the federal states of Hessen and Schleswig-Holstein.

[2] No reports are available from Bremen for the 2015 reporting year. The previous year's figures for Bremen were used for the purpose of the national result. Because the sample sizes for Bremen are comparatively low, the risk of distortion of federal values by adopting this approach can be estimated as being relatively slight.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2014 to 2015. For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

Table 20: **Training entrants, follow-up contracts, multiple training courses and contract switches by areas of responsibility[1], as sub-groups of newly concluded contracts and sub-groups of training contracts commenced (in absolute terms and as a % of new or commenced contracts) 2015 (part 1)**

State/area of responsibility	Training entrants		Follow-up contracts[2]		Multiple training courses within the dual system		Contract switches		Total new training contracts	
	Absolute	in %	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
	Sub-groups of newly concluded contracts[3]									
Baden-Württemberg	64,473	87.2	798	1.1	2,178	2.9	6,516	8.8	73,968	100.0
Bavaria	80,520	87.1	1,461	1.6	3,570	3.9	6,933	7.5	92,481	100.0
Berlin	14,112	89.0	234	1.5	501	3.2	1,011	6.4	15,855	100.0
Brandenburg	8,817	86.3	159	1.6	681	6.7	561	5.5	10,221	100.0
Bremen	5,031	90.7	114	2.1	81	1.5	318	5.7	5,544	100.0
Hamburg	11,586	89.8	75	0.6	225	1.7	1,017	7.9	12,900	100.0
Hessen	33,048	89.9	393	1.1	711	1.9	2,601	7.1	36,750	100.0
Mecklenburg-Western Pomerania	6,678	86.0	147	1.9	462	5.9	480	6.2	7,767	100.0
Lower Saxony	48,129	88.0	798	1.5	1,110	2.0	4,677	8.5	54,714	100.0
North Rhine-Westphalia	104,088	89.8	1,761	1.5	1,764	1.5	8,346	7.2	115,956	100.0
Rhineland Palatinate	22,863	88.9	396	1.5	459	1.8	1,995	7.8	25,716	100.0
Saarland	5,919	88.4	12	0.2	147	2.2	621	9.3	6,699	100.0
Saxony	16,119	88.0	297	1.6	753	4.1	1,155	6.3	18,321	100.0
Saxony-Anhalt	9,153	88.3	84	0.8	306	3.0	825	8.0	10,368	100.0
Schleswig-Holstein	16,851	87.1	255	1.3	477	2.5	1,761	9.1	19,344	100.0
Thuringia	8,850	88.2	81	0.8	387	3.9	714	7.1	10,032	100.0
Trade and industry	275,115	89.1	6,321	2.0	5,817	1.9	21,618	7.0	308,868	100.0
Craft trades	115,632	84.4	741	0.5	5,292	3.9	15,384	11.2	137,049	100.0
Public sector	12,177	94.0	0	0.0	714	5.5	63	0.5	12,954	100.0
Agriculture	11,823	87.9	0	0.0	855	6.4	777	5.8	13,455	100.0
Liberal professions	39,453	93.7	0	0.0	1,077	2.6	1,554	3.7	42,084	100.0
Housekeeping	2,034	91.3	0	0.0	54	2.4	141	6.3	2,229	100.0
Germany as a whole	**456,234**	**88.3**	**7,062**	**1.4**	**13,809**	**2.7**	**39,534**	**7.7**	**516,639**	100.0

Table 20: **Training entrants, follow-up contracts, multiple training courses and contract switches by areas of responsibility[1], as sub-groups of newly concluded contracts and sub-groups of training contracts commenced (in absolute terms and as a % of new or commenced contracts) 2015 (part 2)**

State/area of responsibility	Training entrants		Follow-up contracts[2]		Multiple training courses within the dual system		Contract switches		Total new training contracts	
	Absolute	in %	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
	Sub-groups of newly concluded contracts[3]									
Baden-Württemberg	68,091	85.0	849	1.1	2,427	3.0	8,775	10.9	80,142	100.0
Bavaria	84,060	83.6	1,542	1.5	3,912	3.9	11,043	11.0	100,557	100.0
Berlin	15,669	84.9	237	1.3	573	3.1	1,971	10.7	18,450	100.0
Brandenburg	9,549	83.4	168	1.5	771	6.7	963	8.4	11,454	100.0
Bremen	5,355	88.1	117	1.9	87	1.4	522	8.6	6,081	100.0
Hamburg	12,840	87.3	78	0.5	258	1.8	1,539	10.5	14,718	100.0
Hessen	34,548	86.8	408	1.0	780	2.0	4,059	10.2	39,795	100.0
Mecklenburg-Western Pomerania	7,344	83.3	153	1.7	534	6.1	789	8.9	8,820	100.0
Lower Saxony	51,918	85.6	825	1.4	1,236	2.0	6,654	11.0	60,630	100.0
North Rhine-Westphalia	112,113	87.8	1,839	1.4	1,968	1.5	11,760	9.2	127,680	100.0
Rhineland Palatinate	24,330	85.7	411	1.4	525	1.8	3,138	11.0	28,404	100.0
Saarland	6,297	83.9	15	0.2	159	2.1	1,035	13.8	7,503	100.0
Saxony	16,263	80.7	306	1.5	831	4.1	2,745	13.6	20,142	100.0
Saxony-Anhalt	10,071	85.9	96	0.8	342	2.9	1,218	10.4	11,727	100.0
Schleswig-Holstein	18,099	83.7	267	1.2	537	2.5	2,715	12.6	21,618	100.0
Thuringia	9,654	86.1	87	0.8	435	3.9	1,041	9.3	11,217	100.0
Trade and industry	295,056	87.6	6,603	2.0	6,459	1.9	28,578	8.5	336,696	100.0
Craft trades	121,299	78.6	792	0.5	5,952	3.9	26,358	17.1	154,401	100.0
Public sector	12,270	92.8	0	0.0	744	5.6	213	1.6	13,227	100.0
Agriculture	12,600	86.3	0	0.0	924	6.3	1,074	7.4	14,598	100.0
Liberal professions	42,837	89.9	0	0.0	1,236	2.6	3,564	7.5	47,637	100.0
Housekeeping	2,139	89.9	0	0.0	60	2.5	180	7.6	2,376	100.0
Germany as a whole	**486,201**	**85.5**	**7,395**	**1.3**	**15,372**	**2.7**	**59,964**	**10.5**	**568,935**	100.0

Table 20: **Training entrants, follow-up contracts, multiple training courses and contract switches by areas of responsibility[1], as sub-groups of newly concluded contracts and sub-groups of training contracts commenced (in absolute terms and as a % of new or commenced contracts) 2015 (part 3)**

State/area of responsibility	Training entrants		Follow-up contracts[2]		Multiple training courses within the dual system		Contract switches		Total new training contracts	
	Absolute	in %	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
	Sub-groups of newly concluded contracts[3]									

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training. Apprentices who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades. The area of responsibility of trade and industry reports the housekeeping occupations for the federal states of Hessen and Schleswig-Holstein.

[2] In this case, the only continuations to follow-up contracts which are counted are those in which the training regulations explicitly provide for credit transfer of the two-year vocational education and training (§ 5 Paragraph 2 Clause 4 BBiG).

[3] Training contracts commenced are all training contracts registered in a reporting year which have begun in the reporting year. New contracts include only the training contracts commenced in the reporting year which have not been prematurely dissolved by 31 December of the same year. The counting of the new contracts avoids double counting of persons who have concluded more than one training contract in the calendar year. It does not, however, encompass all training contracts commenced.

Source: Individual data set provided by the Federal Statistical Office based on the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states, reporting year 2015 (previous year's figures were used for Bremen because no data reporting took place in 2015), calculations of the Federal Institute for Vocational Education and Training. For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

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1.6.4 Developments in occupational structure in dual vocational education and training

The following chapter analyses developments in occupational structure within dual vocational education and training (pursuant to the BBiG and HwO) within the scope of long-term observations conducted by the Federal Institute for Vocational Education and Training (BIBB) on the basis of the Vocational Education and Training Statistics. Analyses of structural developments are of interest in terms of evaluating the development prospects of the dual system and enable the chances of different groups of young people to be assessed. The objects of consideration below are manufacturing and service occupations, technical training occupations, IT occupations, new training occupations, two-year training occupations and occupations in which training takes place in accordance with regulations for persons with a disability. Analyses take place on the basis of the Vocational Education and Training Statistics (survey as of 31 December), which are particularly well suited to the observation of longer term developments.

Tertiarisation of dual vocational education and training

Table 21 enables us to conclude that a tertiarisation of dual vocational education and training has taken place. Since the 1980's, the service sector has increasingly taken on a dominant role within the employment system in Germany. A highly similar development can also be observed in the case of the service occupations in dual VET. With only a few exceptions, the proportion of new training contracts concluded in the service sector rose virtually constantly between the mid-1990s and 2010. Although this proportion subsequently declined slightly between 2010 (65.1%) and 2015 (63.8%), it remains at a high level. Differentiated analyses by gender of trainees show both that there has been a decrease in the absolute number of new training contracts concluded with women over the course of time and that the proportion of women in the service sector has significantly fallen at the same time. Even though female trainees continued to be over-represented in the service occupations in 2015 (proportion of women 57.7%), development over the last ten years has indicated that tertiarisation has not been to the detriment of men. The proportion of technical training occupations in the dual system fell sharply between 1980 and the mid-1990s. During the remainder of the 1990s, the modernisation of dual vocational education and training delivered some successes in the technical occupations in particular, the result being that rising proportions were being recorded by 2002. The reverse development in newly concluded training contracts that

has been in evidence since the start of the mid-2000s has also been revealed in the case of the technical occupations. The repeated collapse in the number of newly concluded training contracts even affected such occupations more severely than dual training occupations as a whole. After rising from 2006 to 2008, newly concluded contracts in the technical occupations fell once again in the subsequent years of 2009 and 2010. Since 2011, the proportion of new training contracts concluded in the technical occupations has been climbing once more. In 2015, 140,655 new contracts were concluded. This represented a proportion of 27.2%, the highest level reached for more than 20 years.

IT occupations in Industry 4.0

The digitalisation of trade and industry will continue to grow in significance over the coming years. This means that demand for IT occupations will rise just as in the recent past. A large proportion of this additional demand will arise within manufacturing industry rather than exclusively in the ICT sector itself. Even though most of the demand will be for highly qualified skilled workers, existing analyses indicate that this will not take place at the expense of the medium qualification level. In the light of this prognosis, the intention below is to undertake a more precise consideration of developments in the dual IT occupations over recent years.

Figure 7 shows that there has been a significant rise in the number of new training contracts concluded in the dual IT occupations. This has been mainly due to the introduction of new IT occupations in 1997. Whereas only 1,655 new training contracts were concluded in 1996, by 2001 this figure had increased tenfold to reach 16,674. However, significant collapses occurred between 2001 and 2003. This is likely to have been connected with the so-called "dotcom bubble". The stock market crash caused many investors' faith in IT companies to be shattered for the long term, and massive job cuts took place in the IT sector over a period of years. In 2003, around 30% fewer contracts were concluded in the IT branch than had been the case two years previously (2003: 11,706]. Over recent years, the number of new training contracts concluded has stabilised in overall terms, albeit with constant slight fluctuations. The figure for 2015 was 13,749, the third highest level since 1993.

New occupations in dual vocational education and training

Since 1996, the updating of training occupations has led to more extensive modernisation of dual vocational education and training. In 2015, the total number of training contracts concluded in the occupations newly created since 1996 was 63,102. This represents 12.2% of all newly concluded contracts. As in previous recent years, the most popular occupation was information technology specialist, introduced in 1997, in which 11,010 new training contracts were concluded. This was followed by the occupation of mechatronics fitter, which dates from 1998 and attracted 7,638 new training contracts. Some way behind in third place but still exhibiting a significant increase compared to the previous year was the training occupation of automobile business administrator from 1998 (4,518 newly concluded contracts in 2015 as opposed to 4,242 in 2014). Amongst further occupations newly created since 1996 which are significant in quantitative terms in the 2015 reporting year are machine and plant operator from 2004 (3,585 new contracts), designer of digital and print media from 1998 (3,225), technical product designer from 2005 (2,679) and vehicle varnisher from 2003 (2,244).

The development of two-year training occupations

The number of two-year training occupations has significantly reduced since the 1950's as a result of abolition, integration or conversion into three-year training occupations. Greater attempts were once again made at the start of the 21st century to use two-year ("reduced theory") training occupations as a vehicle to create additional training place provision and thus to improve training opportunities for disadvantaged young people in particular. The potential offered by these occupations in terms of enhancing the chances of young people has been, however, an object of controversial debate in the educational discourse over recent years. In the 2015 reporting year, a total of 43,809 new training contracts were concluded in state recognised occupations (or in occupations being piloted) with a training duration of 24 months. The overall trend observed since 2010, when the national proportion was still 9.6%, has been one of decline. As in the past, the most popular two-year occupation in 2015 was sales assistant for retail services, in which 24,027 new contracts were concluded. Over half (54.8 %) of all new contracts in two-year occupations were concluded in this training occupation. Following some distance behind, the next most popular two-year occupations are warehouse operator (5,691 newly concluded contracts), machine and plant operator (2004, 3,585 contracts), specialist in the hospitality services industry (1,968 contracts) and skilled express and postal services employee (1,539 contracts).

Table 21: **Newly concluded training contracts in manufacturing and service occupations[1], Germany 2005 to 2015**

Occupational group / Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total, absolute terms											
Manufacturing occupations	205,155	214,170	229,971	222,303	198,891	194,925	201,693	196,749	188,340	187,185	187,062
Service occupations	353,904	367,011	394,206	385,263	362,277	364,107	364,131	352,257	337,557	331,209	329,577
Of which:											
Primary service sector occupations	277,119	288,792	310,509	299,658	280,476	281,388	279,117	267,555	255,045	249,255	246,363
Secondary service sector occupations	76,788	78,219	83,700	85,605	81,801	82,719	85,014	84,702	82,512	81,954	83,214
Total	559,059	581,181	624,177	607,566	561,168	559,032	565,824	549,006	525,897	518,394	516,639
Men, absolute terms											
Manufacturing occupations	191,838	199,938	214,083	205,932	183,951	180,777	187,458	182,052	174,132	172,386	172,113
Service occupations	135,090	142,473	152,259	147,171	138,282	144,705	148,878	144,201	139,668	138,048	139,344
Of which:											
Primary service sector occupations	108,891	115,398	123,213	117,141	109,911	115,782	117,933	113,514	109,593	108,003	108,996
Secondary service sector occupations	26,202	27,075	29,049	30,033	28,371	28,923	30,942	30,687	30,078	30,045	30,348
Total	326,928	342,411	366,342	353,103	322,236	325,482	336,333	326,253	313,803	310,434	311,457
Women, absolute terms											
Manufacturing occupations	13,320	14,232	15,888	16,374	14,940	14,148	14,235	14,697	14,208	14,802	14,949
Service occupations	218,814	224,538	241,947	238,092	223,995	219,402	215,253	208,056	197,889	193,161	190,230
Of which:											
Primary service sector occupations	168,228	173,394	187,296	182,517	170,565	165,606	161,181	154,038	145,452	141,252	137,367
Secondary service sector occupations	50,586	51,144	54,651	55,572	53,430	53,796	54,072	54,015	52,437	51,906	52,866
Total	232,134	238,770	257,835	254,463	238,935	233,550	229,488	222,753	212,094	207,960	205,182
Total, in % of all newly concluded contracts											
Manufacturing occupations	36.7	36.9	36.8	36.6	35.4	34.9	35.6	35.8	35.8	36.1	36.2
Service occupations	63.3	63.1	63.2	63.4	64.6	65.1	64.4	64.2	64.2	63.9	63.8
Of which:											
Primary service sector occupations	49.6	49.7	49.7	49.3	50.0	50.3	49.3	48.7	48.5	48.1	47.7
Secondary service sector occupations	13.7	13.5	13.4	14.1	14.6	14.8	15.0	15.4	15.7	15.8	16.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Detailed information on the approach adopted towards classification of the occupational groups and a full list of manufacturing and service sector occupations is available at: https://www2.bibb.de/bibbtools/dokumente/xls/a21_dazubi_berufsliste-p-dl_2015.xls

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2005 to 2015 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.

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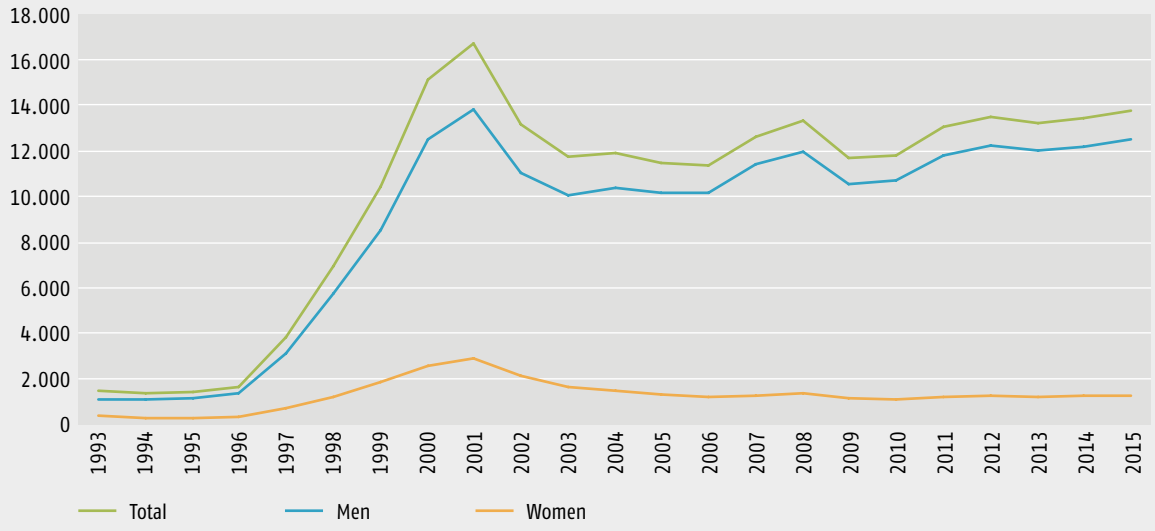
Figure 7: **Development of newly concluded training contracts in the dual IT occupations[1] by gender**



[1] Occupations include predecessor occupations in occupational field 38 "core IT occupations" as defined by BIBB.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 1993 to 2015 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.

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1.6.5 Prior learning of trainees with a newly concluded training contract

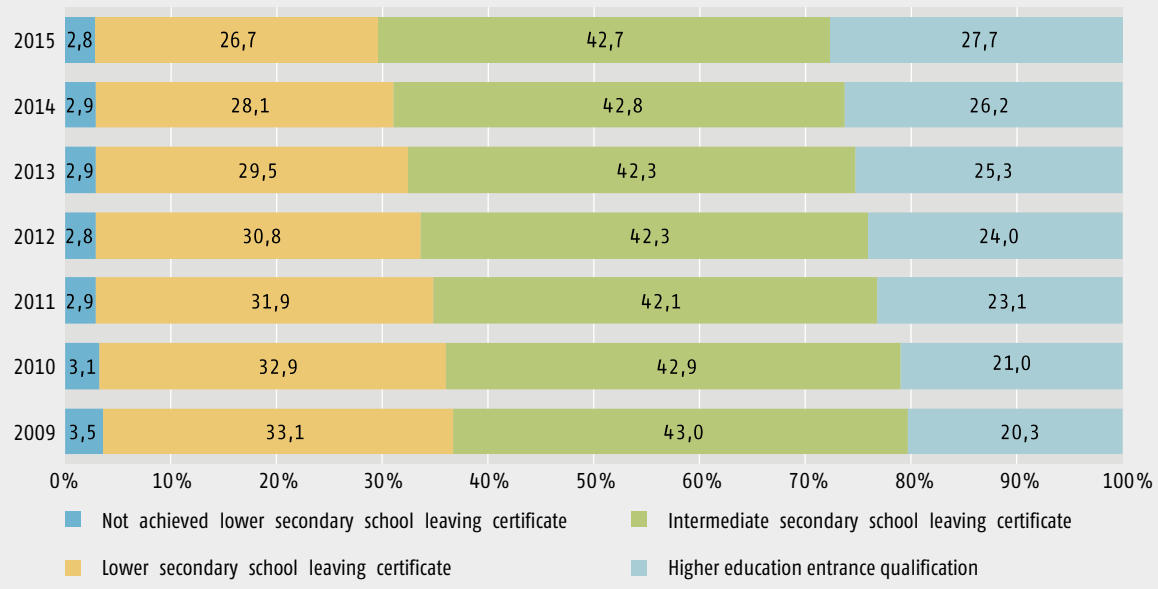
The following chapter looks in more detail at the prior learning of trainees on the basis of the data of the Vocational Education and Training Statistics. Three types of prior learning are mapped for all trainees. These are information regarding the highest general school leaving qualification achieved, information regarding prior participation in a vocational preparation scheme or in basic vocational training and information regarding previous vocational education and training.

Highest general school leaving qualification achieved by trainees with a newly concluded training contract

In the 2015 reporting year, the individual types of school leaving qualifications were once again represented to varying degrees amongst trainees with a newly concluded training contract. The largest group continued to constitute those with the intermediate secondary school leaving certificate, who accounted for 218,919 newly concluded training contracts. Even though the number of new contracts concluded in this group has declined slightly in absolute terms compared to the previous year, the relative share as a proportion of all new contracts was virtually unchanged (42.7% in 2015 as opposed to 42.8% in 2014). In contrast to this, the number of new contracts concluded with trainees in possession of the lower secondary school leaving certificate has fallen significantly both in absolute and relative terms since 2009 and reached a new low of 26.7% in 2015 (2009: 33.1%). The proportion of trainees who had not achieved the lower secondary school leaving certificate was still very small and remained almost at the same level as in the previous year (figure 8).

Development in the case of trainees holding a higher education entrance qualification was quite different. The proportion accounted for by this school leaving qualification group has grown steadily since 2009. In 2015, this reached a new high of 27.7%. In terms of the development this group has undergone, consideration needs to be accorded to the influences exerted in recent years by trends towards higher school leaving qualifications and by double upper secondary school leaving cohorts. However, in the light of this trend for higher level school leaving certificates and an increased preference for higher education study, the question regarding possible displacement is not the only issue which arises. One further object of increasing interest is whether the acquisition of trainees with a higher education entrance

Figure 8: **Prior school learning of trainees with a newly concluded training contract[1] 2009 to 2015 (in %)**



[1] Qualifications acquired abroad which cannot be aligned and missing information regarding school leaving qualification were not included in the percentage calculations.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2009 to 2015 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place).

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qualification for dual VET can successfully compensate for the declining numbers of persons who have achieved no qualification higher than the lower secondary school leaving certificate in terms of being able to continue to secure a supply of skilled workers in future.

If we undertake a differentiation of the distribution of newly concluded training contracts by highest school leaving qualification achieved and by gender of the trainee, the characteristics shown are similar to those exhibited with regard to distribution of qualifications amongst school leavers. Whereas 33.8% of female trainees concluding a new contract in 2015 were in possession of a higher education entrance qualification, the corresponding figure amongst male trainees was only 23.7%.

Trainees who had failed to achieve a lower secondary school leaving certificate were thinly represented in most areas of responsibility. However, the area of responsibility of housekeeping constitutes an exception in this regard. More than a quarter (28.8%) of new contracts in this area in 2015 were concluded with trainees who had not achieved the lower secondary school leaving certificate (table 22).

Prior vocational preparation and basic vocational training of trainees with a newly concluded training contract

The transitional sector enables young people who do not fulfil the prerequisites for the commencement of vocational education and training or cannot find a training place for other reasons to improve their individual competences with a view to entering training or employment. Nevertheless, these education and training courses do not lead to a full vocational qualification.

Recent years have initially seen a significant fall in the number of new entrants to the transitional sector. The amount of such entrants declined by 36.3% between 2005 and 2014, particularly because of the more favourable situation on the training market and due to demographic developments. However, this trend reversed in 2015 as the number of entrants rose once again by 5.4%. This increase was presumably mainly caused by a greater influx of refugees who progressed to programmes in the transitional sector in order to improve their knowledge of the German language. However, aside from this rise in the number of refugees, many other young people, including a significant proportion with a good level of prior learning, still progressed to measures within the transitional sector in 2015.

Table 22: **Trainees with a newly concluded training contract by highest general school qualification and area of responsibility[1], Germany 2009 to 2015 (part 1)**

Area of responsibility[1]	Reporting year	Total new training contracts	Highest general school leaving qualification									
			Not achieved lower secondary school leaving certificate		Lower secondary school leaving certificate		Intermediate secondary school leaving certificate		Higher education entrance qualification		No information available[2]	
		Absolute	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Trade and industry	2015	308,868	7,737	2.5	65,301	21.3	129,426	42.3	103,836	33.9	2,568	
	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	2015	137,049	4,878	3.6	59,091	43.4	55,059	40.5	17,055	12.5	963	
	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	2015	12,954	30	0.2	513	4.0	5,595	43.2	6,810	52.6	9	
	2014	12,261	45	0.4	453	3.7	5,640	46.0	6,114	49.9	9	
	2013	12,174	42	0.3	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	
Agriculture	2015	13,455	1,014	7.6	4,344	32.5	5,226	39.1	2,793	20.9	78	
	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	

Table 22: **Trainees with a newly concluded training contract by highest general school qualification and area of responsibility[1], Germany 2009 to 2015 (part 2)**

Area of responsibility[1]	Reporting year	Total new training contracts	Highest general school leaving qualification									
			Not achieved lower secondary school leaving certificate		Lower secondary school leaving certificate		Intermediate secondary school leaving certificate		Higher education entrance qualification		No information available[2]	
		Absolute	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Liberal professions	2015	42,084	222	0.5	6,489	15.6	23,316	56.0	11,613	27.9	441	
	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	2015	2,229	636	28.8	1,212	54.8	297	13.4	66	3.0	18	
	2014	2,388	753	31.7	1,224	51.6	336	14.2	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	2015	516,639	14,517	2.8	136,950	26.7	218,919	42.7	142,176	27.7	4,077	
	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	

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training. Apprentices who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades. Since 2008, trainees in the maritime sector have no longer been reported to the Vocational Education and Training Statistics.

[2] "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: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting year 2015 (previous year's figures needed to be used for Bremen because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

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Table 23: **Previous participation in vocational preparation training or basic vocational training by areas of responsibility[1], Germany 2015**

Area of responsibility	Total new training contracts	Previous participation in vocational preparation training or basic vocational training (multiple responses possible)											
		Total[2]		*Of which:*									
				Company-based training measure		Prevocational training measure		School-based vocational preparation year		School-based basic vocational training year		Full-time vocational school not leading to a full vocational qualification	
	Absolute	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Trade and industry	308,868	19,089	6.2	1,905	0.6	2,943	1.0	2,571	0.8	1,224	0.4	11,241	3.6
Craft trades	137,049	21,603	15.8	3,102	2.3	4,518	3.3	2,709	2.0	4,425	3.2	7,572	5.5
Public sector	12,954	249	1.9	45	0.3	51	0.4	24	0.2	24	0.2	120	0.9
Agriculture	13,455	2,517	18.7	213	1.6	516	3.8	321	2.4	1,311	9.7	198	1.5
Liberal professions	42,084	3,168	7.5	1,470	3.5	630	1.5	351	0.8	240	0.6	771	1.8
Housekeeping	2,229	1,149	51.5	33	1.5	612	27.5	348	15.6	63	2.8	171	7.7
Total	**516,639**	**47,775**	**9.2**	**6,768**	**1.3**	**9,273**	**1.8**	**6,324**	**1.2**	**7,287**	**1.4**	**20,073**	**3.9**

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training (cf. trainees undergoing training e.g. in public sector companies or in the liberal professions in commercial occupations are aligned to the areas of responsibility of trade and industry or the craft trades.

[2] Because of the possibility of multiple responses, total values are lower than the line totals for the individual measures.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting year 2015 (previous year's figures needed to be used for Bremen because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

Of the total of 516,639 trainees who concluded a new training contract in the 2015 reporting year, 47,775 were reported as taking part in a measure within the transitional sector (table 23).

A comparison of the development in East and western Germany reveals that proportions participating in vocational preparation training or basic vocational training increasingly converged between 2010 and 2014. Development in 2015 was different. Whereas the proportion in eastern Germany stubbornly remained at the previous year's level of 8.8%, the proportion in western Germany rose from 8.6% to reach 9.3%. The consequence of the circumstances described was that the number of publicly financed training places as a proportion of newly concluded contracts was significantly higher in the federal states of eastern Germany (19.4%) than in the federal states of western Germany (5.2%). Nevertheless, the proportion of publicly financed places in the East had fallen to 8.1% by the 2015 reporting year. In western Germany, the proportion decreased to 3.2% during the same period. The national average is 3.9%. This decline in the proportion of publicly financed new training contracts has occurred because training place funding for young people who are disadvantaged on the market has been continuously reduced in eastern Germany over recent years.

A differentiated consideration of rates of participation in vocational preparation training and basic vocational training by general school leaving qualification seems particularly useful given the frequently expressed complaint that young people lack apprenticeship entrance maturity and in light of the second-chance qualification rendered necessary by dint of this circumstance. Although school leaving qualifications do not constitute a formal prerequisite for entry to vocational education and training pursuant to the BBiG/HwO, it has been shown that school leavers in possession of the lower secondary school certificate or without any qualification are significantly less likely to progress to training immediately upon completion of general schooling.

Against this background, the significant differences which emerge from a consideration of proportions of vocational preparation training and basic vocational training differentiated according to general school leaving qualification come as little surprise. Just under a quarter of trainees without a lower secondary school leaving certificate (22.7%) who concluded a new training contract in 2015 had previously completed a measure in the transitional area. The corresponding figure for trainees with a lower secondary school leaving certificate was 14.5%. Proportional values fall in line with the rising level of the general school leaving qualification achieved by the trainees.

1.6.6 Premature dissolution of training contracts

The topic of premature contract dissolutions has been an object of debate in dual vocational education and training since as long ago as the 1980's, when there was a steep rise in such dissolutions. This is also an issue which has attracted a great deal of media interest in recent years. The reduction of contract dissolutions or the avoidance of training dropouts in dual VET continues to form part of the educational policy agenda (cf. the 2015–2018 Alliance for Initial and Continuing Training) and is gaining considerable attention, especially also against the background of a feared shortage of skilled workers.

Premature contract dissolutions in dual vocational education and training usually take place in the form of a termination agreement or via the giving of notice. Not every contract dissolution means complete discontinuation of vocational education and training. The Vocational Education and Training Statistics do not collect information on destination following contract dissolution. No full training histories are recorded, even following the revision of the statistics from 2007. Full training histories in the dual system are only collected for trainees who do not dissolve a training contract and do not conclude a follow-up contract or pursue multiple training. For this reason, training dropouts within the meaning described here (exits from dual VET without completion of training) cannot be identified on the basis of the Vocational Education and Training Statistics.

In the 2015 reporting year, approximately 142,275 training contracts were dissolved nationally prior to the expiry of the training time stated in the contract (table 24).

From 2006, this proportion rose virtually constantly until 2011, when it reached approximately one third. In 2005, the Vocational Training Reform Act extended the maximum duration of the probationary period from three to four months. However, if we consider distribution of contract dissolution across training years (stages of training), it becomes clear that the proportion of "early" contract dissolution occurring in overall terms during the first year of training has been increasing since 2005 and is not merely an effect of extension of the probationary period.

In the 2015 reporting year, the total dissolution rate for dual vocational education and training, which may be interpreted as an approximate value for the number of training contracts dissolved as a proportion of training

Table 24: **Premature contract dissolutions by areas of responsibility[1] and time of contract dissolution[2] (in absolute terms and in %[3]), Germany 2015**

Area of responsibility	Total premature contract dissolutions		of which dissolved: During the probationary period		After between 5 and 12 months		After between 13 and 24 months		After between 25 and 36 months		After more than 36 months	
	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Trade and industry	73,032	100.0	26,487	36.3	23,628	32.4	16,485	22.6	5,310	7.3	1,122	1.5
Craft trades	51,990	100.0	16,710	32.1	15,900	30.6	12,951	24.9	5,277	10.2	1,152	2.2
Public sector	795	100.0	261	32.8	204	25.7	204	25.7	96	12.1	30	3.8
Agriculture	3,342	100.0	1,038	31.1	1,032	30.9	849	25.4	345	10.3	78	2.3
Liberal professions	12,396	100.0	5,247	42.3	3,546	28.6	2,412	19.5	978	7.9	210	1.7
Housekeeping	717	100.0	132	18.4	234	32.6	219	30.5	111	15.5	21	2.9
Total	**142,275**	**100.0**	**49,875**	**35.1**	**44,547**	**31.3**	**33,123**	**23.3**	**12,117**	**8.5**	**2,613**	**1.8**

[1] Alignment by responsibility for the respective training occupations.
[2] Period between beginning and contract dissolution (in months)
[3] Contract dissolutions the commencement of which is a certain number of months in the past as a proportion of all contract dissolutions (not the dissolution rate and not genuine continuous data)

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2005 to 2015 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.

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Table 25: **Contract dissolution rates (LQ_{neu} in %)[1] by personal characteristics and areas of responsibility[2], Germany**

Personal characteristic	Total	Trade and industry	Craft trades	Public sector	Agriculture	Liberal professions	House-keeping
Gender							
Male	24.7	21.0	31.9	8.3	22.6	27.5	31.7
Female	25.2	22.2	38.4	5.2	24.7	26.5	27.0
Nationality							
German nationality	24.2	20.8	32.9	6.3	22.9	26.2	27.1
Not German nationality (foreigners)	33.3	30.8	39.5	7.5	36.5	29.4	33.9
Highest general school leaving qualification							
Not achieved lower secondary school leaving certificate	37.1	32.9	44.8	11.8	32.5	44.2	32.3
Lower secondary school leaving certificate	36.4	34.4	39.3	15.2	28.7	36.4	27.6
Intermediate secondary school leaving certificate	22.3	19.9	28.2	6.9	19.1	26.0	18.7
With higher education entrance qualification	14.2	12.6	22.2	5.1	16.0	21.2	15.9
Total	**24.9**	**21.4**	**33.5**	**6.3**	**23.1**	**26.5**	**27.4**

[1] Multi-tier model of the Federal Institute for Vocational Education and Training based on the new method of calculation, in % of training contracts commenced.
[2] Alignment by responsibility for the respective training occupations.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2012 to 2015 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). Calculations by the Federal Institute for Vocational Education and Training.

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Table 26: **Training occupations[1] with the highest and lowest contract dissolution rates in %[2], Germany 2015**

Training occupations with the highest dissolution rates	Area of responsibility[3]	Newly concluded contracts	Dissolution rate (LQ_{neu})	Training occupations with the lowest dissolution rates	Area of responsibility[3]	Newly concluded contracts	Dissolution rate (LQ_{neu})
Restaurant specialist	TI/CTEx	3,018	49.6	Clerk in public administration	PS/CTEx	5,814	3.6
Hairdresser	CT	10,539	48.6	Specialist in media and information services	TI/PS	573	5.0
Protection and safety specialist	TI	1,089	48.3	Notary assistant	LP	378	5.1
Cook	TI/CTEx	9,033	48.1	Specialist in labour market services	PS	549	5.4
Industrial cleaner	CT	1,011	48.0	Aircraft mechanic	TI/CTEx	621	5.9
Beautician	TI/CTEx	282	44.6	Bank clerk	TI/PS	11,184	6.8
Building and object coater	CT	732	43.9	Chemical technician	TI/CTEx	2,067	6.9
Specialist in the hospitality services industry	TI/CTEx	1,968	43.6	Chemical laboratory technician	TI/CTEx	1,698	6.9
Scaffolder	TI/CT	300	43.5	Shipping and chartering manager	TI	309	7.1
Parquet layer	CT	270	43.5	Industrial clerk	TI/CTEx	17,922	7.6
Salesperson specialising in foodstuffs	TI/CTEx	6,975	43.4	Electronics technician specialising in automation technology	TI/CTEx	1,926	7.6
Specialist in furniture, kitchen and removal services	TI/CTEx	483	43.4	Judicial clerk	PS	729	7.7
Driver	TI/CTEx	3,135	43.1	Production mechanic	TI/CTEx	846	7.7
Roofer	CT	2,907	41.7	Mechatronics fitter	TI/CTEx	7,638	8.2
Painter and varnisher	CT	6,531	41.3	Industrial mechanic	TI/CTEx	12,999	8.2
Professional caterer	TI/CTEx	1,701	41.3	Forest manager	AG	582	8.3
Baker	TI/CT	2,613	40.3	Media agent for digital and print media	TI	717	8.6
Specialist in the hotel business	TI/CTEx	9,138	40.2	Sewage engineering technician	TI/PS/CTEx	309	8.8
Florist	TI/CTEx	1,119	40.2	Process mechanic in the metallurgical and semi- finished goods industry	TI/CTEx	549	8.9
Tinsmith	CT	399	39.1	Social insurance clerk	PS	2,496	9.1

[1] Training occupations in which at least 300 contracts were commenced in the year 2015, not including occupations for persons with a disability. Occupations may include the respective predecessor occupation.
[2] Multi-tier model of the Federal Institute for Vocational Education and Training based on the new method of calculation, in % of training contracts commenced. Calculation of the proportion is informed by data from the last four reporting years.
[3] LP = liberal professions, TI = trade and industry, CT = craft trades, CTEx = TI occupation where training takes place in the craft trade sector, PS = public sector, AG = agriculture

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2012 to 2015 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place).
Absolute values are rounded to a multiple of three for data protection reasons. Calculations by the Federal Institute for Vocational Education and Training.

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contracts commenced, was 24.9 % (LQ_{neu})[3]. The dissolution rate during the probationary period was 8.8 %, after the probationary period 16.1 %. 24.9% represents a slight rise in the dissolution rate in the 2015 reporting year as compared to the previous year. In national average terms, it lay within the usual fluctuation range which has applied since the beginning of the 1990s (20% to 25%). For further statistical data, consult table 25.

If we consider dissolution rates in accordance with the general school leaving qualification previously acquired, a clear correlation is revealed between higher dissolution rates and lower levels of general school leaving qualifications achieved by trainees. Dissolution rates vary significantly between the federal states. They tended to be generally greater in eastern Germany, although rates were also relatively high in Hamburg (28.5%), in the Saarland (28.4%) and in Schleswig-Holstein (27.3%). Dissolution rates varied just as significantly between the areas of responsibility. The highest national average was recorded in craft trade occupations, where the dissolution rate was 33.5%. This was followed by the housekeeping occupations, where the figure was 27.4%. Dissolution rates vary even more significantly between the individual dual training occupations (table 26).

The descriptive results presented here should not be interpreted as causal. If, for example, average dissolution rates happen to be very high in the case of young people with a lower secondary school leaving certificate or in occupations in the craft trades sector, this does not mean that the lower secondary school leaving certificate or the craft trades sector are the inherent reason for the higher risk of dissolution. The causes of contract dissolutions are multifarious and complex. Despite a certain opening up to questions relating to training quality and the attractiveness of occupations, the overall perception of the problem remains very strongly focused on the trainees. Contract dissolutions are predominantly viewed as phenomenon of the failure of trainees. More recent analyses show that company and occupational characteristics exert a significant effect on the risk of dissolution alongside the school leaving qualification.

1.6.7 Participation in final examinations and vocational qualifications

Final examinations (journeyman examinations) take place at the end of the period of training in all recognised training occupations. The purpose of such examinations is to provide evidence that the vocational qualification has been achieved by determining whether candidates have acquired the skills, knowledge and competences (employability skills) necessary for the awarding of certification and for the qualified exercising of the occupation in which training has taken place (pursuant to the Vocational Training Act, BBiG § 38/Crafts and Trades Regulation Code, HwO, § 32). If the final examination is not passed, it may be resat on a maximum of two occasions (BBiG § 37 Paragraph 1/HwO § 31 Paragraph 1) (resitting of examinations).

Table 27 shows the development of examination participations by trainees in final examinations in vocational education and training since 2008. In 2008, just under 504,500 trainee examinations were conducted in dual VET. An increase in the number of examinations completed was recorded in each of the subsequent years. This increase was partially due to a different way of recording resits.

Table 28 shows that the number of final examinations conducted in all areas of responsibility fell compared to the previous year.

If the number of examination participants (just over 448,100) is used as a reference value rather than the number of participations (around 460,600), the success rate was 92.5% in 2015. The comparable value for this figure in the previous year was one percentage point lower. Most candidates who fail the examination have the opportunity to resit. Only 0.5% of all trainees participating in final examinations in 2015 were deemed to have definitively not passed the examination. As well as recording the passes achieved by all examination candidates, the figures also identify how many trainees succeed in passing the examination at the first attempt (first examination). In the 2015 reporting year, just over 253,800 young men and just fewer than 175,000 young women took part for the first time in the final examination in the occupation in which training had taken place. As was the case with participations in final examinations in overall terms, the number of participations in first examinations fell compared to the previous year. In this instance, the decrease was 2.2%. The vast majority (90.6 %) of all first-time candidates were admitted to the final examination in a scheduled manner following completion of the regular or contractually agreed duration of training. In the previous year, 91.0% of trainees were admitted to the first examination via the regular route. In 2015, 7.5% took part in a first examination early as the result of particularly good levels of performance during training. This represents an increase of 0.3 percentage points compared to the previous year. As in the previous year, the 2015 reporting year saw a decline in the number of participations in external examinations (including

3 Multi-tier model of the Federal Institute for Vocational Education and Training based on the new method of calculation, in % of training contracts commenced

Table 27: **Trainee participations in final examinations in vocational education and training and examination success 2008 to 2015, Germany**

Year	Examination participations						
	Men	Women	Total	including:			
				total examinations passed		resits[1]	
	Number			Number	in %[2]	Number	%
2008	296,883	207,558	504,438	454,851	90.2	29,184	5.8
2009	304,176	215,433	519,609	468,852	90.2	30,804	5.9
2010	310,686	225,105	535,791	479,031	89.4	32,850	6.1
2011	311,415	220,086	531,501	476,580	89.7	38,523	7.2
2012	290,889	204,324	495,213	445,443	89.9	34,731	7.0
2013	280,845	197,529	478,374	430,275	89.9	32,700	6.8
2014	278,820	192,048	470,868	424,029	90.1	32,769	7.0
2015	274,911	185,691	460,602	414,543	90.0	32,028	7.0

[1] In 2008 and 2009, only the last resit was recorded. From 2010, all resits have been counted.
[2] Number of examinations passed as a proportion of all examinations conducted (success rate I). Calculation takes place on the basis of rounded absolute values (see source information).
Source: "Database of trainees" produced by the Federal Institute for Vocational Education and Training on the basis of the results from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December, previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.
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Table 28: **Trainee participations in final examinations in 2015 and examination success by areas of responsibility, Germany**

Area of responsibility[1]	Examination participations							
	Men	Women	Total	Change compared to 2014 in %	of which:			
					total examinations passed		resits	
	Number				Number	in %[2]	Number	%
Trade and industry[3]	173,364	115,638	289,002	-1.8	264,114	91.4	17,508	6.1
Craft trades	85,644	24,381	110,028	-3.7	94,461	85.9	10,686	9.7
Public sector	4,116	7,596	11,712	-0.1	11,073	94.5	393	3.4
Agriculture	9,381	2,577	11,958	-1.8	10,374	86.8	1,215	10.2
Liberal professions	2,229	33,471	35,703	-0.2	32,526	91.1	2,088	5.8
Housekeeping	177	2,028	2,205	-10.4	1,995	90.5	138	6.3
All areas	274,911	185,691	460,602	-2.2	414,543	90.0	32,028	7.0

[1] Alignment of trainees to the areas of responsibility is generally determined by the competent body in charge of the training occupation rather than by the company providing training. Apprentices who are being trained in public sector companies or in liberal professions in the private sector economy are aligned to the areas of responsibility of trade and industry or craft trades.
[2] Number of examinations passed as a proportion of all examinations conducted (success rate I). Calculation takes place on the basis of rounded absolute values (see source information).
[3] Including banking, insurance, transport and hotel and restaurant trade.
Source: "Database of trainees" produced by the Federal Institute for Vocational Education and Training on the basis of the results from the Vocational Education and Training Statistics of the Federal Statistical Office and the s tatistical offices of the federal states (survey as of 31 December), reporting year 2015 (previous year's figures needed to be used for Bremen for the 2015 reporting year because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.
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resits). Around 29,000 external examinations were conducted, just under 950 fewer or 3.1% less than the level recorded in the previous year.

1.6.8 Age of trainees and training participation of young people in the dual system

The following chapter considers training participation of young people in the dual system. The two key indicators are the training entrant rate and the training completion rate. These state how many percent of young people begin or successfully complete dual vocational education and training (at some point within their biography). In order to calculate these indicators, trainee or completion data is differentiated according to age cohorts. For this reason, we begin by presenting a brief analysis of the age of trainees entering or completing the dual system. Consideration is accorded to the age of trainees concluding a new training contract, to the age of training entrants and to the age of those completing training. The trainee data is taken from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (referred to in abbreviated form as the Vocational Education and Training Statistics), and from population data collected as part of the Population Forecast of the Federal Statistical Office.

Age structure

As table 29 shows, the average age of trainees concluding a new training contract has risen virtually continuously over the past 20 years. Although differences in the surveying and calculation method mean that values prior to and after 2006 are not directly comparable, an increase in average age is revealed both for the period from 1993 (18.0) and 2006 (18.8) as well as for the time between 2007 (19.0) and 2015. The average age in 2015 was 19.7 years, the same as in the previous year. In 1993, more than half of trainees concluding a new training contract were aged below 18. By the 2015 reporting year, this figure had fallen to 26.8%. The rise in the average age of trainees concluding a new training contract has been caused by longer periods of schooling at lower secondary level as trainees increasingly achieve higher school leaving qualifications and by longer durations of transition to VET.

Serious changes in recording the prior learning of trainees, particularly since the 2007 training year, have made it more difficult to make a longer term time comparison. Taking only the years 2007 to 2015 into account, the proportion of trainees with a higher education entrance qualification (partially also caused by the double upper secondary school leaving cohorts) rose from 19.4% to 27.7 %. During the same period, the proportion of trainees reported to have previously taken part in a vocational preparation scheme or in basic vocational training fluctuated between just under 9% and 12%.

In the case of newly concluded training contracts, the average age of women in the 2015 reporting year was, as in most previous years, only slightly higher than that of men (19.8 years as opposed to 19.6 years). The average age of trainees (newly concluded contracts) not in possession of a German passport was 20.9 years. This was more than a year higher than trainees with a German passport (19.6 years).

A somewhat lower average age emerges in each case if only *training entrants* are considered rather than all newly concluded contracts, whilst differences between men and women and between those with and without a German passport remain. The average age of dual vocational education and training entrants in 2015 was 19.4 years. In the 2015 reporting year, the average age of persons completing dual VET was 22.4 years. There was scarcely any variance between men and women in this regard. The only group above the overall average age was foreign persons completing VET (23.0 years).

Training participation of young people in the dual system

In order to determine the proportion of young people commencing or successfully completing dual vocational education and training pursuant to the BBiG/HwO, arithmetical rates can be calculated on the basis of the Vocational Education and Training Statistics and the Population Forecast by means of an aggregation method. These rates may be interpreted as an indicator of the quantitative significance of the dual system and as a measure of the integration of various groups of persons. The training entrant rate is an indicator of the proportion of young people who commence dual vocational education and training. It does not, however, take account of the age at which this takes place or of the length of the transition from general school to VET. For the 2015 reporting year, the result is an arithmetical proportion of 54.4% of young people (resident population) who at some point during the course of their biography commence dual vocational education and training.

The training entrant rate in the dual system has been declining since 2011. In the 2015 reporting year, it was one percentage point lower than in the previous year and 5.6 percentage points lower than in 2011. Nevertheless, more than half of young people still commenced a programme of dual vocational education and training.

Table 29: **Trainees with a newly concluded training contract by age, Germany 1993 to 2015[1] (in %)**

Year	Age cohort									Average age[2]	Total new training contracts	including no information on age	including those aged 40 and above (absolute terms)[3]
	Aged 16 and below	Aged 17	Aged 18	Aged 19	Aged 20	Aged 21	Aged 22	Aged 23	Aged 24 and above				
1993	24.8	27.7	15.8	11.2	7.6	4.5	2.8	2.1	3.4	18.0	571,206	133,281	-
1994	23.1	27.3	16.8	11.3	8.3	4.7	2.7	1.6	4.2	18.1	567,438	135,837	-
1995	22.3	27.1	17.2	11.9	8.4	4.9	2.6	1.5	4.1	18.1	578,583	144,522	-
1996	22.5	26.2	16.9	12.2	8.8	5.2	2.8	1.5	3.8	18.2	579,375	112,011	-
1997	20.9	26.8	17.0	12.2	9.2	5.8	2.9	1.5	3.7	18.2	598,110	108,111	-
1998	20.1	25.8	17.8	12.3	9.5	6.0	3.2	1.6	3.7	18.3	611,820	110,793	-
1999	18.8	25.1	17.8	13.3	9.9	6.2	3.4	1.9	3.7	18.3	635,559	109,863	-
2000	18.2	24.5	18.4	13.4	10.3	6.3	3.4	1.9	3.7	18.4	622,968	102,948	-
2001	18.1	24.7	18.0	13.2	10.2	6.5	3.5	2.0	3.8	18.4	609,576	104,874	-
2002	17.5	23.7	18.0	13.2	10.4	6.7	3.9	2.2	4.4	18.5	568,083	97,920	-
2003	16.6	23.5	17.8	13.1	10.4	7.1	4.2	2.6	4.7	18.6	564,492	102,072	-
2004	15.2	22.4	17.7	13.4	11.0	7.4	4.6	2.9	5.5	18.7	571,977	267	-
2005	14.3	21.7	17.8	14.2	11.3	7.5	4.6	3.1	5.6	18.8	559,062	474	-
2006	14.4	20.0	17.8	14.6	11.8	7.6	4.7	3.1	5.8	18.8	581,181	855	-
2007	11.7	20.2	17.6	15.6	12.5	8.2	5.0	3.2	6.1	19.0	624,177	-	564
2008	11.4	17.9	18.1	15.5	13.1	8.6	5.4	3.4	6.5	19.2	607,566	-	729
2009	11.1	17.1	16.1	15.9	13.2	9.2	5.9	3.9	7.6	19.3	561,171	-	864
2010	10.4	16.7	15.7	14.8	13.9	9.4	6.4	4.3	8.5	19.5	559,032	-	969
2011	10.6	16.2	15.7	15.2	13.4	9.8	6.2	4.3	8.8	19.5	565,824	-	882
2012	11.1	16.1	15.2	15.2	12.9	9.0	6.5	4.4	9.7	19.5	549,003	-	1,086
2013	11.4	16.5	15.1	14.9	12.3	8.5	6.1	4.6	10.5	19.6	525,897	-	1,170
2014	11.0	16.5	15.7	14.5	11.8	8.5	6.0	4.4	11.5	19.7	518,394	-	1,248
2015	11.0	15.8	16.1	15.4	11.8	8.1	5.8	4.3	11.7	19.7	516,639	-	1,206

[1] As a result of the revision of the Vocational Education and Training Statistics which entered into force in 2007, changes have also taken place with regard to the way in which age is surveyed. Missing information regarding age occurred until the 2006 reporting year (aggregate data survey). Neither were all age cohorts surveyed individually (bottom and top age group). Because a relatively large amount of information regarding age was absent for most years prior to 2006, the newly concluded training contracts per age category were extrapolated up until the 2006 reporting year (apportionment of the missing information). This extrapolation was conducted separately according to area and federal state in order to take account of different age distributions.

[2] Until 2006, calculation of average age takes place on the basis of extrapolated figures for the number of new training contracts (see also footnote 1). No missing data in respect of age or year of birth occurs from the 2007 reporting year. As a result, no extrapolation is carried out. However, because very high ages stated (or stating of the relevant year of birth in such cases) mean that the probability of erroneous data reporting is greater, no trainees concluding a new contract at the age of 40 or above are included in the calculation of average age. Until the 2006 reporting year, the average age calculation is informed by the bottom and top age groups of 16 or 24 respectively. From 2007 onwards, all age cohorts (except those aged 40 and above) are included individually. Because of differences in the collection and calculation of average age, values prior to and post 2006 are not directly comparable. After the 2006 reporting year, the average age is also higher because the newly concluded training contracts of those aged 24 and above are all included at their respective age (instead of at 24). If the same method of calculation is used for 2007 as in the previous years, the average age is 18.9. The values deviate from those in the 2015 Data Report because a value of +0.5 for the respective age cohorts is no longer included in the calculation. Nevertheless, account should be taken of the fact that the Vocational Education and Training Statistics survey the year of birth of trainees. This means that age is only precisely recorded with regard to the year. A training contract usually begins in August or September, and newly concluded training contracts are recorded as of a cut-off date of 31 December. Some trainees will thus soon become one year older (from the beginning of the next calendar year). Actual average age is thus higher than average age calculated. Because it is not possible to determine precisely by how many months the average age is distorted, the addition of +0.5 to the calculation was abandoned, including with retrospective effect.

[3] Numbers of newly concluded training contracts for persons "aged 40 and above" are additionally indicated from the 2007 reporting year onwards, although these are also included in the "aged 24 and above" category.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 1993 to 2015 (previous year's figures needed to be used for Bremen for the reporting year 2015 because no data reporting took place). For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.

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Table 30: **Training entrant rate[1] by personal characteristic and region[2], 2011 to 2015 (in %)**

Year	Training entrant rate								
	Overall	Germans of which:			Foreigners of which:			Western Germany	Eastern Germany
		Total	Men	Women	Total	Men	Women		
2011	58.0	60.3	70.5	49.6	35.4	38.8	31.8	58.4	56.1
2012	56.5	59.0	68.9	48.6	33.7	36.3	30.9	56.9	54.5
2013	54.3	56.9	66.5	46.8	31.7	35.1	28.1	54.8	51.3
2014	53.4	56.3	66.0	46.0	31.1	33.2	28.8	53.8	51.1
2015	52.4	56.7	66.8	46.1	26.0	25.8	26.2	53.8	51.7

[1] Commuter movements cannot be taken into account because the Vocational Education and Training Statistics do not record the place of residence of trainees. These movements may distort the rates calculated for individual regions due to the fact that commuters are allocated to the location of training for the purpose of training entrant rates and recorded at their main place of residence in terms of the residential population.

[2] The completion rates for the years 2011 and 2013 were also recalculated on the basis of the Population Forecast data for 2011 and 2013 taken from the 2011 census. They therefore deviate from the values published in the 2015 Data Report and in 2014.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2011 to 2015 (figures from the 2014 reporting year needed to be used for Bremen for the 2015 reporting year because no data reporting took place) and Population Forecast of the Federal Statistical Office, reporting years 2009 to 2010 on the basis of the 2011 census.

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In the wake of the strong rise in the number of refugees over recent years, the foreign resident population has undergone a significant increase, particularly with regard to persons of training age. If this proportion of the resident population sees an extremely large rise because of such special developments, a significant decrease in training entrant rates is revealed for the group of persons affected (figure 9 part a). If we consider the development of the number of training entrants in the dual system (figure 9 part b), we see that the number of foreign trainees increases by 7.4% compared to the previous year to reach a total of 34,431 foreign training entrants in 2015. A smaller decrease of 0.5% (421,803 entrants) was recorded for German training entrants.

Compared to the year 2011, this represents a rise of 20.6% in the number of foreign entrants and a fall of 9.9% in the number of German entrants. The longer-term decrease in training participation in the dual system by young people has been associated with a growing propensity towards higher education study on their part. The higher education entrant rate has not gone up, however, over recent years. For the 2015 reporting year, the Federal Statistical Office (2016a) calculates a higher education entrant rate of 46.9% of the resident population (German and foreign students not including students from abroad and not adjusted for the effect caused by the shift to eight-year upper secondary education).

Training completion rate

If we consider the population's participation in the dual system, the question of how many percent commence training is not the only issue to arise. Another object of interest is how many percent successfully complete vocational education and training and achieve a relevant vocational qualification. In the 2015 reporting year, 414,543 trainees passed their final examination in the dual system. For 389,199 of these persons, this constituted their first achievement of a vocational qualification in the system. For the 2015 reporting year, this represented a training completion rate of 41.9% (table 31).

1.6.9 People with disabilities in vocational education and training

Although the Vocational Training Act and the Crafts and Trades Regulation Code do not use the term "inclusion", both form a legal framework which provides for the integration of disabled persons into the general system of qualified dual vocational education and training. These two laws govern dual vocational education and training in Germany and are aligned towards inclusion by adopting an approach which comprises priority for training in state regulated training occupations (§ 64 BBIG/§42k HwO), the application of compensation for disadvantage in the implementation and examination of training (§ 65 BBIG/§ 42l HwO) and the provision of training programmes which are solely deployed in cases where

Figure 9: **Foreign and German training entrants in dual vocational education and training by gender, Germany 2015 (absolute terms and in % of the resident population)**

[1] Qualifications acquired abroad which cannot be aligned and missing information regarding school leaving qualification were not included in the percentage calculations.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2011 to 2015 (previous year's figures needed to be used for Bremen because no data reporting took place). Absolute values are rounded to a multiple of three for data protection reasons. Population Forecast of the Federal Statistical Office, reporting years 2009 to 2010 on the basis of the 2011 census, see E, calculations of the Federal Institute for Vocational Education and Training.

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disability is of a particular type and severity and means that training pursuant to § 5 BBiG is not possible or not directly possible (§ 66 BBIG/§42m HwO) (table 32).

The data situation is fundamentally difficult in terms of the vocational education and training of disabled persons. Because the characteristic of disability is not recorded in the Vocational Education and Training Statistics, the only figures available are those relating to disabled persons who are undergoing training in professional practitioner (PP) occupations that are exclusively accessible to the disabled (pursuant to § 66 BBiG/§ 42m HwO).

1.6.10 Training staff in company-based training

In accordance with statutory stipulations, training staff in the dual system need to demonstrate personal and professional aptitude in order to be permitted to deliver training. Persons in possession of both the occupational skills, knowledge and competences required for the respective occupation and relevant occupational and vocational teaching qualifications are deemed to display professional aptitude. Evidence of such aptitude is usually provided via an examination conducted in accordance with the Ordinance on Trainer Aptitude (AEVO). In 2015, a total of 91,926 persons took part in trainer aptitude examinations conducted in the areas of trade and indus-

Table 31: **Training completion rate by personal characteristic and region[1], 2011 to 2015 (in %)**

Year	Training entrant rate								
	Overall	Germans of which:			Foreigners of which:			West	East
		Total	Men	Women	Total	Men	Women		
2011	47.8	50.5	57.7	43.0	22.2	23.4	21.0	48.7	43.4
2012	45.4	48.5	55.7	40.9	19.8	20.6	18.8	46.4	40.0
2013	44.5	48.1	55.0	40.8	18.1	18.7	17.3	45.7	37.9
2014	43.8	48.1	55.4	40.4	16.3	16.4	16.2	45.1	35.9
2015	41.9	47.9	55.6	39.7	12.9	12.0	14.1	44.3	34.3

[1] Commuter movements cannot be taken into account because the Vocational Education and Training Statistics do not record the place of residence of trainees. These movements may distort the rates calculated for individual regions due to the fact that commuters are allocated to the location of training for the purpose of training completion rates and recorded at their main place of residence in terms of the resident population. For this reason, no further regional differentiations are undertaken here. Distortions as a result of commuter movements can even arise in differentiating western and eastern Germany.

[2] Since the updating of the Vocational Education and Training Statistics in 2007 and the switch to recording individual data, the statistics have provided age information for those completing training, and those successfully completing training for the first time can also be delineated. The completion rates for the years 2011 and 2013 were also recalculated on the basis of the Population Forecast data for 2011 and 2013 taken from the 2011 census. They therefore deviate from the values published in the 2015 Data Report and in 2014.

Source: "Trainee Database" of the Federal Institute for Vocational Education and Training based on data from the Vocational Education and Training Statistics of the Federal Statistical Office and the statistical offices of the federal states (survey as of 31 December), reporting years 2011 to 2015 previous year's figures needed to be used for Bremen for the reporting year 2015 because no data reporting took place) and the Population Forecast of the Federal Statistical Office (population as of 31 December 2015), reporting years 2009 to 2010 on the basis of the 1987 census (western Germany) and the 1990 census (eastern Germany), reporting years 2011 to 2015 on the basis of the 2011 census). Calculations by the F ederal Institute for Vocational Education and Training.

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Table 32: **Employment situation in 2016 of persons with a disability who successfully completed training pursuant to § 66 BBiG/§ 42m HwO in 2015**

	Training programmes (§ 66 BBiG/§ 42m HwO) in accordance with nationally standardised recommendations										
	PP sales	PP office communication	PP metal working	PP wood processing	PP milling machining	PP kitchen	PP housekeeping	Professional practitioners (§ 66 BBiG/§ 42m HwO, nationally standardised), overall terms	Regional chamber regulations (§ 66 BBiG/§ 42m HwO) overall terms	Overall	
Current employment situation	%	%	%	%	%	%	%	**%**	%	**%**	**Number**
Full-time job	14	16	62	47	14	37	17	**27**	34	30	309
Part-time job	13	15	4	6	0	13	30	**18**	7	14	142
"Mini job" (€450)	8	3	0	1	0	1	3	**3**	1	2	24
Total employment	**34**	**33**	**66**	**54**	**14**	**51**	**50**	**47**	**43**	**45**	**475**
In further training	18	4	6	17	14	15	7	**11**	13	12	122
Not economically active	36	52	23	23	71	25	35	**34**	38	35	369
Other	12	11	4	6	0	9	8	**8**	7	8	80
Overall	100	100	100	100	100	100	100	**100**	100	100	1046
n	87	75	47	70	7	111	235	**632**	414		

Legend: PP = Professional Practitioner

Source: BIBB survey of persons completing training pursuant to § 66 BBiG/§ 42m HwO in 2015, n = 1046

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Table 33: **Number of trainers in 2013, 2014 and 2015 by training areas, federal states of western Germany and federal states of eastern Germany**

Training area	Germany						Federal states of western Germany						Federal states of eastern Germany					
	2013		2014		2015		2013		2014		2015		2013		2014		2015	
	absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Trade and industry	290,136	43.8	288,633	44.2	287,211	44.4	247,689	43.4	246,969	43.8	246,129	44.1	42,447	46.3	41,667	46.7	41,082	46.3
Craft trades	233,682	35.3	227,496	34.9	223,719	34.6	204,735	35.9	199,839	35.5	196,170	35.1	28,947	31.6	27,657	31.2	27,549	31.1
Agriculture	23,337	3.5	23,541	3.6	23,709	3.7	18,327	3.2	18,351	3.3	18,360	3.3	5,010	5.5	5,193	5.8	5,349	6.0
Public sector	20,349	3.1	19,077	2.9	19,176	3.0	17,379	3.0	16,395	2.9	16,395	2.9	2,970	3.2	2,682	3.0	2,781	3.1
Liberal professions	91,554	13.8	90,855	13.9	90,588	14.0	79,866	14.0	79,485	14.1	79,263	14.2	11,688	12.8	11,370	12.8	11,328	12.8
Housekeeping	3,090	0.5	3,012	0.5	2,919	0.5	2,541	0.4	2,445	0.4	2,370	0.4	549	0.6	570	0.6	549	0.6
Total	**662,148**	**100.0**	**652,617**	**100.0**	**647,322**	**100.0**	**570,540**	**100.0**	**563,481**	**100.0**	**558,687**	**100.0**	**91,608**	**100.0**	**89,136**	**100.0**	**88,635**	**100.0**

Source: Federal Statistical Office, Specialist Publications 11, Series 3. For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.

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Table 34: **Master craftsman examinations passed in 2013, 2014 and 2015 by training areas and gender**

raining area	Total						Gender											
	2013		2014		2015		2013				2014				2015			
							Male		Female		Male		Female		Male		Female	
	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%	Absolute terms	%
Trade and industry	11,853	32.4	12,666	34.2	13,260	36.0	11,115	93.8	741	6.3	11,895	93.9	774	6.1	12,432	93.8	828	6.2
Craft trades	22,749	62.2	22,260	60.1	21,450	58.3	18,594	81.7	4,155	18.3	18,480	83.0	3,780	17.0	17,832	83.1	3,618	16.9
Agriculture	1,593	4.4	1,707	4.6	1,674	4.5	1,311	82.3	285	17.9	1,404	82.2	303	17.8	1,353	80.8	321	19.2
Public sector	192	0.5	192	0.5	225	0.6	168	87.5	21	10.9	171	89.1	21	11.0	204	90.7	24	10.7
House-keeping	204	0.6	225	0.6	189	0.5	3	1.5	204	100.0	3	1.3	222	98.7	3	1.6	186	98.4
Total	**36,591**	**100.0**	**37,050**	**100.0**	**36,798**	**100.0**	**31,191**	**85.2**	**5,406**	**14.8**	**31,953**	**86.2**	**5,100**	**13.8**	**31,824**	**86.5**	**4,977**	**13.5**

Source: Federal Statistical Office, Specialist Publications 11, Series 3. For data protection reasons, absolute values are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values. Calculations by the Federal Institute for Vocational Education and Training.

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try, the craft trades, agriculture, the public sector and housekeeping (64.4% men, 35.6% women).

In 2015, a total of 41,718 persons took part in master craftsman examinations in the areas of trade and industry, the craft trades, agriculture, the public sector and housekeeping. The proportions of men and women were 86.9% and 13.1% respectively. The number of master craftsman examinations passed was 36,798. This represents a pass rate of 88.2 % (table 34).

1.7 Training in the vocational school system, in the public sector and at institutes of higher education

1.7.1 School-based vocational education and training

Vocational education and training at vocational schools, referred to in abbreviated form as "school-based VET", describes a highly heterogeneous field. This construct covers various forms of training, the common factor being that such training does not take place within the dual system pursuant to the BBiG/HwO. Most school-based VET lies within the area of cultural sovereignty of the federal states and is thus governed by federal state law. National framework agreements of the Conference of the Ministers of Education and Cultural Affairs (KMK) are in place for many training courses regulated by federal state law. Alongside training courses governed by federal state law there are, however, examples of training which come under the jurisdiction of federal law (outside the BBiG/HwO). School-based training programmes are delivered at various types of school – full-time vocational schools, technical academies, specialised upper secondary schools, trade and technical schools, healthcare sector schools and part-time vocational schools. This differentiation according to specific types of school has arisen over the course of time and is codified under federal state law. Two data sources need to be used in order to arrive at a comprehensive statistical description of the field of school-based vocational education and training. These are the Integrated Training Reporting System (iABE) and Specialist Publications Series 11, Series 2, "Vocational schools". Both sources have their own respective strengths and weaknesses.

The significance and development of school-based VET will be outlined below on the basis of the iABE data. Presentation takes place in a way that is differentiated according to training accounts (figure 10). Around 215,000 young people commenced a programme of school-based vocational education and training in 2016. Whilst the number of entrants remained stable since 2005 (-0.3%), the individual training accounts underwent highly different development.

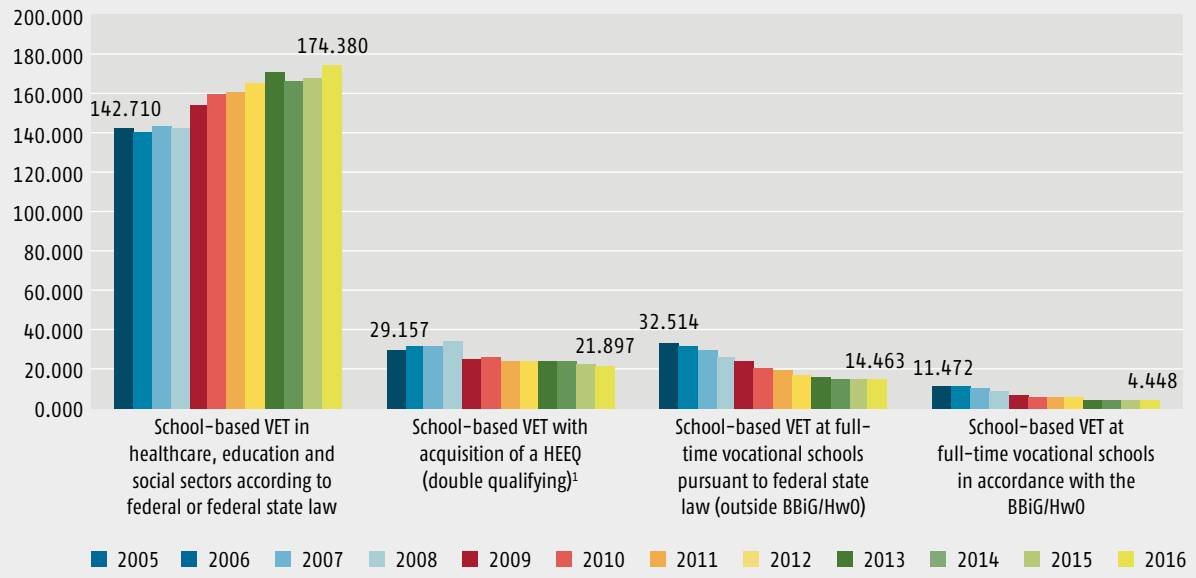
Table 35 considers accounts of school-based VET in accordance with the characteristics of gender, nationality and prior school learning.

Although training programmes in the healthcare, education and social sectors form the main focus of school-based VET in all federal states, proportions in 2016 varied between 68.7% in the Rhineland Palatinate and 98.9% in the Saarland. Double-qualifying training programmes were only offered in eight of the 16 states. The main areas of focus in this regard with proportions above 20% were the Rhineland Palatinate (29.6%), Schleswig-Holstein (28.5%) and North Rhine-Westphalia (20.3%).

According to the iABE, training programmes outside the BBiG/HwO and governed by federal state law which simply lead to a vocational qualification without any higher education entrance qualification are offered in almost all federal states. The only exceptions are the Rhineland Palatinate and Schleswig-Holstein. In these two federal states, "assistant training" can only be completed in conjunction with the acquisition of a University of Applied Sciences entrance qualification. The largest proportion by some distance was recorded in Bremen (29.3%). In general terms, training programmes governed by federal state law are more significant in the West than in the East. Nevertheless, a division also exists in the former. In 2016, proportions in Bavaria, Bremen, Hamburg, Hessen and Lower Saxony were between 10% and 30%. By way of contrast, they were very low in the other western federal states. These states were, however, characterised by a higher proportion of double-qualifying training courses.

Training in the healthcare, education and social occupations generally takes place at healthcare sector schools or at full-time vocational schools and trade and technical schools. In approximately 50 occupations, around half of pupils are trained in accordance with federal state law regulations. In addition to this, there are 17 occupations based on federal law regulation for which the federal ministries are responsible. All occupations except for geriatric nurse are regulated by the Federal Ministry of Health. The Federal Ministry of the Family, Senior Citizens, Women and Young People is responsible for the profession of geriatric nurse. Most training courses governed by federal law are of a duration of 36 months. The duration of programmes regulated by federal state law varies between twelve and 36 months.

Figure 10: **Entrants in school-based VET accounts 2005 to 2016**



[1] At full-time vocational schools pursuant to federal state law (outside BBiG/HwO) and specialised upper secondary schools; HEEQ = higher education entrance qualification.

Source: "Integrated Training Reporting System (iABE)" and "Integrated Training Reporting Flash Report" based on data provided by the Federal Statistical Office, the Statistical Offices of the federal states and the Federal Employment Agency, data status: 18.11.2016 and 14.03.2017

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Table 35: **Entrants to school-based vocational education and training by gender, nationality and prior school learning**

School-based VET	Data flash report 2016		Differentiated data for 2015[1]					
	Entrants	Proportion female	Proportion foreigners	Proportion without lower secondary certificate	Proportion with lower secondary certificate	Proportion with intermediate secondary certificate[2]	Proportion with University of Applied Sciences or general higher education entrance qualification	No information available, others
at full-time vocational schools pursuant to BBiG/HwO	4,448	59.4	9.2	0.6	35.4	50.2	13.1	0.8
at full-time vocational schools pursuant to federal state law outside BBiG/HwO	14,463	55.6	11.0	0.9	12.5	64.3	20.9	1.4
with acquisition of HEEQ (double qualification)[3]	21,897	40.8	9.7	0.2	2.2	93.6	4.0	0.1
in healthcare, education and social sectors according to federal or federal state law	174,380	77.9	8.8	0.2	19.5	54.4	25.2	0.7

[1] Differentiated data is not yet available for the year 2016.

[2] Including school-based part of University of Applied Sciences entrance qualification

[3] At full-time vocational schools pursuant to federal state law (outside BBiG/HwO) and specialised upper secondary schools; HEEQ = higher education entrance qualification

Source: "Integrated Training Reporting System (iABE)" and "Integrated Training Reporting Flash Report" based on data provided by the Federal Statistical Office, the Statistical Offices of the federal states and the Federal Employment Agency, data status: 18.11.2016 and 14.03.2017

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Table 36: **Popular school-based training programmes pursuant to BBiG/HwO, pupils in first school year 2015/2016**

2010 Classification of Occupations (additional StaBA classifier)	Occupational title	Total[1,2]	Proportion female in %	Proportion of all school-based BBiG/HwO occupations in 2015 in % (total = 7,731)
82322 (01)	Beautician	1,106	99.7	14.3
71402 (22)	Office manager	926	55.1	12.0
71302 (02)	Industrial clerk	343	74.3	4.4
28222 (14)	Custom tailor	232	94.0	3.0
24512 (03)	Precision machinist	175	9.7	2.3
28222 (15)	Apparel tailor	168	91.1	2.2
83212 (03)	Housekeeper	132	90.2	1.7
93312 (02)	Wood sculptor	94	56.4	1.2
43102 (04)	Information technology specialist	91	8.8	1.2
22342 (09)	Joiner	87	35.6	1.1

[1] Occupational title not always available for Baden-Württemberg. Only data for the school year 2013/2014 is available for Bremen.
[2] No VET pursuant to BBiG/HwO takes place at full-time vocational schools in Brandenburg, Hamburg and the Saarland.
Source: Federal Statistical Office, Specialist Publications 11, Series 2, Volume 2015/16, Table 2.11 – All full-time vocational schools (I)

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The main focus of these programmes is in the areas of nursing and education. In the 2015/2016 school year, the most significant programmes by some distance were those leading to the qualifications of geriatric nurse, nursery school teacher and registered general nurse. Each of these attracted over 20,000 pupils in the first year of school-based training. Training programmes leading to the qualification of social worker, social care assistant, socio-pedagogical support worker and childcare assistant recorded over 10,000 pupils.

The following remarks concern only training programmes not included in the healthcare, education and social occupations described above which lead to a qualification pursuant to federal state law. These federal state regulated training courses mostly culminate in a "state certified assistant" qualification (sometimes referred to as "state recognised") are thus frequently designated as so-called "assistant training". Such programmes are usually aimed at pupils who have achieved an intermediate secondary school leaving certificate. This field is characterised by a wide range of different training programmes. Classic areas of provision include laboratory technology, communication and design technology, secretarial work and foreign languages.

In the school cohort of 2015/2016, the ten most popular occupations included information technology assistant, commercial assistant in foreign languages (3,193 pupils), design technology assistant (2,886) and commercial assistant in information processing (2,568). Information technology assistant is the most significant of the training programmes governed by federal state law. It attracts around 3,500 pupils in the first school year, thus representing a proportion of 9.4%.

Exceptions[4] are included in both the BBiG and the HwO which permit full-time school-based training at vocational schools. At such vocational schools, training contents according to the recognised general training plans. There are two regulations in place to facilitate full-time school-based training in accordance with BBiG/HwO (equivalence of examination certificates (§ 50 Paragraph 1 BBiG or § 40 Paragraph 1 HwO) and admission to the final examination (§ 43 Paragraph 2 BBiG)).

Vocational education and training at full-time vocational schools pursuant to BBiG/HwO is strongly characterised by the occupations depicted in table 36. Pupils in the occupations listed accounted for just under half of all pupils in the first year of school in 2015/2016. Beautician was the most significant of all school-based BBiG/HwO occupations by some distance, accounting for 14.3% of the total.

4 Training in a recognised training occupation pursuant to the BBiG/HwO is normally conducted in dual form, i.e. at the company and at part-time vocational school

1.7.2 Training in the public sector

In the public sector, training takes place in special public sector occupations as well as in occupations which are registered with the chambers of commerce and industry and chambers of crafts and trades and in healthcare occupations. The human resources statistics of the Federal Statistical Office also count civil servants in preparatory training, candidates and aspirants as staff in training. According to this extended delineation, around 206,000 persons were in training in the public sector as of the cut-off date of 30 June 2015 (Federal Government, federal states, local government, local government associations, social insurance providers, the Federal Employment Agency and legally independent institutions under public law).

105,600 persons were completing civil service training. 21,000 had concluded a training contract within the scope of or subsequent to a course of higher education study without being taken on as a civil servant. 79,400 trainees were registered for the remaining training occupations. These primarily comprise training programmes for healthcare professions pursuant to the Vocational Training Act (BBiG). As a ratio of the full-time equivalent of employees in the public sector subject to mandatory social insurance contributions, these 79,400 trainees represent a training rate of 3.4 % as of the cut-off date of 30 June 2015. There was a relatively high number of training contracts in the Federal Government sector, where the training rate was 5.6 %. The rate in the federal state sector was only 2.6%. The rates in the local government and social insurance sectors were 3.7% and 3.4% respectively.

1.7.3 Dual programmes of higher education study

Institutes of higher education and companies are meeting the ongoing demand for dual programmes of higher education study by offering an increasingly differentiated range of courses. This format represents the best known type of hybrid educational provision. It creates a structural and curricular interlinking of higher education and company-based practical phases. The current survey shows that provision in so-called mixed formats, to which various models can be aligned, has remained constant. Six federal states (Bavaria, Baden-Württemberg, Hessen, the Rhineland Palatinate, Brandenburg und Thuringia) have now organised dual institutes of higher education or so-called umbrella brands. The practice-integrated format accounts for 805 of the 1,592 programmes of study currently available in the field of initial training (2016). These courses combine study with practical company-based phases and always lead to a higher education qualification, usually a Bachelor degree.

Some of the total of 1,592 dual programmes of higher education study in initial training are offered by universities. In the year 2016, 69 examples of such provision were identified. Nevertheless, dual courses of higher education study for initial training remain a domain of the Universities of Applied Sciences. In 2016, a total of 1,100 programmes were offered by Universities of Applied Sciences. The Baden-Württemberg Cooperative State University (DHBW) offers 211 dual programmes of study. This is closely followed by the Universities of Cooperative Education, where 186 courses have been identified. The number of dual students is currently estimated to be around 100,000. This represents an increase of about 5,000 students compared to 2015. The institutes of higher education stated that there were over 47,000 cooperating companies. Each location within a company group is counted as a separate provider.

A consideration of the organisational form of the institute of higher education shows that dual programmes of higher education study in initial training are primarily offered at state-run institutes of higher education and Universities of Cooperative Education. Nevertheless, private providers continue to be an important factor. Leaving the DHBW out of the account, as many as one in four programmes of study are provided by the private sector. In the case of the Universities of Cooperative Education, this figure even exceeds half. Overall provision of dual programmes of study continues to be mainly characterised by engineering (38%) and the economic sciences (34%) (table 37).

Alongside the recommendation already presented within the scope of the current debate about dual programmes of study that supporting formats should no longer be accredited or promoted as being “dual” in future, a number of further content challenges should be mentioned in this area. One particular problem that will need to be addressed is the differing understanding of duality. The BIBB Board is currently working to identify differences and commonalities in the perception of duality between academic and vocational training. A second point from the point of view relates to the dispute which exists with regard to the qualitative structure and design of the company-based part of dual courses of study and cooperation between learning venues. The focus here is on the development of sustainable concepts for the interlinking of theory and practice.

Table 37: **Specialisations of dual programmes of higher education study from 2004 to 2016**

Number of dual study programmes by specialisation and year	2004	2007	2010	2012[1]	2013[1]	2014[1]	2016[1]
Economic sciences	223	282	319	343	385	487	540
Engineering							
General engineering	34	35	42	75	78	91	93
Business administration and engineering	16	24	28	42	46	75	83
Electrical engineering	47	56	77	91	98	127	129
Engineering/process engineering	84	97	120	150	169	232	231
Civil engineering	15	25	29	43	46	58	64
Overall	196	237	296	401	437	583	600
Social sector/education/healthcare/nursing	0	23	23	31	41	158	159
Other	21	27	25	24	27	95	100
Information technology	72	97	113	111	124	182	193
Total	**512**	**666**	**776**	**910**	**1,014**	**1,505**	**1,592**

[1] Values relate exclusively to programmes of study in initial training, status October 2016.
Source: Training Plus database (status: January 2017)

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1.8 Company participation in training

1.8.1 Company participation in training (employment statistics on participation in training)

Participation by trade and industry in the company-based training of young people and young adults also continued to decline in the 2015 reporting year. However, it is also clear that the constantly negative trend that has been continuing for some years appears to have abated somewhat. Alongside the absolute changes in central cumulative values, this development is also revealed via two major indicators which are particularly suited to investigation of the development of company participation in training across the statistical population of all companies and all employees subject to mandatory social insurance contributions. These are the training participation rate and the training rate.

Participation in training by companies in Germany

According to the Employee Statistics of the Federal Employment Agency, around 428,000 companies out of just over 2.1 million companies with at least one employee subject to mandatory social insurance contributions were participating in the vocational training of young people as of 31 December 2015. This represented a reduction in the number of companies providing training of 3,600 (-0.8%) compared to the previous year. By way of contrast, the total number of companies increased by 17,000 (0.8%) compared to the previous year. This was a stronger rise than in the preceding years. These contrary developments caused the training rate to drop by a further 0.3 percentage points compared to 2014 to reach a level of 20.0% (table 38).

The training rate also fell further in the reporting year. Whereas the total number of trainees nationally decreased by around 9,000 to approximately 1.57 million (0.6 %), the number of employees subject to mandatory social insurance contributions rose by 2.5% or 750,000 to reach 31.1 million (table 39). Despite this merely modest decline in the total number of trainees, the training rate fell to 5.1%, 0.1 percentage points lower than the value recorded for the previous year. This means that one in twenty employees subject to mandatory social insurance contributions is registered as a trainee.

Training participation by companies in the federal states of western and eastern Germany

As in the preceding years, the federal states of both eastern Germany and western Germany were affected to differing degrees by the decrease in company participation in training. In the federal states of western Germany, the number of companies providing training fell by just under 3,500 to 368,000 (0.9%), whereas the total number of companies increased by more than 16,000 (1.0%). The training participation rate in the West declined by 0.4 percentage points to 21.6%.

Table 38: **Companies, companies providing training and proportion of companies providing training by company size categories between 2007, 2014 and 2015 in Germany**

Company size categories	Companies				Companies providing training				Proportion of companies providing training			
	2007	2014	2015	2014 to 2015	2007	2014	2015	2014 to 2015	2007	2014	2015	2014 to 2015
	Absolute	Absolute	Absolute	%	Absolute	Absolute	Absolute	%	%	%	%	in % points
1 to 4 employees	1,287,579	1,304,208	1,300,531	-0.3	152,354	102,464	97,013	-5.3	11.8	7.9	7.5	-0.4
5 to 9 employees	346,210	367,379	374,770	2.0	122,903	104,696	103,327	-1.3	35.5	28.5	27.6	-0.9
Smallest category of company	**1,633,789**	**1,671,587**	**1,675,301**	**0.2**	**275,257**	**207,160**	**200,340**	**-3.3**	**16.8**	**12.4**	**12.0**	**-0.4**
10 to 19 employees	189,054	211,478	216,928	2.6	84,599	84,128	84,862	0.9	44.7	39.8	39.1	-0.7
20 to 49 employees	123,463	140,574	145,393	3.4	66,680	71,071	72,237	1.6	54.0	50.6	49.7	-0.9
Small companies	**312,517**	**352,052**	**362,321**	**2.9**	**151,279**	**155,199**	**157,099**	**1.2**	**48.4**	**44.1**	**43.4**	**-0.7**
50 to 99 employees	46,869	52,192	53,871	3.2	30,575	33,279	33,964	2.1	65.2	63.8	63.0	-0.7
100 to 249 employees	28,605	31,823	32,689	2.7	21,155	23,021	23,476	2.0	74.0	72.3	71.8	-0.5
Medium-sized companies	**75,474**	**84,015**	**86,560**	**3.0**	**51,730**	**56,300**	**57,440**	**2.0**	**68.5**	**67.0**	**66.4**	**-0.7**
Small/medium-sized companies overall	**2,021,780**	**2,107,654**	**2,124,182**	**0.8**	**478,266**	**418,659**	**414,879**	**-0.9**	**23.7**	**19.9**	**19.5**	**-0.3**
250 to 499 employees	8,661	9,560	9,832	2.8	7,146	7,601	7,713	1.5	82.5	79.5	78.4	-1.1
500 or more employees	5,070	5,588	5,692	1.9	4,478	4,861	4,904	0.9	88.3	87.0	86.2	-0.8
Large companies	**13,731**	**15,148**	**15,524**	**2.5**	**11,624**	**12,462**	**12,617**	**1.2**	**84.7**	**82.3**	**81.3**	**-1.0**
Total	**2,035,511**	**2,122,802**	**2,139,706**	**0.8**	**489,890**	**431,121**	**427,496**	**-0.8**	**24.1**	**20.3**	**20.0**	**-0.3**

Source: Employment Statistics of the Federal Employment Agency, cut-off point in each case 31 December, calculations by the Federal Institute for Vocational Education and Training

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Table 39: **Employees, trainees and training rates by company size categories between 2007, 2014 and 2015 in Germany**

Company size categories	Employees				trainees				Training rate			
	2007	2014	2015	2014 to 2015	2007	2014	2015	2014 to 2015	2007	2014	2015	2014 to 2015
	Absolute	Absolute	Absolute	%	Absolute	Absolute	Absolute	%	%	%	%	in % points
1 to 4 employees	2,459,157	2,476,720	2,477,545	0.0	180,883	118,896	112,651	-5.3	7.4	4.8	4.5	-0.3
5 to 9 employees	2,256,110	2,404,452	2,456,748	2.2	199,591	158,129	155,714	-1.5	8.8	6.6	6.3	-0.2
Smallest category of company	**4,715,267**	**4,881,172**	**4,934,293**	**1.1**	**380,474**	**277,025**	**268,365**	**-3.1**	**8.1**	**5.7**	**5.4**	**-0.2**
10 to 19 employees	2,534,591	2,846,158	2,920,234	2.6	196,531	176,843	176,827	0.0	7.8	6.2	6.1	-0.2
20 to 49 employees	3,748,393	4,259,689	4,404,421	3.4	248,470	239,673	240,601	0.4	6.6	5.6	5.5	-0.2
Small companies	**6,282,984**	**7,105,847**	**7,324,655**	**3.1**	**445,001**	**416,516**	**417,428**	**0.2**	**7.1**	**5.9**	**5.7**	**-0.2**
50 to 99 employees	3,241,608	3,607,571	3,727,620	3.3	194,831	194,393	195,285	0.5	6.0	5.4	5.2	-0.1
100 to 249 employees	4,327,987	4,793,279	4,934,398	2.9	255,781	238,309	239,662	0.6	5.9	5.0	4.9	-0.1
Medium-sized companies	**7,569,595**	**8,400,850**	**8,662,018**	**3.1**	**450,612**	**432,702**	**434,947**	**0.5**	**6.0**	**5.2**	**5.0**	**-0.1**
Small/medium-sized companies overall	**18,567,846**	**20,387,869**	**20,920,966**	**2.6**	**1,276,087**	**1,126,243**	**1,120,740**	**-0.5**	**6.9**	**5.5**	**5.4**	**-0.2**
250 to 499 employees	2,975,000	3,281,515	3,380,621	3.0	183,254	156,842	154,439	-1.5	6.2	4.8	4.6	-0.2
500 or more employees	5,922,466	6,728,375	6,842,923	1.7	314,993	299,620	298,377	-0.4	5.3	4.5	4.4	-0.1
Large companies	**8,897,466**	**10,009,890**	**10,223,544**	**2.1**	**498,247**	**456,462**	**452,816**	**-0.8**	**5.6**	**4.6**	**4.4**	**-0.1**
Total	**27,465,312**	**30,397,759**	**31,144,510**	**2.5**	**1,774,334**	**1,582,705**	**1,573,556**	**-0.6**	**6.5**	**5.2**	**5.1**	**-0.2**

Source: Employment Statistics of the Federal Employment Agency, cut-off point in each case 31 December, calculations by the Federal Institute for Vocational Education and Training

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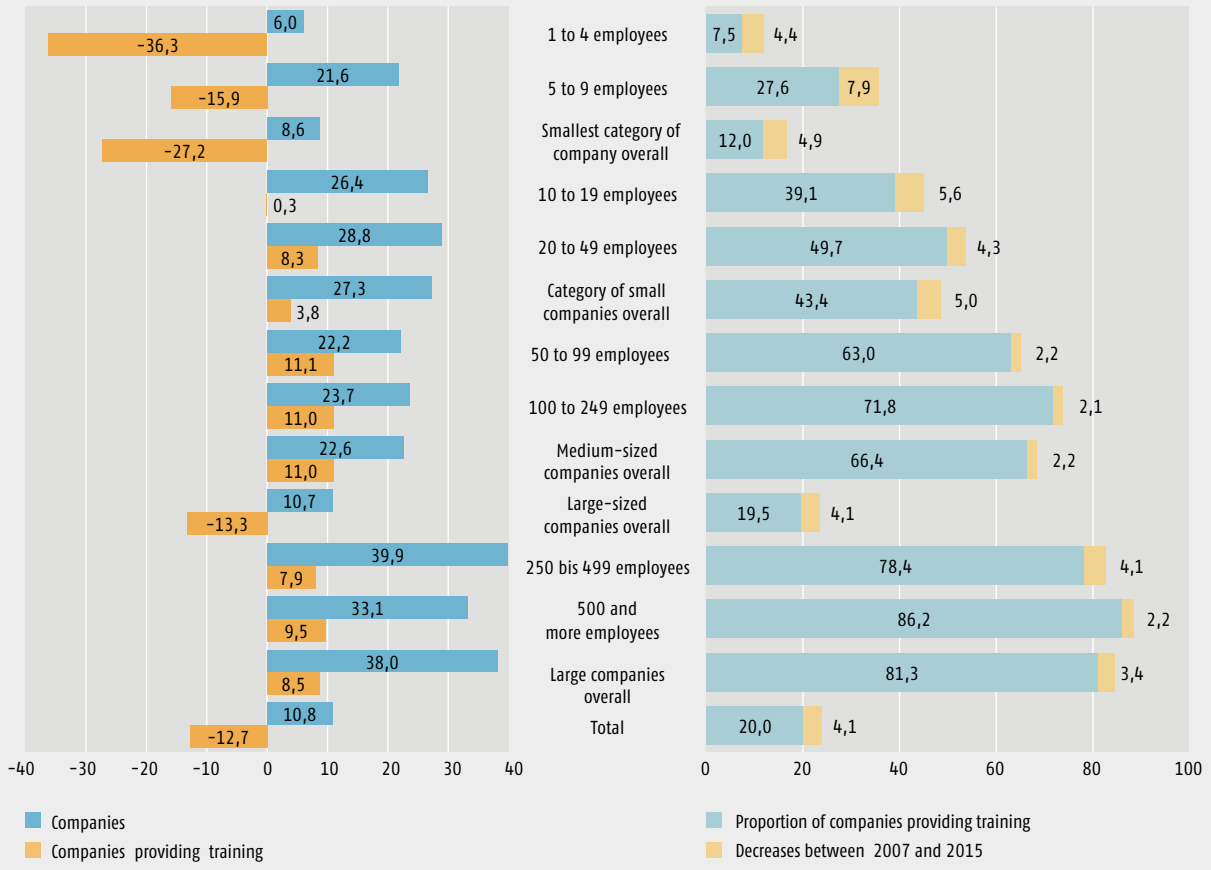
In the federal states of eastern Germany, the number of companies providing training once again declined significantly less markedly than in previous years. The overall minus was a mere 66 companies. Total number of companies rose only slightly to reach 435,000. In the east, the training participation rate declined by 0.1 percentage points to 13.6%.

Development of company participation in training in detail, change by company size category

As in the previous years, the overall decrease in the total number of companies providing training in the reporting year was almost entirely due to losses amongst the smallest categories of company (company size classes 1 to 4 and 5 to 9 employees) (table 38). However, in statistical terms, there is a significant correlation between the amount of the increase in companies (not including companies providing training) and the percentage development in the total numbers of companies providing training. Between 2007 and 2015, the latter figure rose more sharply or fell to a lesser extent in line with growth in the number of companies (figure 11). If the strong losses in companies providing training amongst the smallest class of company had not occurred, the average training participation rate in the reporting year would be 23.5%. This figure is comparable with the training participation rates seen in the 2000s and 1990s.

At the employee level, development in company-based training is also unable to build on the positive developments that have taken place in the employment system. The rule here is that the higher the percentage growth in employment between 2007 and 2015, the less drastic the decreases recorded in total numbers of trainees will be. Within this period, an absolute rise of 3.9 million

Figure 11: **Development in total number of companies[1] and companies providing training between 2007 and 2015 (in %), status of companies providing training in 2015 (in %) and decreases in the training participation rate between 2007 and 2015 (in % points) by company size classes in Germany**



[1] Not including companies providing training

Source: Employment Statistics of the Federal Employment Agency, cut-off point in each case 31 December, calculations by the Federal Institute for Vocational Education and Training

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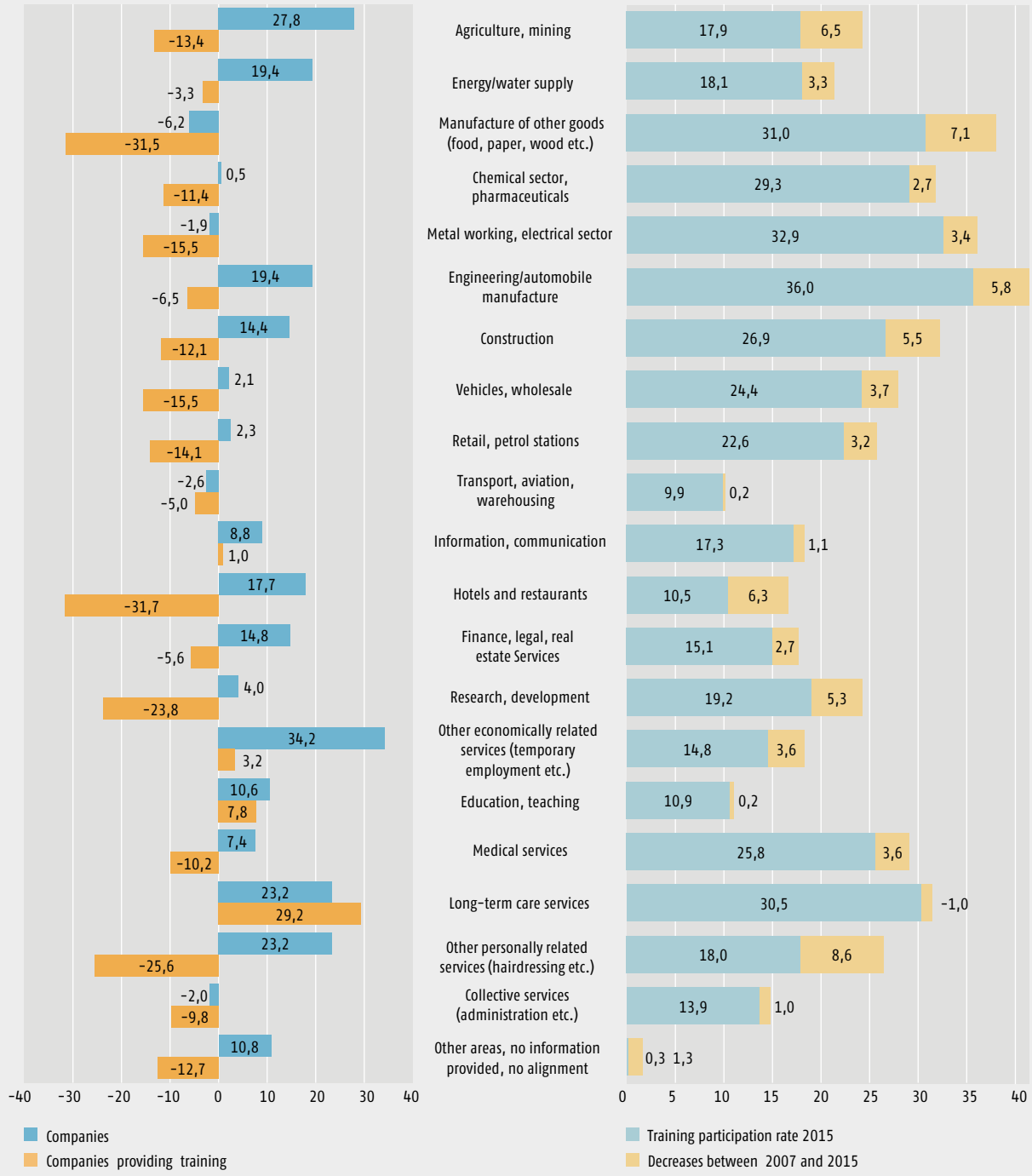
Figure 12: **Development in total number of companies[1] and companies providing training between 2007 and 2015 (in %), status of companies providing training in 2015 (in %) and decreases in the training participation rate between 2007 and 2015 (in % points) by economic sectors in Germany**



[1] Not including companies providing training

Source: Employment Statistics of the Federal Employment Agency, cut-off point in each case 31 December, calculations by the Federal Institute for Vocational Education and Training

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in employment is accompanied by a fall in total trainee numbers of 200,000, measured in each case as of the cut-off date of 31 December. Nevertheless, even the categories of companies which saw an increase in provision of training, saw a drop in the actual number of trainees during the period of investigation. This means that more companies providing training are delivering training to fewer and fewer young people.

Aside from a very small number of exceptions, development between 2007 and 2015 displays a negative overall pattern both in terms of the training participation rate and the training rate by economic sectors. In contrast to previous year comparisons, company participation in training seems gradually to be stabilising in most economic sectors, albeit at a significantly lower level than in the reference year of 2007.

In the reporting year, the focuses which remain clear in terms of company training participation in manufacturing industry (e.g. engineering, automobile industry, metal working, electrical sector) are discernible in figure 12. Company participation in training is at a lower average level in the case of personally related services (such as medical and nursing services) and relatively weak in company-related services (for instance financial and legal services, information and communication services). It is also apparent that the extent of the decreases in no way solely correlates with the amount of the training participation rate in the reference year of 2007. The falls actually reflect disparate changes and various changes brought about by economic structure (e.g. agriculture, forestry) and are also clearly a consequence of alterations in educational behaviour and interests on the part of young people (such as in the hotel and restaurant sector) and of effects caused by the demand behaviour of consumers (e.g. medical services).

Virtually no role is played in the training of young people by local government authorities, administrative bodies, trade and industry associations or educational and teaching institutions. Employees include trainees at only about one in ten of these organisations. The developments in participation in training are a result of extremely varied developments in the numbers of companies and in the numbers of companies providing training. The above-average growth in company numbers in the services sector and the stagnation that has occurred in manufacturing industry except in engineering and the automobile sector are particularly conspicuous. Whereas positive developments in the number of companies providing training have taken place in some parts of the services sector at least, the trend in manufacturing industry is consistently negative. In structural terms, the developments at company level were also reflected in the falls in the training rate between 2007 and 2015.

1.8.2 Company training participation (BIBB Training Panel)

In Germany, company-based training is an important recruitment measure for companies seeking to acquire the long-term services of skilled workers they have trained themselves. However, firms and companies have been facing increasing difficulties for several years now in the uptake of training by young people and in completely filling the training places they have on offer. In 2015, of a total of 2.1 million companies with employees subject to mandatory social insurance contributions, only 430,000 were registered as companies providing training. This meant that the number of companies providing training as a proportion of the total population of companies had fallen to 20%. The reasons stated by companies in the 2014 wave of the BIBB Training Panel (2012-2014) include a shortage of training place applicants with inadequate school qualifications and a lack of interest in certain training occupations, a rise in company and training costs and a lack of skilled workers trained by the companies themselves necessitating the recruitment at short notice of skilled workers already trained in order to react to business developments.

In individual terms, there are four groups of indicators which fulfil the following functions:

1. Measure the overall requirement of trade and industry for new young skilled workers and the recruitment behaviour of firms and companies and indicate the skills needs of companies when selecting training applicants.

2. Indicate problems experienced by certain company groups in the filling of training provision.

3. Describe the behaviour adopted in terms of offering permanent employment to those who have successfully completed the final examination.

4. Help measure potential training participation and training participation actually realised.

Requirement of trade and industry for skilled workers

From 2014 to 2016, a high and rising demand for young skilled workers was revealed. Firms and companies were, however, only able to cover this in part. The proportion of companies with new training place provision rose from 16.6% to 20.2% (table 40). This meant that one in five of the total of 2.1 million companies with employees subject to mandatory social insurance contributions offered training places for young people in the training year 2015/2016. Only larger SMEs and companies in

the agricultural and forestry sector bucked this trend by offering reduced provision of new training places in average terms. Whereas just under two in three companies (63%) concluded new training contracts with young people in the 2013/2014 training year, this percentage fell to 52.6% for the 2015/2016 training year. However, the enormous growth in the overall number of companies needs to be taken into account when considering this development. In purely arithmetical terms, this rise contributes to the decline in the rate of newly concluded training contracts. Apart from annual fluctuations, only major companies display a constantly high proportion of numbers of new contracts. In terms of a branch-based consideration, companies in agriculture and forestry and the construction sector and institutions within the public sector show rising or constant numbers of new contracts.

Company skills requirements and selection of training place applicants

The proportions of newly recruited trainees by prior school learning show that the requirements made by companies of training place applicants have risen. If a differentiation by structural characteristics is also made, segmentation effects are also revealed in the selection behaviour of companies with regard to covering their skills requirements and requirements for young skilled workers (see table 41).

Problems in filling training places

Problems experienced by firms and companies in the search for suitable training place applicants also did not significantly reduce during the period of investigation, even though the results show that the problem situation has changed for certain company groups. Between 2014 and 2016, the proportion of companies with at least one unfilled training place rose from 43.7% to 45.4%. Whereas one in two companies in the smallest size category was unable to fill the training places it offered in 2016 and thus continued to experience major problems in securing a supply of young skilled workers, these problems also seem to have increased amongst medium-sized enterprises. Only major companies appear to have experienced an easing of the situation during the period of investigation. This positive trend is also likely to have applied to agriculture and forestry, the construction industry and the public sector. Irrespective of the development over the course of time, there is a general correlation across the whole of the period of investigation that problems decrease in line with increasing number of employees. This is possibly due to the attractiveness of training place provision at larger companies.

Such a development is, however, mirrored by the number of unfilled training places as proportion of total provision. In this case, the average proportion increased from 29.6% to 36.1%. This means that, according to the information supplied by the companies surveyed, one in three training places could not be filled. Although this development was particularly marked amongst the smallest category of company, it was also revealed to have taken place at smaller companies and medium-sized companies. Only larger SMEs and major companies remained unaffected by this trend. Within this context, the company information collected from the 2014 survey wave indicates that around one in three of these unfilled training places were not reported to the employment agencies by the companies as being vacant.

Nature of employment offered to those completing training

In light of the increasing problems faced by companies in securing a supply of young skilled workers, the description and investigation of the behaviour adopted by companies in terms of offering employment to successful trainees are becoming increasingly important.

Despite slight annual fluctuations, company behaviour in this regard changed only slightly in average terms. Around 2 in 5 successful trainees who had passed the final examination were given a permanent contract of employment by the company providing training (table 42).

Despite various different possibilities and experiences in terms of the search to recruit young people to a company's own training places, the filling of training places and opportunities for employment after conclusion of training, company participation in training has remained relatively stable notwithstanding slight decreases. During the period of investigation, around one in five companies with employees subject to mandatory social insurance contributions provided training to young people. Approximately one in twenty of employees subject to mandatory social insurance contributions were in training. Nevertheless, only an average of around 40% of companies entitled to provide training chose to avail themselves of this opportunity to secure a supply of young skilled workers.

As is the case in terms of the whole of the statistical population, participation in training rises in line with company size and continues to be higher in manufacturing industry and in the construction branch than in private sector and collective services. This correlation also applies if we consider the number of companies providing training as a proportion of all companies entitled to provide training.

Table 40: **Indicators of the overall requirement for young skilled workers between 2014 and 2016 by structural indicators (in %)**

	Overall company requirement for young skilled workers and demand not covered																			
	Proportion of companies with new training place provision[1]				Proportion of companies with newly concluded training contracts[2]				New contracts as a proportion of training place provision				Overall provision as a proportion of total number of qualified employees				New contracts as a proportion of total number of qualified employees			
	2014[3]	2015	2016	Ø[4]	2014	2015	2016	Ø	2014	2015	2016	Ø	2014	2015	2016	Ø	2014	2015	2016	Ø
1 to 19 employees	12.5	14.4	15.8	14.2	53.1	46.0	41.6	46.4	49.2	47.1	42.7	46.2	4.1	4.1	4.8	4.3	2.0	1.9	2.1	2.0
20 to 99 employees	44.2	48.5	49.5	47.4	78.0	70.1	74.0	73.9	74.8	68.4	66.1	69.4	3.4	4.1	4.8	3.8	2.5	2.6	2.8	2.7
100 to 199 employees	64.6	70.5	59.5	64.8	92.3	81.7	81.4	85.0	85.3	76.7	85.7	82.5	3.1	4.1	4.8	3.2	2.6	2.5	3.0	2.7
200 or more employees	75.9	76.1	74.4	75.4	96.3	89.8	95.0	93.7	92.3	91.2	91.9	91.8	2.2	4.1	4.8	2.4	2.1	2.2	2.4	2.2
Agriculture, forestry, mining	25.0	29.7	17.5	24.0	38.6	39.2	89.7	51.5	46.8	69.7	88.1	64.7	5.3	4.4	4.5	4.8	2.5	3.1	4.0	3.1
Manufacturing	25.9	35.2	36.7	32.5	77.9	52.7	56.3	60.8	79.0	68.1	66.2	70.5	3.2	4.2	4.9	4.0	2.5	2.9	3.2	2.9
Construction	23.7	29.2	28.6	27.2	45.0	45.0	48.0	46.1	46.6	47.5	53.5	49.5	5.1	6.7	6.5	6.1	2.4	3.2	3.5	3.0
Trade & repair	19.3	18.0	24.1	20.5	66.2	58.2	50.4	57.7	68.6	71.2	60.9	66.2	4.3	2.9	5.0	4.0	3.0	2.1	3.0	2.7
Company-related services	10.1	12.4	15.1	12.5	76.5	64.4	48.6	61.2	85.5	73.6	67.8	75.4	2.7	2.8	2.9	2.8	2.3	2.1	1.9	2.1
Personally related services	12.1	14.8	14.4	13.8	59.8	44.1	43.8	48.6	65.7	49.0	54.7	55.9	3.5	4.6	3.6	3.9	2.3	2.3	2.0	2.2
Medical/nursing services	18.6	17.0	18.7	18.1	61.3	77.2	54.5	64.0	58.1	73.8	64.0	65.2	1.9	2.0	2.3	2.1	1.1	1.5	1.5	1.3
Public sector, education, teaching	10.2	13.0	9.9	11.0	65.3	68.7	91.1	74.3	83.9	90.2	92.2	88.9	2.0	2.2	2.3	2.2	1.7	2.0	2.1	1.9
Federal states of western Germany	17.6	19.9	21.7	19.7	65.0	57.7	53.4	58.3	71.4	68.3	65.6	68.3	3.4	3.5	4.1	3.6	2.4	2.4	2.7	2.5
Federal states of eastern Germany	12.7	15.0	14.5	14.1	52.3	42.0	48.1	47.2	55.0	49.5	54.6	53.1	2.7	3.0	2.9	2.8	1.5	1.5	1.6	1.5
Chamber of commerce and industry[5]	14.7	15.6	17.2	15.8	69.9	63.0	51.3	12.1	75.8	73.6	67.4	72.2	2.8	2.6	3.2	2.9	2.1	1.9	2.2	2.1
Chamber of crafts and trades	17.3	22.4	27.1	22.1	43.9	39.8	54.4	10.3	48.0	42.5	54.1	48.8	4.9	6.3	8.0	6.4	2.4	2.7	4.3	3.1
Chamber of commerce and industry, chamber of crafts and trades	31.8	29.0	35.7	31.7	70.1	58.2	38.4	17.7	70.1	65.6	53.8	63.9	4.0	4.1	5.8	4.4	2.8	2.7	3.1	2.8
Other chambers in total, of which:	13.6	16.4	14.8	15.0	71.1	60.2	61.7	9.5	71.9	73.3	74.9	73.7	2.8	3.6	2.6	2.9	2.0	2.6	2.0	2.2
Chamber of Agriculture			12.7				83.3				78.1				4.8				3.7	
Liberal professions			16.1				52.0				59.2				4.0				2.4	
Chamber of Housekeeping			17.7				36.6				78.1				3.9				3.0	
Public sector			12.0				87.9				93.9				1.5				1.4	
Total	**16.6**	**18.9**	**20.2**	**18.6**	**63.0**	**55.2**	**52.6**	**56.6**	**68.7**	**65.4**	**63.9**	**65.9**	**3.2**	**3.4**	**3.8**	**3.5**	**2.2**	**2.2**	**2.5**	**2.3**

[1] as a proportion of all companies with employees subject to mandatory social insurance contributions
[2] as a proportion of all companies offering training places
[3] Time reference is the respective training year, e.g. for the 2014 survey wave the 2013/2014 training year.
[4] Average time series proportions in the period of investigation between 2014 and 2016
[5] A significant proportion of companies surveyed provided no information as to chamber membership. These companies were allocated to the information collected in percentage terms.

Source: BIBB Training Panel, 2014 to 2016 survey waves, cross-sectionally weighted results and extrapolated results

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Table 41: **Indicators of the company skills requirements realised in the case of young skilled workers between 2014 and 2016 by structural characteristics (in %)**

	Company skills requirements and recruitment behaviour											
	Proportion of newly concluded training contracts by school qualification of the training place applicants[1]											
	Lower secondary school leaving certificate				Intermediate secondary school leaving certificate				Upper secondary school leaving certificate			
	2014[2]	2015	2016	Ø[3]	2014	2015	2016	Ø	2014	2015	2016	Ø
1 to 19 employees	36.5	26.4	25.3	29.6	45.5	55.8	54.2	51.7	18.0	17.8	20.5	18.7
20 to 99 employees	33.2	23.5	19.8	25.4	51.1	43.4	54.3	49.7	15.8	33.1	25.9	24.9
100 to 199 employees	24.7	22.7	21.8	23.1	46.4	51.0	52.8	50.1	28.9	26.3	25.3	26.8
200 or more employees	19.0	25.2	23.6	22.7	46.1	45.4	42.7	44.7	34.8	29.3	33.7	32.7
Agriculture, forestry, mining	24.4	4.9	8.0	12.0	61.3	70.4	79.6	71.0	14.3	24.6	12.4	17.0
Manufacturing	23.7	27.2	25.3	25.4	54.8	50.9	52.2	52.6	21.6	21.8	22.5	22.0
Construction	50.7	46.9	39.7	45.2	45.7	46.3	56.8	50.2	3.5	6.8	3.5	4.6
Trade & repair	41.1	26.1	26.2	31.3	44.6	55.7	48.1	49.1	14.3	18.2	25.7	19.6
Company-related services	9.8	7.4	8.6	8.6	39.3	39.7	37.5	38.9	50.9	52.9	53.9	52.5
Personally related services	33.3	23.2	10.7	22.9	35.8	47.0	49.2	43.6	30.8	29.9	40.1	33.5
Medical/nursing services	22.9	27.0	24.8	25.1	69.6	52.3	57.3	59.1	7.4	20.7	17.8	15.9
Public sector, education, teaching	34.0	30.9	30.6	31.7	41.9	35.2	44.7	40.4	24.1	33.8	24.7	27.9
Federal states of western Germany	30.9	26.7	24.1	27.2	45.2	46.3	49.4	47.0	23.9	26.9	26.5	25.8
Federal states of eastern Germany	20.0	9.5	13.3	14.4	59.9	66.5	58.4	61.5	20.1	23.9	28.2	24.1
Chamber of commerce and industry[4]	25.6	19.2	19.4	21.5	43.4	47.4	48.6	45.7	31.1	33.4	34.2	32.9
Chamber of crafts and trades	49.8	40.0	37.3	41.4	44.1	48.6	48.6	47.4	6.1	11.4	14.0	11.2
Chamber of commerce and industry, chamber of crafts and trades	38.9	30.4	32.0	33.6	45.7	50.8	55.3	50.1	15.4	18.7	12.7	16.3
Other chambers in total, of which:	12.9	22.6	15.2	17.0	63.5	51.7	58.7	57.6	23.6	25.7	26.1	25.4
Chamber of Agriculture			13.1				74.8				12.1	
Liberal professions			7.5				69.8				22.6	
Chamber of Housekeeping			24.7				46.5				28.8	
Public sector			18.5				49.0				32.5	
Total	**29.1**	**24.8**	**22.8**	**25.6**	**47.3**	**48.6**	**50.5**	**48.8**	**23.5**	**26.6**	**26.7**	**25.6**

[1] The denominator is the respective total of school leavers with the lower and intermediate secondary school leaving certificate and intermediate secondary school leavers and leavers with a University of Applied Sciences /higher education entrance qualification.
[2] Time reference is the respective training year, e.g. for the 2014 survey wave the 2013/2014 training year.
[3] Average time series proportions in the period of investigation between 2014 and 2016
[4] A significant proportion of companies surveyed provided no information as to chamber membership. These companies were allocated to the information collected in percentage terms.

Source: BIBB Training Panel, 2014 to 2016 survey waves, cross-sectionally weighted results and extrapolated results VET Data Report Germany 2016/2017

1.9 Educational behaviour of young people

Every two years, acting on behalf of the Federal Ministry of Education and Research (BMBF), the Federal Institute for Vocational Education and Training (BIBB) joins forces with the Federal Employment Agency (BA) to conduct a representative survey of young people and young adults registered with the BA as training place applicants. These BA/BIBB applicant surveys take place after the conclusion of the current BA placement or reporting year with the aim of supplementing the data of the training market statistics. Initial results of the 2016 BA/BIBB Applicant Survey relating to unplaced applicants from previous years, applicants from a migrant background and applicants in the 2016 reporting year whose destination is officially unknown are presented below. Alongside a brief description of the respective applicant groups, the main focus is placed on destination as of the end of 2016.

Table 42: **Indicators of the nature of employment offered to those completing training between 2014 and 2016 by structural characteristics (in %)**

	Company behaviour adopted in terms of offering permanent employment and trainee behaviour															
	Proportion of trainees given a permanent contract of employment[1]				Proportion of trainees given a fixed-term contract of employment[1]				Proportion of trainees leaving the company by their own wish[1]				Proportion of departures for company reasons and because of marks achieved[1]			
	2014[2]	2015	2016	Ø[3]	2014	2015	2016	Ø	2014	2015	2016	Ø	2014	2015	2016	Ø
1 to 19 employees	45.0	59.7	45.5	50.8	12.0	12.2	15.3	13.1	35.9	18.2	25.6	26.0	7.2	9.8	13.6	10.2
20 to 99 employees	41.7	45.1	33.9	40.2	26.1	31.1	23.5	26.9	21.2	12.1	26.1	19.9	11.0	11.8	16.5	13.1
100 to 199 employees	37.0	30.5	39.8	36.3	30.9	36.8	32.5	33.0	14.6	13.3	14.4	14.2	17.5	19.4	13.2	16.4
200 or more employees	34.3	33.3	38.6	35.5	45.5	44.1	41.8	43.7	12.2	10.0	10.7	10.9	7.9	12.6	8.9	9.8
Agriculture, forestry, mining	16.3	12.0	10.7	12.8	49.6	29.6	42.6	38.6	20.9	39.2	40.9	34.7	13.2	19.3	5.8	13.9
Manufacturing	38.4	45.0	45.5	43.1	41.0	41.4	36.4	39.3	15.6	8.3	12.3	12.2	4.9	5.4	5.8	5.4
Construction	42.9	76.6	32.7	55.3	19.9	13.8	22.6	17.9	27.6	5.2	32.6	18.8	9.6	4.4	12.1	8.0
Trade & repair	48.6	45.8	41.4	45.5	22.0	28.8	27.1	25.8	21.8	9.3	20.0	16.9	7.6	16.1	11.5	11.7
Company-related services	36.7	48.8	35.7	39.9	24.2	29.8	25.4	26.3	26.7	15.4	23.6	22.3	12.3	6.0	15.2	11.4
Personally related services	33.8	39.4	51.8	42.1	24.8	23.8	18.2	22.1	29.8	24.1	20.7	24.7	11.6	12.7	9.3	11.1
Medical/nursing services	60.9	29.3	32.3	39.9	11.4	27.2	19.6	19.8	22.7	28.9	22.4	24.8	4.9	14.6	25.7	15.4
Public sector, education, teaching	21.6	37.1	22.9	27.8	35.1	25.2	31.3	30.3	15.7	7.1	10.8	11.1	27.5	30.7	35.0	30.8
Federal states of western Germany	40.9	46.0	38.6	41.9	27.0	28.5	28.3	27.9	22.6	13.5	20.1	18.6	9.5	12.1	13.1	11.5
Federal states of eastern Germany	33.6	42.7	46.0	41.0	31.9	27.7	24.4	27.8	20.3	17.2	17.5	18.3	14.1	12.3	12.1	12.8
Chamber of commerce and industry[4]	35.4	39.5	40.0	38.2	36.2	39.9	34.4	36.6	20.7	12.5	16.7	16.9	8.0	7.8	8.6	8.2
Chamber of crafts and trades	43.6	69.8	36.5	52.2	13.1	11.6	15.1	13.0	33.5	6.1	36.2	23.2	9.8	12.3	13.0	11.6
Chamber of commerce and industry, chamber of crafts and trades	49.7	34.6	33.3	39.7	21.5	30.2	24.8	25.9	15.9	17.2	13.8	16.0	12.0	18.6	28.3	18.5
Other chambers in total, of which:	40.5	44.3	43.9	43.3	19.9	19.2	20.6	20.0	22.2	22.9	19.9	21.4	17.2	14.2	15.8	15.5
Chamber of Agriculture			13.4				9.5				64.9				13.9	
Liberal professions			53.2				14.1				19.2				13.7	
Chamber of Housekeeping			70.8				6.8				14.8				7.8	
Public sector			29.7				35.6				13.2				21.2	
Total	**40.1**	**45.6**	**39.6**	**41.8**	**27.6**	**28.4**	**27.8**	**27.9**	**22.3**	**13.9**	**19.7**	**18.6**	**10.0**	**12.1**	**12.9**	**11.7**

[1] As a proportion of all company-based trainees successfully completing the final examination
[2] Time reference is the previous calendar year, e.g. for the 2014 survey wave the 2013/2014 training year.
[3] Average time series proportions in the period of investigation between 2013 and 2015
[4] A significant proportion of companies surveyed provided no information as to chamber membership. These companies were allocated to the information collected in percentage terms.

Source: BIBB Training Panel, 2014 to 2016 survey waves, cross-sectionally weighted results and extrapolated results

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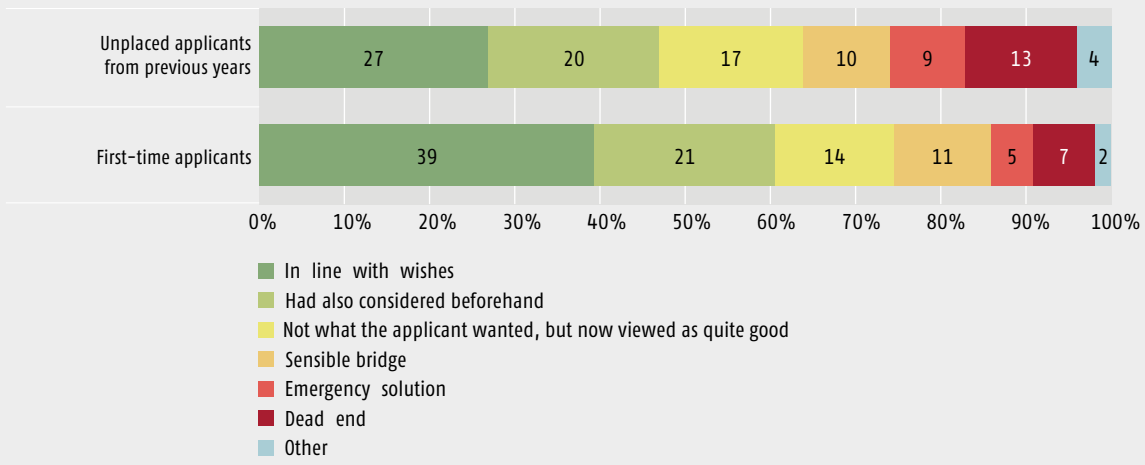
1.9.1 Unplaced applicants from previous years

According to the training market statistics produced by the Federal Employment Agency (BA), applicants from previous school leaver cohorts made up 42.2 % of all applicants registered with the employment agencies and Job Centres in the 2016 reporting year. On the basis of the 2016 BA/BIBB Applicant Survey, the number of unplaced applicants from previous years[5] as a proportion of all training place applicants was calculated to be 27% for the 2016 reporting year. This means that the amount of unplaced applicants from previous years has once again fallen slightly compared to 2014. A sharp decrease had already taken place in the preceding years, i.e. from 2010 to 2014. In 2006 and 2008, the rate of unplaced applicants from previous years was as high as 40% in each case. In the 2016 reporting year, just under half of unplaced applicants from previous years (49%) had applied for company-based training for the first time in the previous year. 23% had endeavoured to enter training in the year prior to that, and a further 23% had undertaken an attempt in earlier years.

89% of unplaced applicants from previous years were aged 18 and above, whereas this was true for only 49% of first-time applicants. Young people from a migrant background were somewhat more prevalent amongst the group of unplaced applicants from previous years (31%) than amongst first-time applicants. In some cases, there were significant differences in the school leaving qualifications of the two groups of applicants. Compared to first-time applicants, unplaced applicants from previous years were less likely to have achieved an intermediate secondary school leaving certificate (45% as opposed to 49%), but were more likely to be in possession of a University of Applied Sciences or general higher education entrance qualification (29% versus 21%). 42% of all applicants who had endeavoured to secure a training place more than two years ago held a higher education entrance qualification. This can be explained by the fact that unsuccessful applicants from previous years with an intermediate secondary school leaving certificate were relatively likely to have acquired a higher school leaving qualifications by attending a specialised upper secondary school or higher trade school. With regard to marks on the final school leaving certificate, the average performance in mathematics by unplaced applicants from previous years was slightly weaker than that of first-time applicants. Unplaced applicants from previous years with a University of Applied Sciences or general higher education entrance qualification had noticeably lower average marks in mathematics (3.4 on a scale of 1 to 6 as opposed to 2.9). As of the end of 2016, 35% of unplaced applicants from previous years were in company-based training pursuant to the Vocational Training Act (BBiG) or Crafts and Trades Regulation Code (HwO). 6% were in extra-company or full-time school-based training in a BBiG/HwO occupation. The longer the time that had elapsed since initial application for a training place, the less likely it was that unplaced applicants from previous years would be in company-based training at the end of 2016.

Figure 13: **Evaluation of actual destination by unplaced applicants from previous years/first-time applicants in the 2016 reporting year**



Source: 2016 BA/BIBB Applicant Survey, calculations by the Federal Institute for Vocational Education and Training (weighted) VET Data Report Germany 2016/2017

5 Unplaced applicants from previous years are "all persons who state that they have applied to commence training at an earlier point in time than in the current training year".

There was a relatively strong difference between the destination of unplaced applicants from previous years and first-time applicants depending on the level of school leaving qualification achieved (figure 13).

What are young people's preferences regarding their company providing training?

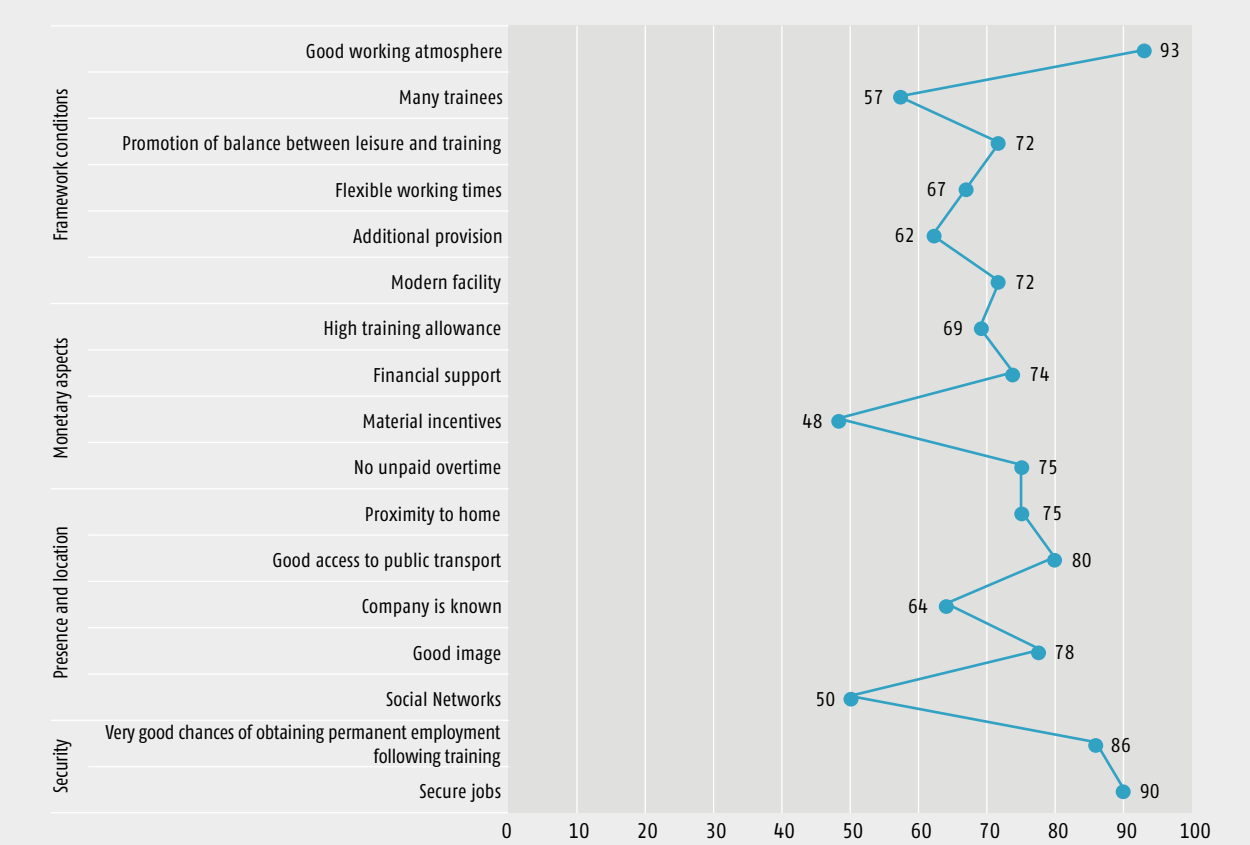
In order to investigate the significance of the company for young people in their search for a training place, this topic was addressed within the scope of the 2016 BA/BIBB Applicant Survey. Around 2,000 training place applicants were initially asked about the significance of the company in their search for a training place. The issue of the company providing training is significant to young people during their endeavours to secure a training place. Most applicants who particularly like the company in question are prepared to make compromises with regard to the training occupation. Figure 14 shows which aspects make a company attractive for young people. The higher the values, the stronger the respondents' wish is that their future company providing training will display the characteristic in question.

Applicants from a migrant background

According to the training market statistics of the BA, 13.7% of registered training place applicants in the 2016 reporting year held a foreign nationality. Within the scope of the BA/BIBB Applicant Survey, information provided by the applicants on their country of birth, nationality and native language is used to determine whether a migrant background is in place or not. In the 2016 reporting year, 29% of applicants were revealed to be from a migrant background.

The destinations of applicants from and not from a migrant background differed very significantly in each case, even in circumstances where the level of school leaving qualification was the same (figure 15). At the end of 2016, migrants who had achieved no qualification higher than the lower secondary school leaving certificate were considerably less likely to be in company-based training than the comparison group not from a migrant background (22% as opposed to 33%). The difference was even greater in the case of an intermediate secondary school leaving certificate.

Figure 14: **Preferences of all respondents (responses in %)**



Source: 2016 BA/BIBB Applicant Survey, calculations by the Federal Institute for Vocational Education and Training (weighted) VET Data Report Germany 2016/2017

Table 43: **Destination of unplaced applicants from and not from a migrant background in the 2016 reporting year as of the end of 2016**

Current destination	Applicants from a migrant background	Applicants not from a migrant background
	in %	%
Company-based training in a BBiG/HwO occupation	27	44
Extra-company/school-based training in a BBiG/HwO occupation1	3	6
Training in a school-based occupation, other VET	4	5
Higher education study	4	4
General school	8	6
Vocational school (partially qualifying)	9	8
School-based BVJ, BEJ, BOJ or BGJ2	3	2
Vocational preparation scheme	5	3
Company-based introductory training	1	1
Work experience placement	2	1
Voluntary military service, Federal Voluntary Service, voluntary social or ecological year	2	3
Employment	6	3
casual work	7	3
Unemployed, not in employment	12	8
Other (e.g. at home for personal reasons, stay abroad)	4	1
Total[3]	**100**	**100**

1 Including cases in which form of training was not clearly discernible.
2 BVJ = prevocational training year, BEJ = career entry year, BOJ = vocational orientation year, BGJ = Basic vocational training year
3 Missing information or discrepancies as a result of the rounding up or down of figures mean that the total of the individual percentage proportions does not always add up to precisely 100%.
Source: 2016 BA/BIBB Applicant Survey, calculations by the Federal Institute for Vocational Education and Training (weighted) VET Data Report Germany 2016/2017

Applicants whose destination is officially unknown

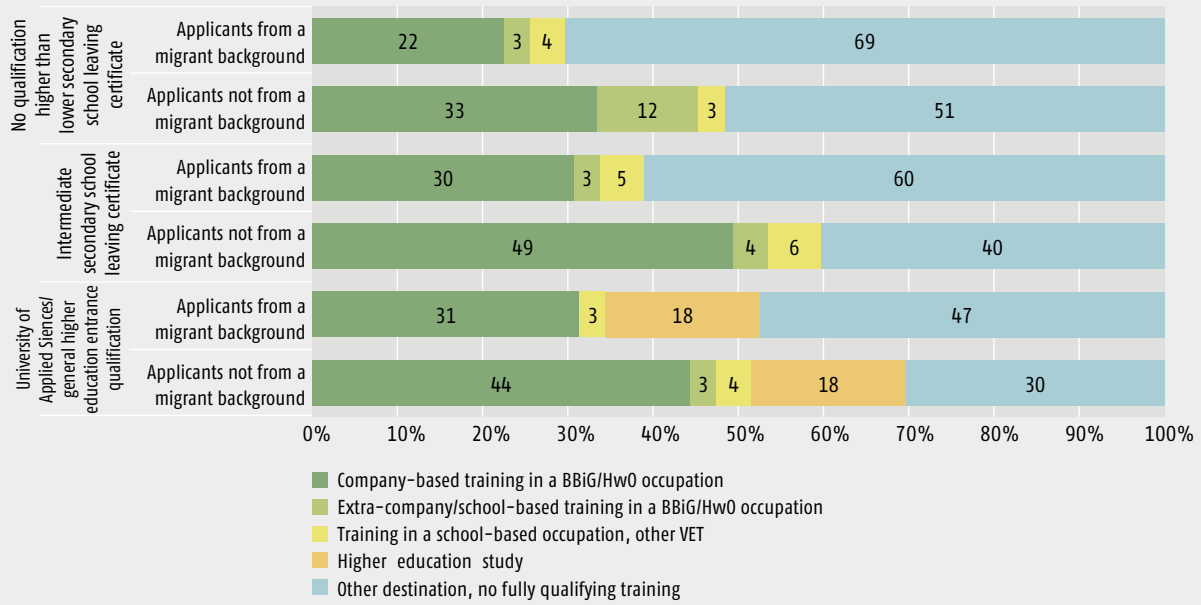
In the 2016 reporting year, no further placement endeavours were made in respect of 16% of applicants registered with the employment agencies and Job Centres operating as joint institutions because such applicants had failed to report back and had thus decided to forgo further support in the search for a training place. According to the BA's training market statistics, such persons are deemed to be applicants whose destination is unknown at the end of the reporting year. The 2016 BA/BIBB Applicant Survey enables us to determine the actual destination of these applicants. The survey shows that 9% of applicants in the 2016 reporting year whose destination was unknown were in company-based training pursuant to the BBiG/HwO as of the end of 2016 (table 44).

Progression chances to dual vocational education and training of applicants from a migrant background

The following analysis uses the BA/BIBB Applicant Surveys from 2004 to 2014 as a basis for showing the development of the chances of progression to dual vocational education and training of applicants from and not from a migrant background. Applicants from a migrant background are also considered in a differentiated way according to regions of origin rather than merely as an overall group.

Between 2004 and 2014, the number of applicants from a migrant background as a proportion of all training place applicants rose considerably, increasing by six percentage points from 20% to 26%. The regions of origin differentiated for the purpose of the analyses are Eastern European/CIS states, Southern European states, Turkey and Arab states and other states. Figure 16 shows how the distribution of applicants from a migrant background changed in accordance with the four regions of origin from 2004 to 2014.

Figure 15: **Destination of applicants from a migrant background and not from a migrant background in the 2016 reporting year at the end of 2016 by school qualification (in %)[1]**



[1] Missing information or discrepancies as a result of the rounding up or down of figures mean that the total of the individual

Source: 2016 BA/BIBB Applicant Survey, calculations by the Federal Institute for Vocational Education and Training (weighted) VET Data Report Germany 2016/2017

Table 44: **Destination of applicants whose destination was unknown and of other applicants in the 2016 reporting year as of the end of 2016**

Current destination	Applicants whose destination was unknown	Applicants with a known destination
	in %	%
Company-based training in a BBiG/HwO occupation	9	44
Extra-company/school-based training in a BBiG/HwO occupation[1]	1	6
Training in a school-based occupation, other VET	2	5
Higher education study	5	4
General school	4	7
Vocational school (partially qualifying)	3	9
School-based BVJ, BEJ, BOJ or BGJ[2]	1	3
Vocational preparation scheme	5	4
Company-based introductory training	1	1
Work experience placement	4	1
Voluntary military service, Federal Voluntary Service, voluntary social or ecological year	1	3
Employment	10	3
casual work	12	3
Unemployed, not in employment	32	5
Other (e.g. at home for personal reasons, stay abroad)	8	1
Total[3]	**100**	**100**

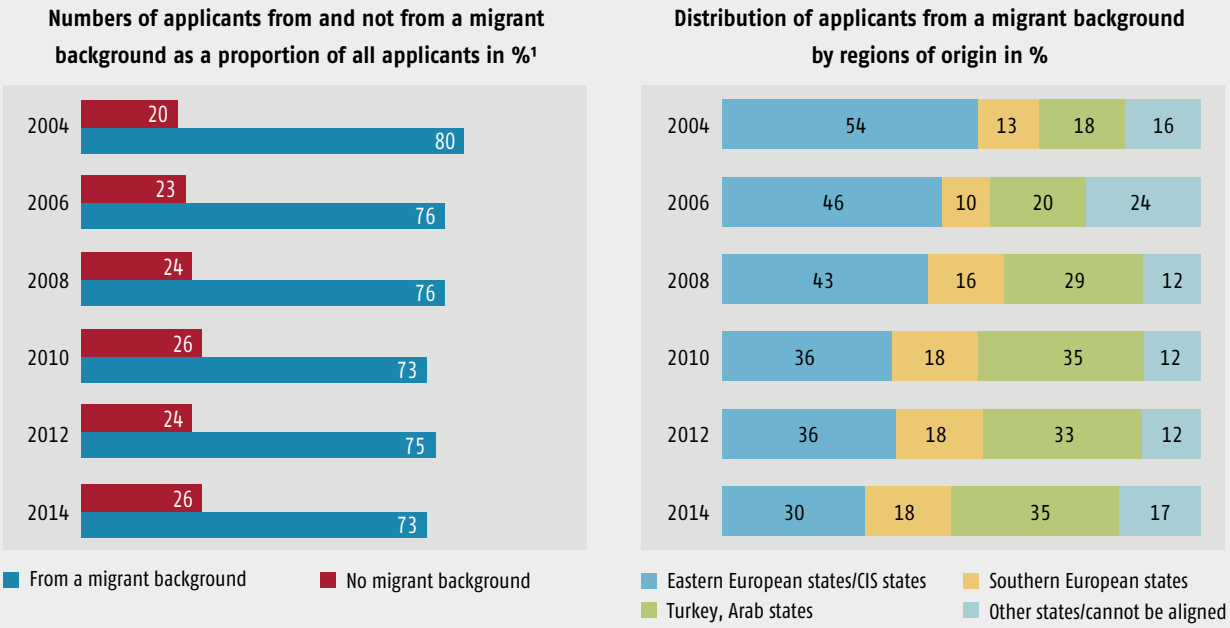
[1] Including cases in which form of training was not clearly discernible.

[2] BVJ = prevocational training year, BEJ = career entry year, BOJ = vocational orientation year, BGJ = Basic vocational training year

[3] Missing information or discrepancies as a result of the rounding up or down of figures mean that the total of the individual percentage proportions does not always add up to precisely 100%.

Source: 2016 BA/BIBB Applicant Survey, calculations by the Federal Institute for Vocational Education and Training (weighted) VET Data Report Germany 2016/2017

Figure 16: **Distribution of applicants from a migrant background by regions of origin 2004 to 2014 (in %)**



¹ Within the individual surveys, missing information meant that no respective clarification could take place with regard to approximately 1% of applicants as to whether a migrant background was in place or not. These cases were not included in the furtehr evaluations.

Source: BA/BIBB Applicant Surveys from 2004 to 2014, calculations by the Federal Institute for Vocational Education and Training (weighted)

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The overall group of applicants from a migrant background were more likely to be in possession of qualification no higher than a lower secondary school leaving certificate and were also less likely to have achieved an intermediate or higher secondary qualification. The proportion of intermediate and higher secondary school leaving qualifications increased significantly in both applicant groups between 2004 and 2014. At the same time, there was a considerable decrease in the proportion of persons with no qualification higher than the lower secondary school leaving certificate. Over the past years, applicants from a migrant background were always far less successful than their counterparts not from a migrant background in the search for a company-based training place in which training took place pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO) (see table 45).

Apart from company-based training, there is also a smaller number of extra-company training places in occupations in which training takes place in accordance with the Vocational Training Act or Crafts and Trades Regulation Code. The extra-company form of dual training is primarily publicly financed, and the target group comprises disadvantaged or disabled young people who have only slight prospects of obtaining a company-based training place. If we consider the whole of dual training (company-based training and extra-company based-training), progression rates of applicants from and not from a migrant background between 2004 and 2014 were each a number of percentage points higher than if only company-based training were to be taken into account (table 46).

1.10 Costs and financial support for vocational education and training

1.10.1 Development in training allowances

Pursuant to § 17 of the Vocational Training Act (BBiG), trainees in the dual system of vocational education and training have a legal right vis-à-vis their company providing training to receive an appropriate training allowance which rises with every year of training. In overall terms, human resources costs for trainees within the scope of the execution of company-based VET make up the largest cost factor. They account for 62% of gross training costs incurred. In average terms, 45% of these costs are apportioned to training allowances alone. A further 17% are allotted to statutory benefits for trainees and to other benefits provided under collective wage agreements on a voluntary basis.

Table 45: **Progression rates of applicants to company-based training from 2004 to 2014 differentiated in accordance with different migrant groups (in %)**

Characteristics		2004	2006	2008	2010	2012	2014
From/not from a migrant background	From a migrant background[1]	25%	26%	24%	28%	29%	27%
	No migrant background[1]	36%	37%	39%	42%	44%	42%
Migrant background differentiated by regional origin	Eastern European states/CIS states	29%	29%	29%	35%	31%	32%
	Southern European states	29%	34%	23%	33%	31%	24%
	Turkey/Arab states	16%	17%	19%	20%	25%	24%
	Other states/cannot be aligned	20%	24%	25%	27%	28%	30%
Origin from Eastern European states/CIS states	Personal experience of migration, not born in Germany (1st generation)	29%	29%	28%	33%	28%	27%
	No personal experience of migration, born in Germany (2nd/3rd generation)[2]	N/A	N/A	31%	42%	38%	39%
	German nationality (including dual nationality)	30%	30%	29%	35%	30%	34%
	Foreign nationality	20%	26%	20%	30%	34%	27%
Origin from Turkey/Arab states	Personal experience of migration, not born in Germany (1st generation)	15%	17%	11%	20%	17%	N/A
	No personal experience of migration, born in Germany (2nd/3rd generation)	17%	17%	20%	20%	26%	23%
	German nationality (including dual nationality)[2]	N/A	N/A	17%	19%	25%	21%
	Foreign nationality	17%	17%	20%	21%	25%	27%

[1] Progression rates for the reporting years 2004, 2006 and 2008 may deviate minimally from results reported in earlier years because of data corrections.
[2] The rate is deemed not applicable (N/A) if the sample size achieved in the survey is 30 or fewer in the relevant group.

Source: BA/BIBB Applicant Surveys from 2004 to 2014, calculations by the Federal Institute for Vocational Education and Training (weighted)

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Table 46: **Progression rates of applicants to dual training (company-based training and extra-company training) from 2004 to 2014 differentiated in accordance with different migrant groups (in %)**

Characteristics		2004	2006	2008	2010	2012	2014
From/not from a migrant background	From a migrant background[1]	29%	32%	32%	35%	35%	32%
	No migrant background[1]	44%	45%	46%	49%	49%	47%
Migrant background differentiated by regional origin	Eastern European states/CIS states	33%	35%	36%	42%	37%	37%
	Southern European states	33%	39%	28%	42%	37%	31%
	Turkey/Arab states	19%	26%	27%	25%	32%	27%
	Other states/cannot be aligned	25%	31%	35%	35%	30%	34%
Origin from Eastern European states/CIS states	Personal experience of migration, not born in Germany (1st generation)	33%	35%	36%	41%	35%	32%
	No personal experience of migration, born in Germany (2nd/3rd generation)[2]	N/A	N/A	31%	46%	42%	43%
	German nationality (including dual nationality)	34%	35%	36%	43%	36%	38%
	Foreign nationality	31%	31%	32%	37%	51%	35%
Origin from Turkey/Arab states	Personal experience of migration, not born in Germany (1st generation)	20%	25%	20%	22%	19%	N/A
	No personal experience of migration, born in Germany (2nd/3rd generation)	19%	26%	28%	25%	34%	26%
	German nationality (including dual nationality)[2]	N/A	N/A	23%	25%	35%	26%
	Foreign nationality	20%	26%	30%	25%	29%	29%

[1] Progression rates for the reporting years 2004, 2006 and 2008 may deviate minimally from results reported in earlier years because of data corrections.
[2] The rate is deemed not applicable (N/A) if the sample size achieved in the survey is 30 or fewer in the relevant group.

Source: BA/BIBB Applicant Surveys from 2004 to 2014, calculations by the Federal Institute for Vocational Education and Training (weighted)

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Across broad sections of trade and industry, the social partners (employers and trade unions) conclude agreements regarding training allowances. These regulations have their basis in collective wage agreements and are mostly made for a certain economic sector in a particular region. Companies which are bound by a collective wage agreement are subject to a minimum requirement to pay their trainees the sums stipulated within their economic sector and region. This means that lower allowances are impermissible. Extra allowances above and beyond the collectively agreed rates are, however, possible. By way of contrast, companies not bound by a collective wage agreement may pay training allowances that are significantly below the allowances stipulated under the wage agreement applicable to their economic sector and region. According to current case law, such a shortfall may be up to 20%.

The Federal Institute for Vocational Education and Training (BIBB) has been observing and analysing the development of training allowances based on collective wage agreements in the federal states of western Germany since 1976. This analysis has included the federal states of eastern Germany since 1992 and currently focuses on around 450 collective wage agreements in Germany's largest collective wage agreement areas measured by numbers of employees. The amount of training allowances based on collective wage agreements varies considerably between economic sectors.

In 2016, average training allowances based on collective wage agreements in the federal states of western Germany were €859 per month. This represented a rise of 3.2% compared to the previous year. This was a weaker rise in percentage terms than in 2015, when the corresponding figure was 3.7%. In the federal states of eastern Germany, the average monthly training allowance increased by 4.9% to €807. This was higher than the previous year's rise of 4.3% and thus represented a narrowing of the gap between the East German and West German collective wage agreement levels in 2016 (figure 17).

In 2016, average training allowances paid also differed widely between the individual training occupations. Very high training allowances based on collective wage agreements were paid in the main construction trades, such as bricklayer. The overall average here was €1,042 per month. This figure was, however, considerably higher in the federal states of western Germany (€1,090) than in the federal states of eastern Germany (€897). Very high average allowances were also paid in occupations such as insurance and financial services broker (average rate in both parts of the country €1,028), mechatronics fitter (overall €1,023, western Germany €1,027, eastern Germany €1,005) and print media technologist (average rate in both parts of the country €963). By way of contrast, training allowances tended to be comparatively low in such occupations as painter and varnisher (average rate in both parts of the country €670), baker (average rate in both parts of the country €618), florist (average rate in both parts of the country €587) and chimney sweep (average rate in both parts of the country €495). In 2016, there were also large deviations in the level of training allowances between training areas. In overall terms, the highest training allowances based on collective wage agreements were paid in the public sector, an area in which differences between the federal states of western Germany and eastern Germany no longer occurred.

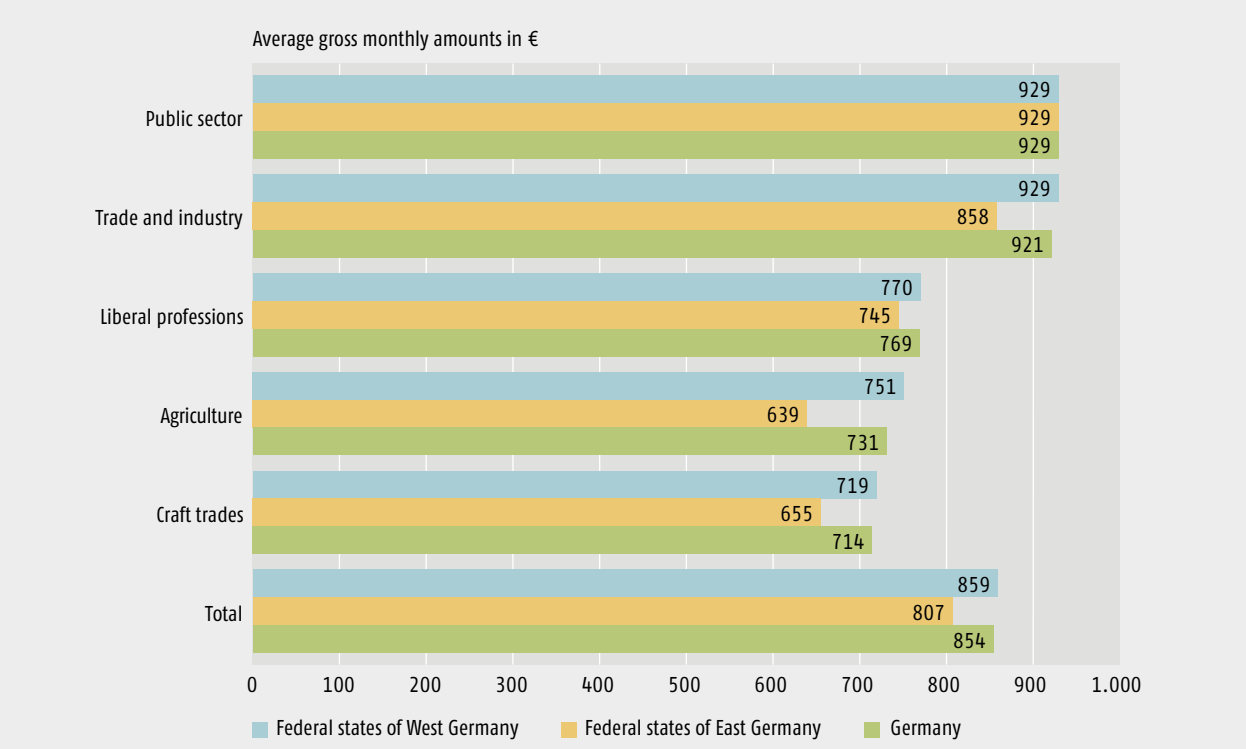
In 2016, occupationally specific training allowances were distributed across Germany in overall terms as follows. 20% of trainees achieved high monthly amounts of €1,000 and above. 62% received training allowances of between €700 and €1,000. 18% were paid relatively low training allowances of under €700.

In 2016, differences between the levels of training allowance received by male and female trainees were also identified. In Germany as a whole, the overall average of training allowances paid to young men was €864 per month. The corresponding figure for young women was €836, 3.2% lower. All amounts stated thus far refer to the average training allowances based on collective wage agreements paid through the *entire* duration of training stipulated in the training regulations. In terms of individual years of training, the following monthly average rates were calculated for the whole of Germany in 2016. The figure for the 1st year of training was €772. In the 2nd, 3rd and 4th years of training, average sums were €848, €937 and €972 respectively. In the federal states of eastern Germany, average monthly training allowances were €727 in the 1st year, €802 in the 2nd year, €882 in the 3rd year and €955 in the fourth year.

1.10.2 Public spending on vocational education and training

Table 47 documents spending from public budgets on vocational education and training from 2001 to 2016. It takes account of all expenditure which can be allocated in a source-specific manner in connection with the development, improvement, implementation and support of training programmes pursuant to § 1 Paragraphs 1 and 2 BBiG. Items of spending which may relate to vocational education and training but cannot be clearly allocated to the VET system in accordance with the costs-by-cause principle are not included. The latter encompass examples such as the children's and youth service measures provided by the Federal Ministry of the Family, Senior Citizens, Women and Young People (BMFSFJ). Although

Figure 17: **Training allowances based on collective wage agreements in 2016 by training areas – average gross monthly amounts in €**



Source: Calculations by the Federal Institute for Vocational Education and Training

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the intention of some of these programmes is to facilitate transition to the labour market, it is highly likely that they would be implemented in an identical or similar way were a vocational education and training system not to exist. The crosses included in Table 47 indicate whether a spending item is mainly caused by recognised VET programmes within the dual system (DS), by measures delivered in the transitional system (TS) and/or by the school-based occupation system (SBS). The division is, however, not always precise. One position may contain expenditure for one or more areas. In addition to this, no definitive delineation exits for the transitional system. A number of individual items continue to relate expenditure on continuing training, to a considerable extent in some cases. Because of these delineation difficulties, totalling the marked lines in the table only allows us to arrive in each case at an upper limit for overall public spending on VET in DS, TS and SBS. The supposition is that the volumes of spending attributable to the respective sectors are actually lower. The following further indications should be taken into account in interpreting the table and in conducting comparisons with previous years.

With regard to the federal ministries, all items of expenditure are recorded which are attributable to vocational education and training in accordance with objective considerations. Although the functions plan means that these are mostly allocated to the areas of continuing training and labour market policy in the annual financial statistics and in the Educational Financing Report produced by the Federal Statistical Office, the positions shown in Table 47 effectively also relate to training funding to a significant extent. It is, however, clearly discernible that federal expenditure increased in the year 2016 (particularly by the Federal Ministry of Education and Research). This rise is largely due to measures for the integration of refugees into vocational education and training. Spending by the federal states and by local government authorities on vocational schools (part-time and full-time vocational schools, vocational preparatory schools, specialised upper secondary schools, vocational upper secondary schools, vocational grammar schools) is taken from the annual financial statistics of the Federal Statistical Office. Because the intention is to present expenditure incurred by the public budgets, the concept of basic funding should be applied here.

Preliminary actual spending in 2015 was just over €7.7 billion. Just under €8.0 billion was earmarked in the public budgets for the year 2016. Following a fall in spending

Table 47: **Public spending on vocational education and training (part 1)**

	2001	2010[18]	2013	2014	2015	2016	DS	SBS	TS	includes continuing training[19]
	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion				
BMBF[1]										
Funding for extra-company vocational training centres[2]	0.043	0.043	0.040	0.040	0.042	0.056	X		X	
Pupil grants for full-time vocational school attendees (full-time vocational schools, vocational preparation schools, specialised upper secondary schools and trade and technical schools not including VET)[4]	0.148	0.253	0.309	0.300	0.435	N/A		X	X	
International exchange and cooperation in vocational training	0.007	0.010	0.013	0.009	0.011	0.013	X	X		X
Innovations and structural development of vocational training	N/A	0.050	0.086	0.074	0.075	0.114	X	X	X	X
BIBB (operation and investments)	0.028	0.030	0.034	0.038	0.036	0.042	X	X	X	X
Support for gifted students in vocational education and training[5]	0.014	0.035	0.044	0.046	0.046	0.049				X
Measures for the improvement of vocational orientation	-	0.019	0.066	0.064	0.066	0.077			X	
Discontinued measures[6]	0.291	0.032	0.001	-	-	-	X	X		X
BMWi[1]										
Vocational training for the SME sector – apprentice instruction[7]	0.042	0.047	0.042	0.043	0.044	0.045	X			
"Precise Recruitment"[8]	-	0.003	0.003	0.003	0.003	0.010	X		X	
BMAS[9]										
Special measures for younger persons within the legal scope of Social Security Code II (SGB II)										
▸ Extra-company VET, training support measures	N/A	0.378	0.169	0.137	0.116	0.103	X		X	
▸ Measures for detailed vocational orientation	N/A	0.001	0.000	-	-	-			X	
▸ Introductory training[10]	N/A	0.017	0.011	0.009	0.009	0.009			X	
Federal states, local government authorities, special purpose associations[11]										
Vocational schools[12]										
▸ Part-time vocational school	3.080	3.079	2.921	2.827	2.834	2.891	X			
▸ Full-time vocational schools	1.848	2.355	2.175	2.100	2.129	2.223		X	X	
▸ Basic vocational training year, pre-vocational training year	0.515	0.454	0.424	0.415	0.430	0.438			X	
▸ Other vocational schools (not including trade and technical schools)	0.865	1.404	1.537	1.567	1.634	1.693		X		
Pupil grants for full-time vocational school attendees (full-time vocational schools, vocational preparation schools, specialised upper secondary schools and trade and technical schools not including VET)[4]	0.079	0.136	0.166	0.162	-	-		X	X	
Training programmes of the federal states[13]										
▸ Western Germany[13]	0.053	Approximately 0.5	N/A	Approximately 0.6	Approx. 0.5	N/A	X	X	X	
▸ Eastern Germany	0.120									

Table 47: **Public spending on vocational education and training (part 2)**

	2001	2010[18]	2013	2014	2015	2016	DS	SBS	TS	includes continuing training[19]
	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion				
Federal Employment Agency[9]										
Vocational education and training subsidies (company-based VET, vocational preparation schemes) including subsidy for a second programme of training	0.405	0.579	0.390	0.356	0.310	0.290	X		X	
Course costs for vocational preparation schemes	0.388	0.326	0.221	0.209	0.203	0.198			X	
Extra-company VET, training support measures[14]	0.811	0.672	0.416	0.342	0.303	0.269	X		X	
Training bonus[15]	-	0.036	0.012	0.001	0.000	0.000	X			
Introductory training[10]	-	0.055	0.031	0.028	0.026	0.028			X	
Measures for detailed vocational orientation[16]	N/A	0.066	0.005	0.036	0.033	0.037			X	
Immediate Programme for the Reduction of Youth Unemployment	0.862	-	-	-	-	-			X	
Career entry support for young people	-	0.055	0.066	0.078	0.088	0.135			X	
Funding for young people's residential homes[17]	0.044	-	0.001	0.001	0.001	0.003	X	X	X	X

[1] Actual values in accordance with Federal Government budgetary calculations. Budget appropriations for 2016.
[2] Figures include investments and ongoing spending.
[3] The Federal Government provides 50% of total funding for the Federal Government and federal states.
[4] Funding for pupils at full-time vocational schools, vocational preparatory schools and classes at specialised upper secondary schools where completed VET is not required. Actual values for all calendar years stated in accordance with upgrading training assistance figures produced by the Federal Statistical Office. Does not take loan repayments into account. The proportion of costs borne by the federal states was not separately stated until the 2012 Data Report. From 2013 to 2015, 65% was allocated to the Federal Government and 35% to the federal states. From 2015, the Federal Government bears the full financing. Benefits for pupils in classes at specialised upper secondary schools where completed VET is not required are taken into account from 2011 (interruption of series from 2011).
[5] In accordance with its purpose, this item tends to include spending on continuing vocational education and training (continuing training scholarship) and the funding of academic education (upgrading training scholarship).
[6] Includes the Special Programme for Apprenticeship Developers and Regional Associations for Vocational Education and Training in the federal states of eastern Germany (including East Berlin), the Future Initiative for Vocational Schools (ZIBS) and the special schemes instigated by the Federal Government, the federal states of eastern Germany and Berlin for the creation of additional jobs in the federal states of eastern Germany.
[7] Until 2011, this line of the table included consolidated spending by the Federal Ministry For Economic Affairs and Energy (BMWi) within the now discontinued budget for "Funding of training courses in extra-company VET in the craft trades".
[8] This programme replaces as the scheme "Precise placement of trainees with companies willing to provide training", which was implemented between 2007 and 2014. It offers support to SMEs with filling training places in a precisely matched way and with the integration of foreign skilled workers. Expenditure on this programme is stated separately in the budget "Securing a supply of skilled workers for small and medium-sized enterprises".
[9] Actual spending for the respective budgetary year.
[10] A regular benefit within the scope of SGB III since 1 October 2008. Was previously funded as a special programme from the budget of the Federal Ministry of Labour and Social Affairs (BMAS).
[11] Actual values for 2001, preliminary actual values for 2013 to 2015, target values for 2016.
[12] Basis for the estimation of expenditure in the calendar years 2001 and 2010 to 2015 is the number of hours taught per type of school in the school years ending and beginning in the respective calendar year and expenditure on vocational schools. Basis of the estimation for the year 2016 is the number of hours taught per type of school in the 2015/2016 school year and expenditure on vocational schools in the 2016 calendar year. Until the 2014 Data Report, estimation took place on the basis of pupil days. Since the 2015 Data Report, however, only values estimated on the number of hours of teaching are presented, including with retrospective effect.
[13] Values stated from 2010 onwards are based on a BIBB survey. Please note the indications provided in the text.
[14] Until 2013, this item also includes expenditure on support for disadvantaged young people with disabilities (around €0.013 million in 2013). No longer included from 2014. Stated as "Vocational education and training for disadvantaged young people" until the 2016 Data Report.
[15] Discontinued since 1 April 2012.
[16] Pursuant to § 33 SGB III, the prerequisite for funding is third party participation of at least 50%. However, no figures are available with regard to the proportion of public and private funding within the scope of this co-financing.
[17] Although institutional funding in the field of initial and continuing training was abolished in 2009, since April 2012 it has once again been possible to provide funding for the establishment, expansion, conversion and equipping of young people's residential homes.
[18] Not all years are presented for reasons of space. Information for the years from 2006 to 2009 and for 2011 and 2012 are available in earlier issues of the BIBB Data Report.
[19] Items which also contain a significant scope of expenditure on continuing vocational education and training are marked with a cross.

Sources: Federal Ministry of Finance, federal budgets, Federal Ministry of Finance, budget account of the Federal Statistical Office, Specialist Publications 11, Series 2 – Vocational Schools, Federal Statistical Office, Specialist Publications 11, Series 7 – upgrading training assistance, Federal Statistical Office, Specialist Publications 14, Series 3.1 – Financial results whole budget, Federal Employment Agency, Quarterly Reports, Federal Employment Agency, Quarterly Reports, Federal Employment Agency, Monthly Financial Results (SGB II and SGB III), information provided by the Federal Statistical Office (January 2016).

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since 2010 because of decreasing pupil numbers, a slight rise was once again recorded for 2015.

The following chapter provides a summary of the funding programmes relating to vocational education and training and contains information on objects of funding, parties entitled to receive funding and conditions of funding. VET-related expenditure of the Federal Employment Agency (BA) encompasses both VET itself and vocational orientation and preparation. Table 47 does not include funding for integration at the second threshold. This represents an employment policy measure. A large part of BA funding is used to support trainees who are particularly disadvantaged (and therefore flows in turn into extra-company training). Benefits provided by the BA for persons with a disability are not taken into account in Table 47.

The financial contribution made by the public purse is supplemented by the contribution made by companies providing training in the private and public sectors. This expenditure is traditionally estimated by BIBB. According to calculations based on a representative survey for the training year 2012/2013, gross costs – i.e. training costs without taking account of returns on training – were around €25.6 billion. Net costs to companies of providing training in the dual system were approximately €7.7 billion. Consideration needs to be accorded to the fact that companies are able to derive further benefits in addition to the returns on training measured. Such benefits are, however, difficult to quantify. They may include aspects such as the saving of human resources recruitment costs or an enhancement of image because of commitment to provide training. Compared to the last survey for the year 2007, gross and net costs have both risen by around €2 billion. Some of this may be explained by methodological changes and general price development.

1.10.3 Regular Federal Government and federal state VET funding programmes

The Federal Government, the federal states and the European Union fund vocational education and training via a series of different initiatives and measures. These encompass various areas of activity – vocational orientation, transition assistance measures, vocational (training) preparation, vocational education and training and second-chance training.

Regular Federal Government funding programmes

Regular provision is stipulated in German Social Security Code and is mostly put out to tender by the Federal Employment Agency and implemented by education and training organisations. The following presentations of measures are based on the funding statistics of the Federal Employment Agency (table 48).

The BA offers a series of services within the scope of its statutory obligation to provide **vocational orientation** (§ 33 SGB III). These include information and presentation events, workshops on career choice topics and various media provision. The primary target groups are school pupils and all persons seeking to enter training in general. In addition to the statutory remit of the BA as governed pursuant to § 33 SGB III, § 48 SGB III affords an opportunity to provide further vocational orientation provision. This is offered by VET institutions and other providers at general schools to a range of target groups. The grant paid to the providers comprises up to 50% of costs eligible for funding. In 2013, the BA recorded a figure of just under 60,000 participants in the measures. By the 2015 reporting year, this had risen to just over 290,000.

Career entry support is a measure which offers individual vocational orientation support to pupils whose education is at jeopardy. Young people receive personal guidance and assistance from the time between their penultimate year at school and the end of their first six months in a vocational education and training contract. Career entry support is financed by the BA and was initially conceived as a trial scheme at 1,000 pilot schools regulated via § 421s SGB III, a provision that has now been repealed. The last places to be offered within the scope of this pilot phase were financed up until 31 July 2014. With effect from 1 April 2012, career entry support was adopted as a regular instrument of the BA and is enshrined in law in § 49 SGB III. The number of participants has risen steadily over recent years to reach 51,197 in 2015. This represented an increase of around 3,600 compared to the previous year (2014: 47,595). 57.5% of participants were male. 26,316 persons exited the scheme in 2015. Of these, 27.5% were in employment subject to mandatory social insurance contributions six months after leaving. 21.2% were in training, and 6.3% were in other employment measures.

The objective of **vocational preparation schemes** (§ 51 SGB III) is to achieve integration into training. If this goal cannot be reached, the intention is that participants should commence employment. The target group comprises young people and young adults who have not completed initial vocational training but have fulfilled general schooling requirements. They are usually aged under 25. Maximum duration of funding is normally up to eleven months, and numbers of participants reflect demographic developments. Significantly more than 50,000 participants per year received general funding under vocational

Table 48: **Regular provision of the Federal Employment Agency**

<table>
<tr><th>Vocational orientation</th><th>Vocational and training preparation</th><th>Vocational education and training</th><th>Second-chance training</th></tr>
<tr><td rowspan="2">Measures for detailed vocational orientation</td><td>Vocational preparation schemes (BvB, BvB-Reha, BvB-Pro)
Introductory training
Programmes aimed at facilitating the entry of people into the labour market and professional integration measures</td><td>Vocational education and training at extra-company institutions (integrative and cooperative)
Training support measures</td><td rowspan="3">Work opportunities</td></tr>
<tr><td colspan="2">Assisted training</td></tr>
<tr><td colspan="3">Career entry support</td></tr>
</table>

Source: Compilation by the Federal Institute for Vocational Education and Training VET Data Report Germany 2016/2017

preparation schemes in the years 2009 and 2010. After this point, average annual numbers declined steadily to reach a figure of only 26,668, approximately half of the level in 2010. Just under half of participants had achieved a lower secondary school leaving certificate. Approximately one third (33%) were in possession of an intermediate secondary school leaving certificate, and one in six (16.5%) held no secondary school qualification. 40% were female. There were 53.376 exits from general vocational preparation schemes in 2015. Of these, 35.9% had progressed to training after six months, and a further 11.6% were in other employment subject to mandatory social insurance contributions.

Special programmes aimed at facilitating entry to the labour market are provided prior to training, VET or employment for young people who are not (yet) eligible for funding within the scope of vocational preparation measures because they face serious obstacles, particularly with regard to aspects such as motivation/attitude, key skills and social competences (§ 45 Paragraph 1 Clause 1 No. 1 SGB III). Duration of funding is usually six months and may be extended up to total period of twelve months in individual cases. A total of 14,526 persons entered the scheme in 2015. In the same year, average annual numbers were 4,459. This level was relatively constant in comparison with previous years. Of 14,770 exits in 2015, 24.1% were in employment subject to mandatory social insurance contributions after six months (9.4% in training).

The aim of company-based **introductory training** is to "open the door" to company-based VET for young people who find it more difficult to achieve placement (§§ 54a, 115 No. 2 SGB III). Introductory training has a minimum duration of six months, and the maximum period is twelve months. Its purpose is to impart and enhance the necessary foundations for the acquisition of employability skills. Contents of introductory training are similar to those of previous years. There were just under 20,000 participants in 2010 and over 14,000 in 2012. The proportion of female participants was 37.3%. The proportion of persons with a lower secondary school leaving certificate was just under half (46%). 38% were in possession of the intermediate secondary school leaving certificate. There were 17,599 exits from introductory training in 2015. Six months after exit, two thirds of participants were in employment subject to mandatory social insurance contributions. This figure includes those commencing training (56.3%).

The aims of **training support measures** are to facilitate commencement, continuation and successful completion of a training programme for young people in need of assistance and to prevent training dropouts (§§ 75 SGB III). In 2015, average annual numbers for training support measures were 41,110. This figure has remained relatively constant over recent years and has only varied by just under 2,000 in the last five years. As in the preceding years, young women remain under represented in training support measures. In 2015, they accounted for only 30% of participants. Over half were in possession of a lower secondary school leaving certificate (56%), just under a third held an intermediate secondary school leaving certificate and 7% had not achieved a lower secondary school leaving certificate .

The aim of **extra-company vocational education and training** is to facilitate completion of training for disadvantaged young people who cannot be trained at a company even if training support measures were to be deployed (§ 76 ff. SGB III). Trainees whose training contract has been prematurely dissolved can also continue their training at an extra-company institution. In 2015, the annual average number of those in extra-company vocational education and training was 31,031. This represented a further drop of 15% compared to the previous

year. Average annual numbers have declined steadily and significantly since 2009 (80,632).

Assisted training is a further model for which the BA invites tenders from service providers (§ 130 SGB III). The aim is for educational organisations to offer services for trainees and companies in order to make it easier for lower ability or disadvantaged young people to enter regular company-based training. In 2015, the number of participants was relatively low at 1,045. By October 2016, however, this figure had already risen to 5,261. Of over 2,000 exits, 32.1% were in training contracts after six months. A further 11.5% were in employment subject to mandatory social insurance contributions.

Work opportunities are tasks carried out by job seekers at an external provider in order to gain (or regain) employability (§§ 3, 16 SGB II, provision of basic benefits to job seekers). Over recent years there has been a discernible downwards trend in the number of new applications received from those aged under 25. This fall continued in 2010. In 2010, the total number of participants (annual average) was over 306,000. By 2015, however, this figure had fallen steadily to 87,073.

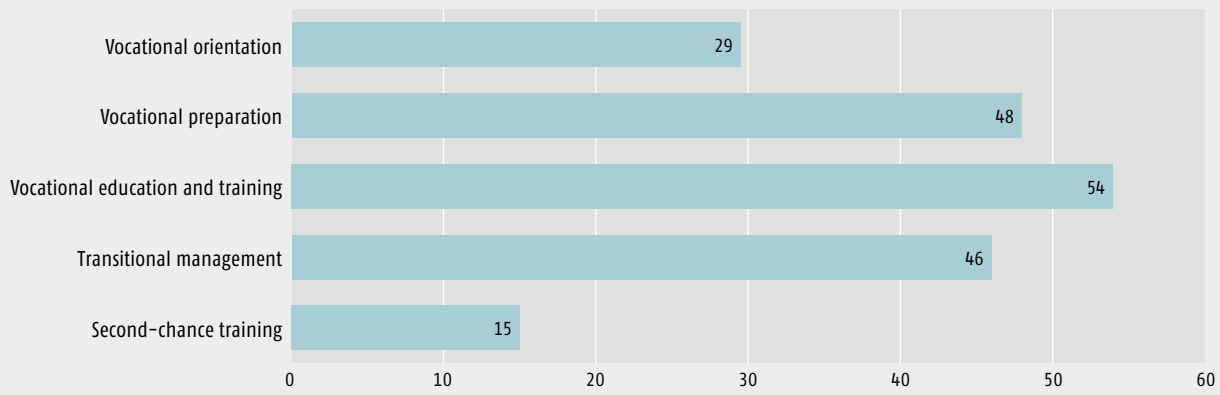
Federal programmes for the promotion of vocational education and training

The data records of the Office for Transitions to Training and Work ("überaus") contained 48 federal programmes in December 2016 (not including regular instruments). Over half of federal programmes are involved with the area of vocational education and training (figure 18). Just under half support vocational preparation and transition, whilst just under one in three programmes focus on vocational orientation. Second-chance training currently plays a secondary role (15% of federal programmes).

The federal ministries responsible for the programmes were asked about the objectives and aims pursued. Overarching objectives such as creating networks, preparing training and matching processes were amongst the most frequent declared aims. Approximately 40% of all federal programmes were in pursuit of such objectives. However, a consideration of more specific aims reveals a number of trends. At the moment, there is less of a focus on supporting forms of training outside traditional company-based training such as extra-company training. Instead of promoting a change in training structures, most programmes are presently pursuing the aim of identifying competences and areas of potential of young people (38% of programmes) and providing targeted support for such aspects via vehicles such as arranging company practice and creating company-related provision (27% of programmes respectively). Particular significance is being accorded to the imparting of core skills (29%) as opposed to special additional qualifications (19%). One conspicuous aspect is that funding policy has reacted strongly to the current refugee situation. Just under a third of the federal programmes considered (n = 13) specifically included supporting young refugees in integration into vocational education and training amongst their aims.

If we consider the specific provision and measures implemented within the scope of support programmes, it is noticeable that one area of emphasis is placed on provision which takes account of the individuality of possible obstacles to placement. By far the largest number of

Figure 18: **Fields of activity of federal programmes for the support of vocational education and training in % of cases**



Source: Data records of the Office for Transitions to Training and Work ("überaus") on federal and federal state programmes for the promotion of vocational education and training, status December 2016, n = 48, multiple responses possible

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federal programmes fund measures which offer guidance and support (60% and 49% respectively).

With regard to persons targeted, 48% of federal programmes focused on immigrants and refugees in terms of the way in which provision was designed. The importance of this target group becomes even more significant if we take the area of activity of training out of the equation and look solely at the remaining areas of activity (vocational orientation, vocational preparation, transition and second-chance training). Of 22 federal programmes not promoting training, 18 were aimed at delivering specific provision to this target group. The 2017 Report on Vocational Education and Training issued by the Federal Ministry of Education and Research contains further information on VET policy measures and programmes.

Federal state programmes for the promotion of vocational education and training

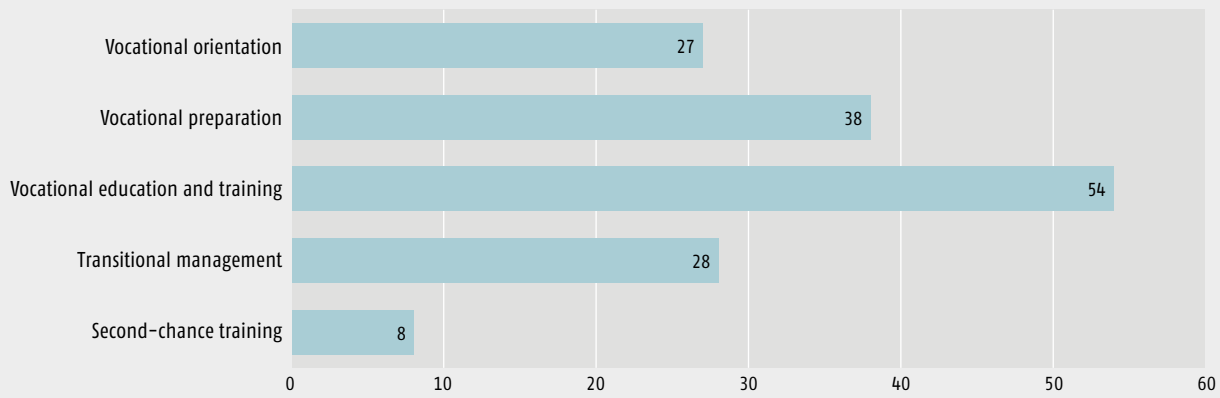
As is the case with the federal programmes, the field of activity of vocational education and training forms the predominant aspect of federal state programmes, and second-chance training tends to play a subordinate role. A similar picture also emerges to that of the federal programmes in that the identification and imparting of competences takes precedence over the aim of establishing new training structures. General objectives such as support for career choice processes or preparation of training receive more mentions in programmes than more specific aims. Most federal state programmes focus on the imparting of core skills (25% of federal state programmes) and on the avoidance of training dropouts (23%). There are also funding policy reactions to the refugee situation at federal state level. 27 federal state programmes were specially designed to support refugees in their endeavours to enter training. These account for around 10% of all federal state programmes.

1.10.4 Funding of inter-company vocational training centres and centres of excellence

Inter-company vocational training centres have an important role to play as partners of both dual vocational education and training and of advanced and continuing training. They supplement company-based training by delivering more detailed practical training in particular. This means that support provision to secure training can be made available to small and medium-sized enterprises (SMEs). New requirements for initial and continuing vocational education and training are constantly emerging in the wake of technological innovations. Inter-company vocational training centres make a particular contribution towards securing the ability of small and medium-sized enterprises to provide training. Increasing specialisation means that SMEs often find it difficult to impart all the competences relevant to an occupational profile.

In order to secure the ability to provide training of small and medium-sized companies in particular, the Federal Ministry of Education and Research (BMBF) has been supporting inter-company vocational training centres since the 1970's by putting appropriate funding in place. The Federal Institute for Vocational Education and

Figure 19: **Fields of activity of federal state programmes for the support of vocational education and training in % of cases**



Source: Data records of the Office for Transitions to Training and Work ("überaus") on federal and federal state programmes for the promotion of vocational education and training, status December 2016, n = 48, multiple responses possible

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Training (BIBB) works on behalf of the BMBF to finance extensive projects within the area of initial vocational education and training. Alongside the projects managed by BIBB, investment projects in connection with advanced and continuing training measures, which also represent an important task area for inter-company vocational training centres, are funded on behalf of the Federal Ministry of Economics via joint guidelines issued by the Federal Office for Economic Affairs and Export Control.

Inter-company vocational training centres which go on to develop into centres of excellence make a particularly important contribution to the establishment of innovative provision in initial and continuing training. Inter-company vocational training centres also assume a significant role within the scope of the increasing digitalisation of the world of work and learning. In 2016, the BMBF commissioned BIBB to implement and carry out evaluation research for an "Inter-company Vocational Training Centres Special Programme on Digitalisation" alongside its regular provision of funding support for the centres. Total initial funding of €74 million was made available for the period from 2016 to 2019. This figure has now risen to €84 following an increase in funding. The Inter-company Vocational Training Centres Special Programme on Digitalisation is divided into two funding lines. Funding line 1 aims to contribute to modernising the education and training of skilled workers at SMEs in particular by funding selected facilities in the inter-company education and training centres.

Since 1 February 2016, eight selected pilot projects have been looking at the impacts caused in VET by digitalisation within the scope of funding line 2. Around €5.5 million has been made available for implementation of the projects. In 2016, a total of €56 million was paid out to the providers of the inter-company vocational training centres within the scope of regular funding and the special programme for modernisation of facilities in areas such as digitalisation and for further development to create centres of excellence.

1.11 Training and employment

1.11.1 Transitions to employment and unemployment rates of young adults

Company behaviour adopted in terms of offering permanent employment

Companies form an important part of the transition from the training to the labour market when they give a contract of employment to skilled workers which they have trained themselves. The Establishment Panel Survey conducted by the Institute for Employment Research (IAB) records how many trainees completing training are taken on permanently by the companies which have provided training. The rate of progression to employment indicates how many trainees go on to secure a contract of employment at the company providing training upon completion of training. In 2014, the rate of progression to employment identified for Germany as a whole was 68%. The data of the IAB Establishment Panel also enables statements to be made in respect of how many companies in Germany meet the statutory prerequisites for provision of vocational education and training (entitlement to provide training) and with regard to the proportion of companies actually delivering training (training activity).

Entries to unemployment after completion of dual training

The Employee Statistics of the Federal Employment Agency (BA) show the proportion of persons completing training who then immediately register as being unemployed. By way of contrast, in the case of the analysis using the Institute for Employment Research (IAB) Establishment Panel Survey, the focus is on the companies' perspective. The Data Report provides an annual record of the number of persons who register as unemployed immediately upon concluding company-based training. The information on unemployment supplied by the Federal Employment Agency relates to the period of time directly following training irrespective of the duration of unemployment. The number of persons completing training is taken from the Vocational Education and Training Statistics produced by the Federal Statistical Office and the statistical offices of the federal states. The rates thus calculated differ considerably from the general unemployment rate for young people who have completed dual training.

Extrapolations based on figures from the BA showed that 113,000 persons registered as unemployed following completion of dual vocational education and training in the 2015 (Table 49). This produces an unemployment rate of 27.3 % related to the total number of persons completing dual training (415,000 persons), a further decrease of 1.3 percentage points compared to the previous year (28.6 %). In overall terms, the situation has once again improved somewhat in 2015 compared to the previous year. This is slightly more the case for young women than for young men. However, the gap between unemployment rates for female and male skilled workers remains approximately at the level of the previous years. In eastern Germany, unemployment once again reduced more sharply than in western Germany.

Table 49: **Entries into unemployment after successful completion of dual training in Germany by gender 2009 to 2015**

		Men			Women			Total		
		West	East	Whole of Germany	West	East	Whole of Germany	West	East	Whole of Germany
Entry into unemployment after completion of extra-company/ company-based training	2015	52,403	10,521	62,924	42,093	8,248	50,341	94,496	18,769	113,265
	2014	54,137	12,086	66,223	45,342	9,537	54,879	99,479	21,623	121,102
	2013	55,309	14,253	69,562	46,859	11,493	58,352	102,168	25,746	127,914
	2012	55,058	16,802	71,860	46,316	12,904	59,220	101,374	29,706	131,080
	2011	60,714	21,477	82,191	51,163	16,160	67,323	111,877	37,637	149,514
	2010	71,551	27,403	98,954	56,587	19,190	75,777	128,138	46,593	174,731
	2009	72,201	30,345	102,546	56,629	20,637	77,266	128,830	50,982	179,812
Successful participants with prior training[1]	2015	212,937	31,911	244,848	148,371	21,321	169,695	361,308	53,235	414,543
	2014	214,314	33,798	248,112	153,300	22,617	175,917	367,614	56,415	424,029
	2013	213,183	36,492	249,672	155,172	25,428	180,603	368,355	61,920	430,275
	2012	216,633	41,997	258,630	158,148	28,665	186,813	374,781	70,662	445,443
	2011	225,843	49,410	275,253	167,625	33,702	201,327	393,468	83,112	476,580
	2010	220,845	53,070	273,915	168,405	36,711	205,116	389,250	89,781	479,031
	2009	214,634	55,953	270,587	160,771	37,493	198,264	375,405	93,446	468,851
Rate: unemployed after successful completion of dual training	2015	24.6%	33.0%	25.7%	28.4%	38.7%	29.7%	26.2%	35.3%	27.3%
	2014	25.3%	35.8%	26.7%	29.6%	42.2%	31.2%	27.1%	38.3%	28.6%
	2013	25.9%	39.1%	27.9%	30.2%	45.2%	32.3%	27.7%	41.6%	29.7%
	2012	25.4%	40.0%	27.8%	29.3%	45.0%	31.7%	27.0%	42.0%	29.4%
	2011	26.9%	43.5%	29.9%	30.5%	47.9%	33.4%	28.4%	45.3%	31.4%
	2010	32.4%	51.6%	36.1%	33.6%	52.3%	36.9%	32.9%	51.9%	36.5%
	2009	33.6%	54.2%	37.9%	35.2%	55.0%	39.0%	34.3%	54.6%	38.4%

[1] For data protection reasons, the figures relating to persons completing training taken from the Vocational Education and Training Statistics are rounded to a multiple of three. For this reason, the overall value may deviate from the total of the individual values.

Source: Federal Employment Agency, special evaluation of the Employee Statistics, Federal Statistical Office, Specialist Publications 11, Series 3, calculations of the Federal Institute for Vocational Education and Training

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Table 50: **Persons aged 18 to 34 by vocational qualification and employment status in 2015 (extrapolations in 000's) and unemployment rate (in %)**

Employment status	Persons aged 18 to 34, not in training, and for whom valid information regarding vocational qualification is available						
	Total	of which					
		persons without a formal qualification	formally qualified persons				
			together	of which with highest training qualification			
				Apprenticeship in the dual system	Full-time vocational school qualification[1]	Master craftsman/ technician qualification[2]	(Administrative) degree from a University of Applied Sciences/ university, doctorate
Total	**10,521**	**2,066**	**8,455**	**5,092**	**443**	**925**	**1,994**
Labour demand	8,687	1,113	7,574	4,490	396	867	1,821
Unemployed persons	581	285	295	220	13	12	51
Economically inactive persons	1,254	668	586	383	34	47	122
Unemployment rate	**6.3%**	**20.4%**	**3.7%**	**4.7%**	**3.2%**	**1.4%**	**2.7%**

[1] Including completion of preparatory training for medium level entry to the civil service
[2] Including completion of or University of Applied Sciences or University of Cooperative Education

Source: 2015 microcensus 2015, completed dual training n = 40,739, completion of full-time vocational school n = 3,529, master craftsman or technician qualification n = 7,509, degree from a University of Applied Sciences/university or doctorate n = 15,600, no formal qualification n = 15,716

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Unemployment rates of young adults with different vocational qualifications in comparative terms

The rates stated in the preceding chapters are each snapshots of the situation directly following completion of dual training from the respective points of view of the companies (immediate acceptance into a contract of employment upon the end of training) and from the perspective of persons receiving training (reporting unemployment to the BA). These results need to be differentiated from the medium or long-term unemployment rates of persons completing dual training. Based on data from the microcensus for persons aged between 18 and 24, the unemployment rate in 2015 for persons who had completed dual training was only 4.4%. If we expand the age range forming the object of consideration to 18 to 34, it is also possible to use the data from the microcensus as a basis for calculating the unemployment rates of persons with different training qualifications and for comparing these rates with one another (table 50).

1.11.2 BIBB-IAB qualifications and occupational field projections

The BIBB-IAB qualifications and occupational field projections were updated for the fourth time in the autumn of 2016. Altered general economic and political conditions and the new 2010 Classification of Occupations (KldB 2010) were taken into account within this process. A dedicated QuBe population projection was also used for the first time in order to accord due consideration to the strong influx of refugees. According to the QuBe population projection, the population will rise to around 83.4 million persons by 2023 before subsequently falling back to a level of 82.1 million by 2035. The migration patterns will mean that the population will become relatively younger. In the basic projection in the year 2030, the number of the working age population (persons aged between 15 and 70) will therefore be around three million higher than was assumed in the third wave. Taking gender and age-specific employment rates into account, the labour supply (labour demand and unemployed persons) will fall to 43.7 million from 44.9 million in 2015. The higher net immigration will thus be unable to compensate for the negative demographic development.

Growing net immigration will influence both labour supply and labour demand. In the long term, the higher

population will result in greater domestic demand and this will also lead to a rise in the number of workers needed. For this reason, overall labour demand in the economy will be 42.9 million in the year 2030, 2.7 million persons higher than the value predicted in the third wave. In 2035, labour demand will outstrip labour supply by 1.4 million persons. Although this represents a convergence of supply and demand in quantitative terms, it does not mean that a balanced labour market situation will be in place in 2035.

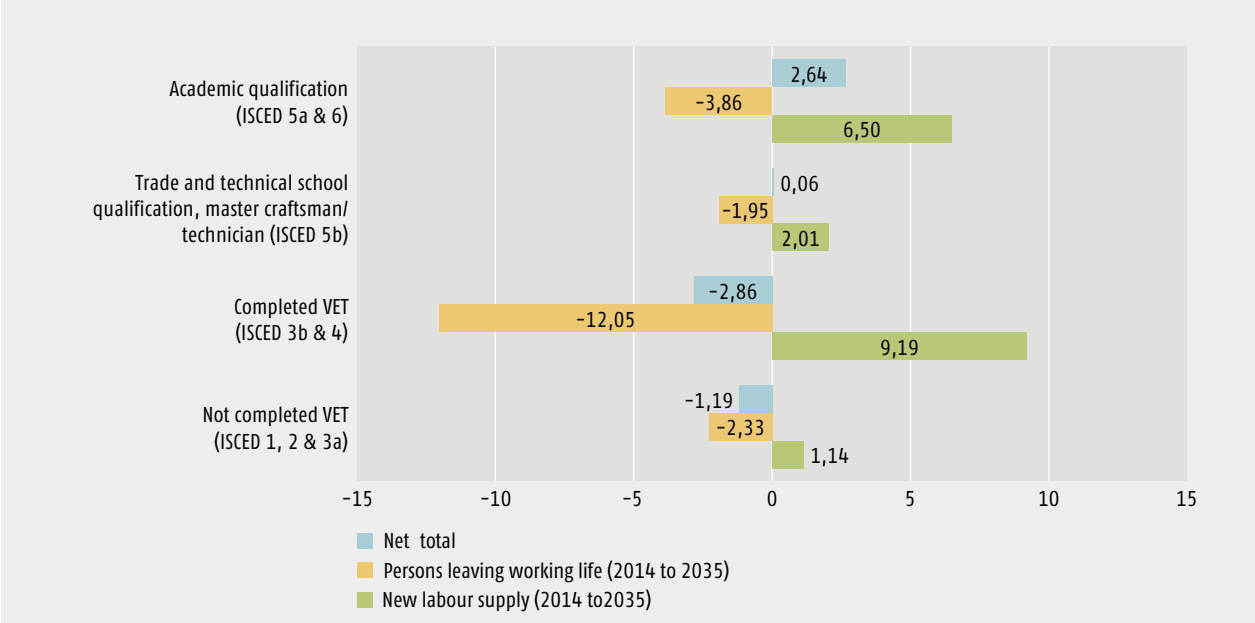
Supply of and demand for qualifications

An increasing trend towards academisation is being revealed on the qualifications side (figure 20). Between the years 2014 and 2035, around 20.2 million persons will leave the labour market, but only 18.8 million will join it. Around 34.5 % of the new supply have an academic qualification (6.5 million), and around 48.8 % (9.2 million) have completed vocational education and training. Nevertheless, only 19.1% (3.8 million) of persons leaving working life by 2035 will hold an academic qualification, whereas 59.7% (12 million persons) will have completed vocational education and training. In the year 2035, around 2.9 million fewer persons will therefore be available to the labour market in the intermediate qualification sector than in 2014. By way of contrast, the number of persons with an academic qualification will increase by about 2.6 million in the same period.

The 2010 Classification of Occupations is the first to introduce a classifier that records the complexity of tasks exercised. Whereas previous projections were only able to consider the "need" for persons with a certain qualification level and thus implicitly implied that all persons were working in a way that was in accordance with their qualification, it is now possible to compare labour supply of qualifications with the actual requirements made of the workforce. If persons are employed at a level commensurate with their qualification, those without a vocational qualification should be working in unskilled or semi-skilled tasks, those who have completed VET should be performing specialist tasks, persons with a master craftsman/technician/advanced training qualification should be involved with complex specialist tasks and those with academic qualifications in the form of a Magister/Masters/first degree should be carrying out highly complex activities. Table 51 provides an initial summary of the distribution of labour supply by qualifications to the relevant requirements levels in 2013 whilst taking unemployment into account.

If we conflate labour supply in the tertiary sector and labour demand for complex tasks and highly complex tasks respectively, supply of labour can be expected to exceed demand from 2023. By way of contrast, the supply of persons who have completed vocational education and training will decline more sharply than the requirement for skilled tasks. The requirement for unskilled and semi-skilled tasks will decrease less severely than supply of

Figure 20: **Development in new labour supply and persons leaving working life from 2014 to 2035 (in millions of persons)**



Source: Calculations and representations of the QuBe Project, fourth wave

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Table 51: **Distribution of labour supply between qualification and requirements levels in 2013 (in millions of persons)**

	Unskilled and semi-skilled tasks		Skilled tasks		Complex tasks		Highly complex tasks		*Unemployed*		Total	
Not completed vocational education and training	**1.94**	33.7%	**2.55**	44.3%	**0.29**	5.0%	**0.28**	4.9%	**0.68**	11.8%	**5.8**	100%
	38.6%		10.8%		4.8%		3.7%		32.1%		12.9%	
Completed vocational education and training	**2.37**	10.2%	**15.91**	68.3%	**2.53**	10.9%	**1.40**	6.0%	**1.10**	4.7%	**23.3**	100%
	47.2%		67.5%		41.5%		18.3%		51.9%		52.4%	
Master craftsman/technician/advanced training qualification	**0.13**	3.4%	**1.71**	44.9%	**1.45**	38.1%	**0.45**	11.8%	**0.08**	2.1%	**3.8**	100%
	2.6%		7.3%		23.8%		5.9%		3.8%		8.6%	
Academic qualification	**0.15**	1.8%	**1.24**	15.0%	**1.51**	18.2%	**5.20**	62.8%	**0.18**	2.2%	**8.3**	100%
	3.0%		5.3%		24.8%		68.1%		8.5%		18.6%	
In education and training	**0.44**	13.3%	**2.18**	65.9%	**0.31**	9.4%	**0.31**	9.4%	**0.08**	2.4%	**3.3**	100%
	8.8%		9.2%		5.1%		4.1%		3.8%		7.4%	
Total	**5.02**	11.3%	**23.58**	53.0%	**6.09**	13.7%	**7.64**	17.2%	**2.12**	4.8%	**44.5**	100%
	100%		100%		100%		100%		100%		100%	

Sources: Micro census and National Accounts produced by the Federal Statistical Office, calculations and representations QuBe Project, fourth wave

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persons who have not completed vocational education and training, and this group will remain the most strongly affected by unemployment. Table 51 already shows a certain displacement effect for the year 2013, because persons in possession of a vocational qualification constitute the largest group of the labour demand in unskilled and semi-skilled tasks (47.2%). If the qualification level of the labour supply rises further in future as has been shown, it is conceivable that employers will adapt their recruitment behaviour accordingly.

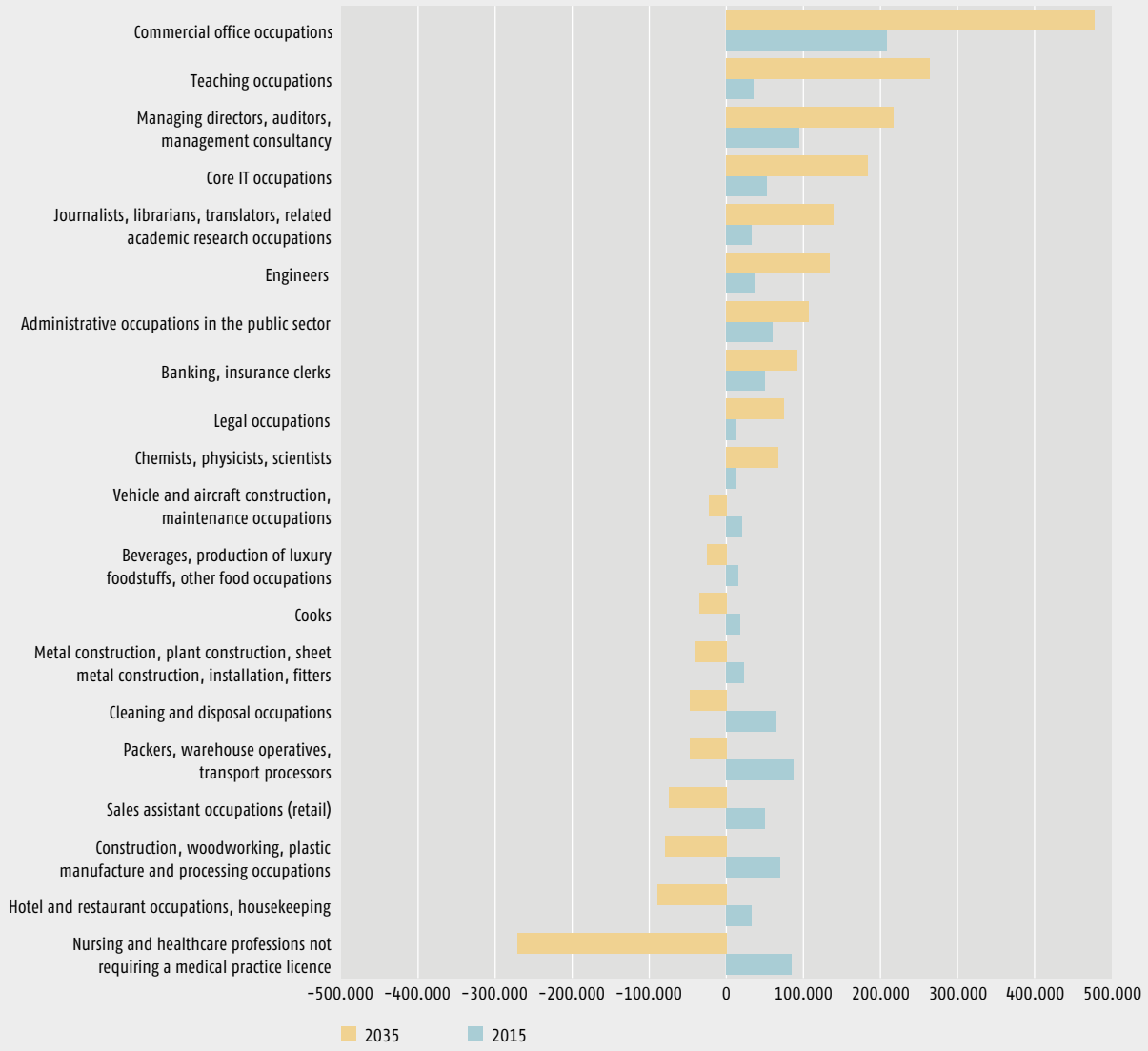
Development by main occupational fields

Alongside the requirements level that needs to be met and the resultant qualification needed, the occupational specialisms and competences of the labour supply also play an important role in matching labour supply and demand. In order to find out in which occupational fields labour shortages or surpluses will occur in future, requirements need to be compared with the relevant labour supply available at the level of occupations. In the fourth projection wave, the 54 BIBB occupational fields previously used were adjusted to KldB 2010 and summarised into 50 BIBB occupational fields.

Figure 21 shows the occupational fields with the ten most frequent labour supply shortages and the occupational fields with the ten most frequent labour supply surpluses in persons and in comparative terms for the years 2015 and 2035 respectively. Possible instances of occupational mobility on the part of the labour supply are already taken into account. The occupational field in which shortages will be most marked by 2035 is “nursing and healthcare occupations not requiring a medical practice licence”, where there will be an arithmetical labour gap of 270,300 persons.

Labour shortages are also revealed in occupational fields with high proportions of semi-skilled and unskilled workers such as “cleaning and disposal occupations” or “packers, warehouse operatives, transport processors”. Shortages of labour will also increase in the long term in the occupational fields of “hotel and restaurant occupations, housekeeping”, “cooks” and “production of beverages, food and tobacco, other nutrition occupations”,

Figure 21: **Most marked labour shortages and surpluses in occupational fields in persons in 2015 and 2035**



Source: Calculations and representations of the QuBe Project, fourth wave

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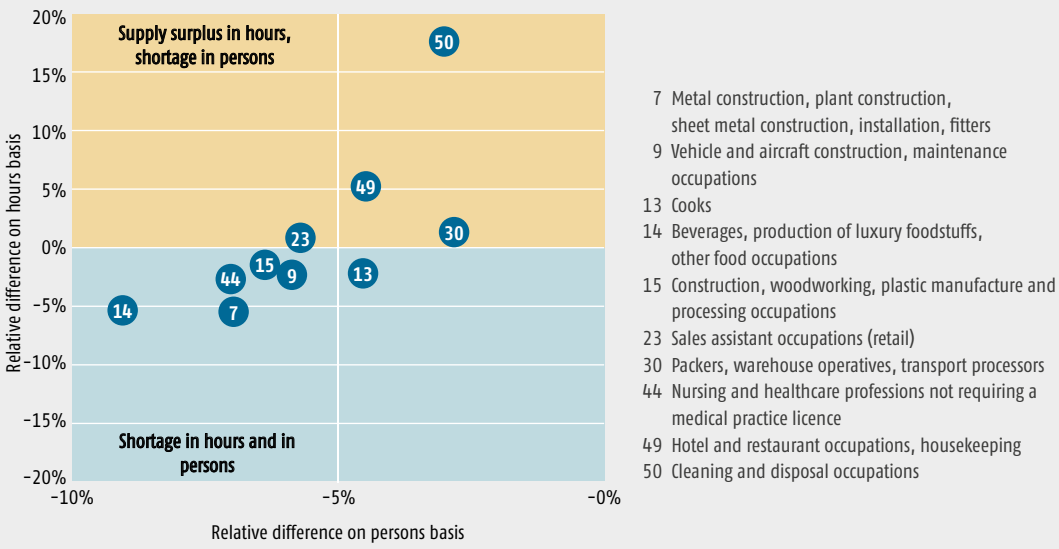
which are already currently exhibiting recruitment problems. By way of contrast, there are occupational fields in which a significant surplus of works is projected for the year 2035. These particularly include “commercial office occupations”, in which the labour surplus which already exists will more than double to reach around 477,300 persons in arithmetical terms in 2035. Labour supply will also significantly exceed requirements in occupations which primarily call for academic qualifications such as “teaching occupations” or “IT and scientific occupations” (figure 22).

1.12 Young adults who have not completed vocational education and training

The number of young adults without a formal vocational qualification is an essential labour market policy indicator. In statistical terms, those without a professional or vocational qualification bear a higher risk of unemployment and of long-term unemployment in particular. In 2016, the unemployment rate of such persons was 20.3%. This contrasts with an overall unemployment figure for Germany of only 6.6%.

Figure 22: **Most marked labour shortages and surpluses in occupational fields in persons in 2015 and 2035**



Source: Calculations and representations of the QuBe Project, fourth wave

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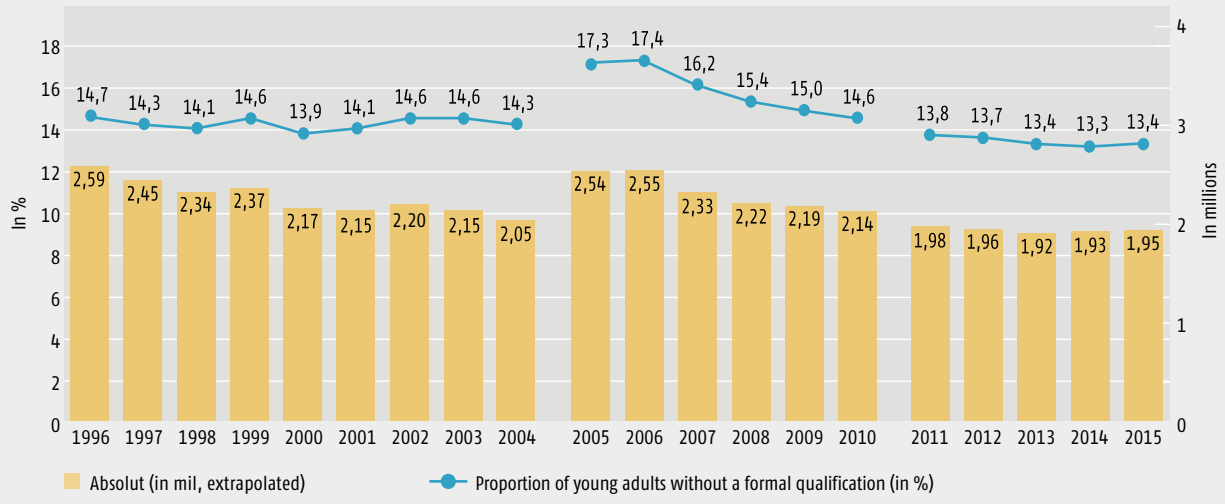
The reason for this is the reduction achieved in the proportion of persons not in possession of a formal qualification. One of the main objectives of the "Alliance for Initial and Continuing Training 2015–2018" is to decrease the rate of 25 to 34-year olds not in possession of a formal qualification to 8% by 2018 (Alliance for Initial and Continuing Training 2014). According to calculations carried out on the basis of the microcensus, the proportion of young adults aged between 20 and 34 who have not completed vocational education and training rose slightly in 2015 compared to the previous year. The proportion of 25 to 34-year olds not in possession of a formal qualification was 13.4% (1.95 million persons), an increase of approximately 1% (or around 21 thousand persons year-on-year). The proportion of young adults without a formal qualification in 2014 was 13.3%. Because this figure lies within the confidence interval between 13.2% and 13.6%, consideration needs to be accorded to the fact that such a movement could actually merely represent a distortion in the sample. Care thus needs to be taken in interpreting these results as a trend, especially in the light of the increased immigration in 2015.

No statistical evidence can be provided as to whether there was an actual change in the proportion of 25 to 34-year olds not in possession of a formal qualification compared to 2014 since the probability of error is 5%. Within this context, the development in the rate of such persons without a formal qualification seems to be stagnating at the level of 2013 after having seen a continuous decrease between 2006 and 2010 (figure 23).

The proportion of young adults not in possession of a formal qualification continues to vary widely by school qualification. The proportion of women amongst young adults not in possession of a formal qualification is 48%, only one percentage point lower than the proportion in possession of a vocational education and training qualification. In overall terms, therefore, the proportion of women aged between 20 and 34 who were not in possession of a formal qualification was 13.1%. This is 0.6 percentage points lower than the figure for men in the same cohorts (table 52). Notwithstanding this, account needs to be taken of the fact that there are major differences both by region and by nationality.

Figure 23: **Most marked labour shortages and surpluses in occupational fields in persons in 2015 and 2035**



[1] Because of a change to the survey method, results from the microcensus from 2005 onwards are only partially comparable with those of the previous years (cf. 2011 BIBB Data Report, Chapter A8). Results from 2011 are based on data from the 2011 census, and caution should also be exercised in comparing these with data from previous years. The 2015 BIBB Data Report only shows proportions of young adults without a formal qualification for 2013 on the basis of the 2011 census (cf. 2015 BIBB Data Report, Chapter A8.3). Source: Calculations and representations of the QuBe Project, fourth wave

Source: Research data centres of the statistical offices, microcensuses 1996 to 2015, calculations by the Federal Institute for Vocational Education and Training

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Table 52: **Young adults aged from 20 to 34 without a vocational qualification in 2015 (absolute terms and in %)**

	With a vocational qualification or in training or attending school		No formal qualification		Together		Proportion of non-formally qualified persons in %
	Absolute terms (in thousands)	n %	Absolute terms (in thousands)	n %	Absolute terms (in thousands)	n %	
Male	6,398	50.9	1,013	52.0	7,411	51.0	13.7
Female	6,176	49.1	933	48.0	7,109	49.0	13.1
All	**12,575**	**100.0**	**1,946**	**100.0**	**14,520**	**100.0**	**13.4**
20 to 24 years	3,816	30.3	535	27.5	4,350	30.0	12.3
25 to 29 years	4,419	35.1	681	35.0	5,100	35.1	13.4
30 to 34 years	4,340	34.5	731	37.5	5,070	34.9	14.4
All	**12,575**	**100.0**	**1,946**	**100.0**	**14,520**	**100.0**	**13.4**
including:							
25 to 34 years	8,759	69.7	1,411	72.5	10,170	70.0	13.9
Lower secondary school leaving certificate	1,743	13.9	797	41.1	2,539	17.6	31.4
Intermediate secondary school leaving certificate	3,908	31.2	402	20.7	4,311	29.8	9.3
Higher education entrance qualification	6,682	53.4	311	16.0	6,993	48.4	4.5
No qualification	182	1.5	429	22.1	611	4.2	70.2
All	**12,515**	**100.0**	**1,939**	**100.0**	**14,454**	**100.0**	**13.4**
Germans	10,900	86.7	1,180	60.6	12,080	83.2	9.8
Foreigners [1]	1,674	13.3	766	39.4	2,440	16.8	31.4
All	**12,575**	**100.0**	**1,946**	**100.0**	**14,520**	**100.0**	**13.4**
Eastern Germany	2,431	19.3	312	16.0	2,743	18.9	11.4
Western Germany	10,143	80.7	1,634	84.0	11,777	81.1	13.9
Total	**12,575**	**100.0**	**1,946**	**100.0**	**14,520**	**100.0**	**13.4**

[1] includes dual nationality

Source: Research data centres of the statistical offices, microcensus 2015, calculations by the Federal Institute for Vocational Education and Training

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Table 53: **Persons aged 20 to 34 not in possession of a professional or vocational qualification by migration status 2012 to 2015 (in %)**

	Year	Men	Women	Total
Germans	2012	10.9	10.3	10.6
	2013	10.5	9.7	10.1
	2014	10.4	9.5	10.0
	2015	10.1	9.4	9.8
Persons with foreign nationality[2]	2012	31.0	33.8	32.4
	2013	30.4	33.4	31.9
	2014	30.0	32.4	31.2
	2015	31.1	31.7	31.4
Persons with Turkish nationality[2]	2012	43.8	55.2	49.3
	2013	42.9	53.8	48.3
	2014	43.9	49.6	46.6
	2015	41.6	47.5	44.6
Germans not from Migrant background	2012	9.9	9.2	9.5
	2013	9.4	8.6	9.0
	2014	9.3	8.5	8.9
	2015	9.1	8.4	8.8
Migrants without own personal experience of migration	2012	21.9	20.0	21.0
	2013	19.9	16.9	18.5
	2014	23.2	18.5	21.1
	2015	21.2	17.9	19.7
Migrants with own personal experience of migration	2012	28.0	30.9	29.5
	2013	27.6	30.7	29.2
	2014	27.1	30.3	28.7
	2015	29.4	30.2	29.8
Migrants of Turkish origin without own personal experience of migration	2012	28.6	27.1	27.9
	2013	26.2	23.9	25.1
	2014	29.0	24.1	26.7
	2015	27.8	22.7	25.3
Migrants of Turkish origin with own personal experience of migration	2012	54.1	68.5	61.7
	2013	52.6	68.2	61.1
	2014	53.2	64.4	59.2
	2015	51.8	65.0	58.8

[1] Results are based on data from the 2011 census. In Chapter A8.3 of the 2015 BIBB Data Report, the year 2012 was not yet shown on this basis.
[2] includes dual nationality

Source: Research data centres of the statistical offices, micro censuses 2012 to 2015, calculations by the Federal Institute for Vocational Education and Training

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Differences by nationality and migrant background

Significant differences are revealed in the proportion of young adults without a formal qualification in the case of nationality. Whereas only 9.8% of young adults aged between 20 and 34 who hold German nationality are not in possession of a formal qualification, the corresponding figure for foreigners of the same age is 31.4%, more than three times higher. Major differences by migrant background also occur amongst the German nationals. The concept of the migrant background involves differentiating whether someone has his or her own experience of migration, i.e. whether the person concerned has obtained German citizenship after migrating or whether his or her antecedents migrated to Germany. The idea behind this differentiation is the assumption that persons who do not have a migrant background or have become naturalised citizens will be more closely integrated into the German educational and training system and will therefore be less likely not to be in possession of a formal qualification than those who themselves are immigrants. Relevant indications in this regard are provided in table 53).

2. Continuing vocational education and training indicators

Continuing education is understood to be the continuation or resumption of organised learning following completion of an initial phase of education of varying scope. In addition to continuing vocational education and training (CVET), this includes continuing general and political education, which is subsumed under the heading of 'adult education'. The field of CVET in Germany is characterised by a pluralism of providers, a largely market character, and a comparatively minimal degree of regulation. CVET is divided into three parts – regulated continuing education, company-based training and individual continuing training. Only a small part of provision leads to a formal vocational qualification.

Publicly promoted CVET is targeted at various groups, from unemployed people with no school-leaving certificate or without vocational qualifications to executives. Only some of the courses are designed to lead to qualifications which are recognised by law or awarded by industry's self-governing organisations (chambers). Courses leading to advanced vocational qualifications, i.e. master craftsman qualifications or other diplomas, e.g. from trade and technical schools and master's schools, are classified as ISCED 5B or EQF level 6 respectively.

2.1 Key facts in brief

- According to the 2016 **Continuing Training Survey**, the economic **climate** in the continuing training sector once again improved compared to the previous year. The Climate Index reached +45, the highest value recorded since it was introduced. Generally speaking, this reflects positive expectations on the part of continuing training providers which are significantly higher than expectations in the service sector in overall terms.
- The **main thematic focus** of the **2016 Continuing Training Survey** was **"cultural diversity"**. This examined the issue of immigration and looked in particular at the current refugee situation. Just under half (46%) of continuing training providers carried out continuing training provision for persons from a migrant background. The adult education centres were the main protagonists in this regard. Practically all adult education centres (93%) included relevant learning provision in their programmes.
- Continuing vocational education and training provision offered nationally by the adult education centres in 2015 comprised 55,800 courses. This was a figure that had been falling constantly since 2008.
- In 2015, there were 314,800 entries to **measures for the promotion of continuing vocational education and training** pursuant to German Social Security Code III (SGB III) and German Social Security Code II (SGB II). This represents a drop of 5.6% compared to the previous year.
- Different programmes are used to support continuing vocational education and training and initial training. Low skilled workers and older employees receive start-up funding for continuing training via the WeGebAU Programme. Around 14,900 entries were recorded in 2015, representing a slight rise compared to the previous year.
- In 2015, 162,000 persons were supported within the scope of the Upgrading Training Assistance Act, a year-on-year decrease of 5.7%.
- In 2016, 6,400 persons completing training in 277 occupations entered the "Continuing Training Scholarship" programme, 8.3% more than in the previous year. There were 1,000 new entries to the Upgrading Training Scholarship programme.
- Around 305,000 training grant vouchers and 28,000 savings vouchers have been issued via the **Continuing Education Grant Programme**. Significantly more women than men (around two thirds) participate in this programme.
- There are currently 223 **Federal Government regulations** in place relating to advanced vocational training and retraining.
- In 2015, 64,300 persons successfully completed a final examination at **trade and technical schools**. This represents a further rise in the number compared to the previous year.

2.2 Continuing training providers

The main thematic focus of the 2016 Continuing Training Survey was "cultural diversity". Amongst other aspects, this looked at the current refugee issue. In addition, as every year, information on the economic climate in con-

tinuing training and on the structural data of the range of providers was collected. The results are based on weighted and extrapolated data from 1,878 institutions.

2.2.1 Economic climate and provider structure (Continuing Training Survey)

Continuing training has undergone an economic upturn that has been discernible since 2011 and was only interrupted in 2015. This significantly differentiates the branch from business development in the service sector as a whole. After starting out from a similar level to that of the service sector in 2011 (+22 for continuing training and +25 for the service sector), the Climate Index in the Continuing Training Survey more than doubled in the time up until 2016. By way of contrast, the economic mood of service providers scarcely underwent any improvement during the same period (Institute for Economic Research Business Climate Index for the service sector in May 2016: +26). The main driver of the current difference of 19 points is the significantly more optimistic future expectation of continuing training providers (expectation value in the Continuing Training Survey = +41, expectation value in the Institute for Economic Research Business Climate Index for the service sector = +14) (Table 54).

The continuing training providers are clearly expecting that training needs will rise due to aspects such as refugees aiming to integrate into the labour market and society and the requirements of employees in the wake of the digitalisation of the economy (Industry 4.0). The difference between continuing training and the service sector as a whole is lower in respect of the current economic situation. In May 2016, both indexes are significantly positive (+49 and +39 respectively).

If we apply a differentiation in accordance to main financing segments (at least 50% of revenues within the field of continuing training originate from the respective source), institutes primarily funded by the employment agencies/ Job Centres record a particularly strong lightening of the economic mood.

The likely assumption is that this economic upturn is connected with the training of refugees. Firstly, between 24 October and 31 December 2015, the Federal Employment Agency (BA) funded introductory courses to impart basic knowledge of the German language to asylum seekers from countries in respect of which prospects of being permitted to stay in the country are good. These courses represented one-off assistance and had a finance volume of approximately €400 million. They enabled over 220,000 entries to courses which were of a duration of up to eight weeks. Secondly, the increased entry numbers to both continuing training measures and to programmes aimed at facilitating the entry of people into the labour market and at achieving professional and occupational integration (+13% and +30% respectively) were also primarily due to additional acquisitions of foreigners. Persons from non-European countries of asylum seeker origin mainly commenced measures for the facilitation of entry to and integration into the labour market and thus contributed to the significant rate of increase in respect of such courses.

Just under three quarters (74%) of providers are based in urban areas. Only 26% are located in rural regions. This means that continuing training providers are somewhat more focused in urban areas than the general population (68% urban versus 32% rural). A significant regional difference is revealed in respect of the spectrum of institutions. Whereas private sector providers operating commercially are the most frequent type of institution in urban areas (28%), they make up only 15% of providers in rural regions. Adult education centres are the most frequent type of provider in the latter areas, where their proportion is more than twice as high as in urban regions (24% as opposed to 11%). In urban areas, a somewhat higher proportion of providers is solely aligned towards the provision of continuing training (45%) than in rural regions. In 2015, participant fees represented the most important source of revenue in both types of area. On average, these fees accounted for 33% of revenues of providers in urban areas and made up 31% of provider income in rural regions.

2.2.2 Main thematic focus "cultural diversity"

The 2016 **Continuing Training Survey** used its main thematic focus of "cultural diversity" to look at the challenges that emerge for institutions and staff involved in adult education and continuing training as a result of ongoing immigration. The aims were to create greater transparency in respect of activities, foster integration and support recognition of cultural diversity.

The usual practice in continuing training is to develop provision in a tailored way for (target) groups of adults in order to be able to work with learning groups that are as homogeneous as possible with regard to socio-demographic points of view and life circumstances or educational interests and requirements. In the twelve months leading up the survey period in May/June 2016, just under half (46%) of continuing training providers in Germany had implemented continuing training provi-

Table 54: **Climate Index, economic situation and expectation for selected sub-groups of continuing training providers 2016**

		Climate Index	Evaluation of situation	Expectation in one year	Number of providers (situation)
		Averaged by situation and expectation	Balance[1] positive/ negative	Balance[1] better/worse	Extrapolation on the basis of providers
All providers		45	49	41	1066
Revenues/contributions from participants	No revenues	52	53	52	191
	1 to 25%	50	57	43	327
	26% to 49%	39	40	38	187
	50% and more	42	47	38	320
Revenues/contributions from companies	No revenues	40	49	31	411
	1 to 25%	44	46	42	347
	26% to 49%	46	46	46	62
	50% and more	62	62	61	205
Revenues/contributions from employment agencies/Job Centres	No revenues	43	49	37	594
	1 to 25%	47	48	45	250
	26% to 49%	33	35	32	35
	50% and more	54	56	51	146
Revenues/contributions from local government authorities, federal states, Federal Government, EU	No revenues	50	50	50	415
	1 to 25%	45	49	41	244
	26% to 49%	50	57	43	132
	50% and more	36	43	29	234
Type of institution	Private sector commercial	56	54	57	261
	Private sector non-profit	45	50	40	161
	Company-based training institution	60	63	57	36
	Business related (chamber, guild, professional association or similar)	23	26	20	109
	Adult education centre	47	51	44	184
	Vocational school, institute of higher education/University of Applied Sciences, University of Cooperative Education	45	53	38	116
	Church, political party or trade union institution, foundation set up by an association or society	43	50	36	183
Main alignment of the continuing training provision	Vocational	45	48	43	466
	General	38	49	28	197
	Vocational and general	52	54	49	227
	Continuing training is an ancillary task	42	44	39	172
Location	Federal states of Western Germany	47	52	41	866
	Eastern federal states including Berlin	38	39	37	200
By way of comparison	ifo (Institute for Economic Research) Business Climate Index service sector	26	39	14	

[1] The balance is the difference between the positive and negative proportional values and has a theoretical range from +100 to -100.

Source: BIBB/DIE Continuing Training Survey 2016. Extrapolated values on the basis of n = 1,066 valid responses

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sion specifically for persons from a migrant background. Virtually all adult education centres (93%) were active in this area. Private sector institutions operating on a not-for-profit basis were also slightly more likely to be involved than not in offering this sort of provision (52%). Organisations who were disproportionately unlikely to have carried out such target group specific measures included institutes of higher education, Universities of Applied Sciences or Universities of Cooperative Education (82% did not implement such measures), private sector providers operating on a commercial basis (68%), institutions of trade and industry (66%) and institutions run by major societal groups (64%).

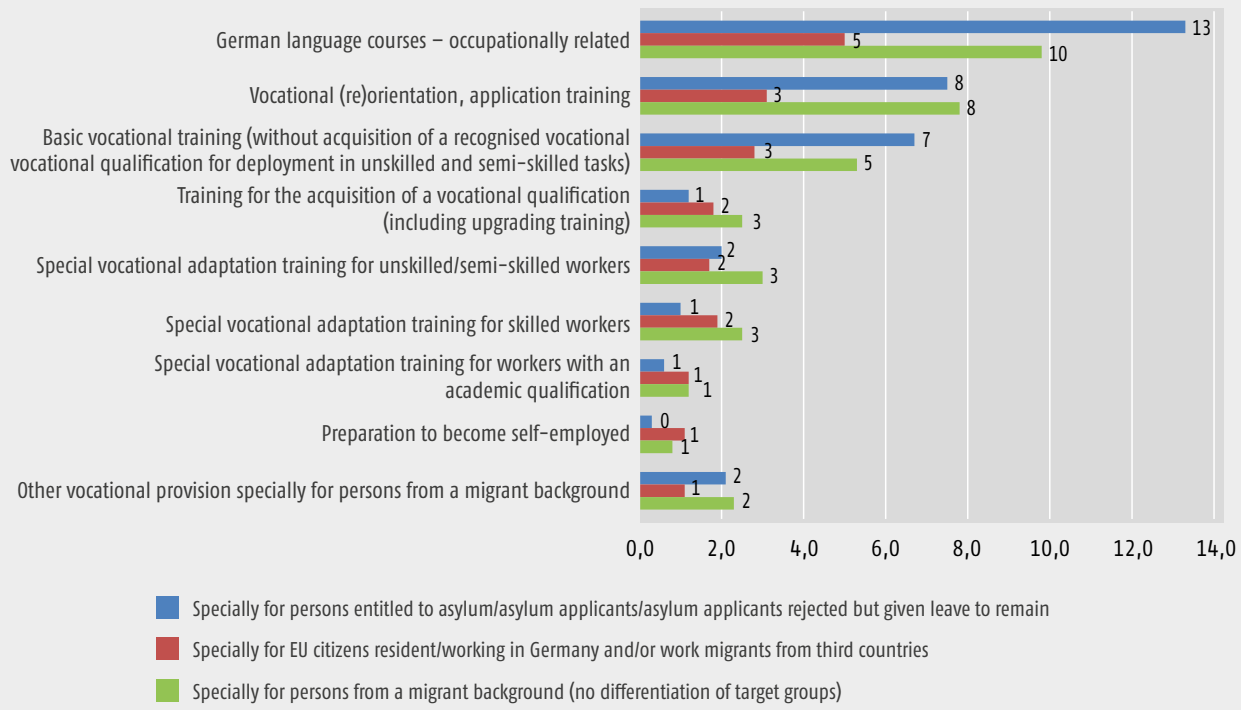
Within the field of special provision for persons from a migrant background, the most common type of programme mentioned by the institutions was German language courses. These were offered for all three groups of migrants differentiated in the survey (figure 24). The assumption is that institutions were more likely to ascribe this provision to occupationally related language courses in the Continuing Training Survey because of the target group and source of financing, although such programmes should, in terms of their alignment, be allocated to the field of general continuing training.

Explicit occupationally related language support to improve opportunities on the labour market takes place between 2015 and 2017 within the scope of the so-called ESF-BAMF Programme. Courses funded in this way combine German teaching, vocational training and a practical placement. They are aimed at persons who have a poor knowledge of German and are from a migrant background (irrespective of nationality and time of migration). Natural and legal persons which are legal entities under German public law may apply to provide the measures, the maximum duration of which is 730 teaching hours.

The findings presented in figure 24 show that the provision most frequently mentioned by institutions related to occupational (re)orientation and application training courses. This applies in respect of measures of this nature specially designed for persons from a migrant background (without differentiation), which in 2015/2016 took place in 8% of all institutions respectively.

The 2016 **Continuing Training Survey** also identified the extent to which the continuing training institutions provided further (learning) services specifically for persons from a migrant background during the period of

Figure 24: **Thematic areas of continuing training provision specifically implemented for persons from a migrant background in continuing vocational education and training (proportions in %)**



Source: BIBB/DIE Continuing Training Survey 2016. Weighted and extrapolated values on the basis of n = 1,752 providers (other vocational provision specifically aimed at persons from a migrant background) to n = 1,773 providers (adaptation training for skilled workers and training for the acquisition of a vocational qualification (including upgrading training))

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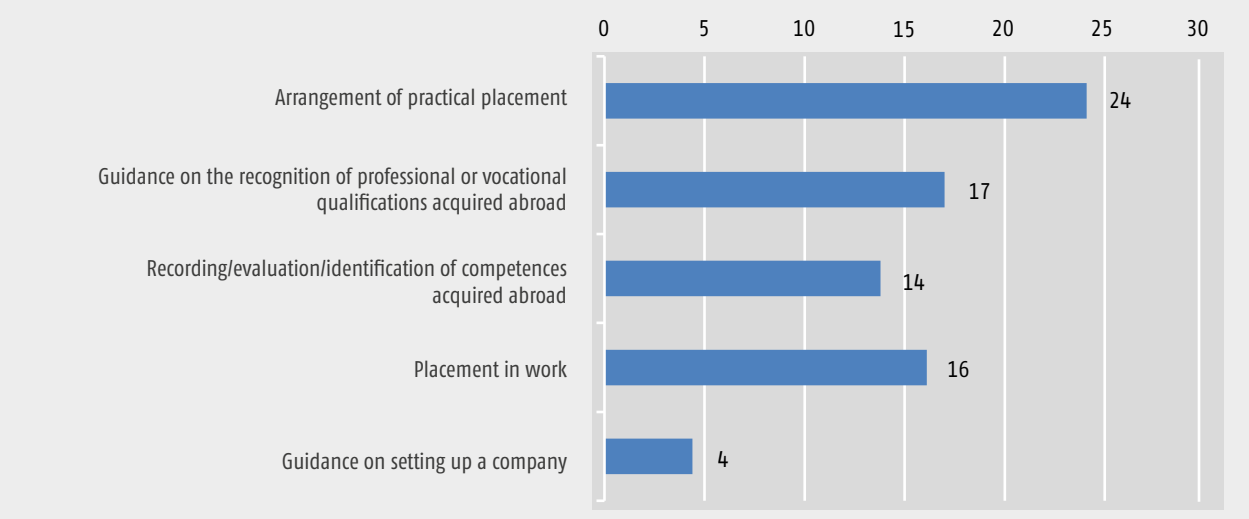
Figure 25: **Type of vocational and labour market related (learning) services specifically provided for persons from a migrant background (proportions in %)**



Source: BIBB/DIE Continuing Training Survey 2016. Weighted and extrapolated values on the basis of n = 1,811 providers

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the investigation. These include instruments which are directly aimed at supporting integration into the labour market. Dissemination of specialist continuing vocational education and training specifically for persons from a migrant background has tended to be low previously. In line with this circumstance, support services of this nature were only realised by minorities of continuing training providers in each case. The private sector institutions emerged as the largest group of providers in all such cases.

Only just under a quarter of all continuing training institutions (24%) provided placement services with regard to securing internships for their participants from a migrant background (Figure 25). Of these, 41% were private sector institutions. In order to impart insights into occupational practice and company processes, continuing vocational education and training measures are often linked with company-based practical placements. Particularly with regard to measures funded pursuant to SGB II/III, such an approach is common practice.

The increasing cultural diversity being brought about by migration is also creating specific challenges for adult education and continuing training. This particularly applies in respect of those who are involved in dealing with persons from a migrant background and/or who are addressing the needs of this group within the scope of their occupational (or voluntary) activities. Continuing training within the area of "interculturality – migration – immigration" can support these functionaries in expanding their intercultural competences and in exercising their tasks more effectively. In 2015/2016, just over half of all providers (52%) implemented training programmes of this nature. These were aimed at such functionaries irrespective of whether they were from a migrant background themselves. Such measures were most likely to be offered by adult education centres (71%), institutions run by major societal groups (62%) and Universities of Applied Sciences or institutes of higher education (61%). They were less frequently provided in comparative terms by institutions of trade and industry and by private sector providers operating on a commercial basis (34% and 38% respectively). These differences are most likely to be due to the respective differences in specific service profiles.

2.2.3 Continuing vocational education and training services from adult education providers

Continuing vocational education and training at adult education centres

In accordance with the relevant federal state laws, adult education centres play a particular role in the provision of continuing training to the population in many federal states. In some cases, provision of an adult education centre by the local government authorities functions via funding made available by the federal state in question on the basis of number of inhabitants (e.g. Mecklenburg-Western Pomerania, Lower Saxony, North Rhine-Westphalia). In other federal states, adult education centres receive equal funding together with inde-

pendent federal state and local government providers (e.g. Bavaria and Brandenburg). Fundamental responsibility for continuing vocational education and training lies with the Federal Government, whilst the federal states have charge of general and political continuing training.[6]

According to the statistics, continuing vocational education provision offered by the adult education in 2015 comprised just under 55,800 courses. This meant that, as in all years since 2008, the overall number of courses had declined on a year-by-year basis. Whilst the number of courses decreased by 8.2%, there was also a drop in number of hours taught and take-up of 4.6% and 9.6% respectively. Over the course of the years, provision of continuing vocational education and training at adult education centres has been considerably larger in the federal states of western Germany than in the states of eastern Germany both in absolute terms and with regard to number of inhabitants.

Continuing training by institutions with trade union and employer links

According to the results of an extensive survey carried out by the Federal Institute for Vocational Education and Training (BIBB) and the German Institute for Adult Education (DIE) in 2008, continuing training institutions with trade union and employer links collectively accounted for around 7% of providers (trade union institutions 1.9%, trade and industry institutions 5.2%). These types of institution are recorded in a less differentiated form in the annual Continuing Training Survey carried out by BIBB and the DIE. According to the survey, institutions of trade and industry (such as chambers, guilds, professional associations or offshoots of these) made up 9.4% of continuing training providers in 2015.

The main focuses of trade union-related education and training institutions are on political education and on training that is aligned to the world of work or to employees. This provision is primarily aimed at members of representative bodies within companies and trade unions. However, the spectrum of services also encompasses a wide range of measures for the vocational training of various target groups. The major trade unions maintain their own educational departments or else act as providers of training institutes which deliver continuing vocational education and training provision.

In overall terms, the declining trend is continued in 2015. Compared to the previous year, decreases are recorded both in the number of programmes (down 2.0% to 2,288) and in the number of participants (down 6.5% to 37,831). A longer-term consideration reveals that growths in amount of provision implemented and in demand were recorded nationally between 2005 and 2009 but that this was followed by significant collapses in 2010 and 2011. Participant numbers have continued to tend to fall since this time, albeit at a lower level.

The “Wuppertaler Kreis e. V. – Federal Association for Company-based Continuing Training” sees itself as a consortium of major continuing training institutions from trade and industry. In 2015, 142,000 programmes were carried out by the institutions which take part in the survey. A new record level for the last ten years has been achieved, although both the number of members overall and the number of institutions responding to the survey have tended to decline. This has brought an end to the negative development in numbers of programmes that has been continuing since 2010. An increase of 14.7% was recorded compared to the previous year. By way of contrast, the number of participants declined on a year-on-year basis for the first time since statistical recording began (2006). In 2015, 1.32 million participants were recorded (-4.3% compared to 2014).

The spectrum of services by Chambers of Commerce and Industry includes continuing training programmes aligned to company practice which the chambers of commerce and industry realise in conjunction with their training centres. The main focus is on in-service seminars and courses, some of which prepare candidates for chamber of commerce and industry examinations. In the year 2015, the chambers of commerce and industry implemented a total of 23,157 continuing training programmes with a volume of 1.94 million teaching hours in which 319,583 persons participated.

A decrease was recorded compared to the previous year. The most drastic decline was seen in the number of programmes, which decreased by 4.0%. With regard to certain segments and thematic areas of the continuing training programmes staged by the chambers of commerce and industry, relatively large falls compared to the previous year occurred in the case of company seminars (-18.9% in terms of programmes, -21.3% for hours of teaching and -20.1% in respect of participants). Comparatively large falls were also recorded in the area of commercial updating training (programmes -11.0%, hours of teaching -16.0% and participants -9.1%). By way of contrast, appreciable positive developments were achieved, at least in terms of participants, in the case of “other” continuing training programmes[278] (+18.0%), in the areas of technical updating training and updating

6 The adult education centre statistics are national statistics provided on a voluntary basis by the German Association of Adult Education Centres (DW) and its member institutions that have been in existence since 1962. They record the human and financial resources available to the adult education centres, provision of various kinds of courses, number of hours taught and take-up figures. The statistical survey is conducted on an annual basis by the German Institute for Adult Education (DIE).

training relating to IT and media (+9.9% and +8.6% respectively) and in the segment of upgrading training in the thematic area of the Ordinance on Trainer Aptitude, AEVO (+5.0%).

Collaborative continuing vocational education and training statistics

The collaborative continuing vocational education and training statistics are produced by the Federal Working Group Work and Life (BAK AL) , the German Protestant Working Group for Adult Education (DEAE) and the Catholic Federal Working Group for Adult Education (KBE). The German Association of Adult Education Centres (DVV) is an associated partner of the consortium.

The total provision implemented by the association members in the thematic area of work-occupations in 2014 encompassed just under 19,700 programmes with around 704,300 hours of teaching and approximately 337,000 participations. Decreases were recorded in each area compared to the results of the previous year. The number of programmes were down by 8.8%, teaching hours fell by -17.7% and number of participants declined by -5.7%. Nevertheless, developments varied within the individual associations between 2013 and 2014.

With regard to the content and thematic alignment of the institutions taken into account in the collaborative statistics, the area of work-occupation training was less significant in overall terms. The same applies within the association for adult education/continuing vocational education and training provided by the churches. The thematic area of work-occupation accounted for only 4.6% of programmes provided by the association and made up only 13.1% of hours of teaching and 3.6% of all participations.

2.2.4 Distance learning

The distance learning statistics have been in existence since 1984. They offer information regarding providers, provision and development of participants in the distance learning segment and are collected on an annual and voluntary basis by the providers. Pursuant to § 1 Paragraph 1 of the Act for the Protection of Distance Learning (FernUSG), distance learning refers to education and training provision (or its providers) in circumstances where teachers and learners are permanently or predominantly spatially separated, where the imparting of learning takes place in exchange for a fee and where learning success is monitored by teachers. Because the methodological procedure for collecting information has remained virtually the same throughout this period despite several changes in the bodies conducting the survey, the Federal Institute for Vocational Education and Training (BIBB) is currently carrying out a comprehensive review project that has been funded by the Federal Ministry of Education and Research (BMBF). This review needs to strike the difficult balance between linking in with the established approach whilst at the same time taking greater account than has previously been the case of overall societal developments (such as digitalisation of education and training, permeability between vocational and academic education). Within the scope of this project, BIBB acted by itself for the first time in 2016 to collect data for the reporting year from 1 January to 31 December 2015 (not including the higher education segment) and also surveyed information for the winter semester (WS) 2015/2016 (institutes of higher education).

The sample included 367 non-higher education providers and 20 private institutes of higher education. In addition, 29 state institutes of higher education not registered with the Central Office for Distance Learning (ZFU) were asked to participate for the first time. This meant that a total of 416 providers (367 non-higher education providers and 49 institutes of higher education) were contacted. In the 2015 reporting year, 40 providers surveyed (45.4%) had cooperated with third parties in the design and use of their distance learning provision. A further five (5.7%) were planning to do so in future. In the case of 46.7% of these 45 institutes, the acting (or planned) cooperation partners are other (non-higher education) education and training providers. 37.8% are working or seeking to work with institutes of higher education and 28.9% with associations. Just under a quarter (24.4%) are working with chambers, and a further 17.8% are cooperating with companies (others 20.0%, multiple responses possible).

According to the Central Office for Distance Learning (ZFU), a total of 1,946 distance learning courses leading to a final examination were being conducted in the 2015 reporting year (2014: 2,188 programmes). Just under two thirds (65.0%) culminated in the award of a certificate by the provider. Just over a fifth (22.1%) facilitated access to an examination under public law, and 11.5% led to a school or trade and technical school examination. A further 1.4% concluded with the award of an internal certificate by the association.

Both in 2014 and 2015, the most popular courses offered were programmes in the thematic area of “business and commercial practice”, which accounted for 27.1% (2014: n = 1,574 distance learning programmes) and 22.2% respectively (2015: n = 1,119 distance learning programmes). However, whereas in 2014 courses in the area of “health, gymnastics, body care and housekeeping” were second with 12.9% and “IT courses” came in third

with 11.7%, these two positions were occupied in 2015 by provision in the field of "technology and logistics" (14.3%) and programmes in "healthcare, nursing and nutrition (9.0%).

According to data from the Federal Statistical Office (DESTATIS), the number of distance students rose in the WS 2015/2016 reach 156,946 (WS 2014/2015: 154,325). 73,009 (46.5%) of these were women, and 12,291 (7.8%) were new registrations. In the case of the new registrations, the proportion of women was as high as 51.4%. The distance students were registered at a total of 72 institutes of higher education.

2.3 Publicly funded continuing vocational education and training

2.3.1 Continuing vocational education and training measures pursuant to SGB III and SGB II

Training within the scope of labour market policy instruments is funded via the employment agencies in accordance with German Social Security Code III (SGB III). Support provided by the Job Centres for persons who are capable of work but require assistance takes place pursuant to German Social Security Code II (SGB II). The labour market policy instruments which facilitate training for persons covered by the legal sphere of SGB II and SGB III include continuing vocational education and training, continuing vocational education and training for disabled persons and ESF training during periods of short-time working (table 55).

Funding of continuing vocational education and training

The funding of continuing vocational education and training measures pursuant to SGB III (labour promotion) and in accordance with SGB II (provision of basic benefits to job seekers) is one of the key elements of active labour promotion. The aim is to improve both individual opportunities for people on the labour market and the competitiveness of companies. Qualifications can also be adapted to meet changed requirements, and vocational qualifications previously not acquired can be obtained. Funded continuing vocational education and training has undergone relatively constant development over the past four years following a temporary rise in funding which reached its zenith in 2009.

Since 2009, the proportion of measures leading to a qualification in a recognised training occupation has more than doubled. In 2015, 48,671 entries related to programmes leading to a qualification in a recognised training occupation. This represents a proportion of 15.9%. However, many people who have not completed vocational education and training take part in continuing vocational education and training programmes that do not result in a qualification. In 2015, persons without a vocational education and training qualification accounted for 34.6% of entries to funded continuing vocational education and training. Overall expenditure in 2015 within the scope of the legal sphere of SGB II for the funding of participation in continuing vocational education and training (including general rehabilitation continuing training measures) was around €2.1 billion.

Table 55: **Participation in continuing vocational education and training under the legal sphere of SGB III and SGB II in the year 2015**

	Total number of participants (annual average)			Admissions/entries/approvals (annual total)		
	Total	SGB III	SGB II	Total	SGB III	SGB II
Continuing vocational education and training 2015	166,429	100,572	65,857	314,833	182,575	132,258
Funding of continuing vocational education and training	154,925	89,239	65,685	305,823	173,739	132,084
of which general rehabilitation continuing training measures	7,337	4,825	2,512	7,657	4,554	3,103
Grant to supplement the pay of employees in continuing vocational education and training	11,484	11,313	172	9,010	8,836	174
ESF training during periods of short-time working	20	20	–	–	–	–

Source: Federal Employment Agency 2016: Labour market 2015, data status March 2016 VET Data Report Germany 2016/2017

Table 56: **Entries to funded continuing vocational education and training by selected characteristics 2001 to 2015 (in %)**

Entries to funded continuing vocational education and training by selected characteristics	2011	2012	2013	2014	2015
Proportion of women entering funded continuing vocational education and training	45.1%	46.2%	45.6%	44.7%	45.7%
Proportion of measures leading to a qualification in a recognised training occupation	12.2%	13.8%	16.3%	16.0%	15.9%
Proportion of persons who have not completed VET	34.2%	36.1%	33.7%	34.6%	34.6%
Proportion of persons aged under 25	11.2%	10.2%	9.1%	7.9%	7.2%
Proportion of foreigners	12.1%	13.5%	13.3%	15.0%	16.4%
Proportion of long-term unemployed	14.0%	15.2%	12.7%	13.1%	12.1%

Source: Federal Statistical Office 2016, calculations of the Federal Institute for Vocational Education and Training VET Data Report Germany 2016/2017

WeGebAU (Funding of Continuing Training of Low Skilled Workers and Employed Older Persons in Companies)

The WeGebAU Programme was first launched in 2006 and extended for an indefinite period in 2012. It focuses on providing initial funding for the continuing training of low skilled and older employees, particularly in small and medium-sized companies, in order to give them additional skills for the labour market and retain or enhance their employment chances and employability. Within the scope of the Law on Securing Employment and Stability in Germany (Federal Government Economic Stimulus Package II), possible funding was extended for a fixed term until 31 December 2010 to include the group of employees who had completed a vocational qualification with a training duration of at least two years no less than four years ago and who had not taken part in a publicly funded continuing training measure in the last four years.

Following a decrease in entries of approximately 70% from 102,450 in the year 2010 to 29,029 in 2011 and a further decline to 18,404 instances of funding in 2012, a fall which was mainly caused by the removal of the funding basis for qualified employees, the number of entries into the programme, the total number of participants and approvals of grants to supplement the pay of employees rose in 2015 in comparison to the previous year. Particular significant increases of approximately 20% and approximately 28% have been revealed with regard to participant numbers and grants to supplement pay respectively.

"Initiative to support structural change" (IFlaS) and "Making the most of training – looking for late entrants" initiative

Because low skilled workers continue to have poor labour market opportunities whilst a shortage of skilled workers is also predicted, the BA is supporting qualifications oriented training via the WeGebAU programme (target group low skilled employees), via the "Initiative to support structural change" (IFlaS), which was launched in 2010 (target group low skilled unemployed persons) and via the "Making the most of training – looking for late entrants" initiative (target group adults aged between 25 and 35 without a vocational qualification). The qualifications oriented training schemes include retraining programmes (in the form of company-based individual or group programmes), preparation courses for the external examination and training programmes that are structured as partial qualifications that build upon one another. Funding can be provided for training courses in occupations for which a training duration of at least two years is stipulated in accordance with regulations under federal or federal state law.

IFlaS enables low qualified unemployed persons and re-entrants to the labour market to acquire a recognised vocational qualification or certified partial qualification. In 2015, qualifications related funding was provided to 30,000 persons in receipt of unemployment benefits. The "Making the most of training – looking for late entrants" initiative, which has been extended to run until 2018, particularly aims to acquire persons between 25 and 35 without a vocational qualification for qualifications

oriented training. The goal of the initiative is to provide such training to 100,000 adults within the space of three years. A total of 92,400 persons were acquired between the launch of the initiative in 2013 and September 2015. By September 2015, 18,000 of these young adults had progressed to unfunded vocational education and training. 43,700 young adults cover by unemployment insurance and 30,700 in receipt of basic benefits commenced a qualifications oriented training programme.

2.3.2 Funding and take-up of upgrading training

The Upgrading Training Assistance Act (AFBG) is jointly financed by the Federal Government and the federal states and has been in existence since 1996. It provides for an individual right, irrespective of age, to funding of upgrading training courses – i.e. courses leading to a master craftsman qualification or other programmes to prepare for a comparable advanced training qualification.

According to the AFBG statistics published in August 2016, funding for 162,013 persons was approved in 2015. This represents a decrease of 5.7 % compared to the previous year. A total of 71,557 persons (44.2 %) completed a full-time measure whilst 90,456 (55.8 %) finished a part-time measure. Compared to the previous year, the rate of change for persons funded in full-time and part-time measures was -4.7 % and -6.5 % respectively.

There were 79,224 funding approvals (48.9%) in the trade and industry sector (for advanced training objectives pursuant to the Vocational Training Act). As in the previous years, this area occupied the top position. It was followed by the craft trades sector, in which 42,916 funding approvals took place (26.5%). In 2015, total funding of €558.032 million was authorised. This figure includes grants in the amount of €181.439 million and loans amounting to €376.594 million. In overall terms, the rate of change in respect of financial expenditure approved compared to the previous year was minus 5%. In 2015, total financial spending in respect of funding taken up was €469.721 million. The proportion of grants was €181.439 million, whilst loans accounted for €288.282 million. The average funding sum approved per person per month in 2015 was €1,165.

2.3.3 Continuing training scholarship programme and upgrading training scholarship

The “continuing training scholarship” programme run by the Federal Ministry of Education and Research (BMBF) supports talented career entrants with further training following the successful completion of initial vocational education and training. This scholarship funds participation in professional continuing training courses leading to qualifications such as master craftsman, technician and certified senior clerk. It also covers demanding interdisciplinary continuing vocational education and training programmes such as IT courses, intensive language courses and higher education study pursued on an in-service basis.

The continuing training scholarship began life in 1991 as a programme entitled “Support for Gifted Trainees” and initially took on 1,713 particularly able young employees who had completed dual training. Since this time, more than 126,000 young people have received a continuing training scholarship. Whereas 192 VET competent bodies took part at the outset, this figure has now grown to include almost 300 chambers and other competent bodies. Between 1991 and the present day, the Federal Government has made over €420 million available for the continuing training scholarship.

The “upgrading training scholarship” programme, which is funded by the BMBF and implemented by the “Training Support for Gifted Pupils” Foundation, creates higher education incentives for persons with occupational experience with or without a higher education entrance qualification obtained via the school route. It is the only talent programme to support occupationally talented persons who wish to achieve an academic qualification whilst continuing to work and support their families. The commencement of higher education study is tied to age insofar as it must be possible to enter working life upon successful completion of the study programme. The upgrading training scholarship programme was launched in 2008. Since this time, 8,869 scholarship recipients have been admitted to the programme. 1,009 new entrants joined in 2016 alone. Just over a quarter of all applicants have been awarded a scholarship since the commencement of the programme.

2.4 Public spending on continuing vocational education and training

Table 57 documents spending from public budgets on continuing vocational education and training from 2001 to 2016. Expenditure on general, political, cultural and scientific continuing training is not presented. The main contribution made by the Federal Government to the financing of continuing vocational education and training is the funding of living costs for persons participating in such programmes. This includes provision of support pursuant to the Upgrading Training Assistance Act and Upgrading training assistance for pupils at trade and technical schools who have completed VET.

There are also funding programmes offered by various ministries. Spending on such programmes is consolidated within budgets to form funds. In accordance with the function plans pursuant to § 14 of the Federal Budget Code (BHO), the functional indicators 144, 152, 153 and 155 denote the budgets which are allocated to the area of continuing vocational education and training funding in the annual financial statistics of the Federal Statistical Office. However, some of these budgets mainly relate to the general or tertiary educational system or contain spending items which are more closely connected with funding of vocational education and training. By the same token, there are also budgets which clearly serve the funding of continuing vocational education and training although their functional indicators suggest otherwise. The latter particularly applies in respect of special schemes for younger persons offered by the Federal Ministry of Labour and Social Affairs (BMAS) within the scope of SGB II. For this reason, table 57 indicates the budgetary areas which can be allocated in a source-specific manner to continuing vocational education and training rather than making reference to the annual financial statistics. Federal Government budgetary areas (and table items relating to the federal states, local government bodies and the Federal Employment Agency) which contain a significant extent of training expenditure are marked with a cross at the end of the line.

Contribution by federal states

The federal states participate in the financing of continuing training in a similar way to the Federal Government via programmes conducted by the different ministries. In the light of the multitude of federal state budgets, it is practically impossible to identify which of these should actually be aligned to continuing training spending. Use is therefore made of the annual financial statistics of the Federal Statistical Office. For 2016, these indicate a planned contribution by the federal states for other continuing training purposes (functional indicator 153) of €345 million. There is also a contribution of €73 million from the municipal associations and local government authorities. However, as described above, funding programmes are only included if the functional indicator explicitly shows that they are allocated to the field of continuing vocational education and training within the function plan. It is likely that many programmes that relate to continuing vocational education and training are also included in the area of labour market policy. For this reason, the supposition is that the annual financial statistics underestimate the actual contribution made by the federal states to continuing vocational education and training funding.

A BIBB survey on the amount of funding provided for continuing vocational education and training programmes arrives at the conclusion that (planned) spending by the federal states in 2010 was of the order of €0.5 billion. This is a very rough estimate that is subject to considerable uncertainties. No information is available for the following years. No statement can be made regarding the size of the overlap between the amount shown in the annual financial statistics for spending on continuing vocational education and training and the BIBB estimate of the programme volume.

Acting together with local government and municipal associations in some cases, the federal states continue to finance adult education centres and teacher training institutes. The relevant spending can also be gleaned from the annual financial statistics. Because the intention is to present expenditure incurred by the public budgets, the concept of basic funding needs to be applied. This involves setting off net spending against direct revenues received by the public purse, such as participant fees for courses at adult education centres. However, the annual financial statistics do not permit a differentiation to be made between CVT and non-CVT in respect of spending for adult education centres. For this reason, the amount spent on the work-occupation programme area of adult education is estimated as a proportion of overall federal state and local government authority spending on adult education and by estimating the extent of the programme area shown in the adult education centre statistics as a proportion of the total volume of hours taught. Nevertheless, it should be pointed out that wide aspects of the other programme areas of “politics, society, environment”, “culture and design”, “healthcare”, “languages” and “basic education – school qualifications” also impart qualifications which are occupationally relevant.

In addition to this, the federal states are involved in the funding of upgrading training. Their proportion is statutorily fixed at 22% and can be calculated on the

basis of information provided in the budget of the BMF, which bears the whole Federal Government proportion of 78%. The BMBF budget sets off the repayment of loans from previous periods against the monies paid out to recipients of funding in the respective period. For this reason, it provides no information regarding the actual amount of funding in the respective period (see Specialist Publications 11, Series 8 of the Federal Statistical Office). However, this contribution essentially comprises the actual cost to public budgets anyway. Account should also be taken of the contributions made by the federal states to benefits paid in accordance with the Federal Education and Training Assistance Act to pupils at trade and technical schools who have completed VET. 100% of this funding is paid in the form of a grant, and the full cost of this is borne by the Federal Government from 2015.

Finally, the federal states finance the trade and technical schools and institutes of higher education. However, spending by institutes of higher education for the purposes of continuing vocational education and training are not taken into account in the federal state spending listed in table 57. A study into the structure and organisation of continuing vocational education and training at institutes of higher education comes to the conclusion that large parts of the costs are covered by fees paid by participants. Mention should be made of the fact that public employers also naturally support the continuing vocational education and training of their own staff. This takes place via assumption of direct costs of continuing vocational education and training and via continued payment of wages during such continuing training.

Contribution by Federal Employment Agency and European funding

Funding of continuing vocational education and training by the Federal Employment Agency (BA) on the basis of SGB III essentially includes the costs of the continuing training itself, unemployment benefit paid during continuing training and grants to supplement pay during such training. According to the BA, unemployment benefit is designated as “unemployment benefit during continuing training” as soon as it is granted for participation in a continuing vocational education and training measure. Usually, however, persons have a right to receive unemployment benefit by dint of the fact that they are unemployed. Strictly speaking, this means that not all of the costs should be interpreted as educational spending in accordance with the costs-by-cause principle. Because the right to receive unemployment benefit because of unemployment increases by half of the duration of continuing training in the case of participation in a continuing vocational education and training measure, it is likely that the proportion to be allocated to educational spending is at least 50%. Table 57 does not take account of benefits provided by the BA to persons with a disability. In accordance with its purpose, associated expenditure should not presumably be largely interpreted as educational spending even if it is in some cases incurred within the context of continuing training activities.

Spending by the BA has declined sharply since 2001 because of a deterioration in leeway within labour market policy. Over recent years, it has, however, been largely stable. The prerequisites for the funding of continuing vocational education and training have been slightly eased, albeit for a fixed period of time, in the wake of the reform of instruments that entered into force on 1 April 2012. Alongside initial and continuing training funding on the basis of SGB III, the BA is also responsible for the implementation of measures funded by the BMAS on the basis of SGB II. The criterion for funding pursuant to SGB II is a phase of unemployment which lasts for longer than one year. For this reason, the vocational training promotion schemes within the scope of the legal sphere of SGB III are similar to those covered within the legal sphere of SGB II. Mention should be made of the fact that spending by the BMAS on the funding of continuing vocational education and training within the legal sphere of SGB II is not recorded to the extent that such expenditure is incurred by authorised local government providers. In some cases, the funding made available by federal ministries, the BA and the federal states is supplemented by EU funding. The relevant programmes are co-financed by the European Social Fund (ESF). A total of around €7.5 billion is available to the Federal Government and the federal states for this purpose in the funding period from 2014 to 2020. Planned investments in education, training and vocational education and training for competences and lifelong learning (main funding focus C) make up around €2.4 billion. This means that the maximum annual amount of ESF funding benefiting initial and continuing training is likely to be between €0.3 billion and €0.4 billion. The fall compared to the prior period is connected with the general decrease in German structural funding and does not imply that less significance is being accorded to initial and continuing training in the present funding period. ESF funding for continuing training is not separately indicated in table 57 since it is at least partially taken into account in the budgetary areas of the ministries already listed. Not all ministries indicate ESF funding used separately. For this reason, it is not possible without further information to make any statement regarding the extent to which the financing contribution made by the public purse is further raised via ESF grants compared to the information in the table.

Table 57: **Public expenditure on continuing vocational education and training**

	2001	2010[14]	2013	2014	2015	2016	Training[15]
	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion	
BMBF[1]							
International exchange and cooperation in vocational training	0.007	0.010	0.013	0.009	0.011	0.013	X
Innovations and structural development of vocational training	N/A	0.050	0.086	0.074	0.075	0.114	X
BIBB (operation and investments)	0.028	0.030	0.034	0.038	0.036	0.042	X
Support for gifted students in vocational education and training	0.014	0.035	0.044	0.046	0.046	0.049	X
Upgrading Training Assistance Act (AFBG)[2]	0.045	0.149	0.174	0.182	0.182	0.213	
Continuing training and lifelong learning	N/A	0.048	0.060	0.051	0.038	0.045	
Upgrading training assistance for pupils at trade and technical schools who have completed VET[3]	0.053	0.080	0.081	0.080	0.124	N/A	X
BMWi[1]							
Vocational training for the SME sector – advanced training institutions[4]	0.027	0.024	0.029	0.030	0.029	0.029	
BMAS[5]							
Funding of continuing vocational education and training within the legal scope of SGB II[5]	N/A	0.827	0.558	0.558	0.563	0.568	X
Grants to supplement pay for the continuing training of unskilled workers and employees threatened by unemployment (AEZ-WB)	N/A	0.001	0.000	0.001	0.001	0.002	X
Federal states, local government authorities, special purpose associations[6]							
Trade and technical schools[7]	0.566	0.608	0.688	0.696	0.716	0.732	X
Upgrading training assistance for pupils at trade and technical schools who have completed VET[3]	0.029	0.043	0.044	0.043	-	-	
Upgrading Training Assistance Act (AFBG)[2]	0.013	0.051	0.049	0.051	0.051	0.060	
Adult education centres (funding code 152), "work and occupations" programme area[8]	0.088	0.051	0.041	0.039	0.037	N/A	
Other continuing training (funding code 153)[9]	0.485	0.333	0.321	0.334	0.349	0.418	X
Advanced and continuing training for teaching staff (funding code 155)	0.130	0.091	0.114	0.128	0.119	0.130	
Continuing training programmes of the federal states[9]	N/A	Approximately 0.5	N/A	N/A	N/A	N/A	

	2001	2010[14]	2013	2014	2015	2016	Training[15]
	in € billion	in € billion	in € billion	in € billion	in € billion	in € billion	
Federal Employment Agency[5]							
Continuing vocational education and training[10]	6.982	0.958	0.857	1.023	1.068	1.149	
Grants to supplement pay for the continuing training of persons in employment[10]		0.106	0.077				
Unemployment benefits whilst undertaking continuing vocational education and training[11]		0.962	0.935	1.034	1.060	1.093	
Funding for young people's residential homes[12]	0.044	-	0.001	0.001	0.001	0.003	X
Supplementary training provision co-financed via funding from the ESF in the case of receipt of short-time allowance, seasonal short-time allowance or transfer short-time allowance[13]	-	0.043	0.003	0.003	0.000	- 0,000	

[1] Actual values in accordance with Federal Government budgetary calculations. Budget appropriations for 2016.
[2] The values presented do not provide any information on funding actually paid out to recipients in the respective period, cf. note in text.
[3] Funding for pupils at trade and technical schools requiring completed VET. Actual values for all calendar years stated in accordance with upgrading training assistance figures produced by the Federal Statistical Office. Does not take loan repayments into account. The proportion of costs borne by the federal states was not separately stated until the 2012 Data Report. From 2013 to 2015, 65% was allocated to the Federal Government and 35% to the federal states. From 2015, the Federal Government bears the full financing. Not taken into account until the 2012 Data Report.
[4] Until 2011, this expenditure was included under the budgetary item of "funding of extra-company advanced training institutions". It records funding for extra-company vocational training centres which focus on advanced and continuing training activities.
[5] Actual spending for the respective budgetary year. Not included: BMAS expenditure for authorised local government providers not recorded via the finance system of the BA.
[6] Actual values for 2001, preliminary actual values for 2013 to 2015. Target values for 2016.
[7] Basis for the estimation of expenditure in the calendar years 2001 and 2010 to 2015 is the number of hours taught per type of school in the school years ending and beginning in the respective calendar year and expenditure on vocational schools. Basis of the estimation for the year 2016 is the number of hours taught per type of school in the 2015/2016 school year and expenditure on vocational schools in the 2016 calendar year. Until the 2014 Data Report, estimation took place on the basis of pupil days. Since the 2015 Data Report, however, only values estimated on the number of hours of teaching are presented, including with retrospective effect.
[8] Estimated with the assistance of public spending on adult education centres according to the Federal Statistical Office and the proportionate volume of teaching in the "work and occupations" programme area according to the adult education centre statistics (2010: 15.0%, 2013 11.3%, 2014 10.5%, 2015 9.3%).
[9] Function 153 collates the former functions 151 (funding of continuing training) and 153 (other continuing training institutions). Under certain circumstances, the amount listed under function 153 in the annual statistics exhibits an unknown amount of intersection with the BIBB estimation of volume of funding in continuing training programmes of the federal states, cf. notes in text. In addition, the items contain expenditure on general and political continuing training.
[10] This item collates BA expenditure on the funding of continuing vocational education and training (FbW) and grants to supplement pay for the continuing training of persons in employment (AEZ-WB) from 2014. Includes, inter alia, expenditure on the "Initiative to support structural change (IFlaS)" and "Training for persons in employment (WeGebAU)". Because of changes to the aggregation of expenditure, FbW and AEZ-WB are no longer stated separately.
[11] See notes in text.
[12] Although institutional funding in the field of initial and continuing training was abolished in 2009, since April 2012 it has once again been possible to provide funding for the establishment, expansion, conversion and equipping of young people's residential homes.
[13] Funding is provided to low-skilled employees who are unable to demonstrate vocational education and training or who have been carrying out an activity other than the activity in which training has taken place or an unskilled activity for at least four years.
[14] Not all years are presented for reasons of space. Information for the years from 2006 to 2009 and for 2011 and 2012 are available in earlier issues of the BIBB Data Report.
[15] Items which also contain a significant scope of expenditure on initial vocational training are marked with a cross.

Sources: Federal Ministry of Finance, federal budgets; Federal Ministry of Finance, budget account of the Federal Statistical Office, Specialist Publications 11, Series 2 – Vocational Schools; Federal Statistical Office, Specialist Publications 14, Series 3.1 – Financial results whole budget; Federal Employment Agency, Quarterly Reports; Federal Employment Agency, Monthly Financial Results (SGB II and SGB III); German Institute for Adult Education, adult education centre statistics, information provided by the Federal Statistical Office (January 2016).

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3. Main thematic focus – refugees and vocational education and training

Around 65 million people across the world are refugees. In Europe, the number of refugees increased sharply from the spring of 2015. Around 890,000 asylum seekers were registered in Germany in 2015. The corresponding figure for 2016 was around 321,000. Very few empirical investigations into participation in vocational education and training in Germany by refugees are available. The characteristic of "refugee" is also scarcely recorded in the relevant official statistics.

3.1 Refugees in Germany

The group of "refugees" encompasses persons who have left their home countries to seek protection in Germany. According to the recording system used for the initial distribution of asylum seekers (EASY System), around 1.21 persons were identified as wishing to apply for asylum in 2015 and 2016. The Federal Office for Migration and Refugees (BAMF) publishes data on aspects such as the development of asylum applications submitted in Germany and the subsequent decisions made. At the end of 2016, the BAMF was aware of approximately 434,000 asylum applications which remained undecided.

The decision regarding the asylum application and the right of residency this affords are central to the further integration process. In 2016, 36.8% of asylum applicants were recognised as refugees on the basis of the Geneva Refugee Convention (2015: 48.5%). Various types of protection exist in Germany.

- Recognition as a refugee – refugee protection in accordance with the Geneva Refugee Convention, § 3 Paragraph 1 German Asylum Act, (AsylG)
- Recognition as a person entitled to asylum pursuant to German Basic Law (Article 16a)
- Subsidiary protection status (§ 4 Abs. 1 AsylG)
- Ban on deportation ban (§ 60 Paragraphs 5 and 7 German Residency Act, AufenthG)

3.5% of asylum applications resulted in a ban on deportation (2015: 0.7%). In 2016, the overall asylum rate for all countries of origin was 62%. This represents an increase compared to 2015 (49.8%). Residency status is of crucial importance for integration into the world of work and employment. Apart from offering access to the training and labour market, it is also decisive in terms of legal opportunities to gain access to funding provision. Entry prerequisites for company-based training, access to full-

Table 58: **Key data relating to immigration by refugees**

	2013	2014	2015	2016	2017
Asylum applications still outstanding from the previous year	49,811	95,743	169,166	364,664	433,719
New asylum applications(initial and follow-up applications)	127,023	202,834	476,649	745,545	
Decisions	80,978	128,911	282,726	695,733	
Overall asylum rate	24.9%	31.5%	49.8%	62.4%	
Persons subject to deportation with leave to remain		113,221	155,308	153,047	
Impending cases before the courts as of 31.12	39,439	52,585	58,974	119,000	
EASY registrations			approx. 890,000	280,000	

Source: Federal Office for Migration and Refugees – current asylum figures. Edition: December 2015, 2016, 2017, Federal Office for Migration and Refugees – The Federal Office for Migration and Refugees in figures 2014, 2015, Federal Ministry of the Interior, various press reports 2015/2016/2017

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Table 59: **Access to full-time school-based and dual training and access to training funding via measures pursuant to German Social Security Code III (SGB III) by the status under residency law of a refugee**

	Company-based (dual) training	(Full-time) school-based training	Access to the labour market	Training funding (SGB III) *in particular training support measures, vocational education and training subsidies, vocational preparation schemes, assisted training → Chart C3-2
Refugees with entitlement to protection under the Geneva Refugee Convention, German Basic Law or entitled to subsidiary protection	Access open	Access open	Access open	Access open
Persons with leave to remain	Access open in principle, usually after issuing of leave to remain	Access open	Access open in principle, in addition dependent on a prior three-month stay due to nature of employment and further prerequisites which apply in individual cases	Access dependent on length of prior stay (e.g. training support measures after twelve months, vocational preparation schemes after six years, vocational education and training subsidies after 15 months) and further prerequisites which apply in individual cases
Asylum applicants (special leave to remain)	No access during the first three months of the stay and during the mandatory period to reside in an initial reception centre	Access open	No access during the first three months of the stay and during the mandatory period to reside in an initial reception centre	Access dependent on good prospects of being able to remain in Germany, length of prior stay (e.g. training support measures and vocational preparation schemes after three months, vocational education and training subsidies after 15 months) and further prerequisites which apply in individual cases

Source: Presentation by the Federal Institute for Vocational Education and Training VET Data Report Germany 2016/2017

time school-based training, access to the labour market and access to training funding via measures pursuant to German Social Security Code III (SGB III) are portrayed below (table 59).

3.2 Areas of training potential and qualification requirements of refugees

Persons who have arrived in Germany over recent years differ from the indigenous population with regard to one essential socio-demographic aspect – age structure. In overall terms, around 74% of refugees submitting an asylum application in 2016 were under 30 years of age (2015: 71.1%). 60% were aged under 25 (2015: 55.9%). In 2016, around 261,000 asylum applicants were aged under 18, i.e. one in three was a minor. 30.3 % were aged under 16. The number of asylum applicants made by minors rose by around 123,900 compared to 2015. The proportion of such applicants rose by around five percentage points to 36.2% (2015: 137,500 or 31.1% (Federal Office for Migration and Refugees 2015, 2016b).

3.2.1 Prior school learning and prior vocational education and training

Knowledge of the prior school learning and prior vocational education and training of refugees who have sought protection in Germany over recent years is not available for all groups of persons. Initial indications are, however, in place for *adult* refugees. These have been obtained by the Federal Office for Migration and Refugees (BAMF) survey of asylum seekers during the process of their application and via studies on sub-groups. The BAMF survey of applicants indicates the broad range of prior learning of adult asylum seekers. The highest educational establishment attended in their home country by around 38% of asylum applicants in 2016 was an upper secondary school (21.6%) or an institute of higher education (16.6 %). By way of contrast, about 31% had not progressed beyond primary school (21.2%) or had no formal schooling (10.0%). In just under a third of cases, the highest educational establishment attended was an intermediate secondary school.

The 2016 refugee survey carried out by the Institute for Employment Research (IAB), the Federal Office for Migration and Refugees (BAMF) and the German Socio-Economic Panel (SOEP) enables further differen-

tiation of prior school learning *and* prior vocational education and training in terms of participation in education *and* qualification. According to the survey, the highest educational establishment of around 37% of the adult asylum seekers who arrived in Germany between 2013 and the start of 2016 was a secondary school. About 31% had attended a middle school. On the other hand, approximately 20 % had not progressed beyond primary school (10 %) or had no formal schooling (9 %). 58% of respondents had achieved a school qualification. Around one in five (22%) had a middle school leaving certificate, and one in three (32%) held a secondary qualification. 33% of the adult asylum seekers held no school leaving qualification. One in four (24%) who had attended school had left without achieving a qualification. Around one in ten (9%) had not attended a school.

Very little reliable information is available on the prior school learning (and prior vocational education and training) of refugees by *age groups*. Initial indications are provided by the details supplied by refugees when registering as asylum seekers. Alongside a wide range of prior learning, the findings show that participation in education is more favourable for the younger age groups than for the older respondents. Just under half (49%) of registered asylum seekers aged between 18 and 24 had attended an upper secondary school or a University of Applied Sciences/institute of higher education. Around one in five (21%) had attended either a primary school or no school at all. 28% had completed middle school or attended a trade and technical school. The prior learning of those aged between 25 and 34 was almost as favourable. By way of contrast, the prior learning of the older respondents was significantly less favourable.

According to the 2016 refugee survey carried out by the Institute for Employment Research (IAB), the Federal Office for Migration and Refugees (BAMF) and the German Socio-Economic Panel (SOEP), just under one in three refugees had either attended an institute of higher education (19%) or had taken part in (formal) company-based or vocational education and training (12%). Around 13% had completed higher education study and achieved a degree, whilst about 6% had acquired a vocational qualification (Romiti et al. 2016). 69% of the adult refugees had not participated in any formal vocational education and training prior to their entry to Germany. Around 80% held no vocational qualification.

Formal participation by refugees in the general educational sector and qualifications achieved are significantly more favourable than in the vocational sector. However, the vast majority of refugees have employment experience in their country of origin. Around 70% of adult asylum seekers in 2016 were, for example, economically active. 64.1% were in paid work, and 5.6% were unemployed. For this reason, even refugees without a formal training qualification were often in possession of occupational experiences, skills and competences that had been acquired "on the job", i.e. in the workplace, prior to their arrival in Germany. This suggests that their skills and competences were not appropriately certified and that it was likely that they would only partially be able to fulfil expectations on the German labour market.

3.2.2 Acquisition of qualifications and labour market integration

Around 14% of refugees are economically active. Of these, around a third (33%) are hourly paid workers. 35% are salaried employees, and 30% are in initial or continuing training. Around a third (32%) are in full-time employment. About a fifth (21%) work on a part-time basis, and around one in four (24%) are taking part in a practical placement/vocational education and training. The likelihood of being economically active rises as residency in the country becomes longer. In mid-2016, around 13% of refugees who had arrived in 2015 and at the start of 2016 were economically active. The corresponding figures for the influxes in 2014 and 2013 were 22% and 31% respectively.

The vast majority of refugees who predominantly arrived in the country before 2000 (85%) has *not taken part in vocational education and training* in Germany, a significantly higher proportion than in the case of other migrant groups (70%). Participation in vocational education and training is significantly more favourable amongst young people or amongst those who have undergone schooling in Germany. Of the refugees who arrived in Germany at an average age of 23 and had lived in the country for an average of 18 years at the time of the survey, one in ten had *acquired a vocational qualification in Germany*. The corresponding proportion for the other migrant groups is 23%, more than twice as high. 11% of refugees without a vocational education and training qualification from their country of origin have acquired a vocational qualification in Germany.

After a period of over 15 years in Germany, the *growth in qualifications* achieved by the refugees is around 10 percentage points. This growth has predominantly taken place in the intermediate qualification sector (dual full-time vocational school qualifications), where there has been an increase of 8 percentage points. In 2013, 58% of refugees who had entered Germany prior to the year 2000 were *not* in possession of a vocational qualification, a considerably higher proportion than in the case of other refugees (42%). One in four refugees combines a lower or intermediate secondary school leaving qualifica-

tion with vocational education and training. 16% hold a University of Applied Sciences/higher education degree.

3.3 Participation in vocational training of refugees

Virtually no empirically secure findings are thus far available on the integration of young refugees into vocational education and training. The characteristic of "refugee" is not usually recorded in the official statistics. Other characteristics such as nationality are used in order to categorise this target group within the context of vocational education and training and pre-vocational support measures.

The data situation regarding the integration of refugees into vocational education and training is unclear since this group of persons cannot currently be identified in most of the relevant official statistics. This chapter therefore makes use of characteristics such as persons who are nationals of relevant countries of asylum seeker origin. The statistics of the Federal Employment Agency (BA) are in some cases able to identify persons within the context of refugee migration. The following section uses the available official statistics as a basis for presenting participation by young people from non-European countries of asylum seeker origin or within the context of refugee migration in *language and integration courses*, *vocational orientation provision, vocational preparation, training funding* and *dual training*. It also outlines the destination of training place applicants registered with the BA within the context of refugee migration. Depending on their legal status, refugees may participate in different ways in the regulatory instruments provided pursuant to SGB III.

Participation in integration and language courses

Existing data and studies show that only a small proportion of refugees have knowledge of German prior to their entry to the country. 90% of the refugees surveyed in the IAB-BAMF-SOEP study stated that they had no knowledge of the German language. Integration courses include comprehensive language support, usually consisting of 600 teaching units, and an orientation programme which now comprises 100 teaching units.

In 2016, the number of new immigrants taking part in the integration courses during the period from 1 January to 30 September was over 176,000 persons. The corresponding figure for the whole of 2015 was over 124,000. Persons of Syrian nationality accounted for 46.4% of new courses participants (entries) in 2016. This represented the highest proportion by a significant distance. They were followed by Iraqi and Eritrean nationals with proportions of 7.3% and 5.6% respectively. Alongside the integration courses, there was also a range of other provision in 2015. These included ESF-BAMF courses for the learning of occupationally related German offered by the BA (e.g. introductory courses pursuant to § 421 SBG) and numerous other programmes delivered by the federal states or local government authorities.

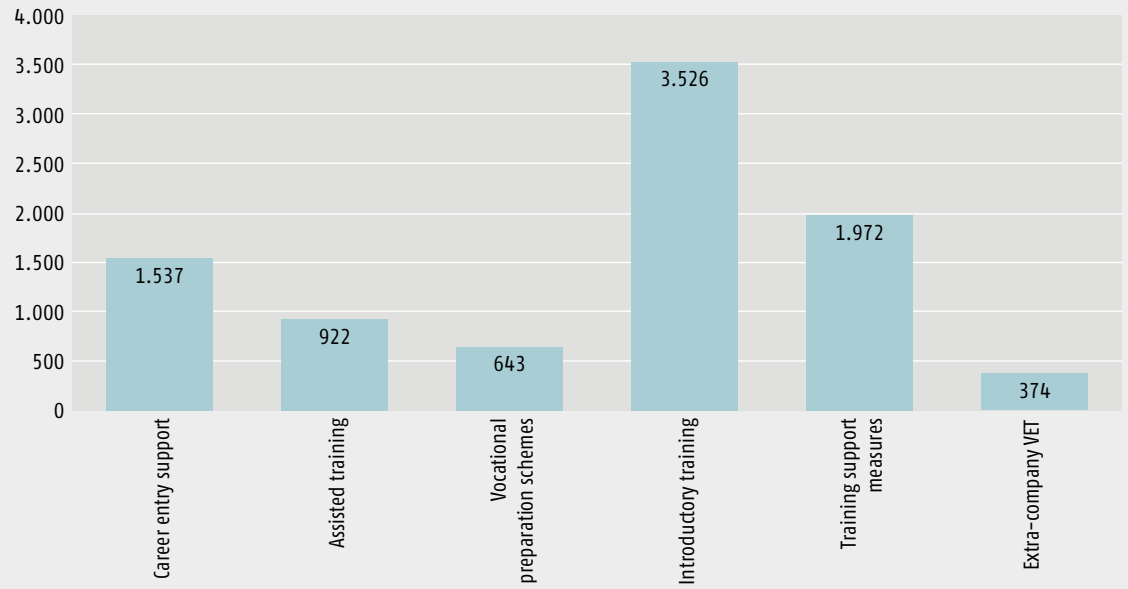
According to the 2016 IAB-BAMF-SOEP survey of refugees who arrived in Germany between January 2013 and the end of January 2016, one third of respondents had taken part in an integration course by the time of the survey in the early summer or autumn of 2016. A further 5% had participated in occupationally related ESF-BAMF courses, and 38% had completed language programmes frequently offered at a decentralised level and in respect of which no further specific details were provided.

Participation in educational provision relating to vocational orientation, vocational preparation and training support

According to the funding statistics of the BA, around 8,974 participants from a refugee context took part in *regular vocational preparation and training support instruments pursuant to Social Security Code (SGB III)* up until December 2016. This figure represents around 4.5% of all participants. By 31 December 2016, 3,526 persons from the group of persons of refugees (residence permit as refugees, leave to remain, special leave to remain, without family reunion pursuant to §§ 29 ff. AufenthG) took part in the regular instrument of *"introductory training"*. This was the highest proportion of such participations. This represents a considerable proportion of 29% of the total number of persons taking part in introductory training. Introductory training lasts for a period of between six and twelve months. Its purpose is to impart the basic principles for the acquisition of employability skills, and the aim is to pave the way to company-based vocational education and training. A training contract already exists in the case of young refugees who take part in *training support measures*. These comprise remedial teaching and socio-pedagogical support during training. In 2016, 1,972 persons from a refugee background were involved in such measures (4.8% of the total number).

Particular use of § 45 SGB III "measures aimed at facilitating the entry of people into the labour market and at achieving professional and occupational integration" was made to create *national special programmes for refugees specifically*. The programmes are "Perspectives for young refugees – PERJUF", "PERJUF-H", "Perspectives for refugees – PERF" and "Competence assessment, early entry to the labour market and language acquisition – KOMPAS". Usually, completion of an integration course is

Figure 26: **"Persons within the context of refugee migration" taking part in selected labour market policy measures in 2016**



Source: Federal Employment Agency funding statistics, status December 2016, representation by the Federal Institute for Vocational Education and Training

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a prerequisite for participation in such measures. In the case of "KOMPAS", the integration course forms part of the measure itself. Provision is of a duration of between twelve and 32 weeks. The main focus is on the topics of competence assessment and vocational orientation, on supporting the career finding process and on paving the way for a training contract. This is also combined with language support elements. Participants completing "PERJUF-H" also have the opportunity to progress to the "Routes into training/vocational orientation for young refugees" (BOF) programme. The programme with the highest number of participants recorded in December 2016 was KOMPAS, in which 13,315 persons took part. This was followed by the measure PERF, which had 4,609 participating "persons within the context of refugee migration".

An increase in the number of foreign pupils from non-European countries of asylum seeker origin also occurred at the *vocational schools*. In the case of the *pre-vocational training year* in particular, the number of pupils from non-European countries of asylum seeker origin (almost) tripled from around 8,770 in the 2014/2015 school year to reach around 24,200 in the subsequent school year of 2015/2016. The BA statistics for the 2015/2016 training year show that around 10,300 persons "within the context of refugee migration" were registered as *applicants for a training place* deemed to have the necessary maturity to enter training (21% of whom were women).

During the reporting period (start of October 2015 to the end of September 2016), around 3,500 applicants from a refugee context succeeded in concluding a training contract. This represents a proportion of 34% of all registered applicants from a refugee context. It contrasts with a figure of 49% for applicants outside a refugee context. Whereas around 900 registered applicants from a refugee context are reported as being unplaced (9%, applicants outside a refugee context 4%), around 14% are attending (vocational) school or are in higher education study or a practical placement. A further 6% are in a vocational preparation scheme or in introductory training. Around 7% of applicants are exercising employment. This is similar to the corresponding figure for applicants outside a refugee context, such as German applicants (6%). No information in respect of destination is available for 29%. This is significantly higher than the corresponding figure for other applicants (applicants outside a refugee context for whom there is no information regarding destination = 17%).

Joint measures of the Federal Government, federal states and Federal Employment Agency

A series of programmes and funding measures exists within the transitional sector. These have been further developed and institutionally adapted for the purpose of supporting refugees (for more information on selected

Table 60: **Registered applicants for vocational education and training places within and outside the context of refugee migration, October 2015 to September 2016 (in %)**

	Registered applicants 2015/2016	
	Within the refugee context	Outside the refugee context
Age		
Under 20	37.2	66.1
20 to 25 years	39.5	27.9
Aged 25 and above	23.3	6.0
School leaving qualification		
Not achieved lower secondary school leaving certificate	3.4	1.5
Lower secondary school leaving certificate	38.9	26.3
Intermediate secondary school leaving certificate	20.2	41.6
University of Applied Sciences or general higher education entrance qualification	20.1	27.2
N/A	17.4	3.5

Source: Federal Employment Agency 2017a, Table 6 (status September 2016), calculations by the Federal Institute for Vocational Education and Training VET Data Report Germany 2016/2017

programmes such as those provided by the Coordinating Agency for Training and Migration [KAUSA] and the Career Orientation for Refugees" Programme [BOF], cf. 2017 Report on Vocational Education and Training, Chapter 3). The following section presents an example of how the Federal Government, the federal states and the BA are seeking to mesh funding policy in vocational orientation and in the transitional sector in a coherent way on the basis of the "Qualification and connection – educational chains until the completion of training" initiative (Educational Chains Initiative).

The Educational Chains Initiative interlinks various measures aimed at providing support to young people in school and at the transition to training and higher education study. The aim of these support services is to help schools to work with young people to design vocational and higher study orientation and transitional assistance in as individual a way as possible. By the end of 2016, eight agreements had been concluded between the Federal Government, the federal states and the Federal Employment Agency (BA) in Baden-Württemberg, Brandenburg, Hamburg, Hessen, Mecklenburg-Western Pomerania, North Rhine-Westphalia, the Rhineland Palatinate and Thuringia. The chain of measures comprises an individual analysis of potential, practical vocational and higher education study orientation and personal support provided by both full-time staff and volunteers. If necessary, provision is adapted to meet the needs of individual target groups. The agreements also include provision for the integration of young refugees into the school and training system in Germany.

3.4 Access to vocational education and training

Although research into access to and integration into vocational education and training for young refugees is still in its infancy, initial empirically based results from more recent research work carried out by the Federal Institute for Vocational Education and Training (BIBB) on the VET of young refugees both from an individual and a company perspective is now available. The latest data from the 2016 BA/BIBB Migration Study on refugees has been used as a basis to present initial results regarding transition to company-based training by applicants from a refugee background who are from non-European countries of asylum seeker origin.

3.4.1 Young refugees at the transition to training (2016 BA/BIBB Migration Study)

The data situation has improved somewhat since the Federal Employment Agency (BA) started to state the socio-demographic characteristics and destinations of registered training place applicants when indicating the proportion of "persons within the context of refugee migration". More than a quarter (28.5%) of registered training place applicants from a refugee background deemed to have the necessary maturity to enter training had broken off contact with the BA prior to the statistical cut-off date of 30 September. This meant that the destination of such persons at the end of the 2015/2016 placement year was unknown. The target group of the BA/BIBB Migration Study comprises young persons from a refugee background who were registered with the BA as applicants during the initial and continuing training placement process, i.e. who had provided the BA with a placement remit.

To cover the vocational orientation of refugees as broadly as possible, the study departed from the traditional

Table 61: **"Refugee background" and "migration experience" of non-German applicants surveyed**

	Asylum application submitted in Germany	No asylum application submitted in Germany	Total
Born outside Germany	(1) Persons with own personal experience of migration and from a refugee background ("refugees") 47.8% (n = 1,541)	(2) Persons with own personal experience of migration but not from a refugee background 36.9% (n = 1,190)	Persons with experience of migration 84.7% (n = 2,731)
Born in Germany	(4) Persons without own personal experience of migration but from a refugee background 1.4% (n = 46)	(3) Persons without own personal experience of migration and not from a refugee background 13.9 % (n = 448)	Persons without experience of migration 15.3% (n = 494)
Total	Persons from a refugee background 49.2% (n = 1,587)	Persons not from a refugee background 50.8 % (n = 1,638)	100 % (3,225)

(1) A total of 47.8% of the 3,225 non-German applicants surveyed stated that they had been born outside Germany. They themselves or their parents had submitted an asylum application in Germany, and these persons are designated as "refugees" below.
(2) A further 36.9% of respondents were born abroad but were not from a refugee background.
(3) 13.9% of non-German applicants surveyed were not from a refugee background and had no experience of migration themselves.
(4) Although the remaining 1.4% of respondents were from a refugee background, they themselves had no experience of migration because they were born in Germany. This group includes, for example, children of refugees.

Source: 2016 BA/BIBB Migration Study, calculations by the Federal Institute for Vocational Education and Training, n = 3,225

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Table 62: **Prior school learning of respondents (responses in %)**

School attendance and qualification[1]	Refugees	Persons not from a refugee background			Total
			From other countries[2]		
	From non-European countries of asylum seeker origin	From non-European countries of asylum seeker origin	With own personal experience of migration	No own personal experience of migration	
	Column 1	Column 2	Column 3	Column 3	Column 4
Highest school leaving qualification					
No school leaving qualification (yet)	15.4	15.5	3.2	2.5	10.8
At least 9 years of schooling – lower secondary school leaving certificate	26.2	20.8	27.9	27.9	25.9
At least 10 years of schooling – intermediate secondary school leaving certificate	20.0	22.0	38.0	50.7	28.8
At least 11 years of schooling – University of Applied Sciences or general higher education entrance qualification	26.0	28.2	21.1	14.6	23.6
No information provided or not attributable	12.5	13.5	9.8	4.3	10.9
Total	**100% (n = 1,436)**	**100% (n = 510)**	**100% (n = 684)**	**100% (n = 444)**	**100% (n = 3,074)**
If school qualification achieved – place of school qualification					
In Germany	40.5	33.2	64.4	98.6	54.3
Abroad	58.6	64.0	34.7	0.5	44.5
No information available	0.9	2.8	0.9	0.9	1.2
Total	**100% (n = 1,215)**	**100% (n = 431)**	**100% (n = 662)**	**100% (n = 433)**	**100% (n = 2,741)**

[1] There is no clarity with regard to the extent to which this information refers to officially recognised German school leaving qualifications or to independently undertaken alignments of foreign school qualifications to the German educational system.
[2] Countries joining the EU after its expansion to the East, PIIGS states, Balkan countries, Eastern European countries and Turkey

Source: 2016 BA/BIBB Migration Study, calculations by the Federal Institute for Vocational Education and Training

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Table 63: **Destinations of non-German respondents at the time when the survey was conducted (responses in %)**

Destination at the time of the survey	Refugees	Persons not from a refugee background			Total
		From non-European countries of asylum seeker origin	From other countries[1]		
	From non-European countries of asylum seeker origin		With own personal experience of migration	No own personal experience of migration	
	Column 1	Column 2	Column 3	Column 4	Column 5
Fully qualifying training	**33.4**	**38.4**	**44.0**	**45.1**	**40.3**
Dual training	29.7	33.5	37.1	39.9	33.5
Company-based training[2]	25.9	26.7	30.3	32.7	28.0
Extra-company training[2]	2.2	4.5	4.5	3.8	3.3
School-based training	2.4	3.7	5.7	3.4	3.5
Higher education study	1.3	1.2	1.2	1.8	1.3
Partially qualifying vocational education and training	**23.0**	**19.6**	**16.4**	**33.2**	**20.8**
Introductory training	7.5	6.5	1.6	0.7	5.0
Work experience placement	3.2	3.7	1.2	1.6	2.6
Other (BVB, BVJ, BEJ, BOJ, BGJ)[3]	12.3	9.4	13.6	20.3	13.2
General school	**3.6**	**2.5**	**5.0**	**4.5**	**3.9**
Work/employment and casual job	**9.7**	**11.2**	**17.1**	**10.4**	**11.7**
German and integration course	**15.9**	**13.7**	**1.8**	**0.0**	**10.1**
Unemployment	**10.8**	**9.8**	**9.9**	**12.4**	**10.6**
Other	**2.0**	**2.4**	**3.9**	**2.9**	**2.6**
No information available	**1.6**	**2.4**	**1.9**	**2.3**	**1.9**
Total	**100% (n = 1,436)**	**100% (n = 510)**	**100% (n = 684)**	**100% (n = 444)**	**100% (n = 3,074)**

[1] Countries joining the EU after its expansion to the East, PIIGS states, Balkan countries, Eastern European countries and Turkey
[2] Company-based = not (predominantly) publicly financed, extra-company = (predominantly publicly financed. The total of both values deviates from the proportion shown for "dual training" because the form of dual training is not identifiable in some cases.
[3] BVB = vocational preparation scheme, BVJ = prevocational training year, BEJ = career entry year, BOJ = vocational orientation year, BGJ = basic vocational training year
Source: 2016 BA/BIBB Migration Study, calculations by the Federal Institute for Vocational Education and Training VET Data Report Germany 2016/2017

approach adopted in BA/BIBB applicant surveys by including applicants for full-time school-based training programmes, training schemes in the public sector, other training courses (e.g. University of Cooperative Education, retraining) and continuing vocational education and training, rather than exclusively focusing on applicants for dual training pursuant to the BBiG/HwO (including training programmes for disabled persons).

Around 80% of applicants from non-European countries of asylum seeker origin surveyed as part of the 2016 BA/BIBB Migration Study were male. This applies both in respect of the group of refugees and the group of persons not from a refugee background. It contrasts significantly with the largely balanced gender distribution of non-German applicants from other countries and not from a refugee background. Irrespective of refugee background, applicants from non-European countries of asylum seeker origin in the 2015/2016 placement year were also somewhat older on average than non-German applicants from other countries and not from a refugee background. Whereas 34.2% of respondents not from a refugee background and without any personal experience of migration were minors at the time when the survey took place, this applied only in respect of 7.2% of refugees. Table 62 shows the school qualifications of the applicants surveyed and information provided by respondents as to the country in which they acquired their school qualification (Germany, abroad, no information supplied).

Initial analyses of the school leaving qualifications indicate a high degree of similarity between applicants from non-European countries of asylum seeker origin from and not from a migrant background (Table 61; column 1 and column 2). In some cases, these two groups differ significantly from the two applicant groups from other countries (table 62; column 1 and column 2). A third (33.4%) of refugee applicants from non-European

countries of asylum seeker origin stated that they were in fully qualifying training or in higher education study at the time when the survey was conducted (table 63; column 1).

With regard to a destination outside the educational system (work/employment/casual job and unemployment), virtually no differences are revealed between the individual groups of non-German applicants surveyed. If we merely consider destination in company-based training pursuant to the BBiG/HwO for refugees from non-European countries of asylum seeker origin, it is shown that the proportion of applicants who were in company-based vocational education and training at the time of the survey varies in accordance with socio-demographic characteristics. At the time of the survey, 28.0% of the younger refugees (up to a maximum age of 25) were completing company-based training. The corresponding figure for the older groups was only around 20%.

Differences also become apparent with regard to prior school learning and the country in which the school leaving qualification was acquired. At the end of 2016/ start of 2017, refugees who stated that they had obtained their school certificate in Germany were more likely to be in company-based VET refugees with a school qualification from their country of origin (32.5% as opposed to 23.2%). It is, however, noticeable that 20.1% of refuges surveyed who stated that they had not (yet) achieved a school leaving qualification were undergoing company-based vocational education and training. This once again demonstrates that caution needs to be exercised in interpreting the information regarding school qualifications. Initial evaluations show that around 40% of persons from non-European countries of asylum seeker origin who stated that they had not (yet) achieved a school leaving qualification had gathered work experience in their home country.

3.4.2 Measures to promote the supply of training places for refugees from the point of view of small and medium-sized companies providing training

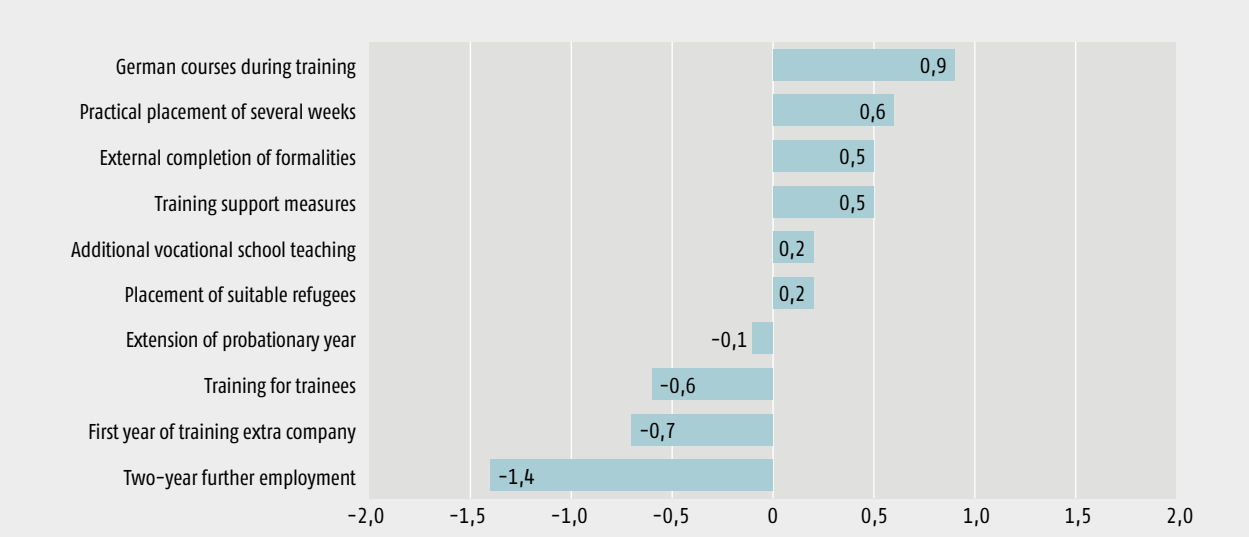
Three quarters of small and medium-sized companies providing training believe that training is the best route via which young refugees can be integrated into society. Such an attitude is reinforced by the fact that the number of companies willing to afford young refugees access to employment that results in qualifying vocational training exceeds the number of training contracts actually concluded thus far with this group of persons. The survey of small and medium-sized companies providing training by the Federal Institute for Vocational Education and Training (BIBB) shows that one in ten companies have acted on their own initiative to offer training opportunities to young refugees, but that only around 3% employ refugees as trainees. This active approach towards refugees is somewhat more frequently observable amongst small and medium-sized enterprises than amongst the smallest category of company. Companies from the craft trades sector are also comparatively likely to offer themselves to employment agencies, competent bodies or aid organisations as training providers for young refugees. Small and medium-sized companies also display an open attitude to external enquiries made of them regarding training opportunities for young refugees. This particularly applies in respect of readiness to facilitate a work placement leading to training for young refugees.

For this reason, the BIBB conducted survey of small and medium-sized companies from selected areas of trade and industry in the first quarter of 2016 to ask about the extent to which certain support services could help them to offer additional training places for refugees. A total of ten support services were addressed. These were derived from existing position papers and official statements regarding the integration of refugees into vocational education and training.

The small and medium-sized companies forming the object of the survey delivered a highly differentiated evaluation of the potential offered by the individual measures in terms of persuading them to make additional training places available to refugees. A clear tendency was, however, displayed in favour of measures which support refugees and the company at the transition to training and during the training process itself (figure 27). Whereas such measures are consistently viewed as being particularly likely to be conducive to the provision of more training places for refugees, measures which relate to the design concept and structure of training remained below average in in terms of perceived potential.

Evaluations of the individual support measures differentiated by company size scarcely deviate from the picture produced by the overall assessment made by all small and medium-sized companies surveyed (figure 28). This applies both in respect of the view that approaches which afford individual support to refugees and companies at the transition to and during the implementation of dual training programmes are more likely to foster the willingness of firms to provide training to refugees than approaches which are conceptually or structurally aligned and with regard to findings relating to the prioritisation of the individual approaches inter se. The only area in which conspicuous differences are revealed depending on company size is the possibility of being able to extend the probationary period of refugees taken on as trainees.

Figure 27: **"Persons within the context of refugee migration" taking part in selected labour market policy measures in 2016**



Source: Federal Institute for Vocational Education and Training, Project 2.1.305, n = 1,324, weighted results

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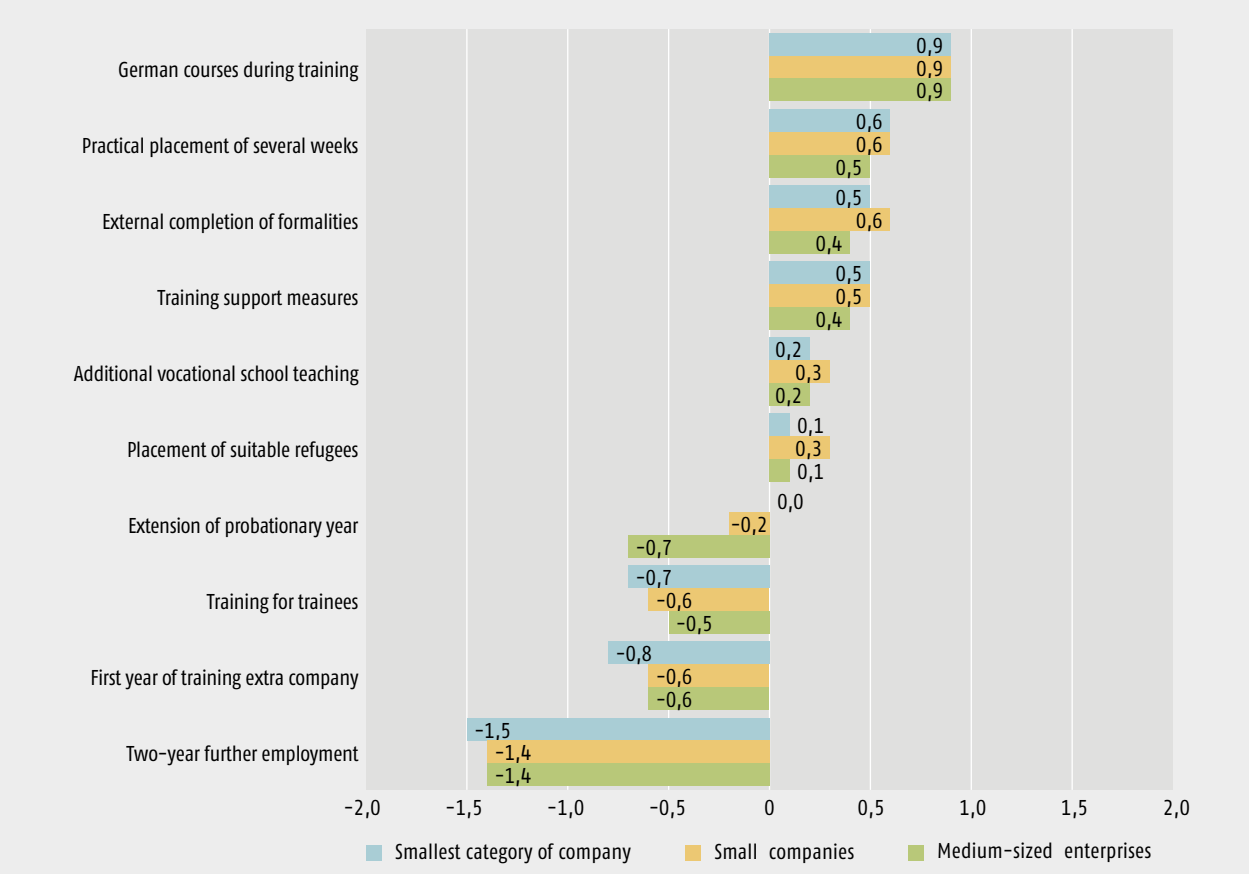
Figure 28: **Potential of individual measures to persuade companies to provide additional training places for refugees by company size – measured in terms of the average potential perceived for all measures**



Source: Federal Institute for Vocational Education and Training, Project 2.1.305, n = 1,324, weighted results

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3.5 Expected extent of demand for vocational education and training by refugees

Initial surveys and estimations indicate that large numbers of refugees are not yet in possession of a full vocational qualification. One of the reasons for this is the low average age of such persons. The aim of the present chapter is to obtain indications as to the point in time when refugees could emerge as potential applicants for vocational education and training pursuant to the BBiG/HwO. Such an estimation can only take place via an assumptions-based calculation.

Because of the limited data situation, this calculation is based on the following questions:

- Which groups of persons are potential applicants for vocational education and training pursuant to the BBiG/HwO?
- Which age cohorts are relevant in this regard?
- How can the number of potential training place applicants be derived?
- Which possible educational pathways are assumed?

In the case of company-based training programmes pursuant to BBiG/HwO, status under residency law is crucial in terms of determining whether and when a person can enter training. This results in various planning uncertainties for companies providing training, professional practices and government authorities. In respect of this group of persons, there is a high degree of planning uncertainty for companies providing training, professional practices and government authorities as to whether trainees from a refugee background will be highly likely to remain with the company for the whole of the duration of training and for a certain subsequent period. For this reason, recognised refugees are fully taken into consideration in the table below as potential training applicants in line with their age and prior qualification. Asylum seekers whose application has been refused are only potential entrants to vocational education and training if their deportation has been suspended, i.e. if they have been accorded so-called leave to remain. Such persons also require a work permit from the relevant Aliens Department. Pursuant to § 60a Paragraph 2 of the German Residency Act (AufenthG), leave to remain must be issued for the duration of vocational education and training. As is the case with persons with leave to remain, the question also remains open with regard to those involved with the asylum procedure as to what training chances they actually have given the rising numbers of persons with recognised asylum status. In order to create a lower level of planning uncertainty, Companies providing training, professional practices and government authorities could, for example, give preference to persons who have been recognised as refugees or await the conclusion of the asylum procedure. For this reason, it is not possible to arrive at a clear determination of the approximate number of potential training applicants who have leave to remain or who are involved in the asylum procedure. Persons from safe countries of origin who have submitted their asylum application after 31 October 2015 may not be issued a work permit whilst the asylum procedure is ongoing (§ 61 Paragraph 4 Clause 2 German Asylum Act, AsylG). This means that they do not constitute potential applicants for vocational education and training.

Table 64 provides a summary of the development in asylum application numbers and of applications accepted and rejected for the age cohorts 12 to 15 in 2015 and 13 to 25 in the year 2016. Two different variants are used for the model calculations. Variant N1 only takes account of refugees who have received a positive asylum decision. However, because it is theoretically possible that the number of those seeking to enter vocational education and training could be higher than the number of persons who received a positive asylum outcome in 2015 and 2016, variant N1 is to be interpreted as a lower limit for the number of potential training applicants. Variant N2 stipulates the upper limit.

Since asylum seekers whose application has been refused and persons still involved in the asylum procedure have only restricted access to vocational education and training, only about 75% of asylum applicants in 2015 and 2016 are taken into consideration as the upper limit of potential applicants for vocational education and training. This value is somewhat above the ratio between applicants and applications receiving a positive decision of 13 to 25 year-olds of 53% (2015) and 66% (2016) calculable from table 64.

Although a school qualification is not mandatory for company-based training, access to vocational education and training is more difficult for persons who have not achieved a school leaving certificate. However, in the representative IAB-BAMF-SOEP survey, 65% of refugees aged between 18 and 25 stated that they wished to complete a school leaving qualification in Germany. 41% of these aspired to an upper secondary school leaving certificate or a specialised upper secondary school certificate. The nature of the school qualification sought and the realisation of this educational aspiration/educational orientation are co-determining factors in respect of when refugees emerge as potential vocational education and training applicants.

Table 64: **Asylum applications and decisions for persons aged between 12 and 25 (2015 and 2016)**

Age group	Total asylum applications		Total decisions		of which positive		of which rejected		of which other conclusion to the procedure	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
12	5,860	-	3,642	-	1,396	-	1,571	-	675	-
13	5,894	9,961	3,508	9,859	1,288	6,150	1,565	2,613	655	1,096
14	6,020	10,543	3,446	9,402	1,289	5,950	1,543	2,434	614	1,018
15	7,161	13,190	3,322	9,812	1,462	6,458	1,303	2,405	557	949
16	10,605	20,085	3,812	10,964	2,065	7,821	1,242	2,240	505	903
17	10,808	22,856	4,541	11,987	2,806	8,902	1,176	2,042	559	1,043
18-25	131,339	196,576	74,746	168,511	40,876	109,464	20,694	36,191	13,176	22,856

Note: 12-Year olds who submitted an asylum application in 2016 are not considered in the calculations.
Source: Special evaluations by the Federal Office for Migration and Refugees

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In the preliminary calculations, differentiation tales place between four (educational) areas in which refugees can potentially pursue various programmes. These areas are "language and integration courses", "vocational orientation and training preparation", "vocational education and training" and "other destination". Because no monthly or quarterly figures are available, an annual consideration is undertaken for reasons of simplification. This takes place on the basis of asylum applications accepted (variant N1) or on the basis of asylum applications received (variant N2) as of the year end 2015 and 2016. Table 64 shows the distribution of trainees across the four areas in terms of total numbers at the end of the year. No statements can be made in respect of aspects such as at which time within the year persons switch from one area to another, nor with regard to whether there are gaps between these shifts or the precise amount of time spent within one area.

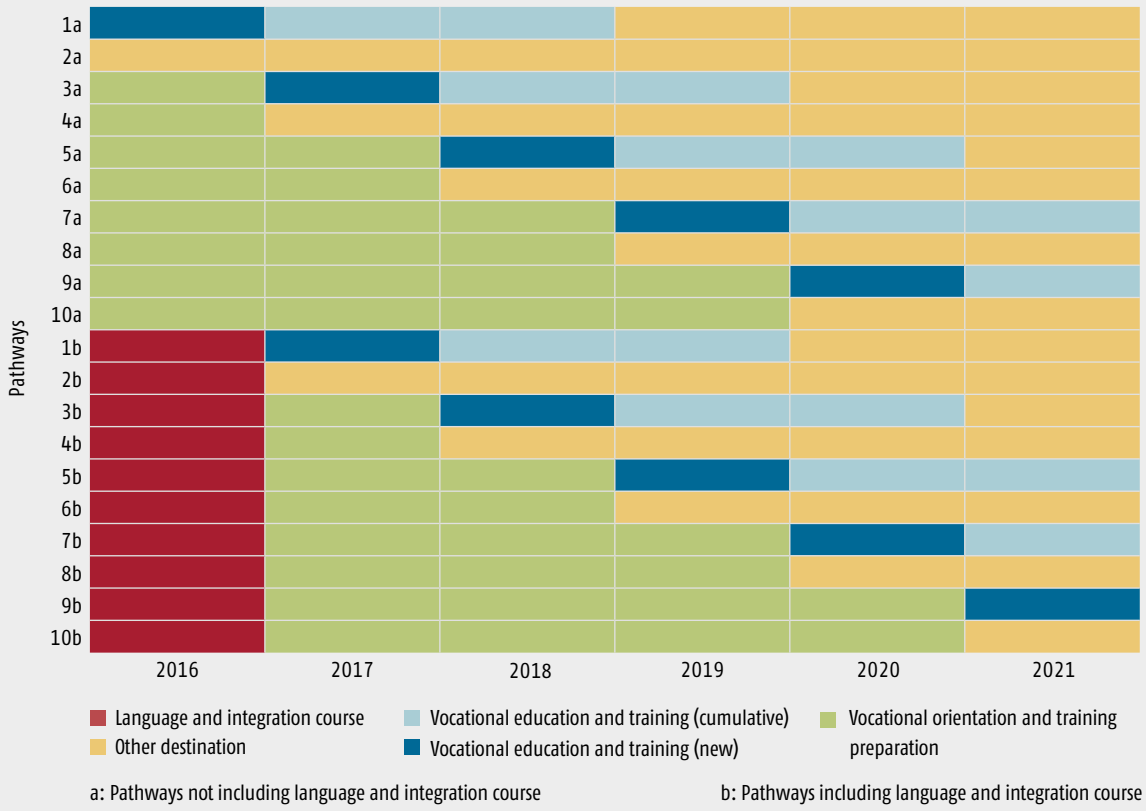
The aim of the calculations is to ascertain at which point in time refugees emerge as potential applicants for vocational education and training pursuant to the BBiG/HwO. The representation of the four areas and the assumed length of stay in these areas permit us to derive 230 fundamental education and training pathways for persons who had already reached the age of 18 in 2015 and 2016. For persons aged under 18 in 2015 and 2016, up to 15 different models emerge which may be completed by refugees in Germany. Figure 29 presents examples of the education and training pathways which are produced for those aged between 18 and 25. The dark blue and light blue bars represent the cumulative *number of potential training place applicants* over three years. The total of the dark blue bars represents the *new potential training applicants emerging onto the market* annually. The category of "language/integration course" is omitted for persons who were under 18 in the 2015 or 2016 influx years because such persons are directly allocated to the area of "vocational orientation and training preparation".

The results of the assumptions-aided calculations are presented below. 4 variants emerge by dint of the fact that the variants N1 (refugees already recognised) and N2 (75% of applicants) are combined respectively with I1 (slower transition possibilities) and I2 (accelerated transition possibilities). In order to illustrate the stages of the calculation, Table 65 provides a sample summary for persons aged between 18 and 25 whose asylum application was approved in the year 2016, showing calculation variant N1I1. A total of around 109,500 in this age class had their asylum applications accepted. They are distributed across the total of 20 possible education and training pathways.

BIBB analysis considers the total of age classes in the period from 2015 (2016) to 2021. A comparison of the variants with regard to distribution of first-time potential training applicants is provided in table 65. Because calculations using variant N1 only takes account of persons who received a positive asylum notice in 2015 or 2016, demand for vocational education and training in these two years is relatively low, at least in variants N1I1 and N1I2.

Large numbers of the refugees are still in integration courses or in school-based vocational orientation or training preparation provision. An initial rise in the demand for training can be observed in 2016, when 4,900 refugees become potential training place applicants for the first time. For the most part, these are persons who received recognition in 2015. If we compare the values

Figure 29: **Possible education and training pathways of 18 to 25 year-olds**



Source: Federal Institute for Vocational Education and Training

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calculated with applicants within the context of refugee migration actually registered with the BA in 2016, we can see that the number of first-time potential applicants in variants N1N2 is below the number of registrations with the BA, which was just under 10,300. The reason for this may be that applicants who received a positive asylum notice prior to 2015 are also registered with the BA. Those registered with the BA also include persons aged over 25 (23% are aged 25 and above) and persons with leave to remain. Within this context, the results of the variants N1I1 and N1I2 should thus be interpreted as the lower limit of potential training place applicants. The variant N2I2 can be used as the upper limit of the model calculation until the year 2018. In this case, around 75% of asylum applicants are considered as potential training place applicants. More rapid demand for vocational education and training is also assumed on the part of persons actually interested in training.

In the calculations using the variant I2, which assume accelerated transition possibilities for 18 to 25 year-olds, demand for vocational education and training rises more sharply initially. In overall terms, these calculation variants (N1I2 and N2I2) produce a less pointed demand for vocational education and training. The maximum difference is around 5,000 persons compared to variant N1I1 and about 7,000 persons between the variant N2I1 and N2I2. In the moderated demand intensity variants (N1I1, N2I1), the highest level of initial quantitative demand will occur in the year 2019.

The model calculations do not provide any information as to which form of vocational education and training the refugees actually progress to. The calculations interpret the refugees as potential training place applicants for vocational education and training pursuant to the BBiG/HwO, because this covers the predominant part of regulated VET programmes. Beyond this, however, the extent to which actual training contracts are formed with companies or in extra-company forms or the number of training programmes that come into being outside the BBiG/HwO will depend on company capacities and on the alternatives provided via the public purse. The cumulative number of persons in the field of "vocational education and training" should also be merely interpreted as an approximate value which provides information

Table 65: **Example presentation of the calculation of first-time and cumulative potential training place applicants aged between 18 and 25 (variant N1I1)**

Age	Number	Pathway No.	Probability of pathway	Number	Year 2016	2017	2018	2019	2020	2021
18 to 25	109,464	1a	0.90%	985	985	985	985	985	985	985
		2a	1.60%	1,751	1,751	1,751	1,751	1,751	1,751	1,751
		3a	0.83%	903	903	903	903	903	903	903
		4a	0.68%	739	739	739	739	739	739	739
		5a	1.65%	1,806	1,806	1,806	1,806	1,806	1,806	1,806
		6a	1.35%	1,478	1,478	1,478	1,478	1,478	1,478	1,478
		7a	1.38%	1,505	1,505	1,505	1,505	1,505	1,505	1,505
		8a	1.13%	1,231	1,231	1,231	1,231	1,231	1,231	1,231
		9a	0.28%	301	301	301	301	301	301	301
		10a	0.23%	246	246	246	246	246	246	246
		1b	8.10%	8,867	8,867	8,867	8,867	8,867	8,867	8,867
		2b	14.40%	15,763	15,763	15,763	15,763	15,763	15,763	15,763
		3b	7.43%	8,128	8,128	8,128	8,128	8,128	8,128	8,128
		4b	6.08%	6,650	6,650	6,650	6,650	6,650	6,650	6,650
		5b	14.85%	16,255	16,255	16,255	16,255	16,255	16,255	16,255
		6b	12.15%	13,300	13,300	13,300	13,300	13,300	13,300	13,300
		7b	12.38%	13,546	13,546	13,546	13,546	13,546	13,546	13,546
		8b	10.13%	11,083	11,083	11,083	11,083	11,083	11,083	11,083
		9b	2.48%	2,709	2,709	2,709	2,709	2,709	2,709	2,709
		10b	2.03%	2,217	2,217	2,217	2,217	2,217	2,217	2,217
	Total "integration courses"				98,518	0	0	0	0	0
	Total "vocational orientation and training preparation"				8,210	80,456	62,394	30,103	4,926	0
	Total "cumulative vocational education and training"				985	10,755	20,689	37,464	41,542	34,317
	Total "other destination"				1,751	18,253	26,381	41,897	62,997	75,147
	Overall total				109,464	109,464	109,464	109,464	109,464	109,464
	Total "vocational education and training (new)"				985	9,770	9,934	17,761	13,847	2,709

Note:
a: Pathways not including language and integration course
b: Pathways including language and integration course
Source: Vocational education and training (new)

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on how large numbers of refugees should potentially be provided for within the vocational school system in overall terms during the coming years. The cumulative number of refugees who are potential training applicants over three years will reach its zenith in 2019 and 2020 respectively. Depending on the variant used, this will be between 56,000 and 100,000 persons in 2019 and between 52,700 and 102,000 persons in 2020. These figures include both those already placed by dint of the fact that they have, for example, received a training contract, and persons who are unplaced but would continue to be interested in vocational education and training.

3.6 Recognition of foreign professional and vocational qualifications

Since the entry into force of the "Law to improve the assessment and recognition of professional and vocational education and training qualifications acquired abroad" (Recognition Act) on 1 April 2012 and the enactment of federal state recognition acts, further development of these laws and of the relevant stipulations contained within the respective laws governing the professions have already taken place. Primary amongst this development has been the implementation of the updated version of EU Directive 2005/36/EC on the recognition of professional qualifications into national law. The aims of the reform are to reduce barriers to commencing work in another EU member state and to increase mobility. Electronic transmission of applications and documentation within the European Union and the European Economic Area (EEA) has, for example, been introduced in order to simplify and accelerate procedures. Results are available in respect of four years of use and application of the Federal Recognition Act. These are based on official statistics in accordance with § 17 of the Professional and Vocational Qualifications Assessment Act (BQFG), which were introduced pursuant to Article 1 of the Recognition Act. The statistics provide information on the recognition procedures processed by the competent bodies, on the characteristics of applicants and on decisions made by the end of the year. Access figures for the Recognition Portal serve as a further source of information.

Between the entry into force of the law and the end of 2015, the competent bodies reported a total of 63,486 applications for recognition of a professional or vocational qualification acquired abroad. Even taking account of the fact that the data for 2012 only relate to a period of nine months, an annual increase in numbers of applications has been recorded. In 2015, almost 58% of all new applications were submitted by persons who were nationals of a state of the EU or EEA or of Switzerland. As in the previous year, the most common nationality was German, followed by Romanian and Polish. In 2015, Romania overtook Poland as the most frequent country of training. Poland had occupied this position in 2014 (as in 2013).

As far as reference occupations were concerned, the highest number of new applications related to recognition in the profession of registered general nurse. This supplanted applications received from doctors. These two professions alone accounted for almost 58% of all applications. Electronics technician joined office manager as a further dual occupation in the top five reference occupations in terms of number of applications submitted. The proportion of applications relating to recognition in a non-regulated occupation continued to grow in overall terms and made up 25.8% of all applications in 2015.

The competent bodies issued 17,112 notices in the year 2015. In the case of regulated professions, the proportion of notices attesting no equivalence fell from 3.1% in 2014 to 2.4% in 2015. At the same time, the proportion of notices confirming full recognition (including limited access to regulated occupations governed by the HWO) decreased from 82.0% to 77.8%. In 19.8% of cases, the compensation measure imposed in the notice had not yet been completed by 31 December 2015. Such persons are able to obtain full equivalence following successful conclusion of the compensation measure.

Information on the recognition of professional and vocational qualifications continues to be in strong demand, including from foreign countries outside the EU. The "Recognition in Germany" website has introduced a new Arabic language information service, bringing its portfolio of languages to nine. There is also an app which imparts information to refugees in a targeted way. In the 2012 reporting year, 257,000 interested persons visited the portal. By 2016, the number of visitors had reached almost 1.7 million (1,694,500). This means that more than 5 million (5,115,578) persons have visited "Recognition in Germany" since the portal's launch. The number of page views has also developed in line with these visitor numbers. 2.089.000 page hits were recorded in the launch year of 2012. By 2016, this figure had almost quadrupled to just under 8 million (7,944,978). Access numbers reached a high and stable level in 2016.

Annex: List of abbreviations

Abbreviation	German	English
AES	Erwachsenenbildungsstudie	Adult Education Survey
AFBG	Aufstiegsfortbildungsförderungsgesetz	Upgrading Training Assistance Act
BA	Bundesagentur für Arbeit	Federal Employment Agency
BAföG	Bundesausbildungsförderungsgesetz	Federal Training Assistance Act
BAuA	Bundesanstalt für Arbeitsschutz und Arbeitsmedizin	Federal Institute for Occupational Safety and Health
BAMF	Bundesamt für Migration und Flüchtlinge	Federal Office for Migration and Refugees
BBiG	Berufsbildungsgesetz	Vocational Training Act
BIBB	Bundesinstitut für Berufsbildung	Federal Institute for Vocational Education and Training
BMBF	Bundesministerium für Bildung und Forschung	Federal Ministry of Education and Research
CIS	Gemeinschaft Unabhängiger Staaten	Commonwealth of Independent States
CVET	Weiterbildung	Continuing vocational education and training
CVTS4	Erhebung zur beruflichen Weiterbildung	Continuing Vocational Training Survey
DIE	Deutsches Institut für Erwachsenenbildung – Leibniz-Zentrum für Lebenslanges Lernen e. V.	German Institute for Adult Education – Leibniz Centre for Lifelong Learning
DQR	Deutscher Qualifikationsrahmen	German Qualifications Framework
EQF	Europäischer Qualifikationsrahmen	European Qualifications Framework
EQI	Einmündungsquote Ausbildungsinteressierte	Progression rate of persons interesetd in training
ESF	Europäische Sozialfonds	European Social Fund
HwO	Handwerksordnung	Crafts and Trades Regulation Code
IAB	Institut für Arbeitsmarkt- und Berufsforschung	Institute for Employment Research
iABE	Integrierte Ausbildungsberichterstattung	Integrated training reporting
ISCED		International Standard Classification of Education
NAA	Neu abgeschlossene Ausbildungsverträge	Newly concluded training contracts
SGB II (Wissenschafts-datenbank)	Grundsicherung für Arbeitssuchende	Basic income support for job-seekers
SGB III (Wissenschafts-datenbank)	Arbeitsförderung	Employment promotion

Abbreviation	German	English
SOEP	Sozio-oekonomisches Panel	German Socio-Economic Panel
UN-BRK	UN-Behindertenrechtskonvention	UN Convention on the Rights of Persons with Disabilities
VET		Vocational education and training
WeGebAU	Weiterbildung Geringqualifizierter und beschäftigter älterer Arbeitnehmer in Unternehmen	Funding of Continuing Training of Low Skilled Workers and Employed Older Persons in Companies

Abstract

The development of the German vocational education and training system and more specifically of the dual system relies on regular data collection. Statistical analysis and surveys are continuously informing policy decisions and supporting practices. Traditional aspects of apprenticeship in terms of indicators on apprentices, companies or occupations are provided. Each year BIBB colleagues select a key topic by relevance to VET stakeholders in Germany: The 2016/2017 report delivers in-depth data on access and participation of refugees to vocational education and training in Germany. Exceptionally this report is based on two original data reports from the years 2016 and 2017. The Data Report of the Federal Institute for Vocational Education and Training (BIBB) is a selection of most relevant and actual data on the German Vocational Education and Training system addressing a wide range of VET stakeholders in English. By consulting the BIBB website (**www.bibb.de/datenreport**) interested colleagues have access to full statistical data and further sources.

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