

Education and qualification

C 1

Gainfully employed persons with tertiary education qualifications (ISCED 6, ISCED 5A and 5B) made up 29.2 percent of the total labour force in Germany in 2013 (C 1-1); the figures were virtually unchanged compared to the previous year. However, the number of new tertiary students as a percentage of the relevant age group (C 1-2) rose sharply again in Germany. From 2011 to 2012, the share of new tertiary students grew by 7 percentage points from 46 to 53 percent, primarily because there were twice as many upper secondary school graduates, and the international figures for new tertiary students also rose. The share of school-leavers qualified for higher education in Germany (C 1-3) rose slightly from 2013 to 2014 and, according to forecasts, will continue to rise gradually.

First-time graduates numbered 309,870 in 2013, slightly up on the previous year's figure of 309,621 (C 1-4). The subjects structure rates also hardly changed compared to 2012. The biggest changes were seen in the mathematics/natural sciences subject group, whose share of all subject groups fell from 15.6 to 15.1 percent, and in engineering sciences, whose share rose from 19.5 to 20 percent. The STEM subject group as a whole was unchanged with a share of approximately 35 percent. The number of foreign students at German tertiary education institutions also rose (C 1-5). Their numbers increased from 282,201 in the 2012/13 winter semester to 301,350 in the 2013/14 winter semester. This jump of almost 20,000 students represented the highest level of growth in the last ten years.

The indicator "Further training according to employment status and qualification level" (C 1-6) was extended this year to include participation by firms in further education. The table initially shows a very positive development over the last decade. In 2005, only just under 43 percent of company plants participated in the further education of their employees by releasing them from work or paying the costs of their further training; this figure had risen to more than 53 percent by 2012. In this context, the participation of knowledge-intensive manufacturing plants in further training was generally above average; in 2012 they were ahead of all other industries with 67.2 percent. However, the biggest percentage increase in company participation in further training was recorded by the non-knowledge-intensive manufacturing sector, rising between 2005 and 2012 from 32.4 percent to 43.2 percent (up 33 percent). There were also considerable differences in participation in further training depending on firm size. Whereas virtually all companies with more than 500 employees participated in training (97.8 percent), in the case of companies with fewer than 50 employees the figure was just over half (50.9 percent). Even so, these small firms have shown the strongest growth over the last decade: the percentage of firms providing further training in this category rose from 40.5 to 50.9 percent.³¹⁹

C 1-1

Data
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Qualification levels of gainfully employed persons in selected EU countries, 2013 (figures in percent)



The classification of the qualification levels is based on the International Standard Classification of Education – ISCED³²⁰

- ISCED 0–2: (Pre)primary and lower secondary
- ISCED 3: Upper secondary education (Abitur: school-leaving examination or apprenticeship)
- ISCED 4: Post-secondary non-tertiary education (Abitur: school-leaving examination and apprenticeship)
- ISCED 5b: Practically, technically or occupationally oriented tertiary degree
- ISCED 5a: Theory-based tertiary degree
- ISCED 6: PhD

Source: Eurostat, European Labour Force Survey. Calculation by NIW. In: Baethge et al. (2015).

C 1-2

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Number of new tertiary students as a percentage of the relevant age group in selected OECD countries and China

University entry rate: number of new tertiary students as a percentage of the relevant age group. It is a measure of the degree to which the demographic potential for the formation of academic human capital is realised.

OECD countries	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2012 ¹⁾
Germany	35	36	37	36	35	34	36	40	42	46	53	46
France	37	39	-	-	-	-	-	-	-	39	41	-
Great Britain	48	48	52	51	57	55	57	61	63	64	67	44
Japan	39	40	40	41	45	46	48	49	51	52	52	-
Korea	-	47	49	54	59	61	71	71	71	69	69	-
Sweden	75	80	79	76	76	73	65	68	76	72	60	55
Switzerland	-	38	38	37	38	39	38	41	44	44	44	33
USA	64	63	63	64	64	65	64	70	74	72	71	-
OECD average	52	53	53	54	56	56	56	59	61	60	58	-
China	-	-	-	-	-	-	-	17	17	19	18	-

¹⁾ Adjusted rate excluding international new tertiary students.

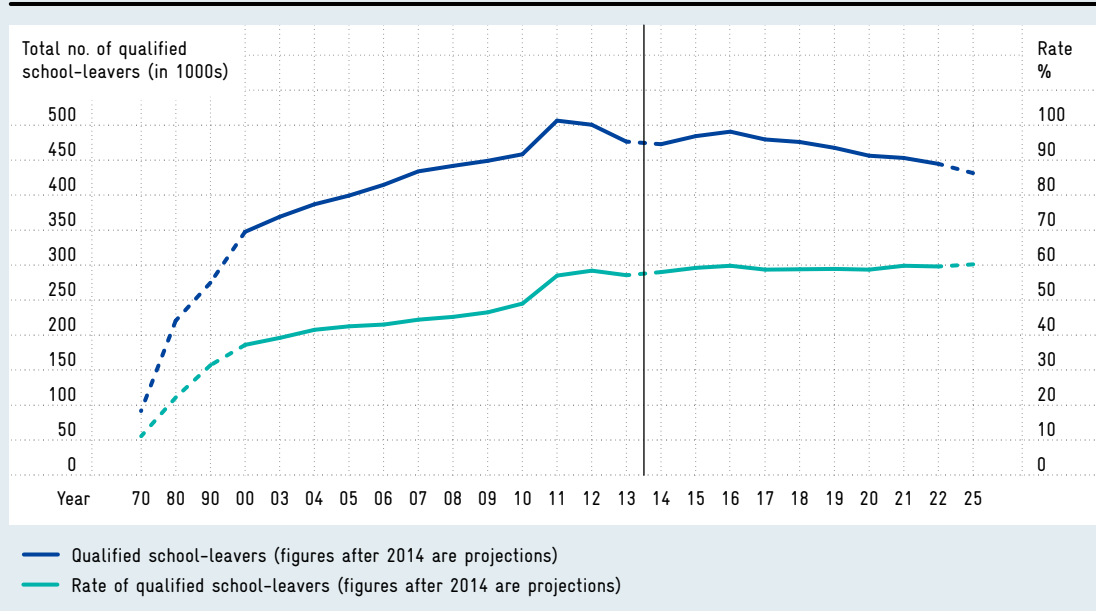
Sources: OECD (ed.): Education at a glance. OECD indicators, various years. In: Baethge et al. (2015).

C 1-3

Data
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School-leavers qualified for higher education in Germany, 1970 to 2025 (figures after 2014 are projections)

School-leavers qualified for higher education either with a "general" or "technical" school-leaving certificate* (in Germany Abitur).
Rate of school-leavers qualified for higher education: number of school-leavers qualified for higher education as a percentage of the relevant age group.



Source of actual figures: Germany's Federal Statistical Office (2014).

Source of forecast figures: Statistical Publications of the Standing Conference of Education Ministers.

In: Baethge et al. (2015).

* Since 2013, the figures do not include school leavers who have passed the schooling part only of the vocational baccalaureate (Fachhochschulreife) but who must still do a period of professional practical training according to Länder rules to gain a recognized vocational baccalaureate.

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Number of first-time graduates and subject structure rates

First-time graduates and subject structure rate: the subject structure rate indicates the percentage of first-time graduates in a specific subject or subject group. First-time graduates are students who have successfully completed an undergraduate degree.

	2000	2005	2007	2009	2010	2011	2012	2013
Total no. of graduates	176,654	207,936	239,877	287,997	294,330	307,271	309,621	309,870
Percentage of women	45.6	50.8	51.8	51.7	52.1	51.4	51.3	51.5
Percentage of university graduates	64.3	60.8	62.4	62.0	62.0	62.1	61.3	59.9
Linguistic and cultural sciences	29,911	35,732	43,827	53,003	54,808	56,140	55,659	56,313
Subject group percentage	16.9	17.2	18.3	18.4	18.6	18.3	18.0	18.2
Law, economics, social sciences	62,732	76,566	85,838	101,391	102,315	105,589	105,024	105,105
Subject group percentage	35.5	36.8	35.8	35.2	34.9	34.4	33.9	33.9
Medicine/health sciences	10,620	11,817	13,358	15,142	15,222	15,686	15,856	16,534
Subject group percentage	6.0	5.7	5.6	5.3	5.2	5.1	5.1	5.3
Agriculture, forestry, food sciences	4,761	5,312	5,661	6,787	6,215	6,563	6,405	6,193
Subject group percentage	2.7	2.6	2.4	2.3	2.1	2.1	2.1	2.0
Art, art history	7,630	9,678	10,399	11,541	11,820	12,525	12,866	12,542
Subject group percentage	4.3	4.7	4.3	4.0	4.0	4.1	4.2	4.0
Mathematics, natural sciences	21,844	30,737	38,417	47,782	48,561	49,593	48,231	46,707
Subject group percentage	12.4	14.8	16.0	16.6	16.5	16.1	15.6	15.1
Engineering sciences	35,725	34,339	38,065	47,004	49,860	55,631	60,259	62,007
Subject group percentage	20.2	16.5	15.9	16.3	16.9	18.1	19.5	20.0

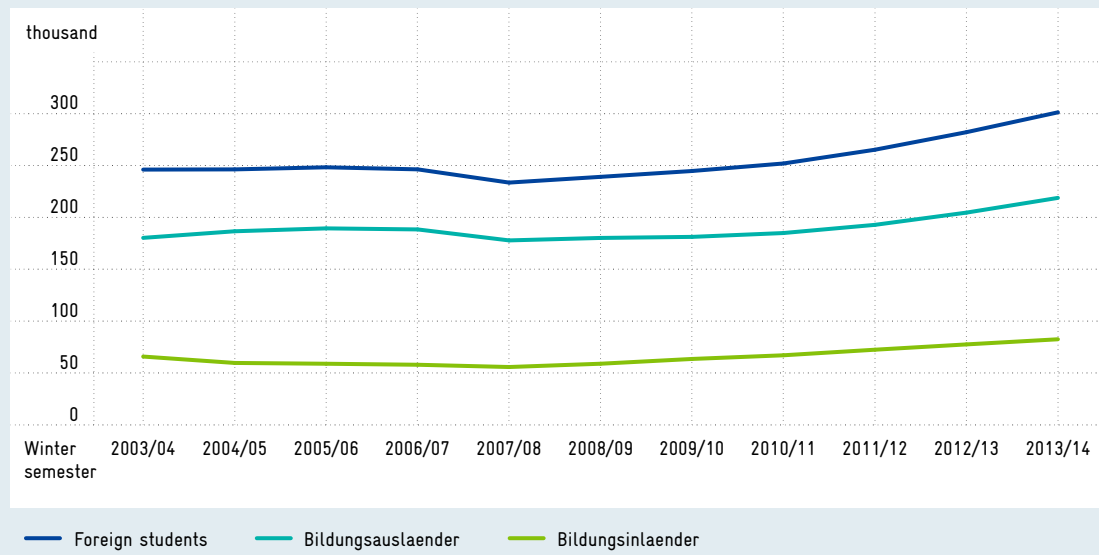
Federal Statistical Office and research in DZHW-ICE. In: Baethge et al. (2015).

C 1-5

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Foreign students at German tertiary education institutions

Foreign students are defined as persons without German citizenship. They are divided into Bildungsinländer, who acquired their university entrance qualification in Germany, and Bildungsausländer who acquired it abroad.



Source: Federal Statistical Office and research in DZHW-ICE. In: Baethge et al. (2015).

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Percentage participation of individuals and establishments in further training

Individual further-education rate: percentage of people who participated in some form of further education during the last four weeks prior to the interview date.

Corporate further-education rate: percentage of establishments where employees were released for training or whose training costs were paid.*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
a) Individual further-education rate										
Working population	6.8	6.3	5.9	6.0	6.1	5.9	5.8	5.8	5.8	5.5
low (ISCED 0-2)	3.9	2.4	2.1	1.9	2.1	1.9	1.8	1.7	1.6	1.6
medium (ISCED 3-4)	5.0	4.7	4.5	4.6	4.7	4.5	4.5	4.4	4.3	4.0
high (ISCED 5-6)	12.1	12.1	11.5	11.8	11.8	11.0	10.5	10.6	10.6	10.0
Unemployed	3.9	3.2	3.4	3.6	4.3	4.5	4.1	3.6	3.6	3.4
low (ISCED 0-2)	2.4	2.3	2.4	2.7	2.9	3.1	3.0	2.7	2.7	2.8
medium (ISCED 3-4)	3.7	3.0	3.2	3.5	4.5	4.2	4.0	3.5	3.4	3.4
high (ISCED 5-6)	7.8	6.1	7.0	7.1	7.6	9.1	7.1	6.2	6.4	5.4
Non-working population	2.8	2.2	2.1	2.0	2.2	2.1	2.1	1.9	1.7	1.7
low (ISCED 0-2)	1.7	1.4	1.4	1.4	1.5	1.6	1.5	1.5	1.5	1.5
medium (ISCED 3-4)	3.5	2.5	2.2	2.2	2.3	2.2	2.1	1.8	1.6	1.6
high (ISCED 5-6)	4.6	4.3	4.4	4.0	4.6	3.9	3.8	3.5	3.0	3.7
b) Corporate further-education rate										
	-	42.7	-	45.5	49.0	44.6	44.1	52.6	53.1	-
By sector										
Knowledge-intensive manufacturing	-	55.7	-	65.3	65.1	52.6	55.9	62.9	65.5	-
Non-knowledge-intensive manufacturing	-	32.4	-	33.2	37.8	32.5	33.3	41.2	43.2	-
Knowledge-intensive services	-	58.8	-	63.2	68.3	58.7	57.1	68.7	67.2	-
Non-knowledge-intensive services	-	34.9	-	37.3	39.4	38.0	37.5	44.9	45.3	-
Non-industrial economy	-	46.9	-	49.9	53.8	51.9	51.2	59.0	60.3	-
By establishment size										
< 50 employees	-	40.5	-	43.2	46.9	42.5	41.8	50.5	50.9	-
50 - 249 employees	-	82.9	-	85.1	86.7	81.3	83.3	90.8	89.7	-
250 - 499 employees	-	95.6	-	95.2	95.9	92.0	93.3	95.9	96.5	-
≥ 500 employees	-	97.0	-	95.3	97.8	96.0	97.9	98.4	97.8	-

All figures are provisional. Cf. C 1-1 for information on ISCED.

Population a): All persons aged between 15 and 64.

Population b): All establishments with at least one employee covered by social security.

Source a): European Labour Force Survey (special evaluation). Calculations by NIW. In: Baethge et al. (2015).

Source b): IAB Establishment Panel (special evaluation). Calculations by NIW. In: Cordes; von Haaren (2015).

* Question in the IAB Establishment Panel: "Were employees released to participate in in-house or external training measures and/or were the costs of training measures paid wholly or in part by the establishment?"