Federal Institute for Vocational Education and Training

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VET Data Report Germany 2011

Facts and Analyses accompanying the Federal Report on Vocational Education and Training – Selected findings

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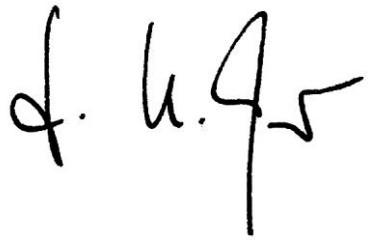
Preface

Continuous educational reporting on the basis of empirical data and socio-scientific analyses is an indispensable prerequisite for the portrayal of the current status within vocational education and training and for the timely recognition of future developments and of areas within the VET system where action is required. In 2009, and with this goal in mind, the Federal Institute for Vocational Education and Training (BIBB) designed and published a Data Report to serve as a central database containing essential information and data relating to vocational education and training and to supplement the annual Report on Vocational Education and Training issued by the Federal Ministry of Education and Research (BMBF).

The Data Report accompanying the 2011 Report on Vocational Education and Training represents the third issue of this work. The first two chapters present the current situation in initial vocational training and in continuing vocational training as well as highlighting the changes which have taken place over the course of time. The main thematic focus of the 2011 Data Report is the permeability between Vocational Education and Training and Higher Education. This theme is also addressed in the fourth chapter comparing the German situation to the situation in other European countries. The chapter finishes with data on mobility as part of VET.

This English version gives only a selection of the main findings. The full text of the report in German as well as additional information is available on the Internet portal www.bibb.de/datenreport.
We are looking forward to any feedback you may have on the Data Report. We will be pleased to receiving ideas, remarks and constructive criticism (datenreport@bibb.de).



Prof. Dr. Friedrich Hubert Esser

President

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1 Initial vocational education 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). It 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 the 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 for the purview of the churches.

The **dual system** provides broad vocational training and competences for some 348 recognised training occupations (in 2011). The programmes in the dual system usually take 3 years, 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 training. Outside the dual system there are also VET pathways in full-time vocational schools. The programmes of these pathways take between 1 and 3 years, depending on the particular vocational orientation and objective.

Key facts in brief

In summary, from the vocational training indicators described in Chapter A, the following results need to be stressed:

- The number of **new training contracts concluded** fell only slightly, from about 564,000 in the previous year to about 560,000. The decline in 2010 was due solely to the curtailment of publicly funded training contracts. The number of new company contracts, however, even rose slightly.

- While the number of new contracts increased slightly in West Germany, by 0.7%, in **East Germany** there was a **very significant** 7.4% **decline in contracts**. Due to the continuing demographic decline, however, training opportunities improved for young people in West and East Germany in 2010.

- The Federal Employment Agency registered about 84,500 **unsuccessful apprenticeship applicants** as of 30.09.2010. This shows that a significant number of interested young people can still not gain access to the dual system of vocational education and training. At the same time, however, it is also becoming more difficult for many companies to fill the **training places they offer**.

- **BIBB forecasts** for 2011 expect the supply of training places to increase by nearly 40,000 places. However, the prerequisite is that the very good economic trend continues.

- The **number of recognised training occupations** has scarcely changed in the last 10 years. In 2010 there are 348 training occupations. Forty-five occupations were created in that period and 163 were modernized.

- In the year 2009, according to the **Vocational Education and Training Statistics**, there were 1,571,457 young people in dual vocational education and training. Of this total, 1,283,979 were in West Germany and 287,478 in East Germany. Women are underrepresented here at 39.9%. A majority of the training occupations are taken up either primarily by women or primarily by men. Thus on the whole there is significant overall gender segregation to be observed.

- At the end of 2009, according to the calculations of the BIBB, there were 165,365 trainees nationwide in some **form of publicly funded non-company training**. That was all in all 10.5% of all trainees.

- The **education and training participation rate**, i.e. the mathematical proportion of the resident population signing a contract in the dual system, declined in 2009 from 64.6% to 61.6%. This was due to the sharp drop in the number of newly concluded training contracts that took place in 2009.

- Among the trainees with newly concluded training contracts as at 31.12.2009, 43.0% had intermediate school leaving certificates and 33.1% had completed lower secondary school. Despite the relatively high proportion of young people with lower secondary school leaving certificates, this does not mean that they would manage the **transition from school to training** without difficulty. In fact, extended transition periods are to be expected.

- BIBB investigations of the significance of a **migration background** for ending up in training come to the conclusion that adolescents with a migration background have less chance of training even under the same conditions in terms of education, school grades and social origin.

- According to the results of the IAB Establishment Panel Survey the **rate of trainee hiring**, i.e. the rate at which successful graduates of vocational education and training are hired by the companies, is 57%. In the eastern states the hiring rates are considerably lower than in the western states.

- In the **in-school training courses** the decline seen in the previous year due to the demographic trend has continued. The total number of students dropped by 2.2%. The decline was limited, however, to the eastern states (-10%). In the western states, the numbers remained fairly constant.

- According to the results of the 2008 microcensus, the **unskilled rate in the population** (age group of 20- to 29-year-olds) is still very high at 14.9%. For the future, this results in a significant need for a second chance of qualification.

Newly concluded training contracts

The number of newly concluded training contracts nationwide in 2010 was 560,073, another slight drop from the previous year (-4234 or -0.8%), bringing it to the third lowest level reached since reunification. Only in the years 2003 and 2005, with 557,634 and 550,180 respectively, did we have even less new training relationships. However, in 2010 developments in West and East Germany ran in opposite directions: While the West recorded a slight increase with 468,410 newly concluded contracts in total (+3101 or +0.7%), in the East – mainly due to the curtailment of largely publicly funded (non-company) training courses – there was a sharp decline (by 7335 or 7.4% to 91,663 new contracts in 2010). In East Germany, the number of newly concluded training contracts thus sank for the third consecutive year since 2007, whereby a new low has been reached since reunification **(Table 1)**.

Table 1: Development of numbers of new training contracts by state, 1992 - 2010

	Contracts concluded between 1st of October previous year until 30th of September																		
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Baden-Württemberg	75.294	71.035	69.055	69.037	68.730	70.196	73.818	76.331	77.290	77.066	72.582	70.804	73.277	71.854	73.991	81.216	82.185	74.810	74.603
Bavaria	95.966	92.325	89.678	89.345	90.131	91.988	97.060	96.800	98.295	101.222	95.315	91.925	93.396	90.220	93.005	102.204	102.987	93.564	94.326
Berlin	18.852	18.193	20.365	19.563	21.475	19.448	22.638	23.722	23.084	21.689	20.192	19.152	20.534	19.639	20.799	21.561	21.021	19.485	19.173
Brandenburg	18.241	15.322	18.901	20.223	21.606	19.628	21.400	21.368	19.897	18.826	18.576	18.492	17.919	16.415	19.573	18.489	17.720	15.065	13.622
Bremen	6.232	6.009	5.712	5.591	5.480	5.686	5.631	6.012	6.146	5.983	5.534	5.303	5.758	5.644	5.900	6.292	6.489	6.133	5.980
Hamburg	13.622	12.513	11.529	11.278	11.530	11.851	12.080	12.548	12.580	13.028	12.215	11.914	12.470	12.406	13.210	14.233	14.862	13.496	14.382
Hesse	43.723	41.359	38.271	38.659	38.737	39.434	41.214	42.607	42.074	42.147	38.362	37.812	38.727	37.662	39.426	43.378	42.667	39.453	40.234
Mecklenburg-West Pomerania	11.793	13.950	17.744	18.268	18.977	19.039	19.294	19.145	18.338	17.622	16.722	16.665	16.025	15.784	15.306	16.085	14.339	11.825	9.879
Lower Saxony	61.823	57.592	54.342	53.783	54.379	56.268	57.942	59.381	57.927	56.674	53.364	52.058	53.826	51.530	54.277	58.810	59.880	57.395	58.318
North Rhine-Westphalia	131.464	122.719	114.926	115.394	112.557	117.366	122.590	128.437	128.640	126.069	115.513	111.046	115.987	111.190	115.671	132.032	131.902	121.504	122.310
Rhineland-Palatinate	28.228	26.556	25.600	26.437	27.082	28.346	29.808	30.693	30.811	29.943	27.514	26.938	27.920	26.445	28.037	31.844	30.697	28.851	28.493
Saarland	7.631	6.978	6.881	7.072	7.208	7.606	8.486	9.034	9.252	8.839	8.356	8.178	8.201	8.177	8.359	8.919	8.891	8.789	8.473
Saxony	28.565	28.950	35.515	35.697	38.023	36.752	35.919	38.144	34.749	33.362	31.125	30.665	30.615	28.862	31.463	32.007	27.118	23.816	22.248
Saxony-Anhalt	16.866	18.687	20.722	22.406	20.125	23.787	23.144	23.332	21.459	21.767	19.257	19.133	20.328	17.748	17.904	19.110	17.363	14.937	14.320
Schleswig-Holstein	20.971	19.873	19.394	19.486	18.814	19.582	20.103	20.370	20.067	19.212	18.671	18.769	19.314	19.034	20.339	21.859	22.044	21.314	21.291
Thuringia	15.944	18.059	19.447	20.535	19.473	20.540	21.402	23.091	21.084	20.789	19.025	18.780	18.683	17.570	18.893	17.846	16.177	13.870	12.421
West Germany	**484.954**	**456.959**	**435.388**	**436.082**	**434.648**	**448.323**	**468.732**	**482.213**	**483.082**	**480.183**	**447.426**	**434.747**	**448.876**	**434.162**	**452.215**	**500.787**	**502.604**	**465.309**	**468.410**
East Germany	**110.261**	**113.161**	**132.694**	**136.692**	**139.679**	**139.194**	**143.797**	**148.802**	**138.611**	**134.055**	**124.897**	**122.887**	**124.104**	**116.018**	**123.938**	**125.098**	**113.738**	**98.998**	**91.663**
Germany	**595.215**	**570.120**	**568.082**	**572.774**	**574.327**	**587.517**	**612.529**	**631.015**	**621.693**	**614.238**	**572.323**	**557.634**	**572.980**	**550.180**	**576.153**	**625.885**	**616.342**	**564.307**	**560.073**

Source: Federal Institute for Vocational Education and Training, data collection until 30th of September

Newly concluded training contracts by areas of responsibility

In a nationwide examination, declines in the number of newly concluded training contracts compared to last year were reported in all seven areas of responsibility **(Table 2)**. Well over half (59.1%) of all new contracts in all of Germany, 331,043 training contracts, were reported in the chambers of industry and commerce in 2010. In the second-largest area of responsibility, the crafts, a total of 155,178 new training contracts were concluded, 404 fewer than in the preceding year. Thus the crafts accounted for about a quarter (27.7%) of all new training contracts. In the mid-1990s the figure was 38.3%. A total of 13,609 training contracts were registered with the competent authorities for the public service in 2010; in agriculture there were 13,922. In the liberal professions 42,500 new training contracts were recorded, so the decline was only slight. In home economics 3582 training contracts were concluded, about one tenth fewer new contracts. The home economics area is the area where an especially large number of young people with disabilities 35 find training opportunities. In the smallest area of responsibility, ocean shipping, 239 new training contracts in the marine mechanic training occupation have been reported.

Gender differences

In 2010, 41.9% of all training contracts nationwide were concluded with young women. In 2009 the figure was 42.9%. Thus, the rise in the proportion of young women among persons with newly concluded training contracts that was observed from 2007 to 2009 did not continue. Differentiated by areas of responsibility, young women dominate the liberal professions and home economics occupations, where they accounted for 94.6% and 91.7% respectively of new training contracts in 2010. In the public service as well, training contracts are predominantly entered into by women (share of women: 64.2%). The composition in occupations in commerce and industry is relatively balanced (41.9% women). In the crafts (26.2% women) and agriculture (23.2% women) contracts are signed mainly with young men, while ocean shipping is male-dominated (2.5% women).

Mostly publicly funded training programs ("non-company training")

"Non-company training" refers to the form of training that is "mainly financed publicly" and caters for the needs of adolescents with market disadvantages, social disadvantages, learning difficulties or physical disabilities. According to the results of the BIBB survey as of 30 September 2010, 41,043 or 7.3% of the newly concluded training contracts in Germany are for non-company, that is mainly publicly funded training relationships. Compared to the previous year the volume of new non-company-based contracts nationwide dropped very significantly by 4758 contracts (-10.4%). This decrease occurred almost exclusively in East Germany (-4364 or -19%), while the volume of non-company contracts in West Germany declined only slightly (-394 or -1.7%).

In the western states, the number of non-company training contracts increased from 86,407 in 2008 to 93,033 in 2009, an increase of 7.7%. In in-company training, however, there was a decrease of 1.7% (from 1,211,733 to 1,190,945).79 In the eastern states the number of trainees in non-company training decreased by -14.7% (from 84,781 to 72,322), even more precipitously than in in-company training at -6.6% (from 230,422 to 215,157).

Table 2: Development of numbers of new training contracts in Germany by sector, 1992 - 2010

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Germany																			
Industry and Commerce	295.927	265.986	258.540	263.170	268.039	286.239	311.663	333.551	334.418	337.221	311.363	308.565	322.759	316.165	336.935	367.484	369.194	333.404	331.043
Crafts	192.491	203.939	215.107	219.245	215.148	211.571	212.382	210.550	199.482	188.464	173.888	165.783	168.290	157.025	162.604	179.698	170.069	155.582	155.178
Public service [1+2]	25.402	24.672	18.443	14.180	15.901	16.520	15.198	14.940	15.577	15.380	14.815	13.822	15.130	14.171	14.082	13.412	13.228	13.724	13.609
Agriculture	12.740	12.404	12.268	12.954	14.302	15.504	15.762	15.654	14.735	13.695	13.991	15.010	15.191	14.785	15.813	15.902	15.328	14.646	13.922
Professions [1]	63.102	58.938	59.057	58.256	56.143	53.075	51.862	51.043	52.493	54.318	53.254	49.408	46.538	43.617	42.110	44.556	43.947	42.675	42.500
Home economics [1]	5.377	4.035	4.535	4.828	4.645	4.460	5.506	5.118	4.848	5.026	4.830	4.899	4.876	4.119	4.320	4.474	4.271	3.997	3.582
Sea transport	176	146	132	141	149	148	156	159	140	134	182	147	196	298	289	359	305	279	239
Total	*595.215*	*570.120*	*568.082*	*572.774*	*574.327*	*587.517*	*612.529*	*631.015*	*621.693*	*614.238*	*572.323*	*557.634*	*572.980*	*550.180*	*576.153*	*625.885*	*616.342*	*564.307*	*560.073*
West																			
Industry and Commerce	239.334	213.998	195.985	200.120	200.908	216.719	234.868	250.545	255.997	258.693	237.339	234.092	246.836	244.095	259.002	289.372	296.933	271.025	273.904
Crafts	158.070	160.152	162.689	162.953	160.062	159.756	163.246	162.037	156.484	150.025	139.477	133.536	135.936	127.679	131.660	147.561	142.481	131.842	132.724
Public service [1+2]	19.830	19.009	13.254	10.817	11.919	12.352	11.483	11.486	11.710	11.521	11.214	10.606	11.432	10.951	10.765	10.145	10.149	10.562	10.751
Agriculture	10.171	9.544	9.512	9.330	10.374	11.037	11.050	10.719	10.177	9.221	9.492	10.061	10.395	10.095	10.974	11.357	11.173	11.133	10.668
Professions [1]	54.375	51.410	50.729	49.588	47.880	44.986	44.228	43.880	45.182	47.173	46.467	43.127	40.669	38.377	36.770	39.018	38.678	37.537	37.477
Home economics [1]	3.018	2.700	3.095	3.143	3.357	3.333	3.715	3.404	3.405	3.419	3.287	3.188	3.423	2.685	2.775	3.006	2.896	2.942	2.662
Sea transport	156	146	124	131	148	140	142	142	127	131	150	137	185	280	269	328	294	268	224
Total	*484.954*	*456.959*	*435.388*	*436.082*	*434.648*	*448.323*	*468.732*	*482.213*	*483.082*	*480.183*	*447.426*	*434.747*	*448.876*	*434.162*	*452.215*	*500.787*	*502.604*	*465.309*	*468.410*
East																			
Industry and Commerce	56.593	51.988	62.555	63.050	67.131	69.520	76.795	83.006	78.421	78.528	74.024	74.473	75.923	72.070	77.933	78.112	72.261	62.379	57.139
Crafts	34.421	43.787	52.418	56.292	55.086	51.815	49.136	48.513	42.998	38.439	34.411	32.247	32.354	29.346	30.944	32.137	27.588	23.740	22.454
Public service [1+2]	5.572	5.663	5.189	3.363	3.982	4.168	3.715	3.454	3.867	3.859	3.601	3.216	3.698	3.220	3.317	3.267	3.079	3.162	2.858
Agriculture	2.569	2.860	2.756	3.624	3.928	4.467	4.712	4.935	4.558	4.474	4.499	4.949	4.796	4.690	4.839	4.545	4.155	3.513	3.254
Professions [1]	8.727	7.528	8.328	8.668	8.263	8.089	7.634	7.163	7.311	7.145	6.787	6.281	5.869	5.240	5.340	5.538	5.269	5.138	5.023
Home economics [1]	2.359	1.335	1.440	1.685	1.288	1.127	1.791	1.714	1.443	1.607	1.543	1.711	1.453	1.434	1.545	1.468	1.375	1.055	920
Sea transport	20	.	8	10	1	8	14	17	13	3	32	10	11	18	20	31	11	11	15
Total	*110.261*	*113.161*	*132.694*	*136.692*	*139.679*	*139.194*	*143.797*	*148.802*	*138.611*	*134.055*	*124.897*	*122.887*	*124.104*	*116.018*	*123.938*	*125.098*	*113.738*	*98.998*	*91.663*

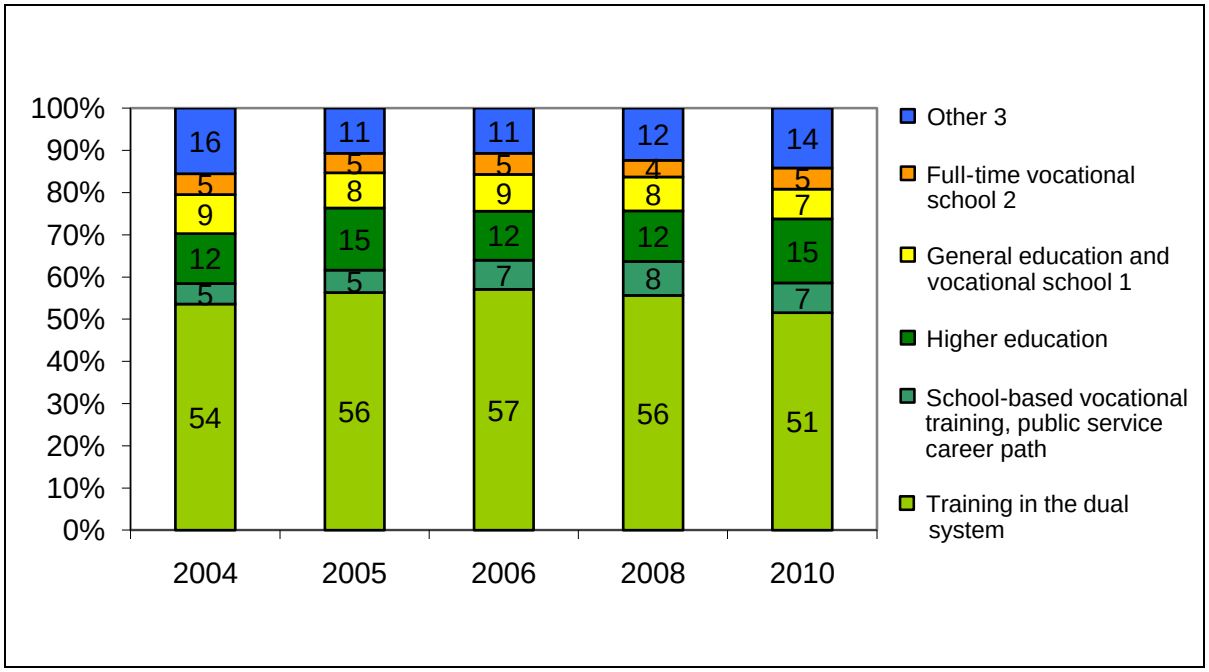
[1] Without new training contracts in the responsibility of other competent bodies (chambers)

[2] Without training for a career in the civil service. Source: Federal Institute for Vocational Education and Training, data collection until 30th of September

Expectations and destinations of school leavers

The school leavers were interviewed retrospectively about what plans they had had in the spring of 2010. It turns out that half (51%) the respondents had aspired to vocational education and training at the end of the 2009/2010 school year. Compared to the years 2004, 2005, 2006 and 2008, this was the first time a decrease was noted. Relative to the last survey conducted in 2008, this is minus 5 percentage points **(Figure 1)**. This decrease is probably due in part to demographic changes within the school-leaving population.

Figure 1: Career plans of school leavers in spring - in percent



[1] secondary general school, intermediate school, integrated comprehensive school, grammar school, secondary vocational school, vocational grammar school

[2] one or two year full-time vocational school not leading to vocational qualification, basic vocational training year, prevocational training

[3] work, internship, military/civil service, voluntary social/ecological year, other

Source: BIBB-school leaver surveys, weighted data

Some young people (19%) planned to take up in-company vocational education and training only for the period between spring and autumn 2010, or wanted to start in the following years (2008: 16%). The proportion of respondents who wanted to take a dual course of training during the current year or later added up to 70%, slightly below the value determined in 2008 (72%). Compared to previous surveys, only small changes were seen for the total population. The survey results are very stable, demonstrating the continued high affinity of young people for the dual system of vocational education and training.

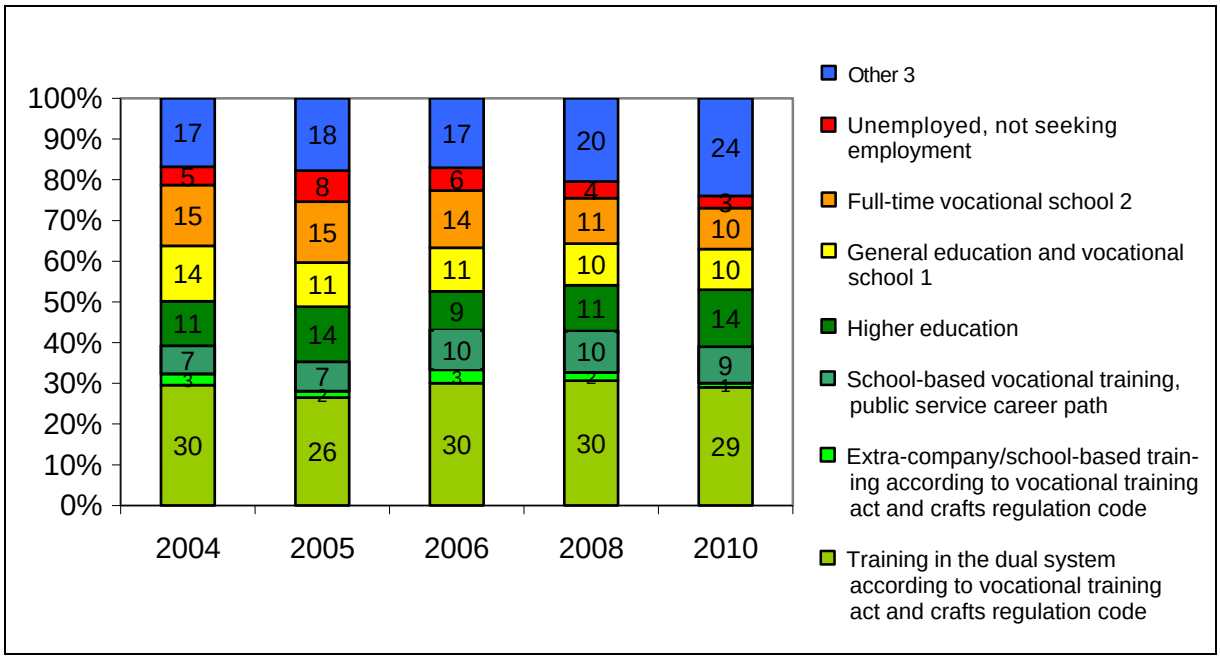
Differentiated by the school leaving certificates attained, they demonstrate once again that the dual system is still the royal road for 94% (2008: 91%) of young people with lower secondary schooling and for 78% (2008: 80%) of those with intermediate school certificates. It still seems to be a desirable path for young people with university or technical college entrance qualifications as well: a total of 43% (2008: 44%) are interested in in-company vocational education and training.

More than half of those interested in a dual course of training began dual training in the fall of 2010, three quarters of them in their chosen field. The proportion of those who could learn their chosen training occupations only partially or not at all continued to decline. The main reason for this was the demographic changes in the strength of the school-leaving cohorts, which led to a further easing of the training place market.

On the other hand, again in 2010, almost half of those who were interested in a dual course of training were unable to realize their training wishes. As before, this is especially true for young people from full-time vocational schools, i.e. from the transition system, for whom the transition rates dropped once again compared to 2008. Adolescents with migration backgrounds continue to be strongly affected. For them the transition rate stagnated at around one-third; instead of in dual training they ended up in general education or a vocational school or in the transition system much more frequently than young people without a migration background.

Transitions to dual training are still below average for female adolescents. It is true that if they fail to get an in-company training position they more frequently learn a school occupation, train for the civil service or study. In sum, however, a smaller proportion of them end up in fully qualifying training courses than in the case of male adolescents.

Figure 2: Completed educational/occupational pathways of school leavers in autumn (in percent)



[1] secondary general school, intermediate school, integrated comprehensive school, grammar school, secondary vocational school, vocational grammar school
[2] one or two year full-time vocational school not leading to vocational qualification, basic vocational training year, prevocational training
[3] Work, internship, military/civil service, voluntary social/ecological year, other
Source: BIBB-school leaver surveys, weighted data

Fundamentals of integrated training reporting (**iABE**: **i**ntegrierte **A**usbildungs**B**ericht**E**rstattung)

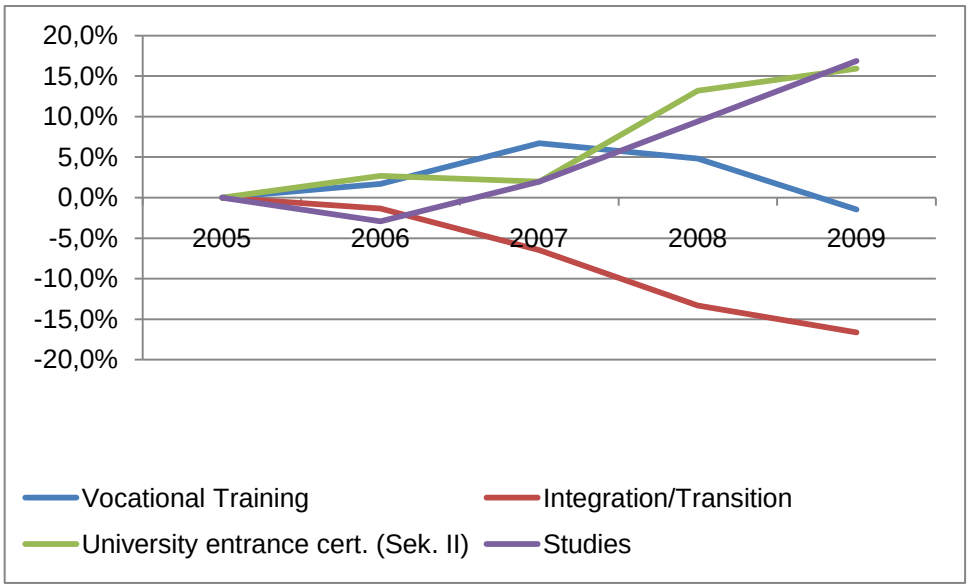
The training and qualification opportunities are at the centre of the system of education sectors and accounts. They are referred to collectively as the "training events". The formal, quantifiable training and qualification opportunities form the so-called core area. The monitoring of all the training pathways of young people after leaving general education will also identify those persons from the age group who are still in secondary school or already in the workforce. This is so that the destination of an age group can be fully documented.

The indicators derived from the sectors are to show the educational involvement (destination) and the educational pathways (use) of young people after leaving general education and provide information about subjects relevant to educational theory and educational policy. For the first time, iABE will be

able to draw on data collected according to the educational path principle.[1] The iABE classifies the transition after leaving the general education school into

- sectors and accounts of the training events and
- other sectors and accounts.[2]

Figure 3: Development of sectors from 2005 (=100%) until 2009 (in %)



Source: Federal Institute for Vocational Education and Training based on the special analysis of the Federal Statistical Office and Statistical Offices of the states (09th of march 2011) and the Federal Employment Agency (may 2010)

The training offers of the various educational sectors do not develop independently of one another, so it is necessary to take a look at the totality of the educational opportunities for young people after leaving the school of general education.

If we consider the number of beginners in 2009, the iABE shows that compared to 2005, approximately 69,400 less adolescents (-16.6%) ended up in integration or transition area schemes. During the same period the number of training beginners in the largest sector, vocational training, decreased by 2.1%. On the other hand, the number of young people wanting to acquire a university entrance qualification had risen by 72,261 (+15.9%) since 2005. The number of beginner students has also increased, by 16.9% – so the trend toward higher education and qualification certificates is continuing.

[1] The previously used structuring of school statistics by learning places is inadequate to demonstrate the variety of educational paths according to international ISCED definitions. Therefore, the curricula at vocational schools for all states were reassessed and classified according to ISCED in the so-called "matrix mapping of the vocational education and training programmes of the states" (cf. Fest et al. 2010).

[2] Other careers of young people are systematised in the "other sectors": "employment with qualification", "social services", "other pathways with and without completed vocational training". The quantification of the "other" serves the purpose of documenting the destinations of all young people in a differentiated fashion.

Structure and number of recognized training occupations according to BBiG / HwO

The number of recognised training occupations according to BBiG and HwO has scarcely changed in the last 10 years and oscillates relatively constantly around 350. In the period from 2001 to 2010, the number changed only from 345 to 348.

In terms of their curricular structure a distinction is drawn between mono professions, occupations with internal differentiation and occupations with optional qualifications. **Mono professions** describe self-contained training courses the qualification profile of which displays no specialisation – their number rose from 263 to 266 between 2002 and 2010. Differentiation by **thematic emphasis** takes company characteristics into account usually for 6 months in the second and third year of training – here there was an increase from 22 to 30. If there are industry-specific features, there is stronger differentiation via **fields of study** in the entire third training year. The number of these occupations declined from 60 to 52. The use of **optional qualifications** – of different types – is considered primarily for highly specialised industries. Thus in the second half of the training different "bundles of qualifications" can be combined into an individual occupational profile. There were optional qualifications in 2001 in 5 and in 2010 in 21 occupations.

Training occupations with credit options

The number of training occupations that can be credited towards others almost doubled from 2001 (12 occupations) to 2010 (23 occupations). The other way round, in 2001 there were only 25, but in 2010 already 63 training occupations towards which credits could be acquired.

Duration of traineeship

The duration of training is generally not more than 3 and not less than 2 years. Upward and downward deviations are possible. In the period from 2001[3] to 2010, the number of training occupations with a training period of 42 months fell from 65 to 53, and the number of training occupations with a training period of 36 months increased from 246 to 255. The number of recognised training occupations with a training period of 24 months or less also rose, from 34 in 2001 to 40 in 2010.

Modernization of the dual system of vocational education and training

From 1996 to 2009, 81 new training occupations were created. In these occupations 60,771 training contracts were concluded in 2009. That is equivalent to 10.8% of all new contracts. The proportion of new contracts in the occupations newly created since 1996 has thus declined slightly. Simultaneously, the concentration in certain occupations increased – not just in the new occupations but overall in the dual system of vocational education and training.

In each of approximately 64% of all state-recognized training occupations and/or trial dual training occupations, less than 500 new training contracts are being concluded; in the 20 most populated state-recognized training occupations one finds more than half of all adolescents with newly concluded training contracts.

Training personnel in in-company training

Under the legal stipulations, only persons who are suitable both personally and professionally are allowed to train in the dual system. Professional competence includes the skills, knowledge and capabilities required for the specific occupation as well as appropriate professional and pedagogical qualifications. Only those who are responsible for planning and conducting the training are required to

[3] Computerised data on the duration of training have only been available since 1998.

demonstrate competence in occupational and labour paedagogics – usually by passing a test in accordance with the Trainer Aptitude Regulation (Ausbilder-Eignungsverordnung, AEVO). The companies then report these employees to the relevant authorities. Of the trainers reported as responsible, however, only a minority are concerned exclusively with this task. The vast majority train as a sideline.

Trainer proficiency tests

According to the Federal Statistical Office a total of 30,164 persons (66.6% men, 33.4% women) took trainer proficiency tests in the training areas of industry and commerce, crafts, agriculture, public service and home economics in 2009 – even though the AEVO was suspended until 31 July 2009 (Federal Statistical Office 2010)[4], 158[5]. Of these, 27,929 persons passed the test, a success rate of 92.6%. Women made up 33.6% of all successful candidates (34.3% in the eastern states, 33.2% in the western states).

The master exams

The master exam results for the year 2009 were as follows: a total of 34,524 people (85.1% men, 14.9% women) took master exams in the fields of industry and commerce, crafts, agriculture, public service and home economics. The number of passed master exams was 30,232, a success rate of 87.6%. The proportion of women among all successful participants was highest – apart from the home economics sector (99.4%) – in agriculture at 26.1% and in the crafts at 19.4%. The public service provided 7.1% and industry and commerce 5.5% of all new woman masters.

23.4% of the persons registered as trainers are female. There are substantial differences between the eastern and western states, however. The proportion of women is 21.8% in the western states, but in the eastern states it is 33.2%. The distribution by age category is as follows: 40- to 49-year-olds form the largest group at 39.5%, followed by the over 50-year-olds at 36.9% and the 30- to 39-year-olds at 19%. 4.6% of the trainers are under 20.

Young adults without an initial vocational qualification

Since the early 1980s, the unemployment rate has risen disproportionately for those with no formal qualifications (the unskilled). In 2005, the unemployment rate for unskilled persons of working age was 26%, almost three times as high as for persons who had completed vocational training (9.7%). Adolescents and young adults without vocational training thus bear an employment risk that is not acceptable, either for the individual nor for society as a whole (in terms of loss of revenue from social security contributions and taxes), and also in the face of a looming shortage of skilled workers, which would have to be met with timely training. The following data analysis is based on the results of the microcensus 2008.[6]

The unskilled rate among 20- to 34-year-olds increased slightly nationwide; comparing the years 1996 and 2008, it rose from 14.7% to 14.9% (**Table 3**). It remained nearly constant over the period under review as well, between 14% and 15%. The 2010 National Education Report (Education Reporting Authors Group 2010, p. 228) calculated on the basis of the 2010 microcensus that 17.3% of the 30- to 35-year-olds had no completed vocational education, and in younger age groups the figures were far higher. This can be explained by differences in the calculation concepts – the national education report includes in the unskilled category persons who are still in training or doing military/civil service.

[4] Unless otherwise noted, figures are based on data from the Federal Statistical Office, Series 11, Sub-series 3.
[5] With regard to this number it must be borne in mind that many chambers failed to submit reports and therefore there is an undercount.
[6] The results of the 2007 microcensus were reported in BIBB-Datenreport 2009, Chapter 8.1. In contrast, here the age group of 20- to 34-year-olds is in the forefront of the evaluations.

Table 3: Young adults without an initial vocational qualification 1996 - 2008

year	20 - 24 years old	20 - 29 years old		20 - 34 years old	
	unskilled-quota in %	unskilled-quota in %	absolute (in millions, projected)	unskilled-quota in %	absolute (in millions, projected)
1996	14,8	14,6	1,57	14,7	2,59
1997	15.0	14,6	1,5	14,3	2,45
1998	15,1	14,7	1,45	14,1	2,34
1999	14,8	14,7	1,4	14,6	2,37
2000	14,4	14,4	1,32	13,9	2,17
2001	14,3	14,5	1,32	14,1	2,15
2002	15,1	15,2	1,37	14,6	2,2
2003	14,6	14,9	1,36	14,6	2,15
2004	14,5	14,9	1,37	14,3	2,05
2005	16,5	16,5	1,57	16,9	2,4
2007	14,5	15,2	1,45	15,3	2,24
2008	15,3	14,9	1,46	14,9	2,16

Source: Federal Statistical Office, Microcensus 1996 - 2008, calculations of the Federal Institute for Vocational Education and Training

Among the 20- to 29-year-olds women were much more often affected than men by lack of training in 1996 (16.5% vs. 12.8%). Subsequently the unskilled rates for men and women have developed differently and drawn closer together. The proportion of young men among the unskilled rose. In 2008 it was 14.8% of the resident population of the same age; for women it was 15.0%. The proportion of unskilled among young adults with foreign citizenship fell from 40.1% to 35.7%. In the same period the proportion of unskilled among (non-immigrant) Germans fell from 10.5% to 9.6%.

In 2008, according to data from the microcensus, 2.16 million young adults between the ages of 20 and 34 years remained without completed vocational training. Thus, the proportion of unskilled young adults in this age group in the corresponding resident population was 14.9%. Women (rate 15.0%) were affected by lack of an occupation to the same extent as men (14.8%).

About 920,000 young adults with lower secondary school leaving certificates aged from 20 to 34 years were without a vocational qualification in 2008. Former lower secondary school students (with certificate) thus constituted the largest group among the unskilled at 43%. This put them significantly higher in their proportion of the unskilled than in their proportion of the resident population of the same age. Almost a third of lower secondary school graduates (29.2%) in the age group examined was left without vocational qualifications. Compared to the average of their age group, there were twice as many young adults with lower secondary school leaving certificates among the unskilled workers.

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/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 by the state. Continuing vocational training is divided into three parts: regulated continuing training, in-company training and individual continuing training. But 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 or vocational qualifications to executives. The aims, content and duration of courses vary accordingly. 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). Cases with **advanced vocational qualifications**, i.e. a *Meisterbrief* or some other diploma from a *Fachschule* (trade and technical schools and master´s schools) are classified as ISCED 5B.

Key facts in brief

On the basis of selected indicators, important developments in continuing vocational education and training are shown in Chapter B. The following results should be highlighted:

- A special analysis of microcensus data from 2005 to 2008 on the **continuing education and training of employed persons** shows among other things clear differences in the continuing education and training rate in terms of education levels and the activities carried out. The participation in continuing education and training of employed persons who have completed dual training lies well below that of academics.

- Based on data from the IAB Establishment Panel, 45% of companies participated in the financing of continuing vocational education and training in 2010. The **participation in continuing vocational education and training** depends significantly on the size of the company and is traditionally much higher in large enterprises than in small and medium-sized enterprises. According to the results of the IAB, company training activity has increased slightly in recent years.

- According to the findings of the wb**monitor**, continuing education and training institutions continue to take a positive view of the **business climate** for 2010. However, it has decreased for the second consecutive year and has lost almost half its value since its peak in 2008. The prospects for the future are perceived to be somewhat less favourable. In 2010, for the first time, providers boasted a better business climate in the eastern states than in the western states.

- The continuing vocational education and training **courses offered by the adult education centres** in 2009 included 72,500 events nationwide, slightly down from the previous year. The work/occupation programme area accounted for 12.7% of all courses at the adult education centres.

- The number of participants in state-approved **distance learning courses** is estimated at about 253,000.

- In 2009, approximately 618,000 admissions to **measures to promote continuing vocational education and training** under SGB III and SGB II were recorded. That is an increase of 33.7% over the previous year.

- In 2009, 157,543 persons received assistance under the **Upgrading Training Support Act**. That was an increase of 12.9% over the previous year. Of those persons, 37.3% completed a full-time measure and 62.7% a part-time measure.

- 6,111 young men and women received scholarships in 2009 under the **gifted students' support system** of the Federal Ministry of Education and Research.

- Overall, there are currently 213 **federal regulations** for continuing vocational training and retraining. Ninety-one of the statutory instruments apply to master craftsman exams.

Participation in continuing vocational education and training

Lifelong learning is of major importance in the current societal discourse. The steady development of all areas of life and associated changes require continuous learning of every individual beyond the regular school education and training process.

Ever since 1979, the "Continuing Education Reporting System" (BSW) has been recording the development of further training participation in the Federal Republic of Germany. Every three years, Infratest polls a representative sample of the population on behalf of the Federal Ministry of Education and Research (BMBF). Up to now, the BSW has been the most important survey on participation in continuing education and training. In order to ensure future comparability at the European level, the "Adult Education Survey" (AES) was conducted for the first time in 2007.

General development of participation in continuing education and training from 2005 to 2008

Participation in continuing vocational education and training activity is closely linked to age (**Table 4**). It should be noted, however, that the relationship is not linear. It has been observed that participation in continuing education and training remains stable with increasing age until about 40 years, when it drops off. In the later survey years the participation rates of 30- to 39-year-olds are sometimes slightly higher than those of the younger cohort.

This initial finding is only true, however, if no distinction is made between the sexes. Once men and women are considered separately, an astonishing difference is revealed – concerning both the level and the trends. While female workers have higher continuing training rates than the respective comparison groups of men virtually every year in each age group, the difference in the of 20- to 29-year-olds group is particularly serious. Since 2006, 20- to 29-year-old women have been exceeding their male age group peers by more than 25% – and the difference has been increasing. In none of the remaining age groups is the gender difference similarly pronounced.

In all age groups, the average participation levels increased in the years 2005 to 2008, sometimes significantly. While the rates among 20- to 29-year-olds are rising only very moderately, largely due to the sluggish development among in the 20- to 29-year-old men, the rates among 50- to 64-year-olds rose more than average by more than 20%. Again, the women contribute more than the men to the trend. They alone have increased their continuing education and training activity by about 25%, while for men the increase has only been about 13%.

Table 4: Participation of employees in CVET by age, gender and year (in %)

		2005	2006	2007	2008	total
20 - 29 years	male	19,8	18,5	19,6	20,6	19,6
	female	23,9	24,0	25,4	26,4	25,0
	total	21,7	21,0	22,3	23,3	22,1
30 - 39 years	male	20,5	20,7	21,8	23,1	21,5
	female	20,5	21,4	23,0	23,8	22,2
	total	20,5	21,0	22,3	23,4	21,8
40 - 49 years	male	18,4	18,4	20,1	20,9	19,5
	female	18,8	18,8	20,2	21,4	19,8
	total	18,6	18,6	20,2	21,1	19,6
50 - 64 years	male	15,0	14,9	16,3	17,3	15,9
	female	14,4	15,0	16,6	18,0	16,1
	total	14,7	15,0	16,4	17,6	16,0
total	male	18,2	18,1	19,4	20,4	19,0
	female	18,7	19,1	20,5	21,6	20,0
	total	18,4	18,5	19,9	20,9	19,5

Source: Microcensus 2005 - 2008, calculations of the Federal Institute for Vocational Education and Training

This development is encouraging in so far as it is particularly the elderly working people who are gaining by increasing their educational activities – more than all other age groups. The trend among young men is less encouraging: their participation in continuing education and training is stagnant. From 2007 to 2008, it was even decreasing.

That not only age, but most especially the level of education is highly important for continuing training behaviour is shown in **Table 5**. The figures clearly show the close relationship between the level of vocational education and training and continuing education and training behaviour. From an average participation rate of 6.3% for those people without training and an average participation rate of 9.3% for those with semi-skilled training, the values rise to an average participation rate of 14.8% among those with dual training. With an average continuing education and training participation of 19.5% for all groups of persons and years, persons who have completed dual training are clearly underrepresented in continuing education and training.

Table 5: Participation of employees in CVET by vocational qualification, gender and year (in %)

		2005	2006	2007	2008	total
trained on the job	male	8,0	8,8	8,8	9,0	8,6
	female	8,8	10,4	9,9	11,4	10,0
	total	8,4	9,6	9,3	10,2	9,3
completion of training in the dual system	male	13,6	13,7	14,7	15,5	14,4
	female	14,0	14,5	16,1	16,7	15,4
	total	13,8	14,1	15,4	16,1	14,8
completion of school-based vocational training	male	21,2	22,0	23,1	27,0	22,7
	female	25,9	27,4	28,9	32,5	28,2
	total	24,0	25,3	26,9	30,8	26,2
completion of a trade and technical school	male	26,7	26,4	29,2	29,9	28,0
	female	34,2	35,2	38,5	39,1	36,7
	total	29,5	29,8	32,9	33,5	31,4
university degree / university of applied sciences degree	male	32,6	33,0	35,0	36,1	34,2
	female	37,1	37,5	38,4	39,9	38,3
	total	34,4	34,8	36,4	37,7	35,9
without vocational qualification	male	6,7	6,4	6,5	6,7	6,6
	female	5,6	6,1	5,8	6,3	6,0
	total	6,2	6,2	6,2	6,5	6,3
total	male	18,2	18,1	19,4	20,4	19,0
	female	18,7	19,1	20,5	21,6	20,0
	total	18,4	18,5	19,9	20,9	19,5

Source: Microcensus 2005 - 2008, calculations of the Federal Institute for Vocational Education and Training

Noteworthy is the level jump to 26.2% on average for those educated at a full-time vocational school as compared to the rate for those with dual education and training (14.8%). We do not find such a huge gap repeated anywhere for the next higher levels of training. On average, 31.4% of trade and technical school graduates participate in continuing education and training activities.

Among university graduates, the average participation rate is 35.9%, again visibly higher than those of graduates of trade and technical schools. The picture is similar at a slightly higher level for graduates of vocational training in apprenticeships. Here again, the women contribute visibly more to the increase in continuing education and training activities, while the overall growth has been at an average rate of increase.

Continuing education and training rate

Table 6 shows that in 2009, a quarter of employees were involved in continuing education and training measures. The additional differentiation[7] in skilled employees and employees performing simple tasks makes it clear that it is mainly the skilled employees who benefit from in-company education efforts.

[7] This differentiation is not included in the 2008 data.

Table 6: CVET-quota by tasks, West and East Germany (in %)

	2001	2003	2005	2007	2008	2009
West Germany						
simple tasks	6	11	8	9	-	12
qualified tasks	21	27	22	27	-	33
Total	**18**	**22**	**20**	**21**	**25**	**25**
East Germany						
simple tasks	8	12	9	13	-	16
qualified tasks	21	31	27	33	-	35
Total	**19**	**26**	**25**	**27**	**30**	**29**
Germany						
simple tasks	6	11	8	10	-	12
qualified tasks	21	28	23	29	-	32
Total	**18**	**23**	**21**	**22**	**26**	**25**

CVET-quota: share of employees that participate in CVET in relation to all employees
Source: IAB-Establishment Panel 2001-2009, projected data

Further training and retraining examinations

Further vocational training is an integral part of vocational education and training within the meaning of the Vocational Training Act (BBiG). The goal of further vocational training is to preserve or enhance one's capacity to act professionally and to advance in one's trade. Further vocational training "regulated" through further training regulations is a particular form of continuing vocational education and training, and its continued expansion is an important task of vocational training policy (see Federal Ministry of Education and Research 2009, p. 43; Federal Institute for Vocational Education and Training 2003). The regulated further training builds on the (initial) vocational education and training, is meant to expand the existing practical vocational knowledge and skills of individuals or adapt them to new developments and leads to another recognized qualification with a new job title.[8] The new certificates qualify them for senior professional and management tasks in the workplace and are also adaptable to the education system. According to §§ 53 et seq BBiG, the content of further vocational training, including the examination regulations, can be determined through further education regulations of the Federal Minister of Education and Research, or, if such a uniform federal regulation is not adopted, defined regionally by further training examination regulations of the competent authorities. Usually completed initial vocational training as well as a minimum period of practical vocational activity are prerequisites. Further training examinations are conducted to demonstrate the knowledge and skills acquired in the further vocational education and training measures of qualified providers (enterprises, inter-company groupings, chambers, etc.). This must reflect the requirements of adult vocational education and training.

[8] The general training certificates such as those of specialised administrative assistant, commercial clerk, certified business accountant and master are of great importance. In addition, regulated further training certificates, by virtue of the resolution of the Conference of Ministers of Education on "University Access for Vocationally Qualified Applicants without School University Entrance Qualification" (6 March 2009), now open the door to university studies.

Table 7: Participation in continuing vocational training and master craftsmen examinations 2005 - 2009 by sector and gender *

	Participation in continuing vocational training and master craftsmen exam.			Number of passed examinations		
	total	male	female	total	male	female
continuing vocational training and master craftsmen examinations in total						
2005	125.073	81.515	43.558	100.280	67.581	32.699
2006	120.433	77.457	42.976	96.526	63.846	32.680
2007	/	/	/	/	/	/
2008	/	/	/	/	/	/
2009	106.341	68.502	37.839	83.950	55.385	28.565
Industry and Commerce [1]						
2005	66.823	39.490	27.333	46.645	28.466	18.179
2006	60.961	35.157	25.804	42.517	25.154	17.363
2007	/	/	/	/	/	/
2008	/	/	/	/	/	/
2009	61.734	37.061	24.673	42.348	25.928	16.420
Crafts						
2005	47.737	38.480	9.257	44.942	36.251	8.691
2006	48.762	38.817	9.945	45.270	35.979	9.291
2007	/	/	/	/	/	/
2008	/	/	/	/	/	/
2009	36.113	29.076	7.037	34.131	27.458	6.673
Public service						
2005	2.991	1.270	1.721	2.694	1.130	1.564
2006	2.851	1.245	1.606	2.538	1.066	1.472
2007	/	/	/	/	/	/
2008	/	/	/	/	/	/
2009	1.978	763	1.215	1.814	702	1.112
Agriculture						
2005	2.011	1.627	384	1.667	1.333	334
2006	2.124	1.717	407	1.723	1.382	341
2007	/	/	/	/	/	/
2008	/	/	/	/	/	/
2009	1.659	1.260	399	1.361	1.029	332
Professions						
2005	4.989	643	4.346	3.965	398	3.567
2006	5.256	515	4.741	4.119	259	3.860
2007	/	/	/	/	/	/
2008	/	/	/	/	/	/
2009	4.643	341	4.302	4.131	267	3.864
Home economics						
2005	522	5	517	367	3	364
2006	479	6	473	359	6	353
2007	/	/	/	/	/	/
2008	/	/	/	/	/	/
2009	214	1	213	165	1	164

* Because of considerable changes in data collection in 2007 a comparison of the data from 2007 with the data until 2006 is limited. For the reporting years 2007 and 2008 no data for continuing vocational training and master craftsmen examinations were published.

[1] Including banks, insurances, hotel and restaurant industry, transport industry

Source: Federal Statistical Office, Fachserie 11, Reihe 3, reporting period 2009; compilation by the Federal Institute for Vocational Education and Training

Overall, the development of participation in further training examinations was marked by sharp declines in the years 1992 to 2002 and relative stability in the subsequent years up to 2005 (cf. BIBB Data Report 2009, Chapter B5.1). In the reporting year 2009 a total of 106,341 people took the examinations. The number of males examined was 68,502 (64.4%), that of women 37,839 (35.6%). Thus the participation of women in the further training examinations in 2009 was, similarly to that in 2006 (35.7%), slightly higher than in 2005 (34.8%). Of a total of 83,950 exams passed, 55,385 or almost two-thirds were passed by men and 28,565 by women (**Table 7**).

Publicly funded continuing education and training

Among the labour market policy instruments that allow qualification for the people in the SGB II and SGB III jurisdictions are continuing vocational education and training, continuing vocational education and training for disabled people and ESF qualification while on short-time work. The aptitude testing and training measures expired in 2009. The instrument introduced with § 46 SGB III on 1 January 2009, measures for activation and integration into the labour market, which among other things takes up elements from the previous training measures, is considered to be a placement support service.

Promotion of continuing vocational training (PCVT)

Of the 618,436 admissions in 2009, 45,008 were to measures leading to a certificate in a recognised training occupation (which is 7.3% of the total; 2008: 6.9%). The proportion of under-25-year-olds admitted in 2009 was 12% (2008: 13.4%), the proportion of foreigners was 11% (2008: 11.3%). Long-term unemployed accounted for 7.8% (2008: 12.5%) of admissions (Federal Statistical Office 2010i).

The reform of labour market policy instruments that entered into force on 1 January 2009 particularly affected such measures as the training programs that were extensively used in the second book of the Civil Code (SGB II) up to then and will be replaced by the measures for activation and integration into the labour market. The use of continuing vocational education and training in the jurisdiction of SGB II (without approved municipal sponsors) increased, however, compared to the preceding year (Federal Employment Agency 2010l).

To meet the challenges of the economic crisis, targeted PCVT programmes were continued or revived in 2009. With the federal government's Economic Stimulus Package II (Konjunkturpaket II), the funding opportunities contained in the WeGebAU programme were extended to skilled workers and a subsidy to help cover the continuing training costs in cases of re-employment of temporary agency workers was introduced. Training opportunities for recipients of short-time compensation, who are not eligible to receive funds from the SGB resources, were also funded from ESF resources.

ESF-funded qualification for recipients of short-time compensation

The circle of participants in skills training measures receiving short-time compensation (KuG) who were eligible for support was extended in 2009. Since 01.01.2009, in addition to the recipients of transfer short-time allowances, the recipients of recession and seasonal short-time compensation have also been covered by ESF funding support.

Since the low-skilled continue to have poorer labour market opportunities and since a shortage of skilled labour is also forecast, from 2010 onward the structural change that is identifiable in certain sectors and regions will be supported by appropriate skills training, including longer-term training, under the *"Initiative in support of structural change" (IFlaS)*. IFlaS continues the objective of the

Initiative for Qualifying the Low-skilled in modified form. For 2010, 350 million € from the integration title are available for that purpose. In IFlaS, measures are to be supported that enable the acquisition of recognized vocational qualifications and partial qualifications.

Upgrading Training Support Act (AFBG)

The Upgrading Training Support Act (AFBG)[9], existing since 1996, jointly funded by the federal and state governments – the so-called "Meister-BAföG" – establishes an individual legal claim to the promotion of upgrading training, that is, of master classes or other training leading to the acquisition of an equivalent further training certificate. The AFBG supports the extension and expansion of vocational qualifications. The AFBG is a comprehensive support instrument for further vocational training in all vocational areas without exception – regardless of the form in which the training is conducted (full time / part time / school / outside school / media-supported / distance learning). The support is subject to certain personal, quality and time requirements. Further training qualifications which are above the Master level, such as a university degree, will not be funded.

According to the AFBG statistics (Federal Statistical Office 2010) published in September 2010, this support increased by 12.9% to 157,543 people in 2009. A full-time measure was completed by 58,687 (37.3%), a part-time measure by 98,856 persons (62.7%). Compared with the previous year, the rate of change was +18.4% for full-time people supported and +9.9% for part-time people.

The proportion of women in the total number of supported programme participants was 31% (48,907). Among those attending full-time measures 25.6% were female; in the part-time measures the proportion of women was 34.3%. 82.2% of recipients were from 20 to under 35 years old. The largest group of participants were those from 25 to under 30 years (34.5%), followed by the 20- to under 25-year-olds (32.8%). The group of 30- to under 35-year-olds (14.8%) ranked third, followed by the 35 to under 40 age group (8.4%).

Structural developments: continuing education and training system

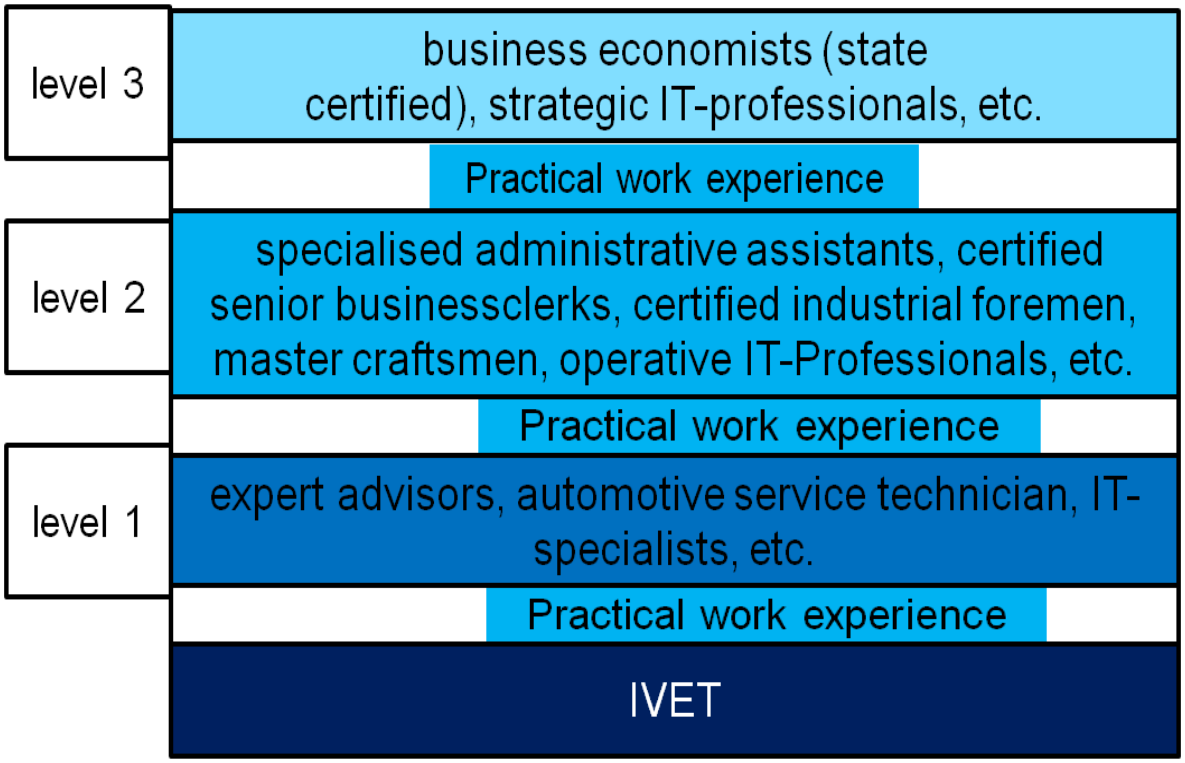
In the agreement on further vocational training of 20 December 1996, the umbrella organizations of the social and economic partners agreed on the following positions:

- In the upgrading training regulated by the Vocational Education and Training Act (BBiG), certificates are classified in three consecutive levels (qualification levels),
- the qualification levels are based on the requirements of the labour market,
- the focus of the regulated upgrading training is located at level 2.

The three-level model **(Figure 4)** came into use with the development of continuing education and training systems in the areas of information and communication technology (IT), electrical engineering / electronics (ET), production technology (PT) and microsystems technology (MST).

[9] See http://www.bmbf.de/pub/afbg.pdf and www.meister-bafoeg.info.

Figure 4: Qualification levels in CVET



Source: Federal Institute for Vocational Education and Training

Regulated **level 1** continuing training certificates usually follow completion of initial vocational education and training. This qualification is completed, for example in IT training, with a recognised certificate in accordance with the international standards for the certification of persons.
At **level 2**, public-sector further training qualifications are regulated which are primarily

- geared to the acquisition of professional positions that serve to promote the next generation from company practice to the middle management level in companies through professional practitioners, or
- prepare to perform functions which entail a considerably broader area of responsibility than level 1 qualifications.

Usually, specialised administrative assistants, commercial clerks and masters[10] are to be found at this level.
Level 3 of upgrading training is an alternative to university qualifications[11] and to continuing scientific education. The successful completion of level 2 (specialised administrative assistant, commercial clerk, master) is normally a prerequisite for admission. With this training, vocationally experienced practitioners can acquire leadership skills, combined with the prospect of assuming responsibilities and exercising functions which are primarily reserved for university graduates. Level 3 upgrading training is aimed primarily at people who, for various reasons, cannot or can no longer or do not want or no longer want to make use of the opportunity to study at the university or at vocational practitioners who desire to expand their skills for individual career planning purposes.

[10] Apart from the classic level 2 certificates (specialised administrative assistants, commercial clerks, masters and other qualifications of comparable levels) there are, for example in the IT continuing education and training system, the "operative professionals". In this system concept, there is no fundamental distinction between management and specialist functions. These are oriented not towards fixed levels of the hierarchy, but towards (flexible) project structures.
[11] This is also true to a limited extent for level 2. Access to level 3 further training arrangements is usually possible through level 2 or for career changers.

3 In focus: Permeability between vocational education and training and academic university education

Permeability between different sectors of education means that educational qualifications in one field at the same time open up access to other sectors of education, that performance and learning outcomes from one sector of education can be recognised and credited in a different sector. In Germany, the educational pathways are delineated from one another more clearly than in many other European countries, both in their access requirements and in the certificates acquired. This has implications in particular for the permeability between vocational and academic education, which education policy has been calling for since the 1960s. Despite a variety of concepts and reform efforts, access to higher education is only beginning to be realized for those with vocational qualifications.

Discussions on reforms in the education system in Germany

In June 2002, the **Standing Conference of the Ministers for Education of the *Länder*** *(KMK)* adopted the resolution on "Crediting knowledge and skills acquired outside of higher education towards higher education degrees" (updated on September 18, 2008). Following this resolution, up to 50% of university studies can be replaced by knowledge and skills acquired outside the university.

The 2009 resolution of the KMK to expand "access of vocationally qualified applicants to higher education" laid the foundations for more permeable structures between higher education and vocational education and training; the federal states had agreed on common university admission criteria for vocationally qualified applicants without school university entrance qualifications. This gives holders of certificates of vocational upgrading training (masters, technicians, specialised administrative assistants or the like) a general entitlement to university entrance. Vocationally qualified persons without a certificate of upgrading training will receive a trade-specific qualification for university entrance if they have completed at least two years of relevant vocational training and provide evidence of three years of relevant work experience and have passed an aptitude test or successfully gone through a one-year probationary period of study. The "common structural guidelines of the federal states for the accreditation of bachelor and master degree programmes", revised by the *KMK* in 2010, allow vocationally qualified persons who have already undergone vocational upgrading training direct access to master's programmes. The implementation of these regulations in individual states varies widely. In addition, the universities and colleges decide autonomously on the admission procedures and admission practices. The accreditation of vocationally acquired competences towards courses that are thus made shorter is not standardized yet either; this is something the universities and colleges have to decide independently.

The recommendations of the **"Innovation Circle on Vocational Education and Training – IKBB"**, adopted in 2007 under the direction of the **Federal Minister of Education and Research**, call for comprehensive permeability at the interfaces and transitions between school and vocational training, training and continuing education, and vocational training and higher education. The recommendations identify important conditions for the structural support of lifelong learning through greater permeability. Guideline 6 "Improving permeability – securing connectivity of vocational qualifications" states in this connection: "We believe that the permeability from vocational education to the universities in Germany is inadequate in the international arena as well. This is true not only for admission to higher education but also for the recognition of prior learning (...) Our goal is to create sophisticated transition and credit opportunities. (...) We see in a transparent and open design of the rules for access to higher education for the vocationally qualified an important improvement in the opportunities for advancement. (...) We appeal to the universities to develop courses of study that incorporate vocational education and training qualifications, to develop access, certification and accreditation processes for the vocationally qualified jointly with industry and to create a conducive environment" (see Federal Ministry of Education and Research 2007).

The **Board of the BIBB** (HA) addressed the issue of permeability and equivalence between 1984 and 2010 in several recommendations on the "equivalence of vocational and general education". A recent recommendation of the HA in which the proposals of the IKBB are taken up and concretised goes in the same direction. It strongly urges that more permeable structures be created between vocational and higher education: "Vocational and academic education in Germany", it says, "are still largely unconnected. (...) The promotion of permeability between vocational and higher education merits high priority against the backdrop of the increasing importance of lifelong learning, the assurance of comprehensive educational opportunities and the looming shortage of skilled workers."

Comprehensive approaches to promoting permeability

In recent years considerable efforts have been made to substantially improve the permeability between vocational and higher education.

It was the objective of the **BMBF pilot initiative ANKOM** to identify skills acquired in (continuing) vocational education and training as eligible study equivalents for university degree programmes (Bachelor's) and to develop credit models respectively. In that connection, 11 projects were sponsored between autumn 2005 and summer 2008, one in each of the thematic clusters (engineering, information technology, health and social affairs and economics). It was shown that the blanket accreditation of vocationally acquired skills towards university degree programmes is possible and useful. Blanket procedures have the advantage that they allow the graduates of relevant vocational training programmes to reliably credit their acquired qualifications towards a corresponding degree. In several ANKOM projects individual credit mechanisms were developed in addition to the blanket procedure. Formally acquired and certified skills that have not been taken into account in the blanket accreditation can be individually accredited. It is also possible to take informally acquired skills into consideration.

In the **DECVET pilot initiative to develop a credit system in vocational education and training**, approaches to reform that promote transparency and permeability (in the sense of connectable transitions) within the German system of vocational education and training are to be examined and tested. In that connection, models for a credit transfer system for the collection, transfer and accreditation of learning outcomes and competencies from one part of the vocational education and training system to another are being developed and tested in 10 pilot projects oriented towards practical operational experience. In the 10 pilot projects, which began work in 2007, industry-specific transition and accreditation models have so far been developed for the following four interfaces within the VET system:

- between vocational training preparation and dual training,
- within the dual system of vocational education and training at the interface of joint inter-vocational qualifications in one vocational field (e.g. change from process mechanic training to mechatronics engineer training),
- between full-time vocational school and dual vocational education and training,
- between dual vocational education and training and further vocational training (§ § 53 and 54 Vocational Training Act).

In developing and testing possible accreditation models, orientation on the criteria of the "European Credit System for Vocational Education and Training (ECVET)" is essential.

Deutscher Qualifikationsrahmen für lebenslanges Lernen DQR (German Qualifications Framework for Lifelong Learning)

In October 2006, the BMBF and the Kultusministerkonferenz KMK (The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany) decided to jointly develop a German Qualifications Framework for Lifelong Learning (DQR). The aim of the DQR is to provide a comprehensive, multidisciplinary educational frame of reference that supports the implementation of the idea of a European Qualifications Framework (EQF). With this frame of reference, the comparability of national qualifications in the European Education Area as well as the transparency of equivalences and differences between the qualifications within the German qualification system is to be improved. In 2009, a first common DQR draft was presented as a discussion proposal; it served as the basis for a comprehensive review of all areas of education.

The qualifications framework describes eight levels of competencies (knowledge and skills) and personal skills (social skills and independence) which are the basis for the classification of qualifications acquired in general, vocational and higher education. Basically, it should be possible to reach each of the levels of education depicted in the DQR by several pathways.

Representatives of general, vocational, higher and adult education, from both government and the social partners, were involved in the development and review process. The DQR has been on hand since March 2011; it is to be put into effect by 2012. How the competencies acquired in non-formal learning processes can be integrated is to be clarified at a later stage.

Challenges in the design of permeable structures

The DQR provides us with a proposal as to how qualifications can be described and classified across educational sectors in the future. At the interface between VET and higher education, the results of ANKOM show the possibilities that exist for accrediting vocational competence towards higher education programmes. The DECVET project aims at the interfaces within vocational education and training and develops tools and procedures for the accreditation of competencies within vocational education and training. In creating more permeability, in addition to the specific proposals, there is a need for some fundamental reflections about how transitions at the interfaces of the education system can be shaped.

In the following, selected aspects are discussed that are important for more open access to higher education for persons with vocational qualifications:

- consideration of the different learning cultures of the education sectors,
- equivalence as a prerequisite for the accreditation of skills and
- recognition of informally acquired skills.

Recognition of informally acquired skills

The increasing importance of documentation and recognition of results of informal learning is a direct result of the lifelong learning initiatives of the European Commission. Unlike many other European countries, Germany has no statutory regulations and approved procedures. This is partly due to the fact that as yet there has been little demand for the recognition of informally acquired skills.

The opportunity to acquire a dual vocational certificate without completing the appropriate training programme is provided in Germany by the external examination in accordance with § 45 para 2 of the

Vocational Training Act (BBiG) and § 37 para 2 Crafts and Trades Regulation Code (Handwerksordnung – HwO). Vocational activity for one and a half times the duration of the corresponding training course is a prerequisite for admission to the examination. It is important for admission that the previous activities largely match the profile of the occupation aspired to. Certificates and credible evidence of vocational proficiency can be used as additional criteria for admission, which is always associated with an individual assessment by the relevant chamber.

The IT continuing education and training system is another example of the accreditation of learning achievements. Here the certification of persons that takes place in the private sector and the uniform federal certification of professionals are very much focused on learning in the work process. These skills acquired in informal and non-formal learning processes thereby take on greater importance.

In addition to the vocational education and training field, the field of higher education also provides opportunities whereby the permeability between vocational and academic education is enhanced through the recognition of competencies acquired in informal learning processes. These include in particular the possibilities of credit for knowledge and skills acquired outside of higher education contained in the higher education legislation of the federal states.

Creation of permeability – an urgent task for the future

Basically, permeability is not a question of "later" stages of education. Permeability can be achieved only if the education system as a whole – from Kindergarten to tertiary education – provides transparent and permeable development pathways. That means that transitions at all interfaces of the education system must become more fluid and must serve the purpose not of selection but of opening up many options. In each education and training phase, all other educational pathways and certificates must always be open and remain accessible. Judging by the experience gained from international comparisons, this assumes, on the one hand, that decisions about educational pathways after finishing general education should if possible not be taken before the end of lower secondary education. On the other hand, these investigations also show that permeability and equality of opportunity can only be achieved if continuous and individual promotion is the guiding principle of all education.

In addition, it is especially true for Germany that the highest qualifications and skills levels cannot and should not be achieved solely through higher education programmes. By international standards, Germany has an exceptionally good and systematically developed system of recognised initial and continuing training occupations and vocational certificates. Therefore, one cannot conclude directly from the proportion of university graduates, which is rather low by international standards, that there is a corresponding deficit of highly qualified specialists and managers. Such comparisons overlook the fact that qualifications and skills that are acquired elsewhere at universities are attained also or even solely through initial and continuing vocational education and training in Germany. From the international point of view this is more a competitive advantage than a competitive disadvantage.

The education policy-makers would be well advised to further expand the range of high quality recognised training occupations and highly qualified additional skills training as well as the range of further education certificates in graded continuing education and training systems leading to the highest skills levels. Arguing for the systematic development of a "second royal road" to high and highest skills – in addition to higher education – is the fact that this approach would not only allow for higher qualification in considerably greater breadth but also correspond very well to the needs of the employment system. The philosophy of the qualifications frameworks points in the right direction: what counts is not specific certificates (qualifications) but the skills acquired. Therefore, the key stakeholders in the development of the DQR have agreed that all levels of competence in the framework should be accessible also through vocational education and training.

4 International indicators and benchmarks, system monitoring, mobility

Key facts in brief

- In accordance with the main priority of the Data Report (Chapter C) of the 2011 Vocational Education and Training Report, permeability in selected European education systems will be considered here – with a focus on permeability between vocational education and training and universities. OECD indicators and EU benchmarks for participation in education are used for comparison.
- The call for permeability particularly affects countries with highly stratifying education systems. The call is aimed mainly at not obstructing access to the academic pathway for those who have once taken the vocational education and training pathway. With regard to the institutional separation of areas of education, Germany occupies a unique position internationally and **permeability therefore seems to be mostly a German issue**.
- In countries with a relatively high proportion of dual training (e.g. German-speaking countries), the average expected duration of higher education is relatively short and hence the demand for permeability is virulent. Still, a strong, formally organized, vocational education and training segment can very well coexist with high higher education expectations (e.g. Finland).
- On the other hand, in countries like Spain, Ireland or France with relatively high academic expectations, the probability of inadequate employment is higher than, for example, in Germany, Austria or Denmark. This means that, on average, higher education qualifications in the respective labour markets have less weight.
- The detailed **comparison of the permeability of the systems** in Austria, Denmark, Spain and Scotland was based on three criteria: the right to higher education, curricular integration and possibilities of accreditation. In particular, double qualification based on curricular integration (Austria and Spain) is used to promote permeability, whereas the recognition of vocational education and training has so far not played much of a role in the transition to higher education in the systems considered.
- The call for permeability is of fundamental importance for **European cooperation in education** on two counts: only with open borders between the sectors of education can **lifelong learning**, the guiding concept of European education policy, be redeemed in a comprehensive sense; and only with open external system borders is mobility possible.
- **Mobility** in vocational education and training is fostered in particular through the "Lifelong Learning" programme. In 2010, a total of 14,800 persons benefited from scholarships in 590 projects. The number of participants in the field of initial training doubled between 2005 and 2010. This follows the 2007 recommendations of the Innovation Circle on Vocational Education and Training (IKBB), which also formulated the goal of extending the duration of funded study visits to between 6 weeks and 3 months. In the framework of LEONARDO DA VINCI Mobility alone, more than 3400 stays abroad for a period of 6 weeks or longer were funded in 2010, while in 2008 there were just 1800. The proportion of participants from the dual system in foreign visits corresponds to their share in initial vocational education and training in Germany.

Permeability – a German problem?

Looking at the international literature, one gets the impression that permeability is mainly a German issue. If one looks at English-language sources for "permeability", one finds many contributions by German authors.

Lack of permeability of education systems has long been the subject of international comparative research. From a sociological perspective, education systems differ primarily in their degree of standardisation and their degree of stratification. The degree of *standardisation* has to do with the extent to which curricula, examinations and certificates correspond to uniform national standards. The degree of *stratification* is measured by the horizontal and vertical differentiation of educational pathways, especially the separation of general and vocational education and training, as well as the selection of access. A high degree of stratification is associated with a high degree of importance of education certificates, an early attribution to specific hierarchical levels and relatively slight mobility.

The call for permeability is aimed mainly at not permanently denying access to the academic pathway to those who have once taken the vocational education and training pathway. The more dynamically evolving societal needs and economic needs clamour for open structures and the more the respective education system can be considered stratified, the louder the call. The fact that in Germany the debate on permeability has been intense for a long time and particularly in recent times is due to Germany's highly selective three-tiered school system and a highly differentiated vocational education and training system. Regarding the institutional separation of the areas of education, Germany takes a special position by international standards.

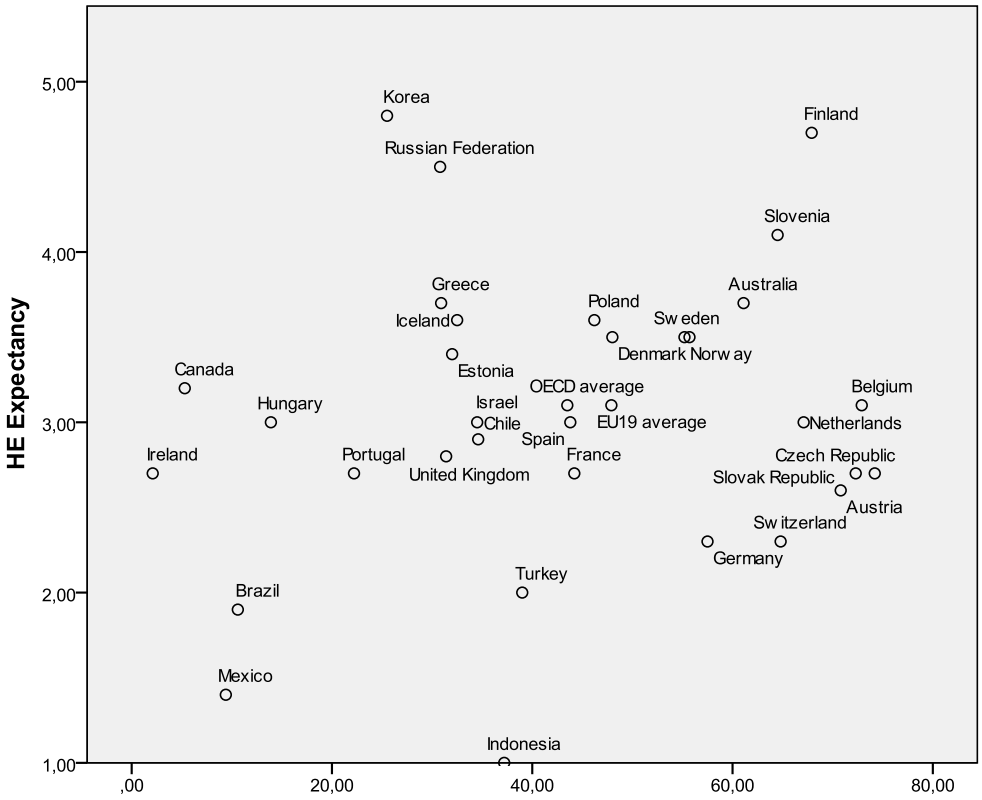
International education indicators for permeability

The Organization for Economic Co-operation and Development (OECD) is constantly reminding Germany to increase the proportion of each age cohort that completes a course of study. In the meantime, this indicator has also become part of the European priority benchmarks on which the European Council has agreed in the context of education policy cooperation: 40% of the 30- to 34-year-olds are supposed to have a qualification at ISCED level 5 or 6 (European Council 2009). On the other hand, just last year the OECD study entitled "Learning for the workplace" (Organisation for Economic Co-operation and Development 2010b) recognized the special benefits of a highly institutionalized (dual) vocational training system, and Germany emerged from the study with a good result.

The following **Figure 5** shows the relationship between the relative weight of vocational education and training at secondary level and the expected average duration of university attendance for different countries. For countries that rank very far left in the coordinate system, the issue of creating permeability does not arise. In contrast to the countries on the far right, these countries have no quantitatively relevant vocational education and training in their education system. Thus the problem of creating transitions from a vocational to a general educational system does not arise either. Countries that are on the very far right have quantitatively robust vocational education and training systems at the upper secondary level. The ones in the upper right quadrant of the coordinate system have both quantitatively significant vocational education and training as part of the education system and at the same time a high rate of attendance in the higher education system.[12] In those countries – with Finland at the top – one could assume a pronounced permeability to exist. However, **Figure 5** says nothing about the proportion of individual learners in vocational education and training or higher education.

[12] The expected participation is given here as the average number of years a pupil or a student of the respective education system will spend (in 2008) in the "higher education" sector (ISCED 5A, 5B, 6).

Figure 5: Expected participation in Higher Education in years/per person and enrolments in VET on upper secondary



Source: Education at a Glance 2010[13]

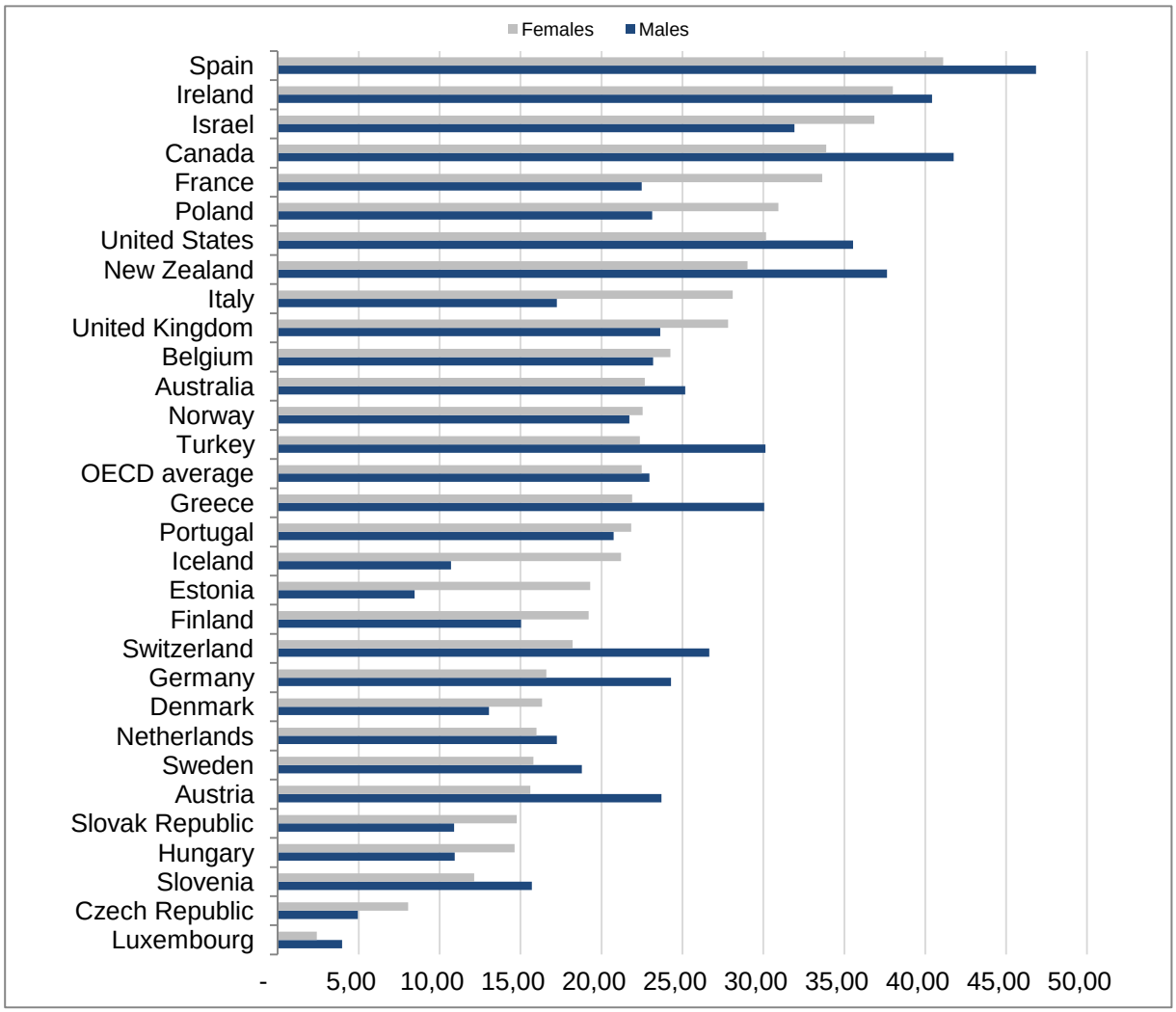
One of the few findings about how the qualifications of the educational system match the skills demanded in the labour market is illustrated in **Figure 6**.

The chart shows the proportion of 25- to 29-year-olds with tertiary certificates[14] working in a position for which a certificate of low or intermediate education would be sufficient according to the International Standard Classification of Occupations (ISCO). It shows clearly that in countries like Spain, Ireland and France, the probability of inadequate employment is higher than for example in Germany, Austria or Denmark. One can speculate that university degrees are therefore also worth less on average in the corresponding labour markets.

A general increase in the higher education graduate ratio would reduce the rate of employment matching the training, unless the demand for such graduates rose accordingly. Given the uncertainty of future demand, some countries choose the path of academisation. Countries that want to preserve the benefits of institutionalized vocational education and training while maintaining the option of higher university graduation rates are confronted with the question of what privileges and possibilities of credit for vocational qualifications will result in the education system. How different systems balance out this weighting is analysed using the example of 4 countries.

[13] www.oecd.org/edu/eag2010;
[14] ISCED 5A, 5B, 6.

Figure 6: Share of the 25-29year olds with a qualification on tertiary level working on ISCO level 4-9



Source: www.oecd.org/edu/eag2010

For further illustration, two European educational systems were chosen that are similar to the German, although they differ in some respects – Austria and Denmark – and two that represent very different types of education systems – Spain and Scotland. In addition to this distinction, the availability of relevant information influenced the selection.

From an educational policy-making perspective, it is interesting to consider with what instruments permeability is generated between the subsystems in various countries. The comparison of countries was based on three criteria: right of access to higher education, curricular integration, possibilities of accreditation**.**

It is clear that the call for permeability is of different relevance in the various European states. The same applies to the relevant instruments of European vocational education policy. Due to the structural features of their education systems, Scotland and Spain have a certain advantage in terms of the introduction of qualifications frameworks and credit transfer systems. On the other hand, it is precisely in these countries that the labour market match is relatively poor. In both countries there is a political objective to better adapt vocational education and training to the labour market and to make it more attractive to learners as well.

Apart from dual qualifications due to curricular integration (Austria and Spain), other instruments for promoting permeability, such as the accreditation of vocational education and training in the transition

to higher education, have so far had no great role to play in the systems examined. Even where there are such instruments, it will still take some time before their impact can be conclusively assessed. It turns out, however, that systemic structures and education histories react only very slowly to reforms. The systems examined do, however, face a common problem: if the orientation of upper secondary education toward the needs of the working world is increased, the possibility of anchoring general education and university preparation content in a curriculum suffers and vice versa. An expansion of the higher education segment comes at the cost of vocational education and training and vice versa. The steps to increase permeability are a way to resolve this dilemma.

Mobility

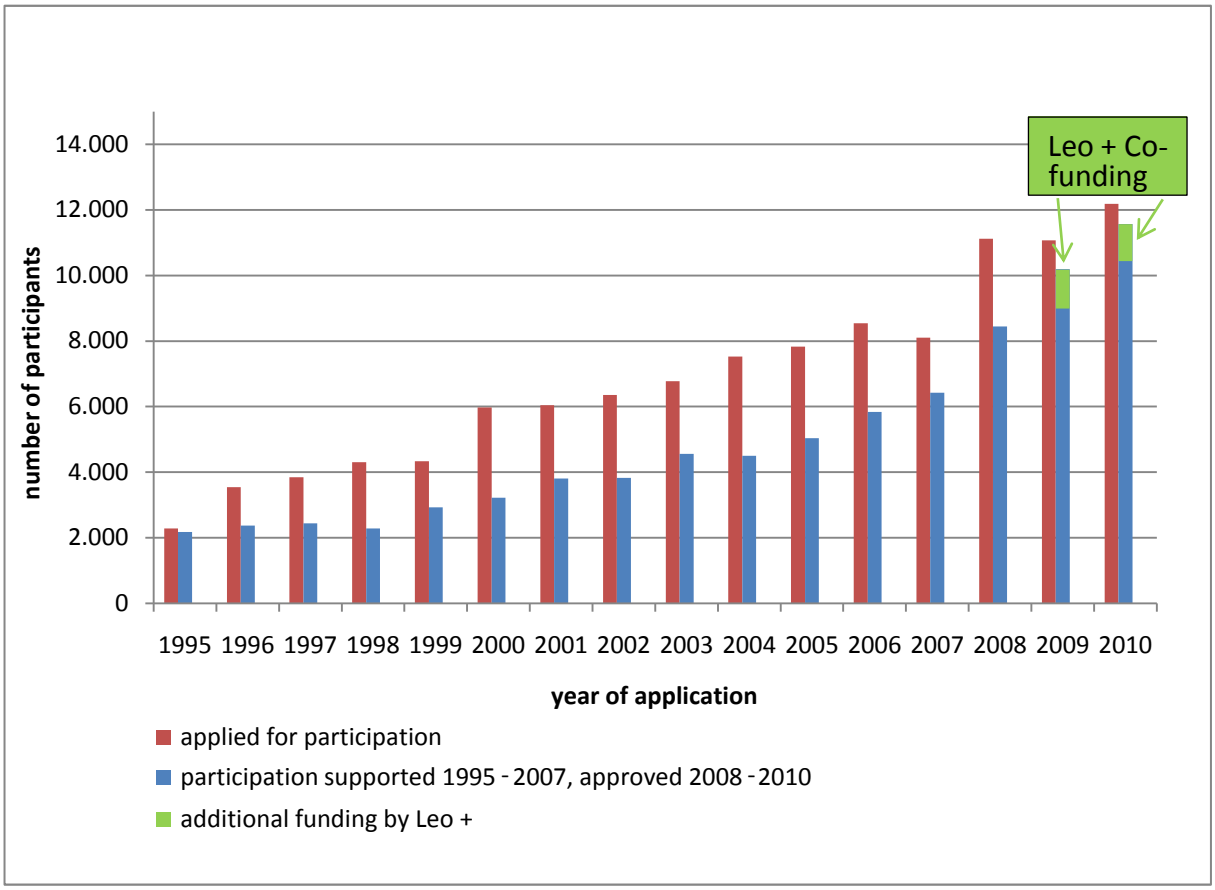
The Lifelong Learning Programme (LLP) supports the educational policy goals of the European Union. The National Agency Education for Europe at the BIBB is responsible within the LLP for implementing the LEONARDO DA VINCI vocational education and training programme and the GRUNDTVIG programme in the field of general adult education. The key tool of the LLP is project funding. LEONARDO DA VINCI supports, among others, mobility projects, enabling stays abroad for learning purposes for young adults in training, workers and educational staff as well as innovation transfer projects and partnerships.

Stays abroad – especially long-term ones – provide an excellent opportunity to acquire international vocational competence. Foreign language skills, international expertise and intercultural skills are important building blocks for an internationally viable qualification.

In 2010, a total of 14,800 persons benefited from scholarships in 590 projects. Thus, the sharp rise in periods of learning abroad applied for and approved continued in 2010. The number of participants in the field of initial training doubled between 2005 and 2010 **(Figure 7)**. This significant increase is due to, among other things, the national co-financing of mobility projects by the Federal Ministry of Education and Research (BMBF) under the LEO plus supplementary programme: The European budget in 2010 was increased by a total of three million € in national funding, so that more than 2000 trainees received additional funding.

With this comprehensive support for mobility, the BMBF is supporting the recommendations of the Innovation Circle on Vocational Education and Training (IKBB), which called for a European opening in 2007. The aim is, among other things, to double the number of qualifications courses taken abroad by 2015. The additional BMBF funds benefit successful LEONARDO DA VINCI projects from the dual training system. The IKBB has also formulated the goal of extending the duration of the subsidised periods of learning abroad to between six weeks and three months with the intention of carrying out about 5000 such longer-term measures in initial vocational education and training annually by 2010. In the framework of LEONARDO DA VINCI Mobility alone, more than 3400 stays abroad for a period of six weeks or longer were funded in 2010, while in 2008 there were just 1800 stays of that duration. The number of long-term stays abroad was thus increased by 1600 within two years. The proportion of participants from the dual system in the initial training target group is over 60% and thus corresponds roughly to the share of the dual system in initial vocational training in Germany.

Figure 7: LEONARDO DA VINCI mobility 1995-2010 - Participants IVET



Source: National Agency Education for Europe at the Federal Institute for Vocational Education and Training

Different types of projects and funding priorities tailored to the specific training situations constituted an appropriate set of instruments to cover the training needs of enterprises and institutions providing training, in particular for qualification abroad in initial vocational training. As an entry into a European opening of training facilities, enterprises and institutions providing training were able to use so-called "small projects" for a maximum of three trainees or vocational education and training specialists. "Small Projects" are not bound by the European application deadline and can be applied for continuously and with less effort. So-called "pool projects" are available to make periods of learning abroad possible for individual trainees without the enterprise or institution providing training being involved as project sponsor. These are offered by chambers of industry and commerce, education providers or vocational schools and award individual scholarships to trainees or students who have completed their initial training. In 2010 approximately 2500 scholarships were available to students and employees who had completed their initial vocational education and training. For experienced project sponsors who have already successfully carried out mobility projects and who combine the project funding with strategic internationalization, the option of acquiring the LEONARDO DA VINCI mobility certificate was created in 2009. A four-year funding perspective was introduced here, which among other things allows for simplified application and reporting procedures. Since the beginning of the introduction in 2009, more than 100 mobility certificates have been awarded.