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Postsecondary vocational education and training in Austria

**Country Background report:
OECD-Review „Skills beyond school“**

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Objective and subject definition

Austria takes part in the Skills beyond Schools project, the *OECD review of post-secondary vocational education and training*. One binding element of the review process is the preparation of a *Country background report*.

Post-secondary vocational education and training (VET) in Austria has - especially in an international comparison - for a long time been a focus of the educational policy and educational scientific discourse in Austria. This report deals with future issues of our vocational qualification system.

There are several reasons for dealing with this topic:

1. First, because post-secondary initial and continuing VET (IVET and CVET) programmes are associated with important qualifications for the Austrian economy.
2. Second, because it is the sector of advanced VET in Austria in particular which, in international comparisons, has to date mostly not been presented appropriately or which - due to unsuitable categories of comparison - cannot yet be presented appropriately.
3. In Austria, as in most countries, there is a visible tendency towards post-secondary (or tertiary) education when preparing for assumed roles in society, both within occupations and beyond them.
4. The increasing social pressure to extend participation in education (in lifelong learning) cannot be translated into needs-oriented qualifications by means of traditional academic programmes alone - in addition a wide range of post-secondary VET programmes are needed which are oriented towards the labour market and provide flexible add-on qualifications and permeability options for learners.
5. The international comparison of post-secondary VET, its structure, successful examples and its funding might lead to suggestions and recommendations for educational scientists and policy-makers.

The *Country background report* informs about institutional structures, trends and basic quantitative information about post-secondary VET in Austria. Its objective is to provide an as comprehensive as possible description of the post-secondary VET system on the basis of available data and current research findings.

The description and analysis are rounded off by a *self-assessment* of the strengths and weaknesses of the existing post-secondary VET system.

The term ‘post-secondary VET’ cannot be defined easily, especially because there is no completely convincing distinction between ‘post-secondary’ and ‘tertiary’. In the OECD project plan, “Post-secondary vocational programmes of one year or more (full-time equivalent) in length, beyond upper secondary level (ISCED 4, 5 and 6) leading to recognised qualifications” are mentioned (OECD, Proposed review project plan 15.10.2010, p. 5).

The objective of the country background report is, in particular, to present the Austrian situation in the subject area in a way that it can be understood internationally. Therefore, although dealing with ‘post-secondary qualifications’, the report covers VET colleges not only in terms of programmes for adults but also the 5-year main - or long - forms. Although these are located at the upper secondary level in Austria, they are also assigned to Level 4 in the international educational classification (ISCED-97). Here Level 4 means ‘post-secondary but not tertiary’. The graduates’ employment also shows that these are qualifications exceeding secondary school education.

The same applies to sector-specific programmes outside the VET colleges’ core area, such as agriculture, healthcare or social affairs/education and training. Indispensable elements are also master craftsperson qualifications, train-the-trainer programmes and not least the *Ingenieur* qualification, which is awarded to graduates by the minister of the economy or agriculture after they have demonstrated that they can master the engineering profession in senior jobs in their subject. All of these pathways and proofs of qualifications are important for the Austrian economy but it has to date not been possible to translate them appropriately into international classifications of qualifications.

Taking the specifics of the Austrian VET system as outlined above into account, the post-secondary VET system essentially comprises the following vocational education/training and examination options:

1. VET colleges in their main forms (with currently some 19 600 graduations) and the programmes for adults (with currently some 3 600 graduations a year)¹.
2. Preparatory courses for apprenticeship diplomas acquired in second-chance education: the approximately 7 200 apprenticeship-leave exams passed in second-chance educa-

¹ In the technical sector, this should also include the awarding of the *Ingenieur* title to graduates following at least three years of specialist occupational practice (some 4 000 persons a year).

tion (access due to proof of professional practice) are a quantitatively significant form of post-secondary VET in Austria.

3. Part-time industrial master certificates, master craftsperson certificates and related previous qualifications: at present, some 3 500 related exams are passed with success each year.
4. The upper secondary school-leaving certificate plus higher education (HE) access qualifications in non-traditional forms of second-chance education, such as *Berufsreifeprüfung* (i.e. examination providing general access to HE for skilled workers and graduates of three- to four-year full-time VET schools) and *Studienberechtigungsprüfung* (i.e. university entrance qualification examination).
5. Different variants of HE-based CVET courses (at universities or at Fachhochschulen) - in particular those which do not require an HE diploma.
6. Programmes of universities of applied sciences (*Fachhochschulen, FHs*)² and their interfaces to VET.
7. VET and CVET programmes in the healthcare sector.
8. VET and CVET programmes in the agricultural sector.
9. VET and CVET programmes in the security and defence sector.
10. Vocational qualifications (courses, work placements or compulsory practical periods) with qualifications conferred by CVET institutions, professional associations or the minister of the economy or agriculture (*Ingenieur* title) or the Minister of health (psychotherapists, for example).

According to the national educational classification, programmes offered at HE-related establishments have to date been counted as part of the post-secondary rather than the tertiary education sector. With the conversion of teacher training colleges for compulsory school teachers into university colleges of education and of social academies into *FH* programmes in recent years, the scope of the non-academic post-secondary sector has been reduced substantially to the benefit of the institutional expansion and diversification of the HE sector, and this development is still continuing. In the international educational classification, this means an expansion of ISCED 5A to the benefit of ISCED 5B.

² The pros and cons of including the FH sector will be presented together with the development of this education sector.

In the following there is an overview containing information about the Austrian education and qualification system. The following list of major publications enables the utilisation of already published English-language reports for the country background report:

BMUKK: Federal Ministry for Education, the Arts and Culture: Statistical Guide. Key facts and figures about schools and adult education in Austria. December 2010, Vienna.
http://www.bmukk.gv.at/medienpool/20211/statisticalguide_2010.pdf (02.11.2011).

Tritscher-Archan, Sabine; Nowak, Sabine (eds.): Institut für Bildungsforschung der Wirtschaft (ibw) VET in Europe – Country report Austria. October 2011.
http://www.ibw.at/images/ibw/bbs/bb_europa_11_en.pdf (0.2.11.2011).

BMUKK: VET schools and colleges:
<http://www.abc.berufsbildendeschulen.at/de/page.asp?id=19> (03.11.2011).

Federal Ministry of Economy, Family and Youth: Apprenticeship – dual vocational education and training in Austria: <http://www.ibw.at/media/ibw/Apprenticeship.pdf> (03.11.2011).

Fachhochschule Council: http://www.fhr.ac.at/index_en.htm (03.11.2011).

Tritscher-Archan, S. (ed.) (2010): VET Policy Report. Progress in the policy priority areas for vocational education and training. Vienna. Download in DE and EN:
<http://www.refernet.at/index.php/publikationen/policy-dokumente> (03.11.2011).

Neubauer, Barbara; Dér, Krisztina (2011): Selected bibliography “VET and LLL”. Relevant publications from Austria in 2010. Vienna. Download:
<http://www.refernet.at/index.php/publikationen/bibliographie> (03.11.2011).

Luomi-Messerer, Karin and Vogtenhuber, Stefan (2009): National VET Research Report Austria. Vienna. Download in DE and EN:
<http://www.refernet.at/index.php/publikationen/forschung> (03.11.2011).

Tritscher-Archan, Sabine and Mayr, Thomas (eds.) (2008): Austrian VET Policy Report. Progress report on developments 2002 – 2008. Vienna. (03.11.2011).

Archan, Sabine; Mayr, Thomas (eds.) (2006) Vocational education and training in Austria. Short description. Cedefop Panorama series 125. Luxembourg: Office for Official Publications of the European Communities. Download in DE, EN and FR.
http://www.cedefop.europa.eu/etv/Information_resources/Bookshop/publication_details.asp?pub_id=425 (03.11.2011).

1. Context and background

1.1 The Austrian education system

Compulsory schooling in Austria ends after 9 years. According to the 2008 educational attainment register, some 80% of the residential population below the age of 50 had a qualification exceeding compulsory schooling.

The formal education structure of the residential population proves the continuing high importance of VET in Austria. Formal VET has a high significance as early as after lower secondary level. Another characteristic is the horizontal and vertical diversity of VET programmes.

As well as dual and full-time school-based VET programmes with a duration of 2 to 4 years, 5-year advanced vocational programmes (VET college) which go beyond secondary school level are very attractive for the population and employers. Five-year VET college courses provide general HE access and opportunities to enter middle-level and senior occupations (both in the technology sector and in office and administration). The largest share of formal qualifications in the adult population are still apprenticeship diplomas, though with a slightly declining tendency (of around 38% among 45- to 59-year-olds compared with roughly 31% among 20- to 24-year-olds).

In 2008 less than 13% of 25- to 29-year-olds had a VET school qualification as their highest formal educational attainment; similar to the apprenticeship diploma, with decreasing shares compared to older age groups. Formal higher education was identified for some 42% of 25- to 29-year-olds in the year of observation. This means a continuous increase: in a comparison, for example, with some 32% of 35- to 39-year-olds and some 25% of 45- to 49-year-olds, or some 18% of 55- to 59-year-olds.

According to the educational attainment register, the HE graduation rate has the highest value in the age group comparison with slightly more than 15% of 30- to 34-year-olds. The fact that the highest value is only reached by those over the age of 30 is probably not only connected with the later HE entry but also the relatively long duration of diploma studies at universities. When adding HE-related establishments (which were converted into HE institutions in the last decade), this equals 18% of the residential population in the mentioned age group.

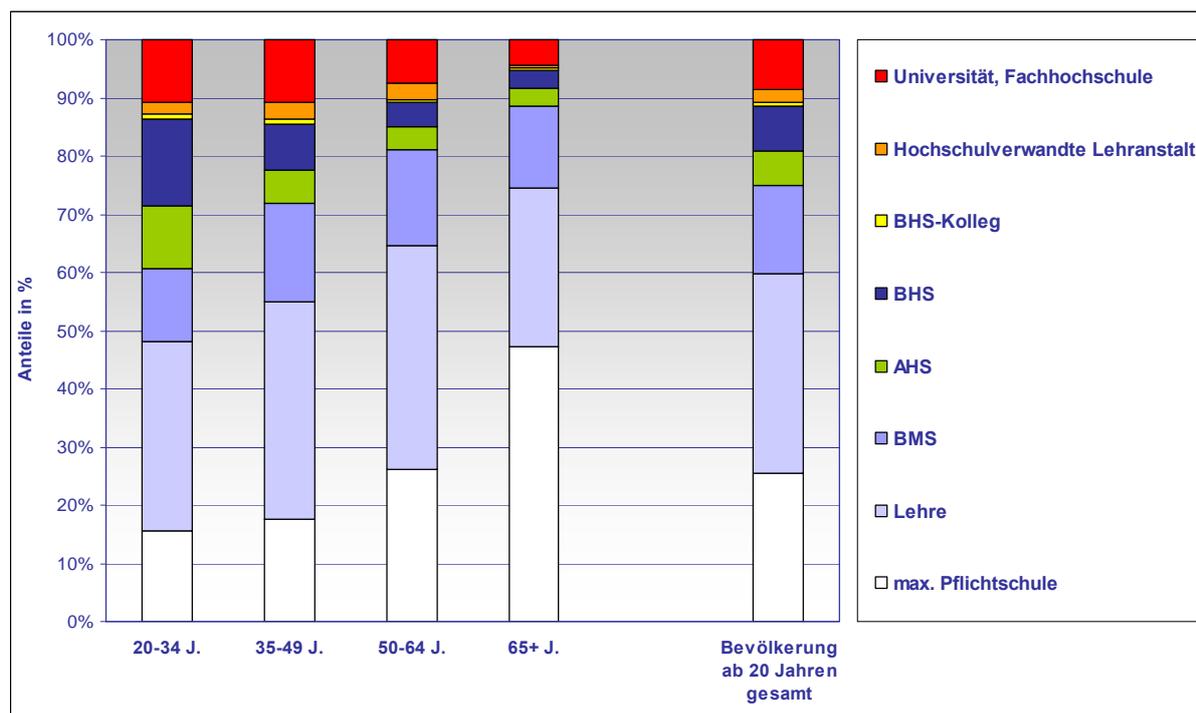
Percentages of 12% of 30- to 34-year-olds and some 20% of 20- to 24-year-olds have a VET college qualification including post-secondary forms. This reduction is mostly due to the

completion of an HE course by part of VET college graduates. Broken down by gender, there are significant differences - in terms of apprenticeship diplomas and VET school qualifications in particular men and women differ widely (see Tables 1-1.2 and 1-1-.3).

The particular feature of the Austrian qualification system is its focus on VET, which starts as early as at upper secondary level and leads the majority of young people to at least an intermediate qualification level. In connection with CVET and professional experience, graduates frequently reach activities at ISCO Skill Level 3 or higher. Traditionally higher education has been dominated by long university studies but is undergoing a process of change and diversification as a result of the establishment of the FH sector and the conversion to the Bologna architecture. The conversion of teacher training colleges into university colleges of teacher education and also programmes of private universities are parts of the changes in the tertiary education sector.

DIAGRAM 1-1:

Formal education in an age group comparison



Source: Statistics Austria, 2008 Educational Attainment Register

Another particular feature of the Austrian VET system is the pronounced importance of second-chance education. The VET college qualification can be accessed and obtained in second-chance education by graduates of other secondary school pathways and apprenticeship training (dual training at part-time vocational school and in the training company) in the course of post-secondary programmes.

The fact that the same formal qualification can be reached via different pathways and can therefore be assigned to formally different levels of the education system constitutes the core of international comparability and transparency problems of the Austrian post-secondary VET sector. One aspect of these international transparency problems is associated especially with the *Ingenieur* qualification, which is awarded to graduates of VET colleges by the minister of the economy or agriculture after they have completed several years of senior professional practice.

Enough for now about the specific nature of the VET college sector, which forms one major pillar of upper secondary and post-secondary VET in Austria. The second supporting pillar of IVET and CVET is apprenticeship training and its formal CVET programmes and options, such as the master craftsperson examination and part-time industrial master courses. In addition, the apprenticeship-leave exam represents the most common way of acquiring a recognised vocational qualification in second-chance education.

As well as the above-mentioned forms of VET at secondary and post-secondary level, there exist sector-specific IVET and CVET programmes in the healthcare and security sectors with extensive specific aspects in terms of institutional responsibilities and, for example, regarding access regulations.

This above list of VET forms differentiates between post-secondary VET and regular academic HE studies in Austria although there are definitely increasing overlaps here. But where more detailed analyses and presentations are conducted, the focus of this report should be on non-HE post-secondary VET.

The country report also covers non-formal and qualification-oriented CVET, *i.e.* programmes targeted at the acquisition of a vocational qualification. However, it will only be possible to give some examples of programmes here.

Data leaves no room for doubt that women have benefited more than men from the expansion of the education sector in recent decades. In 2008, according to the educational attainment register of Statistics Austria, 19.8% of 30- to 34-year-old women had a qualification from an HE or a related institution (among 50- to 54-year-olds, this was only 12.6%); the share among 30- to 34-year-old men was 16.7% in 2008 (among 50- to 54-year-olds, this was 12.2%). In 2008, 30- to 34-year-old women also had higher shares of qualifications from VET colleges (including post-secondary forms) than men of this age group.

TABLE 1-1.1:

Formal educational attainment of the population aged 15 or above in 2008, by age groups

Age in years	Com-pul-sory school *	Ap-pren-tice-ship	VET school	Sec. ac. school	VET college	VET college post-sec. form	HE-related institution	Uni-versity / FH	Total	
									%	Absolute
15-19	79.5	6.5	5.8	5.6	2.6	0.0	-	0.0	100.0	501 870
20-24	18.7	30.5	11.6	15.5	19.3	0.5	0.8	3.0	100.0	518 147
25-29	13.8	32.2	12.5	10.0	14.5	0.9	2.3	13.8	100.0	547 285
30-34	14.5	35.0	13.3	6.6	11.3	1.0	2.8	15.4	100.0	534 748
35-39	16.2	36.6	15.4	5.8	9.6	1.1	2.7	12.7	100.0	630 699
40-44	17.2	37.5	17.3	5.8	8.2	0.9	2.6	10.6	100.0	714 012
45-49	19.0	38.4	17.9	5.3	6.2	0.7	3.1	9.5	100.0	679 273
50-54	23.2	37.4	17.2	4.5	4.8	0.5	3.8	8.6	100.0	567 406
55-59	27.5	39.1	15.6	3.7	3.6	0.3	3.2	7.0	100.0	491 085
60-64	28.5	38.9	16.4	3.7	4.2	0.5	1.4	6.3	100.0	444 800
65-69	35.6	33.9	16.8	3.2	3.8	0.4	0.8	5.5	100.0	482 108
70-74	49.4	27.4	13.5	2.4	2.7	0.3	0.5	3.9	100.0	300 637
75-79	53.0	25.4	11.6	3.0	2.8	0.4	0.4	3.4	100.0	275 401
80-84	53.3	22.3	13.1	3.2	3.4	0.3	0.4	4.0	100.0	217 933
85 and older	60.2	16.5	12.6	3.5	2.5	0.4	0.4	4.0	100.0	172 020
Total	29.4	32.3	14.4	5.9	7.4	0.6	2.0	8.0	100.0	7 077 424
25-64	19.5	36.9	15.8	5.7	7.9	0.8	2.8	10.6	100.0	4 609 308

* including persons without compulsory school qualification

Source: Statistics Austria, 2008 Educational Attainment Register

TABLE 1-1.2:

Formal educational attainment of population aged 15 or above in 2008, by age groups, men

Age in years	Com-pul-sory school *	Ap-pren-tice-ship	VET school	Sec. ac. school	VET college	VET college post-sec. form	HE-related institution	Univer-sity, FH	Total	
									%	Absolute
15-19	82.5	7.3	4.1	4.2	2.0	0.0	0.0	0.0	100.0	257 447
20-24	20.0	37.6	9.6	13.3	16.9	0.3	0.3	2.1	100.0	261 869
25-29	13.6	39.5	10.2	9.1	13.7	0.6	1.0	12.4	100.0	275 041
30-34	12.7	42.2	10.9	6.0	10.9	0.7	1.3	15.4	100.0	267 076
35-39	12.8	44.0	12.6	5.2	9.9	0.8	1.3	13.5	100.0	314 445
40-44	13.1	45.8	13.8	5.1	8.9	0.7	1.2	11.5	100.0	361 448
45-49	13.2	47.6	14.3	4.8	7.4	0.6	1.4	10.8	100.0	343 043
50-54	15.8	47.3	13.6	4.4	6.4	0.5	2.0	10.2	100.0	281 458
55-59	18.8	48.2	12.9	3.6	5.0	0.3	2.1	9.1	100.0	240 802
60-64	18.7	48.3	13.7	3.7	5.1	0.4	1.2	8.9	100.0	214 277
65-70	22.8	44.7	15.0	3.5	4.8	0.3	0.7	8.2	100.0	227 160
70-74	33.6	40.1	13.2	2.7	3.5	0.2	0.4	6.3	100.0	135 139
75-80	34.5	39.5	12.3	3.3	3.7	0.4	0.3	6.0	100.0	114 614
80-84	34.7	35.9	11.9	4.0	5.4	0.3	0.3	7.5	100.0	74 649
85 and older	37.6	30.8	12.2	4.8	4.5	0.4	0.3	9.4	100.0	44 222
Total	22.8	41.0	12.0	5.5	8.0	0.5	1.1	9.2	100.0	3 412 690

* including persons without compulsory school qualification

Source: Statistics Austria, 2008 Educational Attainment Register

TABLE 1-1.3:

Formal educational attainment of population aged 15 or above in 2008, by age groups, women

Age in years	Com-pul-sory school *	Ap-pren-tice-ship	VET school	Sec. ac. school	VET college	VET college post-sec. form	HE-related institu-tion	Univer-sity, FH	Total	
									%	Absolute
15-19	76.5	5.6	7.5	7.1	3.2	0.0	0.0	0.0	100.0	244 423
20-24	17.5	23.2	13.7	17.7	21.8	0.8	1.3	3.9	100.0	256 278
25-29	13.9	24.9	14.8	10.8	15.5	1.3	3.7	15.2	100.0	272 244
30-34	16.4	27.9	15.7	7.2	11.7	1.4	4.4	15.4	100.0	267 672
35-39	19.6	29.3	18.1	6.4	9.3	1.4	4.0	11.9	100.0	316 254
40-44	21.5	29.1	20.9	6.5	7.4	1.1	4.0	9.6	100.0	352 564
45-49	24.9	28.9	21.6	5.8	4.9	0.9	4.8	8.2	100.0	336 230
50-54	30.5	27.6	20.9	4.7	3.2	0.5	5.6	7.0	100.0	285 948
55-59	35.9	30.3	18.3	3.7	2.3	0.3	4.2	4.9	100.0	250 283
60-64	37.7	30.1	19.0	3.7	3.3	0.6	1.6	3.9	100.0	230 523
65-70	47.1	24.3	18.5	3.0	2.9	0.5	0.8	3.0	100.0	254 948
70-74	62.4	17.1	13.7	2.2	2.1	0.3	0.5	1.9	100.0	165 498
75-80	66.2	15.4	11.2	2.8	2.1	0.4	0.4	1.6	100.0	160 787
80-84	62.9	15.3	13.8	2.8	2.4	0.3	0.4	2.1	100.0	143 284
85 and older	68.1	11.6	12.7	3.1	1.7	0.3	0.4	2.1	100.0	127 798
Total	35.6	24.1	16.7	6.3	6.9	0.7	2.8	6.9	100.0	3 664 734

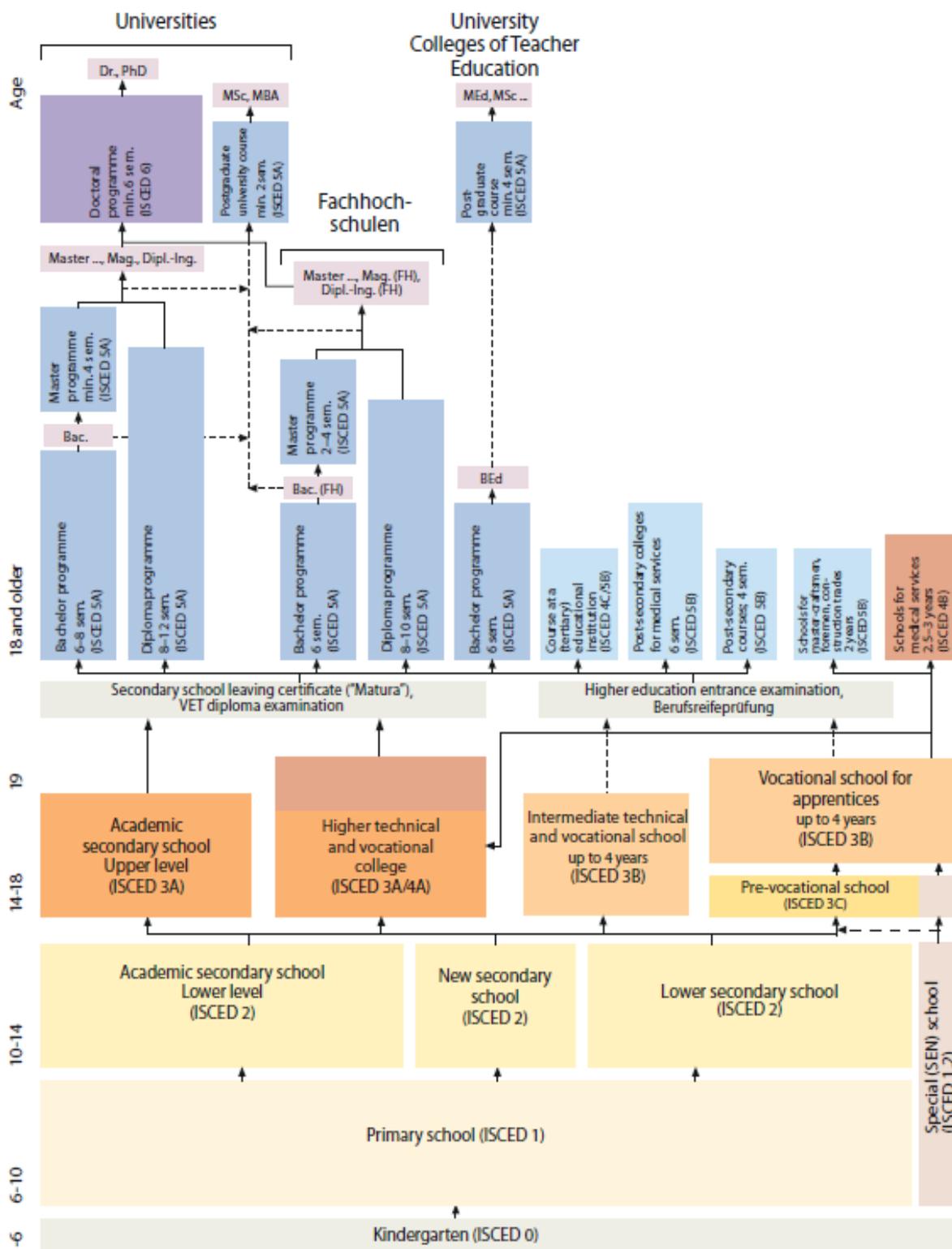
* including persons without compulsory school qualification

Source: Statistics Austria, 2008 Educational Attainment Register

1.2 Transfer rates to HE institutions

With the increasing shares of people with an HE study qualification of holders of the certificate of upper secondary education), the transfer rates to HE institutions after the upper secondary examination has also increased in the long term. The share of holders of the certificate of upper secondary education increased from 24.9% in 1986/87 to 39.6% in 2008/09 (Statistics Austria, Education in Figures 2009/10, p. 40). In recent years there has also been an increasing trend in the share of holders of the certificate of upper secondary education.

DIAGRAM 1-2: Structure and transitions in the Austrian education system



Source: BMUKK/BMWF, status: school- and academic year 2009/10

But there are pronounced differences according to the type of school where the certificate of upper secondary education can be obtained. The transfer rate of holders of the upper secondary certificate from secondary academic schools to universities is clearly higher than the rate from VET college (BMWF 2010, p. 12ff.). In addition, a considerable part of students at universities of applied sciences, where the VET college transfer rate is higher, do not enter a study programme within the relatively short observation period of 3 or 5 semesters but much later: in 2009/10, 32% of study beginners at universities of applied sciences were above the age of 25 (BMWF 2010, p. 24).

TABLE 1-2.1:

Transfer rates of holders of the upper secondary certificate by school forms to universities^{*}, comparison of graduation years 2003 and 2008

School form	2003	2008
Secondary academic schools, total	70.1	71.4
including:		
Secondary academic schools (long form) ¹⁾	75.4	77.5
Upper-cycle traditional secondary schools	56.8	56.7
Secondary academic schools (special forms) ²⁾	60.7	63.6
VET colleges, total³⁾	32.4	35.2
including:		
Colleges of engineering and trades ⁴⁾	26.2	29.9
Business colleges	36.1	38.5
Colleges of management and service industries	40.7	41.2
Colleges of agriculture and forestry	22.9	28.3
Training colleges for educational professions⁵⁾	24.5	22.7
Total⁶⁾	48.6	50.7

* percentage of Austrian and foreign students in final years of schools completed with the upper secondary examination who were first admitted at a public university within the three following semesters.

¹⁾ including secondary academic schools specialising in mathematics, science, economics

²⁾ secondary academic schools for employees³⁾ each including all special forms (for employees, add-on courses)⁴⁾ including colleges for occupations in tourism and colleges for clothing⁵⁾ nursery teacher training colleges and colleges of social pedagogy⁶⁾ including external exams (*i.e.* school attendance is not required)

Source: Federal Ministry of Science and Research 2010

TABLE 1-2.2:

**Transfer rates of holders of the upper secondary certificate by school forms to universities of applied sciences*,
comparison of graduation years 2003 and 2008**

School form	2003	2008
Secondary academic schools, total	7.2	8.5
including:		
Secondary academic schools (long form) ¹⁾	7.5	8.5
Upper-cycle traditional secondary schools	5.8	7.5
Secondary academic schools (special forms) ²⁾	16.1	17.8
VET colleges, total ³⁾	10.0	11.0
including:		
Colleges of engineering and trades ⁴⁾	10.2	10.1
Colleges of business administration	10.4	11.2
Colleges of management and service industries	9.0	13.3
Colleges of agriculture and forestry	7.4	6.2
Training colleges for educational professions ⁵⁾	2.0	3.1
Total ⁶⁾	8.5	9.7

* percentage of Austrian and foreign students in final years of schools completed with the upper secondary examination who take up an *FH* programme within the three following semesters.

¹⁾ including secondary academic schools specialising in mathematics, science, economics

²⁾ secondary academic schools for employees ³⁾ each including all special forms (for employees, add-on courses) ⁴⁾ including colleges for occupations in tourism and colleges for clothing ⁵⁾ nursery teacher training colleges and colleges of social pedagogy ⁶⁾ including external exams (*i.e.* school attendance is not required)

Source: Federal Ministry of Science and Research 2010

1.3 Participation in education by adults

As mentioned above, second-chance education and CVET play a major role in Austria. An empirically founded overview of the educational participation of adults in the main working age (25- to 64-year-old residential population) is provided by the results of the Adult Education Survey (AES) for the year of observation 2007. The survey covered “formal” and “non-formal” educational activities according to the international definition of these terms.

Of the roughly 4.5 million 25- to 64-year-olds, 4.2% took part in formal education³ and 39.8% in non-formal education (Statistics Austria 2009, p. 88f.).

As expected, the formal educational activities were mainly university-based study activities with about 58% of the roughly 190 000 Austrians who take part in educational activities - not least due to the relatively long study durations in Austria. Universities of applied sciences, which more frequently act as further and continuing training institutions for adults but have

³ The share of those below the age of 35 was 11.4%.

shorter study durations, amount to under 9% of people who take part in educational activities.

Since 2007 most HE-related institutions have been converted to HE institutions, which changes their ISCED classification. Post-secondary programmes outside HE institutions can again be found - where they are covered in UOE surveys⁴ - in the AES survey. Some post-secondary programmes have strong participation by those aged roughly 18 up to 25 years (e.g. VET colleges, nursing schools); the preparation for other educational objectives, such as the apprenticeship diploma in second-chance education, is not formal because candidates participate in courses which are funded by Public Employment Service Austria (AMS) in particular.

TABLE 1-3:

**Formal educational activities of the 25- to 64-year-old residential population
in the last twelve months, by educational measures**

Educational activity	ISCED97 classification	In %	Σ
School for general healthcare and nursing	4B	4.4	
Apprenticeship, part-time vocational school	3B	3.4	
Master craftsperson course or part-time industrial master college	5B	3.0	17.9
Secondary academic school or VET college	3A, 4A	2.5	
VET school	3B	2.3	
Post-secondary VET course	5B	2.3	
CVET university or HE course without regular study	5B	9.9	
HE-related institutions (post-secondary vocational and teacher training colleges)	5B	5.3	
University of applied sciences	5A	8.9	81.9
University (bachelor study, diploma/master study, doctorate as first degree)	5A or 6	49.7	
Doctorate at universities after first degree	6	4.4	
Postgraduate CVET university courses	5A	3.7	
Total	3 - 6	99.8	99.8
In absolute figures		189 500	

Source: Statistics Austria 2009: 2007 AES

According to the Adult Education Survey, a total of 73% of 25- to 64-year-olds who took part in formal education in 2006/2007 gave job-related reasons as their motive (Statistics Austria

⁴ Reporting for UNESCO, OECD and Eurostat (UOE)

2009, p. 94). Among those under the age of 35 this was about 77%; among men, the professional motivation was clearly more pronounced with 77% than among women with 69%. Roughly half of those taking part in formal education were employed. Some 74% of educational activities were conducted “only or mainly outside paid working hours” (Statistics Austria 2009, p. 95).

For the internationally defined qualification level ISCED 5B Statistics Austria published a timeline differentiated by providers and subject areas. The breakdown by providers first of all reveals the institutional conversion of teacher training colleges into HE institutions (and hence the change of the level from 5B to 5A in ISCED). Of the remaining ISCED 5B programmes, qualifications are most frequently obtained in master craftsperson programmes and part-time industrial master colleges. But post-secondary forms of VET colleges and other programmes which are offered in special forms of VET schools and VET colleges are also quantitatively relevant. Overall it must be noted that participation in formal educational activities is not the only form of learning where a certificate can be obtained. This was around 16% among people below the age of 35 who took part in courses in 2007. Some 40% took part in ‘non-formal’ courses (see Table 1-5).

TABLE 1-4:

Qualifications in the non-university tertiary sector (ISCED 5B) in a comparison over time

Vocational education and training programme	1997/98	2001/02	2005/06 ¹⁾	2007/08 ²⁾	2008/09 ²⁾
<i>VET provider</i>					
Master craftsperson, part-time industrial master programme	4 601	2 763	3 106	3 681	3 536
Secondary academic schools and VET colleges for people in employment, add-on courses, building craftsperson schools	-	-	-	2 049	2 152
VET college post-sec. form	1 145	1 414	1 369	1 502	1 500
Post-secondary VET college	4 319	3 711	3 302	969	715
<i>Subject area</i>					
Engineering and engineering trades	2 208	1 319	1 949	2 455	2 605
Healthcare	980	980	1 086	1 025	817
Architecture and building	793	714	444	810	765
Manufacturing	974	640	459	656	583
Teacher training / pedagogy	3 242	2 849	2 504	396	508
Other	1 868	1 386	1 335	2 859	2 625
Total	10 065	7 888	7 777	8 201	7 903

¹⁾ provisional values (partly estimates)

²⁾ All colleges for social work and some training colleges for healthcare have been converted into *FH* programmes; teacher training colleges have been converted into university colleges of education.

Source: Statistics Austria, Education in Figures, various years

Many adult learning providers provide courses which lead to a formal (therefore publicly recognised) qualification. These include the following qualifications in particular: master crafts-person examination, apprenticeship-leave examination, lower secondary school qualification, *Berufsreifeprüfung* and many job-specific proofs of qualifications, such as accounting diplomas, IT certificates, agricultural certificates, the fork-lift truck driving licence, and many more.

TABLE 1-5:

Structure of participation of the 25- to 64-year-old residential population in formal and non-formal education*, in 2007, in %

Characteristic	Number	Formal education	Non-formal education	<i>including:</i> qualification-oriented CVET courses**
Total	4 561 800	4.2	39.8	10.7
Male	2 272 500	4.4	41.8	11.9
Female	2 289 300	3.9	37.8	9.4
25 to 34 years	1 079 900	11.4	40.2	15.8
35 to 44	1 377 100	3.5	46.9	9.3
45 to 54	1 182 200	(1.2)	42.5	9.7
55 to 64	922 600	(0.4)	25.2	7.2
<i>Education</i>				
Compulsory school	853 500	(1.0)	17.2	(9.9)
Apprenticeship	1 842 300	1.4	33.5	10.4
VET school	630 100	(1.6)	44.0	12.2
Secondary academic school or VET college	657 400	13.4	55.5	9.4
University, university of applied sciences, HE-related programme	578 600	10.0	70.6	11.5
<i>Population density</i>				
Dense	1 490 500	4.5	41.0	7.8
Medium	1 142 200	4.4	45.2	12.1
Thin	1 929 100	3.6	35.7	12.1
<i>Citizenship</i>				
Austrian	4 143 600	4.1	40.7	10.7
Non-Austrian	418 300	(4.5)	30.3	(10.5)
<i>Employment status</i>				
Employed	3 231 500	3.0	47.1	10.8
Unemployed	190 200	(5.8)	37.5	(13.8)
Non-employed	1 140 200	7.3	19.4	8.6

* people who took part in educational activities in the 12 months preceding the survey

** 100%: people who took part in non-formal learning in the year of observation

Source: Statistics Austria, AES

1.4 International comparison of post-secondary education

An international study requires the use of the international definition of the term ‘post-secondary education’. For this purpose, currently valid classifications as published by Statistics Austria can be used (see Overview 1-1). Included are programmes which in the international taxonomy are rated at ISCED Level 4 (or also 3/4) and ISCED 5B. This covers VET colleges in their main forms, in add-on courses and special forms for people in employment (ISCED 4A) as well as in the form of post-secondary VET courses (ISCED 5B). The VET college add-on courses and special forms were classified as ISCED 4A until 2010 and *are expected* to be assigned to 5B in the future.

At the core of the study there are VET programmes starting at ISCED 4⁵ and ISCED 5B. ISCED 5A (HE institution starting with bachelor degree) is part of this report. Programmes in and outside HE institutions are also very likely to be included if they are classified as ISCED 5B. The category ISCED 5B has experienced losses in programmes assigned to it to the benefit of ISCED 5A due to the conversion of teacher training colleges and the conversion of post-secondary social and healthcare programmes into HE institutions. This is shown in Overview 1-1.

The following overview is based on the allocations of Austrian qualifications to international educational classifications as documented by Statistics Austria in July 2011. This allocation table is binding for UOE reporting⁶, on which the educational and professional statistics which are relevant for research and policy are based.

However, this report will also cover programmes which do *not yet* form part of UOE reporting but still need to be interpreted as post-secondary VET and - this is the hypothesis - should also be included in UOE reporting. Thought should be given, among other things, to qualifications in the security and defence sector (police, military).

⁵ Or Level 3/4.

⁶ Reporting for UNESCO, OECD and Eurostat (UOE)

OVERVIEW 1-1:

Post-secondary and tertiary programmes of the Austrian education system according to ISCED 1997 (as of: 2005 data collections)

Level	Education or labour market destination	Ori-entation	Place in national degree structure	Programme name	Data in UOE?
3/4	A	V		Höhere berufsbildende Schulen	Y
3/4	A	V		Höhere berufsbildende Schulen für Berufstätige*	Y
4	A	V		Aufbaulehrgänge*	Y
4	B	V		Schulen für Gesundheits- und Krankenpflege	Y
4	B	V		Schulen für den medizinisch-technischen Fachdienst	Y
4	C	V		Mittlere Speziallehrgänge	Y
4	C	V		Höhere Speziallehrgänge	Y
4	C	V		Sonderpädagogische Lehrgänge	Y
4	C	V		Universitäre Lehrgänge (Maturaniveau, kürzer als 2 Jahre)	N
5	B			Kollegs	Y
5	B			Meister- und Werkmeisterausbildung, Bauhandwerkerschulen	Y
5	B			Akademien des Gesundheitswesens	Y
5	B			Akademien für Sozialarbeit	Y
5	B			Akademien zur Ausbildung von Lehrern für allgemeinbildende Pflichtschulen	Y
5	B			Berufspädagogische Akademien	Y
5	B			Land- und forstwirtschaftliche berufspädagogische Akademien	Y
5	B			Universitäre Lehrgänge (Maturaniveau, mindestens 2-jährig)	N
5	A		1	Bakkalaureatstudium im Fachhochschulbereich	Y
5	A		1	Diplomstudium im Fachhochschulbereich	Y
5	A		1	Kurzstudium an Universitäten	Y
5	A		1	Bakkalaureatstudium an Universitäten	Y
5	A		1	Diplomstudium und (Doktorats-)Studium nach alter Studienverordnung an Universitäten	Y
5	A		2	Magisterstudium im Fachhochschulbereich	Y
5	A		2	Magisterstudium an Universitäten	Y
5	A		2	Universitäre Lehrgänge (postgradual)	N
6				Doktoratsstudium (postgradual)	Y

Legend

Level: ISCED 0 – 6

Destination: A, B, C ... Additional educational opportunities due to programme structure

Orientation: G ... General, P ... Pre-vocational, V ... Vocational

Degree structure: Int ... Intermediate, 1 ... First degree, 2 ... Second and further degrees

Data in UOE? Included in international reporting (Yes, No)

*from 2010 5B

Source: Statistics Austria, on the internet:

http://www.statistik.at/web_de/static/isced_xls_-_bildungsklassifikation_023241.xls
(11.07.2011)

The specifics of the Austrian education system as addressed above can be identified based on some of the OECD data in “Education at a Glance 2011”. The most striking deviations of Austria from the OECD country average are found when comparing post-secondary and/or tertiary educational attainment rates in the field of ISCED 4A (the main form of VET college in Austria) and in the field of qualifications of the category ISCED 5A.

TABLE 1-6:

Graduations ISCED 4 and 5: Comparison between Austria and OECD average, 2009

Graduation rates, classification characteristic	OECD	Austria	Difference
TOTAL			
Post-secondary but not tertiary graduations ISCED 4A	3.0	19.4	16.4
Post-secondary but not tertiary graduations ISCED 4B	1.3	2.7	1.4
Tertiary sector A, ISCED 5A (first graduations)	38.6	29.3	-9.3
of which: below 30 years old	31.5	23.6	-7.9
Tertiary sector B, ISCED 5B (first graduations)	10.4	10.1	-0.3
of which: below 30 years old	6.9	6.8	-0.1
MEN			
Post-secondary but not tertiary graduations ISCED 4A	2.9	16.3	13.4
Post-secondary but not tertiary graduations ISCED 4B	1.0	0.9	-0.1
Tertiary sector A, ISCED 5A (first graduations)	31.0	25.0	-6.0
of which: below 30 years old	24.8	19.4	-5.4
Tertiary sector B, ISCED 5B (first graduations)	9.1	10.6	1.5
of which: below 30 years old	6.0	7.2	1.2
WOMEN			
Post-secondary but not tertiary graduations ISCED 4A	3.1	22.7	19.6
Post-secondary but not tertiary graduations ISCED 4B	1.7	4.5	2.8
Tertiary sector A, ISCED 5A (first graduations)	46.5	33.7	-12.8
of which: below 30 years old	38.5	27.9	-10.6
Tertiary sector B, ISCED 5B (first graduations)	11.9	9.6	-2.3
of which: below 30 years old	7.9	6.4	-1.5

Source: OECD 2011 (p. 67, 81); in-house calculations

2. VET schools and colleges and post-secondary VET colleges

The system of VET schools and colleges (*BMHS*) provides the quantitatively largest offer of post-secondary VET programmes according to international classification (ISCED 4 and 5B). VET schools and colleges are administered by the Federal Ministry for Education, the Arts and Culture (*BMUKK*) and cover a range of schools and colleges for young people and adults which are found in all provinces. The Federal Ministry for Agriculture, Forestry, Environment and Water Management (*BMLFUW*) is responsible for the administration of schools and colleges of agriculture and forestry.

TABLE 2-1:
Students at VET schools and colleges by specialist area in a comparison over time

School type, specialist area	2000/01	2006/07	2009/10
TECHNOLOGY			
Technical VET schools (main and special forms)	12 252	19 032	20 615
including: adult students	3 349	4 140	5 146
Colleges of engineering (main and special forms)	49 433	52 397	54 267
including: adult students	7 762	7 229	7 730
OCCUPATIONS IN BUSINESS, MANAGEMENT, THE SERVICE INDUSTRIES AND TOURISM			
VET schools (main and special forms): occupations in business, management, the service industries and tourism	24 701	25 198	23 200
including: adult students	65	65	56
Colleges: occupations in business, management, the service industries and tourism	70 845	78 618	79 437
including: adult students	4 980	6 663	7 404
AGRICULTURAL SECTOR			
Schools of agriculture and forestry	10 200	12 710	13 186
Colleges of agriculture and forestry	3 375	3 594	3 830
HEALTHCARE, EDUCATION AND TRAINING, AND SOCIAL AFFAIRS			
VET schools: healthcare, education and training, and social sector	1 461	25 623	27 533
Colleges	12 740	12 514	15 313
including: adult students	768	1 097	1 664

Source: Statistics Austria, School statistics

All *BMHS* institutions can offer VET schools (with a duration mostly of 3 or 4 years) and VET colleges (duration: 5 years in the main form). There are ‘main forms’ (for teenagers aged 14 years onwards, *i.e.* after completion of year 8), add-on courses (graduates of VET school can acquire an upper secondary qualification), post-secondary VET courses (2 years), and ‘special forms’ for people in employment (5 years).

The main specialist areas are area specialisations in engineering, industry and trade (1), schools and colleges of business administration, service industries and management, and tourism (2), schools and colleges of the areas: healthcare, social affairs, education and training (3), and schools and colleges of agriculture and forestry (4).

The importance of area specialisations and VET programmes for young people and adults can be illustrated based on the number of provider institutions and - still more clearly - with the number of enrolled participants in a comparison between 2000/01 and 2009/10. The comparison over time also proves the change leading to the conversion of teacher training colleges, which formerly counted as ISCED 5B institutions, into HE institutions (ISCED 5A) in recent years.

TABLE 2-2:

Students in post-secondary VET colleges in a comparison over time

Type of post-secondary VET college	2000/01	2006/07	2009/10
Post-secondary VET colleges in the healthcare sector		3 994	1 783
Post-secondary teacher training colleges	10 746	8 871	-
Colleges for the training of vocational teachers	1 339	1 526	-
Colleges for the training of teachers of religion	1 028	1 017	-
Agricultural teacher training college	93	121	-
Post-secondary VET colleges for social work	1 394	25	-

Source: Statistics Austria, School statistics

The combination - which is typical of VET colleges - of programmes for young people in the main forms of upper secondary level and in programmes for adults in post-secondary VET courses, add-on courses, programmes and special forms for people in employment is reflected in the presented figure (see the following table). In 2009 in the technical training field, for example, some 20% of upper secondary school-leaving exams at VET colleges were taken at special forms for adults.

Data on the population's educational attainment status in Chapter 1 prove that VET college still has a vocationally qualifying function and is not merely a 'feeder' for HE. Due to the increasing number of available part-time studies in the sector of universities of applied sciences and due to the shortening of first degrees to 3 years in bachelor programmes, however, new add-on forms for qualifications can also be expected.

VET college has a severe problem of international transparency and comparability. Until 2010 only post-secondary VET courses were classified as ISCED 5B in the widespread classification ISCED-97. The others were assigned to ISCED 4A.

Regarding the add-on course, a reassignment to ISCED 5B is expected, the same applies to the special forms for people in employment, as these forms presuppose completion of an upper secondary programme. But official proof still needs to be provided.

Regarding the main form, no reclassification can currently be expected without any legal change being implemented (such as a certification option after the 3rd year as a prerequisite for access to the ‘diploma level’) (cf. Schneeberger 2010, p. 72).

TABLE 2-3:

Number of certificates of secondary education in year group 2009¹⁾ by selected pathways, by gender, in absolute figures

School type / pathway	total	male	female
Colleges of engineering and trades	9 574	6 864	2 710
VET colleges (normal form)	7 626	5 694	1 932
Engineering colleges for people in employment	692	648	44
Post-secondary VET courses	770	224	546
Add-on courses	486	298	188
Business colleges	6 118	2 243	3 875
VET colleges (normal form)	5 455	2 029	3 426
Colleges of business administration for people in employment	320	103	217
Post-secondary VET courses	140	28	112
Add-on courses	203	83	120
Colleges of management and service industries	4 771	369	4 402
VET colleges (normal form)	4 478	323	4 155
Post-secondary VET courses	66	16	50
Add-on courses	227	30	197
Colleges of agriculture and forestry	621	355	266
VET colleges (normal form)	529	294	235
Add-on courses	92	61	31
Teacher training colleges	2 017	99	1 918
VET colleges (normal form)	1 509	45	1 464
Post-secondary VET courses	392	53	339
Courses in special pedagogy	116	1	115

¹⁾ Number of certificates of secondary education in the period 01.10.2008 until 30.09.2009

Source: Statistics Austria, Education in Figures 2009/10

3. Apprenticeship diplomas and add-on CVET

3.1 Apprenticeship diploma in first- and second-chance education

About 37 percent of the 25- to 64-year-old residential population in Austria had an apprenticeship diploma as their highest formal qualification in 2008 (see table 1-1.1). This is due, on the one hand, to training provided to teenagers from the age of 15 and, on the other, increasingly to the training of young adults.

From a purely legal standpoint it is possible to take the apprenticeship-leave examination without having completed a training period (or the complete training period) at the company. The Vocational Training Act (*Berufsausbildungsgesetz*), §23 (5) reads in this respect:

“According to the applicant’s choice, the apprenticeship office which is locally responsible depending on his/her place of work or place of residence is also obliged to exceptionally admit an exam applicant to the apprenticeship-leave examination even if he/she does not furnish evidence of the prerequisites according to para. 1 and para. 3 lit. a and b

a) if the applicant has reached the age of 18 years and is able to prove in another way that he/she has acquired the skills and knowledge required in the apprenticeship trade concerned, for example by means of a relevant practical or on-the-job training activity of appropriate length or by attending relevant courses; or

b) if he/she can prove completion of at least half of the apprenticeship period specified for the apprenticeship concerned, if necessary by taking a substitute training period into account, and he/she has no other way to conclude an apprenticeship contract for the remaining training duration as specified for the apprenticeship.”⁷

This is a clear trend. The proportion of apprenticeship-leave examinations taken in *second-chance education* (by way of exceptional admission) has increased in the last decade from below 10% to almost 17%. In Vienna, which shows the by far highest share of the services sector in employment (over 80%), about 30% of apprenticeship diplomas are awarded to adults in second-chance education (Schneeberger, Petanovitsch 2010a, p. 92ff.).

⁷ Vocational Training Act:

http://www.wko.at/wknoe/ba/gesetze_lehrlinge.htm#ZulassungLehrabschlusspf. (01.08.2011).

TABLE 3-1:

Number of examination attempts and final apprenticeship examinations (FAEs) passed successfully in second-chance education, in a comparison over time								
Type of examination	2003	2004	2005	2006	2007	2008	2009	2010
<i>Exam attempts FAEs</i>								
§ 23 5 a ⁽¹⁾ : <u>Evidence of practice</u>	4 283	5 246	5 682	5 675	6 880	6 465	7 346	9 056
§ 23 5 b ⁽²⁾ : <u>Half training period</u>	578	557	695	797	811	864	1 035	1 066
Total	4 861	5 803	6 377	6 472	7 691	7 329	8 381	10 122
<i>Passed FAEs</i>								
§ 23 5 a	3 615	4 356	4 761	4 867	5 571	5 182	5 938	7 266
§ 23 5 b	429	412	524	598	612	616	756	773
Total	4 044	4 768	5 285	5 465	6 183	5 798	6 694	8 039
FAE attempts total	49 611	50 310	50 046	49 148	51 181	52 666	55 207	58 568
Passed FAEs total	41 874	42 193	42 189	40 824	42 569	43 624	45 519	48 359
Share of passed FAEs in second-chance education among total number of passed exams	9.7	11.3	12.5	13.4	14.5	13.3	14.7	16.6

⁽¹⁾⁺⁽²⁾ Vocational Training Act (*Berufsausbildungsgesetz, BAG*), § 23 (5)

Source: Austrian Federal Economic Chamber; in-house calculations

3.2 Master craftsperson and part-time industrial master exams

Master craftsperson and part-time industrial master exams are major pillars of CVET in business, industry and trade. They are important for the qualification of the self-employed and middle-level company qualifications. In addition, a considerable percentage of trainers are also qualified via these exams. Every year some 3 500 master craftsperson or part-time industrial master exams are taken (see Table 3-2). Master craftsperson exams are organised by the offices for master craftsperson examinations, which are located at the regional economic chambers. The legal basis for these exams is the Trade, Commerce and Industry Regulation Act (*Gewerbeordnung*), which defines the selection of examiners.

TABLE 3-2:

Qualifications in the non-university tertiary sector (ISCED 5B) in a comparison over time					
VET programme type: from ISCED 5B	1997/98	2001/02	2005/06	2007/08	2008/09 ²⁾
Master craftsperson, part-time industrial master programme	4 601	2 763	3 106	3 681	3 536
ISCED 5B by area specialisations					
Engineering and engineering trades	2 208	1 319	1 949	2 455	2 605
Manufacturing	974	640	459	656	583
Architecture and building	793	714	444	810	765

Source: Statistics Austria, Education in Figures, various issues

Legally speaking, master craftsperson examinations are defined as examinations only. From a formal viewpoint, it is the exam candidates' task to assess what type of preparation they require, as a rule however they attend preparatory courses at CVET institutions. In the course of European integration, the structure and requirements for taking the master craftsperson examination have changed considerably. Since 2004 master craftsperson examinations and qualifying examinations have been newly regulated in the form of modular exams. The only requirement is that candidates are at least 18 years old but they do not need to furnish proof of any specific qualification.

TABLE 3-3:

Passed master craftsperson, qualifying, trainer and entrepreneurial examinations in a comparison over time

Type of examination	2001	2003 ¹⁾	2005 ²⁾	2007	2009	2010
Master craftsperson examination	1 861	5 320	13 511	14 388	14 055	14 192
Qualifying examination (regulated trades)	537	³⁾	³⁾	³⁾	³⁾	³⁾
IVET trainer examination	-	-	380	453	426	296
Entrepreneurial examination	2 335	1 959	1 978	2 247	2 033	2 034

1) From 2003 onwards, master craftsperson examinations and qualifying examinations are combined under one total.

2) Since 2004 master craftsperson examinations and qualifying examinations have been newly regulated in the form of modular exams. Therefore they cannot be compared with previous years.

3) Figures included under master craftsperson examination

Source: Austrian Federal Economic Chamber, Master craftsperson examination statistics, various years

The part-time industrial master college (*Werkmeisterschule*) is a special form of VET school (*BMS*), and therefore has a curriculum and examination regulations which must be approved by *BMUKK* and it lasts for two years in its part-time organisation form. Providers of these colleges are CVET institutions of the social partners. Across Austria there are more than 50 part-time industrial master programmes or courses, which are currently attended by some 3 700 employees. Corresponding programmes can be found in all provinces, with a particularly high number in Upper Austria, where the manufacturing sector accounts for a high share of employment.

TABLE 3-4:

Number of part-time industrial master colleges and programmes as well as number of students in a comparison over time

Characteristic	2000/01	2006/07	2009/10
Part-time industrial master colleges and programmes	50	49	54
Students	2 356	2 872	3 703

Source: Statistics Austria

The part-time industrial master college is a two-year evening-school programme which is offered by the major educational institutions (*BFI, WIFI*). Legal recognition of the qualification is guaranteed if the provider has a school identification number and runs the programme as a school with public-law status. The term ‘part-time industrial master college’ is defined by law⁸. *Bauakademien* institutions, which are leading CVET providers of the construction industry and based in all provinces, also offer industrial master programmes at the Part-time Industrial Master College for the Construction Sector with public-law status [note: ‘industrial master’ here refers to the German job titles *Werkmeister* and *Polier*, which are different terms for the leader of a working group].

The following qualifications are connected with the part-time industrial master certificate⁹:

- *Basis* for CVET programme for construction engineer and site manager
- *Classification in Salary Bracket C* in the public service: According to the Amendment to the Civil Service Code (*Beamtendienstrechtsgesetz*), Federal Law Gazette no. 518/1993, appointment requirements for activities equivalent to Bracket C are met by successful completion of the part-time industrial master examination.
- *Substitute for the apprenticeship trainer examination*: According to §1 of the Ordinance of the Federal Minister of Trade, Commerce and Industry, Federal Law Gazette no. 253/1979, successful completion of the part-time industrial master college replaces the IVET trainer examination pursuant to §29 of the Vocational Training Act, Federal Law Gazette no. 142/1969, as amended by Federal Law Gazette no. 23/1993.
- *Waiving of the ‘specialist area’ exam of Berufsreifeprüfung*: According to Federal Law Gazette no. II 268/2000 §2 (1) and Federal Law Gazette no. I 68/1997 §3 (2), the partial examination in the specialist area, as specified in the Act on the Berufsreifeprüfung (*Berufsreifeprüfungsgesetz*), Federal Law Gazette no. I 68/1997 §3 (1) fig. 4, is waived for people who have successfully completed the final examination at a part-time industrial master college.
- *Shortened duration of the engineering college for people in employment*: According to §5 (3) of the School Instruction Act (*Schulunterrichtsgesetz, SchUG-B*) graduates of a relevant part-time industrial master college are entitled to be admitted to the 3rd semester of the engineering college for people in employment (HTL-B).

⁸ See www.bildungsportal.at: Werkmeisterschule oder Meisterprüfung/ Befähigungsprüfung?; on the internet: <http://www.bildungsportal.at/technik/werkmeisterschule.htm>; (27.07.2011).

⁹ See Oberösterreichische Bauakademie: Ausbildung zum Polier / Werkmeister, Werkmeisterschule Bauwesen mit Öffentlichkeitsrecht; on the internet: <http://www.ooe.bauakademie.at/anpassungen/images/Werkmeisterfolder.pdf>; (27.07.2011).

- *Admission to a university college of education (formerly vocational teacher training college):* Successful completion of part-time industrial master college entitles graduates to study at a university college of education (previously: vocational teacher training college) to obtain the teaching diploma for occupation-related practice at part-time vocational schools and for engineering and trade-related subjects at an engineering college).
- *Waiving of parts of the qualifying examination for master builders:* According to §15 lit 1 of the Ordinance of the Federal Economic Chamber on the qualifying examination for the regulated trade Master Builder, the qualifying examination for exam applicants - who can furnish proof of successful completion of a school for engineering, arts, trade and crafts which provides qualifications in the field of construction engineering (part-time industrial master college for construction) or of its special forms - comprises the exam subjects 'fundamentals of construction engineering' and 'building technology 2' of Module 1 as well as Modules 2 and 3.

3.3 *Berufsreifeprüfung*

The exam *Berufsreifeprüfung* is the focus of the attention of educational policy-makers. However, there are still other options to access a programme at an *FH* such as the special forms of VET college, the exam *Studienberechtigungsprüfung*, and the possibility via a preparatory course or similar (cf. Schneeberger, Schlögl and Neubauer 2009).

Berufsreifeprüfung (BRP) was introduced in 1997. It comprises four partial exams (three general and one subject-specific exam). According to the Act on the *Berufsreifeprüfung*, the specialist area which is covered in a partial exam of the *BRP* must be selected from the candidate's occupational field. This occupational field need not always correspond to the training completed before taking the *BRP*. The chairperson of the committee for external examinations, which issues the *BRP* certificate upon completion of all required partial exams, decides on the acceptance and, as a result, the selection of the specialist area.

The number of graduates a year increased from about 2 100 in the school year 2003/2004 to 2 600 in the school year 2007/08 (cf. Klimmer et al. 2009, p. 17). Overall, according to estimates, more than 20 000 people have passed the *BRP* since then and thus acquired general HE access qualifications and the certification of specialist higher qualification. Following completion of the *BRP*, more than half of the graduates took up an advanced programme at university, *FH* or teacher training college. The majority of graduates are employed with the same employer even after completing all partial exams.

Preparatory courses are provided mainly at CVET institutions. In 2005/06, there were already 114 locations across Austria offering preparatory courses for the *BRP*. As well as adult education centres and regional Vocational Training Institutes (*BFI*) and Economic Promotion Institutes (*WIFI*), upper secondary schools, regional part-time vocational schools, and private schools preparing for the upper secondary certificate also offered preparatory courses for the *BRP*.

Students pay tuition fees for the courses. In the winter semester 2005/06, the average participant fees for *BRP* preparatory courses (calculated values for all four subjects incl. exam fees) for all offers in the federal territory were EUR 3 081.82, with fluctuations between e.g. Vienna (EUR 2 548.30) and Vorarlberg (EUR 3 358.50). Grants are available in all provinces. Purely mathematically, depending on the province, between 30% and 100% of the fees are reimbursed by subsidies.

The majority of *BRP* graduates are holders of the apprenticeship diploma (some 62%), well ahead of graduates of VET schools (some 30%) - in this group, graduates of schools of business administration dominate. Some 6.3% completed a school for general healthcare and nursing before starting the *BRP*. The apprenticeship trades are dominated, as can be expected, by the sectors of office/administration/organisation and commerce, followed by metal technology/mechanical engineering/motor vehicles and other means of transport, as well as electrical engineering/electronics.¹⁰

¹⁰ Cf.: Klimmer, Schlögl und Neubauer, 2006.

4. Sectoral VET and CVET programmes

4.1 Healthcare sector

As well as physicians, there are a wide range of healthcare occupations in the healthcare sector, whose qualifications and activities are regulated by particular laws: healthcare and nursing occupations, special allied health professions (speech therapist, occupational therapist, physiotherapist, etc.), paramedics, etc.

TABLE 4-1:

Educational establishments, students and graduates in the healthcare professions excluding doctors in the school year 2008/09, in absolute figures

Type of VET	Number of institutions	Students	Graduates
Educational institutions for nurses	225	18 370	7 385
Other programmes in the healthcare sector (Continuing VET, short programmes*)	151	12 014	13 286
Higher education institutions for special allied health professions; higher education institutions for midwifery	49	2 337	931
Educational institutions for clinical assistants	5	330	101
Bachelor programmes at <i>FH</i>	38	2 194	387
Total	468	35 245	22 090

* These include, for example, programmes for paramedics, emergency medical technicians, medical masseurs, therapeutic masseurs, programmes in general and specific emergency skills, courses for surgery and laboratory assistants, etc.

** Since 2006 conversion to tertiary education

Quelle: Statistik Austria, Jahrbuch der Gesundheitsstatistik 2009

(http://www.statistik.at/web_de/dynamic/statistiken/gesundheit/publdetail?id=4&listid=4&detail=601)

Source: Statistics Austria, 2009 Healthcare Statistics Yearbook

4.1.1 Schools for healthcare and nursing

The quantitatively most significant pathway towards a career in the advanced level level of healthcare and nursing is still via the traditional schools for healthcare and nursing.

The traditional VET schools for healthcare and nursing professions¹¹ are still by far the main training route with almost 7 400 graduations p.a. (see table). The minimum entrance requirement is positive completion of the 10th school year. Students of the three-year health-

¹¹ See relevant information on the internet: http://bmg.gv.at/cms/home/attachments/2/9/2/CH1002/CM-S1286285894833/broschuere_gesundheitsberufe_-_version_juni_2011.pdf (12.10.2011).

care and nursing programme are actually older than the minimum required age, also their previous education level is actually higher.¹²

This VET for advanced level healthcare and nursing was set up in Austria as its own unique type of school and is called a Schule für Gesundheits- und Krankenpflege or VET school (actually: specialist school); in the international educational classification it is assigned to ISCED Level 4B.

The schools for paramedical training¹³ have a duration of 30 months (3,760 hours). Access requirements are completed compulsory education and a minimum age of 17 years. A commission decides about admission.

Its classification in the National Qualifications Framework (NQF) has not yet been conclusively determined, but in the course of the consultation process on the NQF, healthcare and nursing programmes were assigned to Level 5 of the 8-level EQF by all three workshop groups (cf. Schlögl 2009, p. 238). In the research literature it is assumed there is pressure towards tertiarisation of the training of qualified nursing staff because “the current nursing training is only attractive enough for 9.2% of holders of the upper secondary certificate” (Rieß, Rottenhofer 2006, p. 12f.). With the present rate of holders of the upper secondary certificate of some 42% per age group¹⁴ and increasing tendency, the issue of attractiveness must by no means be underestimated.

4.1.2 Programmes of universities of applied sciences

Today we have a new situation, the consequences of which cannot yet be fully assessed, due to the fast changes in education and training in the healthcare sector.

¹² The average age (median) of students of the three-year healthcare and nursing programme is over 21 years. Fifty-six percent of students are over 21. In 2007/08 the age of students in the schools of the healthcare sector was above 18 in 85% of cases (Statistics Austria 2009, p. 121). This is in line with the fact that effectively 83% of beginners have completed upper secondary level. In addition, experts estimate that real requirements on previous qualifications are above year 10, which often leads to failure in the educational career, for which reason “it would be important to specify the candidates’ previous educational attainment more precisely” (cf. Rieß, Rottenhofer 2006, p. 10).

¹³ Siehe dazu: Bundesministerium für Gesundheit (BMG): Gesundheitsberufe in Österreich. Wien, im September 2011, S. 90. Im Internet: http://bmg.gv.at/cms/home/attachments/2/9/2/CH1002/CMS1286285894833/broschuere_gesundheitsberufe_-_version_09_2011.pdf (24.04.2012).

¹⁴ Cf.: BMUKK 2008, p. 7. Overall the share of holders of the upper secondary certificate is 42.1% per age group of the 18- to 19-year-old residential population; in the female population, it is 48.6%.

According to information provided by the Federal Ministry for Health, all programmes for advanced level medico-technical services and for midwives - previously offered at post-secondary VET courses - have been converted into Fachhochschule bachelor programmes since 2006 (Federal Ministry for Health, September 2011, pp. 49 and 57). The access requirement is the upper secondary certificate, the Berufsreifeprüfung or Studienberechtigungsprüfung (medicine), or the nursing diploma.

Beside the traditional educational institutions for nurses, some respective bachelor programmes have been established at FH locations: “FH programmes for general healthcare and nursing are currently held in 3 pilot projects, with one financed by the federal government and two by the provincial governments of Salzburg and Lower Austria.” (Communication of BMWF dated 21.11.2011). The FH programmes in healthcare and nursing are offered at three locations (Vienna, Puch bei Hallein, and Wiener Neustadt) as accredited full-time bachelor programmes (Bachelor of Science in Health Studies). The regular study duration is 6 semesters, ECTS credits: 180. (<http://www.fhr.ac.at/>, 23.11.2011)

A position paper of the FHR questions the future design of VET programmes in qualified nursing, stating “we are faced with the challenge of running parallel training programmes at completely different qualification levels, which ultimately also carries the risk of hierarchisation within the same occupational activity field”.¹⁵ A current expert opinion published by the Austrian Federal Health Institute or ÖBIG on “Reform approaches for the educational landscape of healthcare and nursing professions in Austria” also emphasises this structuring problem: it includes a warning of a “lack of orientation towards the future” and stresses the option - which to date is used “at regional level” only “in some cases” - of “converting VET programmes of the advanced level of healthcare and nursing to the Fachhochschule sector”, which was made possible by law in 2008 (Rappold et al. 20.09.2011, p. 4).

The number of VET and CVET courses in the post-secondary and tertiary sectors for the healthcare professions excluding doctors is growing and boasts a relatively high variety and market competition in terms of programmes, providers and qualifications. This is proven by

¹⁵ See: “The occupational field in the senior level of healthcare and nursing is stipulated by law and will remain unchanged for the newly designed *FH* bachelor programmes. This has created the situation that the VET programme for qualified nurses can be offered both at the various healthcare and nursing schools (without the upper secondary certificate and therefore without any direct HE study qualification) and a study at a university of applied sciences (with the academic degree Bachelor of Science in Health Studies). Consequently we are faced with the challenge of running parallel training programmes at completely different qualification levels, which ultimately also carries the risk of hierarchisation within the same occupational activity field. The *FHR* does not consider a continuation of this development effective.” GuK-Ausbildung im FH-Sektor. Position des Fachhochschulrates (FHR), 12.2.2010.

looking at the 'Pflege, Gesundheit, Sport' (Nursing, Health, Sports) section of the HE and CVET information platform on the internet (*Fach*)*Hochschulportal & Weiterbildungsportal Österreich*:

http://www.fachhochschulen.at/FH/Lehrgang/FH/Pflege_Gesundheit_Sport/FH.htm (01.08.2011).

The regional office *BFI* Burgenland runs one of the two post-secondary colleges for physiotherapy services which still exist in Austria. Nearly all the other post-secondary colleges for paramedical staff and higher education institutions for midwifery in Austria have actually been converted into bachelor programmes at universities of applied sciences. The post-secondary VET college is a training pathway for physiotherapy services which is still prescribed by law and, until a few years ago, it used to be the only VET option. Although *BFI* is the legal entity providing the training, the training is provided based on an authorisation of the provincial governor and on the applicable legislation (Act on medico-technical services and Training regulation on medico-technical services). The other post-secondary college for physiotherapy services is in the province of Tyrol (legal entity: *Ausbildungszentrum West TILAK-GmbH.*, Hall in Tirol).

4.1.3 Programmes in psychotherapy

“The initial, further and continuing education and training for psychotherapists is regulated in Austria by the Act on Psychotherapy.” (Austrian Professional Association for Psychotherapy, http://www.psychotherapie.at/aus_fort_weiterbildung, 02.11.2011) The Professional Association estimates that the average training duration is 7 years. Therefore it is not surprising that it suggests a high classification in the National Qualifications Framework (Level 8 of 8 possible levels).¹⁶

A special case is training in psychotherapy which is concluded with the entry of graduates in the list of psychotherapists. The first part of the training (foundation course) usually lasts 2 to 3 years. Training requirements are mainly the upper secondary certificate or the healthcare and nursing certificate. The *psychotherapy foundation course* consists of a theoretical and a practical section. The theoretical part has a total duration of at least 765 hours, the practical section must have a minimum duration of 550 hours. The contents of both subareas of the training are clearly defined (Act on Psychotherapy §3). The *psychotherapy specialism* com-

¹⁶ ÖBVP: Psychotherapieausbildung in Österreich. Nationaler Qualifikationsrahmen - Ansuchen um Einstufung auf Niveau 8. http://www.psychotherapie.at/sites/default/files/files/stellungnahmen/NQR_PTH_Einteilg_080616.pdf (02.11.2011).

prises a theoretical (total duration at least 300 hours) and a practical section (total duration at least 1 600 hours). The contents of both subareas of the training are also clearly defined (Act on Psychotherapy § 6). The licence to practise psychotherapy on a self-employed basis is granted to individuals who have successfully completed the psychotherapy foundation course and the psychotherapy specialism, have legal capacity, have reached the age of 28, have furnished proof of a health status and trustworthiness which are required to fulfil their professional obligations and “have been entered in the list of psychotherapists following a hearing of the advisory council on psychotherapy”. (Act on Psychotherapy or *Psychotherapiegesetz* § 11). Online: [http://www.psyonline.at/contents/280/psychotherapiegesetz-pthg-.\(01.11.2011\).](http://www.psyonline.at/contents/280/psychotherapiegesetz-pthg-.(01.11.2011).)

4.2 Qualification-oriented CVET programmes

There are a large number of programmes and add-on CVET courses in the business, tourist, technical and social occupations sectors and in the healthcare and security professions which lead to qualifications that are not covered by the ISCED system.

One relevant example are programmes in accounting, which last several semesters. *WIFI*, for example, offers ‘preparatory courses for the accounting diploma’ with the target group having knowledge and practice in accounting. The course comprises 188 periods of instruction and is concluded with a written exam and oral exams. Passing this exam is a prerequisite for admittance to the certified financial accountant diploma, for which there is also a preparatory course, with a previous three-year activity in accounting required. The course comprises 256 periods of instruction and is concluded with written exams and an oral exam on the entire content.

BFI also offers a wide range of longer qualification-oriented CVET and VET programmes (source: <http://www.bfi-burgenland.at/index.php?id=125>; 12.10.2011), such as the ‘qualified social counsellors training’ and the ‘certified media designer programme’.

Another area of qualification-oriented CVET are courses for *civil service qualification exams*, which also often last for several semesters and whose result is relevant for classification into employment levels (qualification levels). One relevant example is basic training of the police.

4.2.1 Leisure industry

For a long time the Austrian tourism and leisure industry has offered top-level services, the related qualifications are taught in qualification-oriented VET and CVET programmes for people over 18 years of age. Some significant examples are outlined below.

Mountain and ski guide training: Training programmes for state-certified mountain and ski guides are organised by the Innsbruck Federal Sport Academy in collaboration with the Association of Austrian Mountain and Ski Guides VÖBS. The training objective is to independently guide guests in summer and winter, the target group are summer and winter alpinists with several years of experience in alpine sports. From the aptitude test to completion, this programme lasts two years. The final exam is held by a state exam committee, with the trainers used as expert examiners. The course fees for the entire programme must be paid by the candidates and total some EUR 5 000¹⁷, after successful completion graduates must apply for authorisation as state-certified mountain and ski guides from the competent district administration, depending on provincial legislation.

Ski/snow sport instructor training: The programme for state-certified skiing instructors and ski guides was delegated to the Innsbruck Federal Sport Academy by the provincial governments and provincial skiing instructor associations. The admission requirement, apart from other criteria such as the health status, is completion of the provincial skiing instructor training. The training lasts for two semesters and builds directly on the provincial skiing instructor training.¹⁸ The certified skiing instructor training (state skiing instructor training) is regulated by law. The implementation of the training courses for the certified skiing instructor exam is assigned to the provincial skiing instructor associations. The provincial skiing instructor associations and provincial governments have agreed with the federal government that the state skiing instructor training is held at the Federal Institutes for Physical Education (Federal Sport Academy).¹⁹ According to information provided by the Federal Economic Chamber from April 2008, there were some 15 000 snow sport instructors in Austria, of which 17% were certified skiing instructors.²⁰

¹⁷ Cf.: http://www.bergfuehrer.at/deutsch/public_download/Bgf-A-v3_2009.pdf, (03.11.2011).

¹⁸ Cf.: http://www.bafl.at/fileadmin/innsbruck/pdfs/Info-Skilehrerausbildung_03.pdf, (03.11.2011).

¹⁹ Cf.: <http://www.skilehrer.at/index.php?id=diplomskilehrer> (03.11.2011).

²⁰ Cf.: http://portal.wko.at/wk/format_detail.wk?angid=1&stid=391581&dstid=252&opennavid=34388, (03.11.2011).

4.2.2 Air traffic

Aviation personnel require vocational qualifications with a high degree of quality assurance. VET and CVET take place outside the formal public education system but are transparent in terms of access criteria, duration and requirements.

Air traffic controller (ATCO) training: Training for air traffic controllers lasts for *about three years*. Programmes are based on the *Eurocontrol* guidelines for ATCO training. Candidates need to pass a selection procedure of several stages.²¹ The admission requirement, apart from other criteria such as good command of English and EU citizenship, is the certificate of upper secondary education.²² The applicants' age must be between 18 and 25. Following a pre-selection and main selection procedure as well as a medical check-up, there is a selection day for candidates. Of 800 applicants a year, some 40 make it into the programme. But clearly more are needed.²³

Civil pilot training: Civil pilot training is conducted in-house by airlines or on a private basis. Depending on previous qualifications, training lasts for about two years. The prerequisites for attending the training for airline pilots (e.g. Austrian Airlines) include: Austrian citizenship or valid work permit, age limit between 17 and 29, certificate of upper secondary education, positive entrance exam.²⁴

4.2.3 Professional fire brigade

The training programmes for professional fire fighters are held in-house. The individual Austrian professional fire brigades have different criteria for admission (e.g. age, driving licence) and training. As an example, training in Vienna is outlined here: Duration of the initial training programme: 15 weeks; training duration until acquisition of the senior fire fighter qualification (title: *Oberfeuerwehrmann/-frau*): *four to five years*; following initial training, the following courses are mandatory: environmental protection training (pollutants course), technical assistance services course, and fire service course.²⁵

4.2.4 Emergency medical technicians, care assistants, childminders

The Red Cross provides a large number of initial and continuing training programmes, such as training for emergency medical technicians (paramedics). The programme comprises 140 periods of instruction in theory and 160 periods of instruction in practice. As well as other

²¹ Cf.: <http://www.austrocontrol.at/content/atm/Akademie/AFVL/ausbildung/ausbildung.shtml>, (03.11.2011).

²² Cf.: http://www.austrocontrol.at/content/atm/Akademie/AFVL/ATCO_training.shtml, (03.11.2011).

²³ Cf.: http://www.nachrichten.at/ratgeber/beruf_bildung/art121,140411, (03.11.2011).

²⁴ See: <http://www.beruflexikon.at/pdf/pdf.php?id=2909&berufstyp=sonstige>, (03.11.2011).

²⁵ See: <http://www.beruflexikon.at/pdf/pdf.php?id=2887&berufstyp=sonstige>, (03.11.2011)

criteria, prerequisites for attendance include positive completion of compulsory schooling and a positive admission procedure.

In addition, there are programmes for care assistants and home-helpers. The programme for care assistants comprises 800 periods of instruction in theory and 800 periods of instruction in practice. As well as other criteria, prerequisites for admission are positive completion of compulsory schooling, an EU proof of citizenship or a work permit, and positive completion of a two-day admission procedure.

The programme for home-helpers comprises 234 periods of instruction in theory and 200 periods of instruction in practice. As well as other criteria, prerequisites for admission are positive completion of compulsory schooling, being at least 18 years of age, and an EU proof of citizenship or a work permit.²⁶

Childminders: Provincial legislation applies to care provided by childminders, therefore training provisions also differ between the provinces. To be able to exercise the profession on a self-employed basis, a medical certificate and an approval of the care location by the competent youth office are required. However, ideally candidates will have knowledge of development psychology and pedagogy, which they are taught in short programmes. Examples of relevant short programmes:

- Childminders' Centre, Training Programme for Childminding as a Profession, duration: 200 periods of instruction (2 semesters, part-time)
- Childminders of Styria, Training Programme for Childminders and Babysitters, duration: 308 periods of instruction and 160 periods of instruction as part of work placements in childcare facilities
- Vienna Childminding Centre *Kinderdrehscheibe*, Basic Training for Childminders according to §4 of the Vienna Daycare Ordinance, *Wiener Tagesbetreuungsverordnung* or *WTBVO*, duration: approx. 4 weeks²⁷

4.3 Police service

VET and further training for the police force is within the scope of competence of the Security Academy *SIAK*, which is subordinated to the Federal Ministry of the Interior (*BM.I*).²⁸ Basic training for the security service lasts for 24 months and comprises specialist practical and

²⁶ Cf.:

http://www.rotekreuz.at/fileadmin/user_upload/LV/Wien/Hauptnavigation/Kurse_Aus_u_Weiterbildung/Fotos/Allgemeines/Kursbuch_2012.pdf, (03.11.2011).

²⁷ Cf.: <http://www.beruflexikon.at/pdf/pdf.php?id=2872&berufstyp=sonstige>, (03.11.2011).

²⁸ See relevant information on the internet: Source: http://www.bmi.gv.at/cms/BMI_SIAK/grundausbildung/E2c.aspx (23.04.2010).

theoretical contents ranging from legal to psychological topics (see Box 4-3). The training is completed with an exam before a committee. Trainers must have completed a university-style course (*LuC*), CVET and expert groups aim to ensure the continuous quality and quality development of instruction.²⁹ The *LuCs* are expiring in 2012. From 31.12.2010 they will be replaced by a 2-semester programme at the University of Applied Sciences in Wiener Neustadt (60 ECTS), with credits usable for a bachelor study.

The next qualification level opens up access to the middle management level. The training focuses are in the fields of *law*, *deployment* and *leadership training*. Upon completion of this intermediary programme, graduates can additionally obtain credits for contents of the first semester in the *bachelor programme in police leadership* which, since 2006, has been offered on the basis of a cooperation agreement between *BM.I* and the public University of Applied Sciences in Wiener Neustadt.³⁰

In 2003 the **programme for teachers of the police force** was awarded the designation ‘university-style course’ (*LuC*) according to the University Study Act. Graduates are awarded the title ‘graduate lecturer of the police force’. In 2010 the teaching staff were trained in a two-semester programme in cooperation with the University of Applied Sciences in Wiener Neustadt. The programme has a workload of 60 ECTS and can be extended with a study at a university of applied sciences. The Security Academy’s teaching staff comprise lecturers of the University of Applied Sciences and lecturers of the Security Academy itself.

4.4 National defence

The training service³¹ at the Austrian Armed Forces *lasts for at least 12 months* and serves to prepare individuals for further employment in a cadre unit or for access to the career of officer or non-commissioned officer. Prerequisites are Austrian citizenship, being at least 18 years old and having a positive aptitude exam result.

²⁹ Source: http://www.bmi.gv.at/cms/BMI_SIAK/grundausbildung/start.aspx (23.04.2010).

³⁰ The six-semester programme is conducted as a part-time course in blocks of attendance phases of circa two weeks a month. Students who work for the federal police guards are awarded credits for the first semester. Access requirement is completion of the programme E2a. During the lecture-free time, course participants work at police stations. The annual provision of 20 study places is also open for applicants from the private security services sector. The University of Applied Sciences course is completed with the academic degree Bachelor of Arts in Police Leadership.

³¹ Federal Ministry of Defence and Sports: Training service, <http://www.bmlv.gv.at/karriere/frauen/ausbildungsdienst.shtml>, (06-06-2011).

The Non-Commissioned Officers Military Academy *HUAK* in *Enns* is responsible for the training, continuing and further training of non-commissioned officers³² (NCOs) of the Armed Forces for positions as officers. Training follows the army's respective deployment concept and the principles of adult education. NCOs are employed as commanding officers, trainers and teachers for the young cadre and as technical or logistical specialists (such as in the materials, supplies and motor vehicle departments or army administration) and form the link between officers and soldiers.

The training is in different stages. The *preparatory course* at Qualification Level 1 aims to identify the candidates' basic suitability for a career as an NCO. Upon passing the final admission exam including an assessment, candidates are admitted to the *course in military leadership 2* at Qualification Level 2. The *course in military leadership 3* enables NCO candidates to fulfil tasks as commanding officers, trainers and teachers of soldiers (of a platoon, approx. 40 to 50 people) in deployments and preparation for deployments independent of branch of service and function. Another task of the Academy is the *training of the ministry's civil personnel* (in Salary Brackets/Grades A3/v3, A4/v4 and the exam for the promotion of skilled workers). Training in the field of law is held in three- to four-week modules.

Training to reach the rank of officer³³ includes the *Einjährig-Freiwillige* (volunteers serving one year) training. The six-semester *FH* study at the Theresian Military Academy in Wiener Neustadt includes twelve weeks of professional practice, with six weeks spent abroad. The programme is completed with the bachelor exam and the awarding of the academic degree *Bachelor of Arts in Military Leadership*. Students employed at the Armed Forces also take a service examination, upon successful completion they are *Leutnant* (equivalent to second lieutenant).

CVET for troop officers which aims to qualify them for functions from the level of troop commander to officer in the staff of a large troop unit (brigade) is conducted in courses of several weeks each at the Theresian Military Academy and National Defence Academy (Vienna). The further training for commanders of a small troop unit (battalion) and other especially qualified functions is conducted at the National Defence Academy in a four-semester *FH* master programme.

³² Federal Ministry of Defence and Sports: Non-Commissioned Officers Military Academy, <http://www.bmlv.gv.at/karriere/unteroffizier/allgemein.shtml>, (06-06-2011).

³³ Federal Ministry of Defence and Sports: Access requirements for officer training, <http://www.bmlv.gv.at/karriere/offizier/voraussetzungen.shtml>, (06-06-2011).

Further education to become an officer of general military staff takes place in the same institution after a graduated selection process in cooperation with the University of Vienna and with the award of an appropriate academic degree.

Training as a *reserve officer* is interesting for holders of the upper secondary certificate who do not want to study at the Theresian Military Academy. At the beginning of this special career there is the training of *Einjährig-Freiwillige* to NCO as a reserve officer candidate. The following training stages are held in voluntary weapon drills or voluntary work in the militia. Participants are promoted to the rank of *Leutnant* four years after their first date of conscription. For access to the *pilot training*³⁴ they need to meet the following prerequisites: lower secondary qualification with command of English or the upper secondary certificate, successfully passing a criminal background check, maximum age of 23 years at the beginning of the training (exception: maximum age of 25 years for NCOs and officers). After the candidate has been determined as suitable for a career as a pilot, he/she takes part in a three-month practical period to determine his skill level. Basic training lasts for one year, the programme for fighter pilots for another one to two years, depending on the type of aeroplane. In addition to pilot training, applicants also need to complete the *Einjährig-Freiwillige* training or the NCO training.

In the future, tertiary programmes in the Austrian Armed Forces will have to be oriented more than in the past towards an international comparison to ensure and continue to improve their attractiveness for applicants, as well as to guarantee the transparency and comparability of qualifications as part of international cooperation projects or occupational activities in a transparent manner.³⁵

4.5 Agricultural sector

Knowledge, innovation and qualification in the agricultural sector are obtained, on the one hand, from practice via projects at various levels, and on the other hand by means of systematic research, development and teaching at universities of applied sciences, the University of Agrarian and Environmental Pedagogy and the University of Natural Resources and Applied Life Sciences. VET and CVET are provided via a network of part-time vocational schools for apprentices, VET schools and colleges, and academic secondary schools, as well as *Laendliches Fortbildungsinstitut (LFI)* (cf. BMLFUW, 2008).

³⁴ Federal Ministry of Defence and Sports: Pilots training, <http://www.bmlv.gv.at/karriere/flieger/pilot.shtml>, (06-06-2011).

³⁵ For more info on this topic, see: Cf.: Austrian Science Council: Tertiary education and training in the Austrian Armed Forces. Analyses and recommendations. Vienna, February 2011. On the internet: http://www.wissenschaftsrat.ac.at/news/Militaer_Endversion.pdf (0.2.09.2011).

Of particular thematic relevance for post-secondary VET are therefore *skilled worker exams and master craftsperson exams* and related preparatory courses as well as a large number of certificate courses, which are held by *LFI*. Overall, by late 2008, more than 31 000 certificates were awarded. An **LFI certificate course** is a modular programme for adults of at least 80 periods of instruction; there are also programmes of 160 hours. Following successful completion of the final paper and a minimum attendance time of 80%, the *Laendliches Fortbildungsinstitut* Federal Office issues a certificate to the participants. The minimum age for participation is 18.

The first courses were developed as early as in 1995, with initial focuses on direct marketing for farmers, holidays on the farm, female farmers holding seminars, and dairy processing on the farm. Over many years the focus used to be on courses to improve the farmers' IT skills (basic IT training and add-on course for the ECDL).

Much in demand are programmes for nature and landscape guides and other nature guide courses, such as the programme for guides of alpine pastures and the course in herb pedagogy. Other programmes are continually developed, with contents geared towards the population working in agriculture and forestry. (*cf.* Bauer 2008, p. 103).

5. HE programmes

In principle there are university courses at public and private universities, courses at Fachhochschulen and courses at university colleges of teacher education. University-style courses (LuCs), which are offered by non-university institutions, will also be provided until 2012. According to the University Studies Act (Universitätsgesetz or UG 2002) the LuCs will phase out in 2012.

In 2009 over 14 400 students were counted in CVET university courses (BMWF 2010, p. 55) and some 4 000 students in *LuCs*. For both types of programmes, tuition fees must be paid. Due to the growing number of available advanced CVET courses but the rather diminishing population, increasing competition is expected.

5.1 CVET university courses and Fachhochschule courses

CVET university courses³⁶ are non-degree programmes offered by universities with the specific focus on CVET. As opposed to regular studies, students pay tuition fees. They pay course fees and exam fees. In the last decade, CVET university courses have experienced rapid growth.

According to the 2002 University Studies Act (*Universitätsgesetz or UG 2002*, § 56, Federal Law Gazette I no. 81/2009), universities are entitled to set up CVET university courses either alone or in cooperation with other universities, private universities, universities of applied sciences or university colleges of education, as well as non-university legal entities. Most of them have a fixed thematic focus³⁷ e.g. on management, law, technology, healthcare, consultancy, etc. and vary in length between 2 and 4 study semesters. Taking account of the fact that most participants are employed, lectures of CVET university courses or HE-based CVET courses are, if possible, held in the evening or in block form.

The participating educational institutions need to conclude an agreement about implementation, in particular the responsibilities (admission, issuing of certificates, recognition of exams, etc.). The study plan comprises the objectives, duration and structure of the CVET university course as well as prerequisites for admission. In addition, it specifies the title and number of

³⁶ BMWF, What are CVET university courses?, on the internet:
http://www.bmwf.gv.at/startseite/studierende/studieren_in_oesterreich/studieren_in_oesterreich/universitaeten/weiterbildung/allgemeines/ (05.07.2011).

³⁷ BMWF, CVET university courses, on the internet:
http://bmwf.gv.at/startseite/studierende/studieren_in_oesterreich/postsek_bildungseinrichtungen/universitaeten/weiterbildung_an_universitaeten/ (05.07.2011).

hours of the lectures in compulsory and optional subjects, as well as an examination regulation.

TABLE 5-1:

CVET university courses in which by non-degree programme students are registered at public universities, by subject area, winter semesters 2006/07 and 2009/2010

Subject area	WS 2006/07	WS 2009/10
Business, administration	3 279	4 806
Social and behavioural science	1 245	1 831
Healthcare	1 649	1 685
Pedagogy	1 227	1 670
Arts	812	806
Law	348	599
Journalism, information management	408	505
Humanities	346	468
Physical sciences	296	422
Services	317	331
Social affairs	245	304
Social science, economics and law	165	226
Architecture, construction	195	195
Engineering	72	122
Personal abilities and skills	-	118
Material processing, mining	8	78
Security sector	25	77
Environmental protection	46	65
Informatics	57	60
Agriculture and forestry	-	43
Veterinary medicine	22	24
Mathematics	1	5
Life sciences	6	-
Total (incl. not specified)	10 769	14 441

Source: Statistics Austria, Education in Figures 2006/07; Statistics Austria, Education in Figures 2009/10

In more comprehensive CVET university courses it is also possible to confer master degrees (e.g. Master of ..., Master in ..., MA, MSc, Master of Advanced Studies (MAS), Master of Business Administration (MBA)). Master degrees are academic degrees which are determined for graduates of those CVET university courses whose access conditions, scope and requirements are comparable with relevant master studies abroad. Where no master degrees are conferred, it is possible to specify the wording of the title starting with

‘Akademische/r...’ (*i.e.* graduate) together with an addition which characterises the content of the respective CVET university course, for which at least 60 ECTS points must be credited.

To date educational policy-makers have not dealt with the topic of credit transfer from 4-semester CVET university courses to 6-semester bachelor studies. This issue addresses two different problems: firstly, the credit transfer from one study to another, which is within the scope of curricula committees; secondly the establishment of short-cycle programmes and intermediate qualifications. This is an issue of HE policy: the current HE-based and university-based CVET courses (*Hochschullehrgänge/Universitätslehrgänge*) are considered as non-conforming with the Bologna architecture.

The status quo shows that an essential aspect and a major Bologna objective, *i.e.* the social opening of the tertiary sector by introducing intermediate qualifications in terms of the ‘short cycle’, as expressed in the *Leuven Communiqué*³⁸, have to date not been discussed.

The requirement of previous qualifications held by students is essential for the assessment of the CVET university courses’ character. CVET university courses where graduates are awarded a ‘CVET master’ require previous graduation or an equivalent qualification as an entry condition. This applies to 64% of students in CVET university courses and 45% in *FH* courses (see the following tables).

³⁸ See: BMWF: Bologna process 2020, Leuven Communiqué dated April 2009. p. 2.

TABLE 5-2:

**Students in CVET university courses¹ by universities and gender,
winter semester 2010**

University	Students in CVET university courses			of which in master courses		
	Women	Men	Total	Women	Men	Total
University of Vienna	774	497	1 271	421	329	750
University of Graz	433	186	619	176	96	272
University of Innsbruck	311	136	447	78	68	146
Medical University of Vienna	139	113	252	124	106	230
Medical University of Graz	156	66	222	55	25	80
Medical University of Innsbruck	8	7	15	8	7	15
University of Salzburg	709	951	1 660	444	661	1 105
Vienna University of Technology	91	312	403	77	245	322
Graz University of Technology	6	67	73	5	37	42
Leoben University of Mining and Metallurgy	17	108	125	2	8	10
Vienna University of Natural Resources and Applied Life Sciences	4	34	38	0	0	0
Vienna University of Veterinary Medicine	180	17	197	0	0	0
Vienna University of Economics and Business	450	625	1 075	215	425	640
University of Linz	238	292	530	216	253	469
University of Klagenfurt	776	638	1 414	186	388	574
Vienna University of Applied Arts	48	30	78	48	30	78
Vienna University of Music and Performing Arts	256	201	457	42	23	65
Mozarteum University of Salzburg	87	26	113	0	0	0
Graz University of Music and Performing Arts	162	84	246	0	0	0
Linz University of Art and Design	11	7	18		1	1
Krems University of Continuing Education	3 011	3 035	6 046	2 487	2 520	5 007
Total	7 867	7 432	15 299	4 584	5 222	9 806

¹ not including preparatory courses and HE preparation programmes, including courses for the *Studienberechtigungsprüfung*.

Source: Data reporting of universities based on the University Studies Evidence Act, *Universitäts-Studienevidenzverordnung* or *UniStEV* by the respective cut-off date; data check and preparation: bmwf, Unit I/9

In the winter semester 2010 some 900 students were counted in *Fachhochschule* programmes. The *FH* programmes are regionally widely distributed (see the following table). The legal foundations for *Fachhochschule*-based CVET courses are found in the *Fachhochschule* Study Act or *FHStG*:

“*Fachhochschule*-based CVET courses

§ 14a. (1) The providers are also entitled to set up CVET courses in the specialist branches of the *Fachhochschule* programmes accredited at their institution.

(2) It shall be permitted to specify internationally common master degrees in the curriculum of a CVET course in the respective subject. These degrees shall be awarded to graduates of CVET courses whose access conditions, scope and requirements are comparable with relevant master studies abroad. The quality of teaching shall be guaranteed by teaching staff with appropriate academic and didactic qualifications.

(3) Where para 2 does not apply, the wording of the title starting with ‘Akademische/Akademischer’ (*i.e.* ‘graduate’) may be specified together with an addition which characterises the content of the respective CVET course. This title shall be awarded to graduates of CVET courses which comprise at least 60 ECTS points.

(4) The providers shall submit the curricula according to paras 2 and 3 to the *Fachhochschule* Council before setting up the CVET course. The *Fachhochschule* Council shall prohibit this to be set up by order within three months following receipt of the curricula at the *Fachhochschule* Council office if the conditions according to paras 2 and 3 are not met.

(5) Participants shall pay a course fee for attending CVET courses. This fee shall be specified with consideration of the actual costs.” (*Fachhochschule* Study Act or *FHStG*, version 1 January 2009, §14a (1)-(5). On the Internet:

http://www.bmwf.gv.at/fileadmin/user_upload/wissenschaft/naric/fhstg.pdf, 28.11.2011)

TABLE 5-3:

**Students in CVET courses at Fachhochschulen (universities of applied sciences)¹
by provider and gender, winter semester 2010**

Provider	Students in <i>FH</i> courses			of which in master courses		
	Women	Men	Total	Women	Men	Total
Fachhochschule Campus Wien	80	18	98	80	18	98
Fachhochschule des bfi Wien GmbH	28	12	40	0	0	0
Fachhochschule Kärnten	35	15	50	27	8	35
Fachhochschule St. Pölten GmbH	51	93	144	26	54	80
Fachhochschule Vorarlberg GmbH	9	55	64	6	32	38
Fachhochschule Wiener Neustadt für Wirtschaft und Technik GmbH	19	43	62	0	0	0
FH JOANNEUM Gesellschaft mbH	2	7	9	2	7	9
FH Kufstein Tirol Bildungs GmbH	3	8	11	3	8	11
FH Oberösterreich Studienbetriebs GmbH	94	62	156	0	0	0
FHG - Zentrum für Gesundheitsberufe Tirol GmbH	50	44	94	33	28	61
FHW-FH-Studiengänge Betriebs- und Forschungseinr. d. Wiener Wirtschaft GmbH	29	26	55	11	13	24
MCI Management Center Innsbruck – Internationale Hochschule GmbH	37	75	112	15	35	50
Total	437	458	895	203	203	406

¹ not including preparatory courses and HE preparation programmes, including courses for the *Studienberechtigungsprüfung*.

Source: *FHR*

5.2 CVET courses at private universities

The number of students in CVET courses at private universities has clearly increased compared to the 2007/08 year: from 351 to 526 in the 2009/10 academic year.³⁹ The legal foundations of courses provided at private universities are regulated in the Federal Act on Private Universities or *PUG*:

³⁹ Data from: Statistics Austria 2009, p. 274, Statistics Austria 2011, p. 325.

“Private universities shall be entitled to set up university CVET courses. These can also be conducted jointly by several private universities and jointly with other recognised post-secondary educational institutions. The participating educational institutions need to conclude an agreement about implementation, in particular the responsibilities (admission, issuing of certificates, recognition of exams, etc.). The curriculum, which shall be issued by the participating educational institutions in the same wording, shall clearly specify the allocation of subjects or lectures to the respective educational institution. This provision shall not affect statutory responsibilities. University CVET courses can be conducted in cooperation with non-HE-based entities for the purpose of financial and organisational support.” (Federal Act on Private Universities (*PUG*), § 3 (4),

<http://www.rechtsverlag.at/Gesetze/004/00A/PUG.pdf>, 28.11.2011)

TABLE 5-4:

Students, study beginners and graduations in CVET courses at private universities

Characteristic	Other post-graduate CVET courses	Other post-secondary CVET courses	Other CVET courses	Total
Students (WS 2009/10)	6	17	503	526
Study beginners (WS 2009/10)	3	-	218	221
Graduations (academic year 2008/09)	1	15	8	24

Source: Statistics Austria; in-house calculations

5.3 CVET courses at university colleges of education

According to the latest data, some 8 100 students are currently enrolled in CVET courses or in HE-based CVET courses at university colleges of education, with over 80% in relatively short programmes.

According to the 2005 Higher Education Act (*Hochschulgesetz*, as amended on 25.11.2011), CVET courses require completion of below 60 ECTS and HE-based CVET courses learning inputs of at least 60 and a maximum of 90 ECTS and are used for further and continuing training and, in general pedagogical issues, are used for the support of children and young people. Graduates of HE-based CVET courses are awarded the title 'graduate' with an addition which characterises the contents of the respective CVET course. In addition, it is possible to provide 'joint study programmes' “which are conducted based on agreements between one or several university colleges of education, Austrian universities, providers of *Fachhochschule* programmes or private universities as well as recognised foreign post-secondary educational establishments in the form of a joint, double or multiple degree programme, in which case these agreements need to specify what the students concerned are obliged to do

at the participating institutions.” With the exception of ‘joint study programmes’, tuition fees cannot be collected.

It is possible to establish HE-based CVET courses (particularly in academic further and continuing training related to the occupational field) “which target different occupational fields than those of the study programmes. For HE-based CVET courses, internationally common master degrees shall be specified if the required work amounts to at least 120 ECTS credit points.” (*Hochschulgesetz 2005, §70*

<http://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20004626>, 25.11.2011)

TABLE 5-5:

**Attendance of CVET courses at university colleges of education*
in the winter semester 2009/10**

CVET course type	Men	Women	Total
Other CVET course (< 30 ECTS)	972	4 452	5 424
Other CVET course (30-60 ECTS)	280	1 001	1 281
HE-based CVET course (graduate...)	105	527	632
Complementary CVET course for the teaching qualification	173	363	536
HE-based CVET course (master)	64	179	243
Total	1 594	6 522	8 116

* including recognised private CVET courses of private entities

Source: Statistics Austria

5.4 University-style courses (expiring)

According to data published by *Statistics Austria* some 4 000 students were enrolled in such courses in the winter semester 2009/10, whereas in 2003/04 their number had been 1 900. Some 1 300 people per age group graduate from an *LuC*, with slightly less than 80% aged 30 or older (see Annex of Tables). Broken down by specialisations, business and administration as well as social affairs and healthcare dominate the picture. The *LuCs* are an attempt to establish a stronger link between vocationally-oriented adult learning and HE, which is much less pronounced in Austria than abroad.

TABLE 5-6:

University-style courses (*LuCs*): providers, students, study beginners, graduations in a comparison over time, in absolute figures

Reference	WS 2003/04	WS 2006/07	WS 2009/10
Students	1 894	3 107	3 989
Study beginners	-	1 766	2 097
Graduations (in previous year)	-	1 398	1 327
Providers	-	44	42

Source: Statistics Austria, Education in Figures, various issues

These courses have been approved by BMWF individually with the specification that the same quality is provided as in universities. As part of the planned restructuring of external quality assurance in the HE sector, the legislator grants private educational providers the option to offer university-style courses and award academic (master) degrees to successful graduates (e.g. MBA, MSc, M.A.) until the end of 2012.

With the adoption of the new Framework Act on Quality Assurance (*Qualitätssicherungsrahmengesetz* or *QSRG*) and the connected reorganisation of quality assurance in the HE sector, university-style courses are expiring. Individual providers enter into cooperation agreements with Austrian public and private universities and *FHs* or also foreign HE institutions.

See: Framework Act on Quality Assurance (*Qualitätssicherungsrahmengesetz* or *QSRG*). On the Internet: http://www.bmwf.gv.at/uploads/tx_contentbox/qsrg.pdf (07.12.2011).

6. Fachhochschule programm

6.1 VET in the Fachhochschule sector

In the OECD project plan it is suggested to include “*Fachhochschulen* in the Germanophone countries” (OECD 2010, p. 5) in the presentation. Considering the provisions of the Fachhochschule Studies Act (*Fachhochschul-Studiengesetz* or *FHStG*) on the objectives and tasks of the *FH* sector, this inclusion is justified. Practice-oriented courses at HE level are the objective of *FH* courses.

BOX 1:

Different objectives of *FH* and university programmes

For the objectives and tasks of *FH* programmes, the Fachhochschule Studies Act (*Fachhochschul-Studiengesetz*, *FHStG*) applies, where § 3 reads: “1) *Fachhochschule* programmes are programmes at HE level which serve to provide academically based VET. Their main objectives are: 1. to guarantee practice-oriented training at higher education level; 2. to teach the ability to solve the tasks of the respective occupational field in line with the state of the art and practical requirements; 3. to promote permeability of the education system and the graduates’ professional flexibility.” (*FHStG*)

The 2002 University Studies Act (*Universitätsgesetz*) lays down one of the tasks of Austrian universities in §3 as follows: “3. previous scientific, artistic, artistic-pedagogical and artistic-scientific qualification, qualification for occupational activities which require the application of scientific findings and methods, as well as training of artistic and scientific abilities up to the highest level” (BMWf 2009, p. 16). (Other tasks are “4. development and promotion of young scientists and artists” and “5. continuing education and training, particularly of graduates”; *loc. cit.*, p. 16f.)

Sources: Jusline Österreich: *FHStG/Fachhochschul-Studiengesetz*. Legal text (version: 1 November 2011). On the internet: http://www.bmwf.gv.at/fileadmin/user_upload/wissenschaft/naric/fhstg.pdf (28.11.2011); BMWf-Bundesministerium für Wissenschaft und Forschung (2009): *Universitätsgesetz 2002*: http://www.bmwf.gv.at/uploads/tx_bmwfcontent/UG_2002_Stand_1_Jaenner_2009.pdf.

6.2 Development of the *FH* sector

The creation of the *FH* sector in 1994 brought about a fundamental change in the Austrian HE sector. The foundation was connected with a relevant OECD country review and the efforts to internationalise the Austrian education system:

“The Austrian *Fachhochschule* policy is an excellent example of the significance and impact of the international environment on national education policies. The decision to set up a non-university sector in the late 1980s was connected with Austria’s upcoming accession to the EU in a number of respects, particularly with the question of the extent to which the structures of this country’s post-secondary sector are compatible with those of EU countries. (...) In the early 1990s the OECD review of the Austrian post-secondary sector (BMWf/BMUK 1993) then exerted a strong influence on the controversy about the new sector’s architecture.” (Lassnigg et. al, March 2003, p. 48)

The objective was for *FHs* - based on the 1993 Fachhochschule Studies Act - to enable greater vocational orientation of tertiary education while complementing the already existing long studies at scientifically oriented universities. An organisational novelty compared to uni-

versities is that, rather than *FHs* being based on the law of organisations, study programmes are accredited which can be offered by every provider organisation (the majority of which are subject to private law).⁴⁰ Jointly with *FH* study programmes, the Fachhochschule Council (*Fachhochschulrat*) was set up as an accompanying accreditation and evaluation body. In 2002 an amendment to the Fachhochschule Studies Act was adopted, which introduced the two-tier study system with the degrees *Bakkalaureus (FH)* and *Magister (FH)* also for *FH* programmes. In 2006 the division into bachelor and master studies was finally decided.

According to the Fachhochschule Council, there were 20 *Fachhochschule* providers in Austria in the academic year 2009/10, which offered 187 bachelor, 124 master and four diploma programmes and, therefore, a total of 315 programmes. In the winter semester 2009/10 a total of 36 085 students were enrolled at Austrian *FHs*. The share of women has increased continuously since the academic year 1994/1995 and is now 45.9%.⁴¹ In 2009/10, 142 of the *FH* programmes were **part-time**, which equals a share of about 46%. The share of students in part-time programmes was about 35% in 2009/10.⁴²

At present, *FH* programmes are divided into the following seven training areas:

- ☞ Technology, engineering sciences (43.8% of all programmes offered in the academic year 2009/10)
- ☞ Economic sciences (32.7%)
- ☞ Social sciences (5.7%)
- ☞ Health sciences (13%)
- ☞ Design, art (2.5%)
- ☞ Natural sciences (1.3%)
- ☞ Military and safety sciences (1%).⁴³

When analysing the output of the Austrian HE system, a distinction needs to be made between public universities (scientific and artistic universities), *FHs*, private universities, and the university colleges of education, which were established in October 2007. The annual graduation rate at *FHs* has experienced the largest growth since 2003.

⁴⁰ Wadsack/Kasparovsky 2007, p. 9.

⁴¹ http://www.statistik.at/web_de/statistiken/bildung_und_kultur/formales_bildungswesen/universitaeten_studium/021633.html (03.03.2011).

⁴² Fachhochschule Council: Statistics 2007/08, http://www.fhr.ac.at/fhr_inhalt/00_dokumente/Dokumente/Statistiken_2007-08_Web.xls (15.11.2009).

⁴³ <http://www.studium.at/34275-zahl-der-akkreditierten-fh-studiengaenge-uebersteigt-300er-marke-fhr-bedauern-ueber-budgetaere-einsc> (03.03.2011).

The share of bachelor qualifications varies between HE institution types: in the academic year 2008/09 it was 24% at scientific universities, 34% at artistic universities, and 50% at *FHs*.

When analysing the average study duration broken down by type of degree and type of HE institution, significant differences can be seen between HE institution types in some cases (academic year 2007/08): the duration for obtaining a bachelor degree varies at public universities between 7.01 semesters (Natural Resources and Applied Life Sciences) and 9.6 semesters (Mining and Metallurgy), and at technical faculties this value was also 8.75 semesters. At *FHs* this average study duration is considerably shorter for various reasons and equals the standard figure for this type of graduation (overall 5.73 semesters).

TABLE 6-1:

Graduations* (including teaching diplomas) by type of HE institution in a comparison over time

Type of HE institution	Academic year								
	94/95	95/96	02/03	03/04	05/06	06/07	07/08	08/09	09/10
Fachhochschule	-	-	2 658	2 961	5 165	6 421	7 296	8.774	10.094
Scientific university	11 438	12 249	15 855	17 014	18 622	18 781	20 478	23.669	24.174
Artistic university	646	640	791	950	1 148	1 253	1 236	1.302	1.333
Private universities	-	-	-	-	522	746	612	649	845
University colleges of education	-	-	-	-	-	-	1 053	2.257	1.744
Total	12 084	12 889	19 304	20 925	25 457	27 201	30 675	36.651	38.190

* from the academic year 2002/03 also including master degrees

Source: Statistics Austria, ISIS database; BMBWK

When analysing the study durations for diploma degrees, which in technology is currently 7 years, for example, this highlights the significance of restructuring. Bachelor and master combined with 12.6 semesters remain below the former diploma (Schneeberger, Petanovitsch 2010c, p. 13). On an international labour market, the consecutive study structure means for employment relationships outside the HE sector that Austria no longer holds an exceptional status.

TABLE 6-2:

Academic degrees by type of degree, type of HE institution, academic year 2008/09, in % (line)

Type of HE institution	Type of degree						Absolute total
	Bachelor	Master	Diploma	Teaching diploma	Doctorate	Other*	
Fachhochschule	50,4	13,4	36,2	0,0	0,0	0,0	8.774
Scientific university	24,3	9,8	54,0	3,3	8,6	0,0	25.892
Artistic university	34,1	19,4	32,9	10,7	2,8	0,0	1.340
Private university*	44,7	37,9	10,6	0,0	3,3	3,4	696
CVET university courses*	0,0	48,5	0,0	0,0	0,0	51,5	1.327
Total	30,2	12,9	46,4	2,6	6,0	1,9	38.029

* the category 'Other' includes other post-graduate and post-secondary courses and other courses

Source: Statistics Austria; in-house calculations

In the *FH* sector, technology and business dominated the picture with 89% of annual diplomas in the academic year 2007/08. The academic year 2007/08 marked the first time that the number of graduations in business studies was higher in the *FH* sector than in 'Technology, engineering sciences'. This was not because it is harder to offer study places in technology than in business subjects but rather because the potential number of study applicants is lower. Since 2007/08 number and share of graduations in social and health sciences have grown significantly.

TABLE 6-3:

Graduations* at *FH* institutions by specialist area in a comparison over time

Specialist area	Academic year						
	2002/03	2003/04	2005/06	2006/07	2007/08	2008/09	2009/10
Technology, engineering sciences	1 493	1 558	2 348	2 890	3 075	3.371	3.875
Economic sciences	991	1 220	2 256	2 768	3 403	3.801	4.041
Social sciences	-	75	434	521	569	803	1.011
Tourism	93	-	-	-	-	-	-
Humanities	81	-	-	-	-	-	-
Health sciences	-	-	-	-	35	387	832
Design, art	-	106	54	156	138	225	211
Military and safety sciences	-	2	73	86	76	158	39
Natural Science	-	-	-	-	-	-	85
Fachhochschule total	2 658	2 961	5 165	6 421	7 296	8.774	10.094

* from the academic year 2002/03 also including master degrees

Source: Statistics Austria, ISIS database

6.3 Research orientation at *Fachhochschulen*

What makes the *FH* sector stand out from the remaining post-secondary VET sector is the high importance of research and development in general and the graduates' doctoral study. In 2008/09, for example, some 8 800 students graduated in the *FH* sector, at the same time 800 doctoral studies by graduates with a first degree from *Fachhochschule* were counted at universities (BMWF: Statistisches Taschenbuch 2010, p. 53 and 74).

The focus of *FH*-based research is on application-oriented research and development “which pursues the objective of being able to use the findings obtained for the development of new products, procedures and services or for the implementation of improvements to existing products, procedures and services. (...) The programme *Josef-Ressel Centres - Research Labs for FHs*, which was announced as a pilot project in 2008, targets *FH* institutions with research experience which have the technical and organisational skills to implement a research programme jointly with companies over several years. The strategic goal is to set up and expand existing R&D focuses at *FH* institutions in terms of centres of excellence in the application-oriented field. The centres need to have high research competence as well as high implementation relevance, with the practice-orientation of *FH* institutions coming to the fore in the research activities of the Josef Ressel Centres in terms of implementation relevance and innovation potential.” (FHR-Jahresbericht 2009, p. 9ff.)

The *FH* Council emphasises the teaching staff's research qualification:

“Accreditation as an *FH* programme presupposes, among other things, that members of the teaching and research personnel of an *FH* programme ‘conduct the application-oriented research and development work required to reach the goals and safeguard the principles’ (§12 (2) fig. 4 *FHStG*). Correspondingly, the provider needs to ensure ‘that the teaching and research personnel take part in application-oriented research and development work’ (§ 16 (6) *FHStG* as amended). This legal provision implies that it is indispensable for an HE institution aiming at academically based VET to be active in research as well. In this way the implementation of the *FH*-specific educational mission is supported. Members of the teaching and research personnel who are involved in applied R&D activities have direct access to the respective requirements of practice and are therefore much better able to convey state-of-the-art, academically based problem-solving strategies to students. From this perspective, the fulfilment of R&D tasks represents a major contribution to safeguarding the quality and topicality of the teaching work.” (FHR-Jahresbericht 2009, p. 52ff.)

6.4 *FH* as an interface to VET

The 2009 annual report of the Fachhochschule Council (*FHR*) reveals the importance of the *FH* sector for VET: “In the academic year 2009/10, graduates of VET colleges (engineering colleges, colleges of business administration, etc.) still form the largest group of admitted students with 45.6%. Their share has again increased slightly compared to the last three academic years.⁴⁴ (...) In the academic year 2009/10, 11.7% of those admitted were people who gained access to the *FH* sector via second-chance education (*Berufsreifeprüfung*, *Studienberechtigungsprüfung*) or based on a relevant vocational qualification (VET school, apprenticeship diploma, part-time industrial master college, or similar).” (*FHR*-Jahresbericht 2009, p. 35ff.)

The specific regulations on what is understood by relevant professional qualification are laid down in the applications accredited by the *FHR* and can therefore be obtained directly at the respective programmes or from the programme directors. “Study beginners with a relevant vocational qualification (apprenticeship diploma, VET school qualification, another qualification) as a rule need to prove additional exams. These additional exams can vary between *FH* programmes and, as a rule, need to correspond to the general education exam subjects of the *Studienberechtigungsprüfung* exam.”⁴⁵

Until autumn 2012, FH Upper Austria will offer a “*target group-specific*” six-semester diploma course in mechatronics/business for engineering college graduates: “The part-time diploma programme in mechatronics/business was set up to provide higher qualifications to engineering college graduates with at least three years of relevant practice. The programme aims to teach graduates competences in the mechatronic disciplines mechanical engineering, electrical engineering/electronics and informatics as well as job-specific competences in the relevant social and economic science subjects.”⁴⁶ In the future, this course will be offered to all holders of the HE access qualification as a bachelor study in the course of the conversion to the Bologna architecture.

⁴⁴ Including a so-called ‘target-group-specific’ *FH* programme which was set up especially for the higher qualification of engineering college graduates with the title *Ingenieur* and where only engineering college graduates with relevant professional practice are admitted.

⁴⁵ Cf.: http://www.fachhochschulen.ac.at/de/fh_studium/2008/nach_der_lehre_an_die_fachhochschule (02.11.2011).

⁴⁶ <http://www.fh-ooe.at/campus-wels/studiengaenge/diplom-studium/mechatronikwirtschaft/>, (02.11.2011).

TABLE 6-4:

Students admitted at FH programmes (bachelor and diploma studies) by access requirement in a comparison over time, absolute figures

Access re- quirement	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
Sec. ac. school	1 358	1 617	2 132	2 261	2 309	2 245	2 321	2 696	2 989	3 048	3 096
VET college (or post-sec. VET course)	1 890	2 111	2 681	3 280	3 523	3 677	3 802	3 947	4 229	4 310	4 695
<i>Berufsreifeprüfung</i>	29	79	180	221	270	369	389	469	512	551	611
<i>Studienberechtigungsprüfung</i>	63	71	61	95	121	139	125	126	157	156	195
Specialist VET school	34	37	32	42	42	93	81	102	180	171	137
Apprentice- ship diploma	99	118	108	133	152	209	219	235	193	265	245
Part-time industrial master col- lege	19	10	8	4	6	19	8	1	11	10	17
Other	52	72	122	250	258	267	294	398	400	425	469
Foreign equivalent of the upper sec. certifi- cate	93	104	119	184	322	460	584	721	814	813	825
Total	3 637	4 219	5 443	6 470	7 003	7 478	7 823	8 695	9 485	9 749	10 290

Source: Fachhochschulrat, Jahresbericht 2009

The *FH* sector, which has been growing continually since 1994, has brought about changes to the post-secondary VET sector in Austria overall. It should be remembered that the 4-year *FH* diploma studies in Austria, contrary to all international examples, were established not by *upgrading* the existing VET colleges and their special post-secondary forms but by *setting them up entirely from scratch* side by side with VET colleges.⁴⁷ The corresponding downgrading of VET colleges has not had a decisive effect on the labour market so far, however. Other phenomena are noteworthy.

☞ There is still much demand on the labour market for engineering college graduates with the *Ingenieur* title in the advanced qualification segment, frequently in competition with *FH* qualifications, for example (cf. Schneeberger, Petanovitsch 2011, p. 60f.).

⁴⁷ Cf.: Lorenz Lassnigg, Martin Unger: Einleitung. In: By the same authors (ed.): Fachhochschulen – Made in Austria. Review des neuen Hochschulsektors, Wien, 2005, p.1ff.

- ☞ The number of part-time *FH* programmes on offer is increasing and more and more students are enrolling with the intention of acquiring CVET qualifications. As expected, the *FH* sector provides part-time qualifications to adults more frequently than the university sector. The share of students who were aged 25 or over and first admitted to *FH* programmes, for example, was some 36% in the winter semester 2008/09, the comparable share of regular students who first enrolled at public universities in the same period was as low as 10.5% (Statistics Austria 2010, Volume of Tables, pp. 248, 307).
- ☞ In the 2009 Student Social Survey⁴⁸ which was conducted among around 15 500 bachelor students in 2009, when asked for the reasons for the study decision, some 33% of interviewees from the *FH* sector answered: “Because I wanted to learn more about my practised/learned profession”, whereas at universities the related share was clearly lower with around 19% (cf. Schneeberger, Petanovitsch 2010d, p. 18).
- ☞ As well as the growing number of people starting an HE programme at the age of 25 or over, participation in different types of HE-based CVET courses is also increasing (cf. Statistics Austria 2011, p. 32).

Due to the conversion of studies and qualifications from diploma studies to 3-year bachelor studies, the difference between the training duration of the first *FH* study (bachelor) and the special forms of VET college has decreased. The duration of post-secondary VET courses is two years, of an *FH* bachelor three years, with educational requirements basically identical. So far there have been strong overlaps of demand on the labour market - especially in the technical field⁴⁹ - for economically active people with VET college and with *FH* qualifications and this trend could increase even further due to the reduction of differences in learning times. The fact is that there are a number of educational offers where VET college graduates with professional experience acquire part-time first degrees at *foreign HE institutions* in a shorter period of time than in Austria. Comparable offers of Austrian HE institutions do not exist.⁵⁰

⁴⁸ See EQUI/IHS: <http://www.equi.at/de/projekte/schwerpunkt/8/Studierenden-Sozialerhebung+2009> (04.11.2011).

⁴⁹ See: Schneeberger, Petanovitsch, 2008, S. 60; Schneeberger, Petanovitsch, 2010b, S. 96.

⁵⁰ An example for this is the cooperation with the German Fachhochschule in Mitweida: http://www.bulme.at/fileadmin/pdf/Vom_HTL_Ingenieur_zum_Diplomingenieur112008.pdf. Another example involves the University of Central Lancashire, which cooperates with a VET-college in Vienna (<http://www.spengergasse.at/de/ausbildung/ausbildungangebote-ab-14/informatik.html>, 22.11.2011) and a VET-college in Upper Austria: (<http://www.uda.at/main.php?nav=2>, 22.11.2011). A further example of European educational cooperation provides VET-college in Ferlach (<http://www.htl-ferlach.at/?id=114>, 22.11.2011).

7. Labour market and employment

To evaluate and present the employment situation of holders of post-secondary and tertiary qualifications, the age group of 20- to 64-year-olds is analysed. One reason for these age limits is that the majority of young people who complete qualification tracks at ISCED 3 or 4 (in case of uninterrupted initial education) have generally already completed them at the age of 20. The other reason is that there are only few people who still work over the age of 65. The evaluations do not include people completing their military or community service.

7.1 Economically active population by educational attainment

Of the economically active population aged between 20 and 64, according to the 2010 Microcensus, some 13% held a degree from university or *FH*, at least at diploma level. In the international educational classification, this corresponds to ISCED 5A or 6. A degree at ISCED 5B was held by 7.3% of the economically active population in the period of observation, and 12% at ISCED 4A or 4B. Some 20% of the economically active population therefore held post-secondary but not academic qualifications.

TABLE 7-1:

**Economically active population by educational attainment, in 2010
(20 to 64 years old; excluding people completing their military or community service)**

ISCED	National educational classification	Number	In percent
6	Doctorate study	64 883	1.6
	University of applied sciences	64 750	1.6
5A	Uni/HE institution	363 364	9.1
	Other, MBA, MAS	13 235	0.3
Sub-total (5A and 6)		506 232	12.7
	Post-secondary VET course, post-secondary VET course for upper secondary school graduates (<i>Abiturientenlehrgang</i>)	22 363	0.6
5B	Master craftsperson or part-time industrial master examination	156 153	3.9
	CVET university course without first degree	11 072	0.3
	HE-related institution / post-secondary VET college	103 550	2.6
Sub-total (5B)		293 138	7.3
4A	VET college, normal form	415 010	10.4
4B	School for general healthcare and nursing	64 181	1.6
Sub-total (4A + B)		479 191	12.0
3A	Sec. ac. school	244 476	6.1
	Apprenticeship-leave examination	1 502 459	37.6
3B	VET school of two years or more	436 797	10.9
	VET school shorter than two years	43 310	1.1
2	Qualification from lower secondary or the lower cycle of secondary academic school	478 325	12.0
1	No compulsory school qualification	17 222	0.4
Total		4 001 150	100.0

Source: 2010 Microcensus annual results; in-house calculations

In line with the significance of VET in the Austrian initial VET system, ISCED 3B constitutes the dominating qualification level with about half of the workforce. Some 12% of the workforce have not completed any formal qualification exceeding compulsory schooling or only completed the compulsory school period.

Formal qualifications have close correspondence to the activity rate and unemployment risk. Both indicators show an excellent ranking of post-secondary (non-tertiary) VET compared to people without any VET qualification. Relevant values for labour participation are clearly above the respective average and for the unemployment rates clearly below the respective average. The two indicators also highlight that formal qualifications have a major impact on the general employment situation.

TABLE 7-2:
Employment (2010) by formal educational attainment (20- to 64-year-old population, excluding people completing their military or community service)

ISCED	National educational classification	Economically active population	Employed	Un-employed
6	Doctorate study	64 883	63 485	
	University of applied sciences	64 750	62 631	
5A	University/HE institution	363 364	352 531	
	Other, MBA, MAS	13 235	12 621	
	Sub-total (5A and 6)	506 232	491 268	3.0%
	Post-secondary VET course, post-secondary VET course for upper secondary school graduates (<i>Abiturientenlehrgang</i>)	22 363	21 504	
5B	Master craftsperson or part-time industrial master examination	156 153	154 065	
	CVET university course without first degree	11 072	10 810	
	HE-related institution / post-secondary VET college	103 550	102 190	
	Sub-total (5B)	293 138	288 569	1.6%
4A	VET college, normal form	415 010	398 361	
4B	School for general healthcare and nursing	64 181	63 527	
	Sub-total (4A + B)	479 191	461 888	3.6%
3A	Sec. ac. school	244 476	231 745	5.2%
	Apprenticeship-leave examination	1 502 459	1 446 574	3.7%
3B	VET school of two years or more	436 797	420 183	3.8%
	VET school shorter than two years	43 310	41 944	-
2	Qualification from lower secondary or the lower cycle of secondary academic school	478 325	437 491	8.5%
1	No compulsory school qualification	17 222	15 288	-
	Total	4 001 150	3 834 950	4.2%

Source: 2010 Microcensus annual results; ibw calculation and presentation

7.2 Occupations

The following table illustrates that the majority of the economically active population with an ISCED 4B, 4A or 5B qualification work in senior or qualified occupations. In absolute figures, *managers* not only include many HE graduates but also employees with a VET college qualification (ISCED 4A). Among post-secondary, but not tertiary qualifications, the category *Technicians and associate professionals* dominates in most VET pathways. Another strong category is *Clerical support workers*, which contain frequent career objectives of business-oriented VET college areas.

TABLE 7-3:

20- to 64-year-old employees in 2010 with upper secondary qualification and major occupational groups; in 1 000

Qualification, occupational group (selection)	Nursing school	VET college, main form	Post-secondary VET course	Master crafts-person or part-time ind. master exam	HE-related institution	<i>Fachhochschule</i>	Uni/HE institution
ISCED	4B	4A	5B	5B	5B	5A	5A
ISCO major occupational group							
Managers & senior officials*	0.3	35.7	2.4	26.1	4.9	9.9	39.5
Professionals	0.1	26.9	2.4	1.9	67.9	26.7	219.6
Technicians & associate professionals	49.7	171.9	10.2	36.5	19.8	15.6	47.6
Clerical support workers	1.4	89.2	3.0	4.5	3.7	5.6	20.5
Sub-total	51.5	323.7	18.0	69.0	96.3	57.8	327.2
In percent	81.1	81.3	83.7	44.8	94.2	92.3	92.8
Service and sales workers	8.9	34.9	1.8	10.9	3.7	2.4	13.0
Skilled agricultural, forestry and fishery workers	1.5	8.5	-	17.5	0.2	-	0.9
Craft and related trades workers	0.0	9.3	0.7	46.7	0.3	1.0	4.2
Plant and machine operators, and assemblers	0.0	5.6	-	5.1	0.2	0.2	1.3
Total**	63.5	398.4	21.5	154.1	102.2	62.6	352.5

* including legislators ** including elementary occupations and armed forces occupations

Source: 2010 Microcensus annual results; ibw calculation and presentation

7.3 Sectoral distribution

The sectoral distribution of the workforce with senior qualifications aims to complement the presentation by occupational groups. It reveals the high share of VET college in the private

economic sector (manufacturing + services: 76% according to the 2010 Microcensus). This share is also relatively high for the workforce with an *FH* degree (67%).

The by far highest employment share in manufacturing is held, as expected, by the category ‘part-time industrial master/master craftsman’. But the shares of VET college and *FH* graduates in manufacturing are also relatively high: in any case more than twice as high as university diploma graduations (master or *Diplomingenieur*, a master degree roughly equivalent to ‘C.Eng.’ in the UK). The number of graduates working in the publicly financed sector reveals the significance of the professional focus of university education.

TABLE 7-4:

Distribution of ISCED 4 and 5B, 5A and 6 qualifications by sectors in 2010, in %
(20- to 64-year-old workforce; excluding people completing their military or community service)

Sectors (summary of ÖNACE sectors)	ISCED-Level							
	4B	4A	5B	5B	5B	5A	5A	6
	School for general health- care and nursing	VET college, main form	Post- secon- dary VET course	Part- time ind. mas- ter/mas- ter crafts- person	HE- related institu- tion	<i>Fach- hochsc hule</i>	Uni / HE diploma	Doctor- ate
Manufacturing*	3.3	26.2	12.1	56.5	2.6	25.7	12.1	16.4
Private ser- vices	3.1	49.8	42.8	28.0	7.6	41.7	37.6	35.1
Public admini- stration; health- care, educa- tion, etc.	93.1	23.9	45.1	15.3	89.4	32.4	48.8	47.7
Total**	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
In 1 000	63.5	398.4	21.5	154.1	102.2	62.6	352.5	63.5

* incl. energy & water supply

** incl. private households; extraterritorial organisations, and the agricultural sector

Source: 2010 Microcensus annual results; in-house calculations

7.4 Income

The major source of information about income by different education categories is the income structure survey (last conducted in 2006 - at present, Statistics Austria is still processing and evaluating the survey wave of 2010). Its survey scope covers companies with ten or more people in dependent employment - therefore there is no information about self-employed/freelancers, and about people in dependent employment in small enterprises (with up to 10 employees). In addition, the survey does not cover the agriculture and forestry sector and public administration. As the income structure survey is the only data source which at least comprises information about the highest formal educational attainment (broken down by rough categories), it is used here. Data about the income of people in dependent employment in the corporate sector prove major theses of educational economics (human capital or filter theories). Conspicuous is the top income quartile of VET college.

TABLE 7-5.1:

Gross hourly earnings in October 2006 by formal education in companies with 10 or more people in dependent employment (excluding public administration; social security)

Formal education	Total no. of people	Quartile			Interquartile range
		25%	50%*	75%	
		earn less than EUR ...			
Universities and <i>FHs</i> (ISCED 5A,6)	166 440	13.68	18.95	26.85	13.2
Master craftsperson training, post-sec. VET courses and colleges (ISCED 5B)	102 068	12.07	15.28	19.85	7.8
VET colleges (ISCED 4A)	203 510	10.41	14.26	20.29	9.9
Secondary academic schools (ISCED 3A)	108 796	9.04	12.38	17.69	8.7
VET school qualification (ISCED 3B and 4B**)	227 640	9.10	11.80	15.72	6.6
Apprenticeship diploma (ISCED 3B)	928 960	9.12	11.22	13.92	4.8
Completed compulsory schooling	408 886	7.38	9.15	11.36	4.0
No compulsory school qual.	8 814	6.66	7.90	9.82	3.2
TOTAL	2 155 103	8.95	11.48	15.35	6.4

* basis for ranking: median income ** certified healthcare and nursing

Source: Statistics Austria, 2006 income structure survey; in-house calculations

The breakdown by gender reveals pronounced differences of average incomes (median) with the same formal educational attainment. Various studies prove the persistency of a pronounced gender-pay gap even when considering various control variables (such as Böheim et al. 2011). Differentiation according to area specialisations (technical vs. non-technical, for example) is also possibly effective.

TABLE 7-5.2:

**Average gross hourly earnings in EUR (median)
by highest educational attainment and gender (October 2006)**

Gender	Max. compulsory school qualification	Apprenticeship	VET school	Sec. ac. school	VET college	Master crafts-person, post-secondary VET courses and colleges	Univ., FH
Man	10.21	11.98	13.67	14.43	17.24	16.16	21.55
Woman	8.15	9.13	10.96	11.13	11.40	12.57	15.65
Total	9.13	11.22	11.80	12.38	14.26	15.28	18.95

Gross hourly earnings excluding extra hours and overtime but including surcharges for night-time, shift, Sunday and holiday work. Gross hourly earnings refer to all people in dependent employment in companies with 10 employees or more.

Source: Statistics Austria, 2006 income structure survey

7.5 Continuing education and training

There is no explicit empirical evidence on the returns of CVET - particularly at post-secondary non-tertiary level - for Austria. But indirectly, a study by Schmid from the year 2008 reveals that course quality (index from course duration * course costs⁵¹) tends to go hand in hand with higher income growths. As well as the generally high usability and applicability of the courses' learning contents in the work context, the courses produced additional positive returns for many participants. These returns range from securing employment and updating knowledge to more interesting professional tasks and an improvement of the occupational position ('career') as well as the above-mentioned higher incomes. And course graduates often obtain several benefits at the same time from participation.

⁵¹ The implicit assumption for calculating this indicator was that the quality of the course should bear a positive correlation with both a longer course duration and with a higher price. The course duration and course costs bear a high, significantly positive partial correlation of 0.725 (control variable business area as an indicator for the course content). For the study, the wide range of *WIFI* courses (*i.e.* professionally motivated CET at the major course provider of the employer representation) was used.

7.6 Analysis of job ads

Labour market demand for higher qualifications can be shown, among other things, by analyses of job ads. Relevant data is published by *AMS* every year. The relatively highest share of jobs for more highly qualified people can be found in online job ads.

TABLE 7-6:

**Job ads by VET level and advertising medium,
Austria, 2010, in %**

Qualification (AMS terminology)	Public Employment Service Austria (AMS)	Print media	Online*
HE institution	2.1	5.5	20.8
Upper sec. certificate / 'college'	5.3	6.8	33.4
VET school	2.4	5.9	9.7
Apprenticeship / master craftsperson examination	40.1	53.2	29.9
Compulsory schooling / no VET qualification	49.8	27.2	4.9
VET qualification not identifiable	0.3	1.4	1.3
Total	100.0	100.0	100.0
In absolute figures	442 002	387 071	8 544

* data at cut-off date

Source: *AMS*, March 2011; in-house calculations

For 2010 the job ad analysis which had been commissioned by *AMS* registered some 387 000 jobs in the print media. Some 18% of these were jobs that required an *FH* qualification or a formally higher degree. The breakdown of job offers with qualified formal educational requirements by major occupational groups (according to the *AMS* classification) is informative.

The following table ranks job offers according to the number of posts recorded for HE graduates. In general it can be seen that, with the exception of the major occupational group 'law', apart from jobs for HE graduates there is always a considerable number of qualified jobs for the educational category 'upper secondary certificate/college' (according to the *AMS* classification). Staff demand in the major occupational group 'technology, science, research' is particularly eye-catching. This reflects the fact that engineering college graduates are still mentioned in job ads as suitable candidates on the labour market for the highly-qualified in technology, alongside university and, even more so, *FH* graduates. An analysis of online ads for university technology graduates from 2010 has shown that 64% of the 774 recorded posts were also advertised for *FH* graduates and 43% also for engineering college graduates (*Ingenieure*). If only ads for university and *FH* graduates are analysed, 62% were also adver-

tised for engineering college graduates (Schneeberger, Petanovitsch 2010c, p. 60f.). There is therefore still a big overlap in labour market demand for highly-qualified staff between *FH* and engineering college.

TABLE 7-7:

**Job ads in print media for *FH* graduates and formally more highly qualified people
by major occupational group, Austria, 2010**

Major occupational group	VET school	Upper sec. certificate / 'college'	University, <i>FH</i> (basis for ranking)
Office, business	8 858	11 906	8 239
Social issues, education and learning	1 224	2 271	4 260
Technology, science, research	1 112	3 728	3 146
Healthcare / medicine	4 854	271	1 674
Law	0	13	1 306
Commerce, sales and advertising	804	2 243	883
IT, telecommunications and new media	454	2 220	626
Media, arts and culture	51	282	320
Sport, leisure	0	13	292
Tourism and catering	1 667	255	139
Gardening, agriculture and forestry	13	13	101
Traffic, transport and delivery services	182	65	89
Construction, wood	2 125	1 372	65
Environment	0	51	63
Chemistry, plastics, raw materials, mining	13	117	39
Electrical engineering and electronics	240	223	26
Artwork, photography, design, paper	242	497	26
Machinery, motor vehicles, metal	640	892	13
Fashion, textiles, leather industries	0	0	13
Security	115	25	13
Cleaning and housekeeping	64	0	0
Total	22 658	26 457	21 333

Source: AMS, March 2011; in-house calculations

8. Institutional management and control

8.1 Financing and incentives

The financing of VET programmes in the post-secondary sector varies because of their heterogeneous structure.

VET programmes in the sector of VET schools and colleges, both in the main school forms and in the special forms for people in employment, are financed by the public. It is a different case with the participation of adults in formal education outside the school sector. Data for the 25- to 64-year-old residential population are found in the 2007 Adult Education Survey AES. According to this survey, those active in formal education spent an average of EUR 1 103 in the year of observation, 78% of which was for study, school, matriculation or exam fees (Statistics Austria, 2009, p. 27).

Basically, all 'non-formal' CVET measures are funded via fees paid by participants. As shown by related surveys, however, employers bear the full costs of three quarters of the non-formal educational activities with vocational motivation which are attended by men in employment relationships, in case of women this is two thirds (Statistics Austria, 2009, p. 72).

FH programmes increasingly have the function of CVET and are frequently attended on a part-time basis. Providers are also increasingly offering programmes with a part-time design. *FH* programmes are funded by the public mainly via standard costs per student. In addition, the operating companies make funds available, especially for the infrastructure.

The study fees are collected in different ways. At present, 16 of 21 *FH* providers in Austria collect EUR 363.36 for study fees per semester. No contributions are currently collected by *FH* Joanneum, *FH* Burgenland, the Federal Ministry of Defence (*BMLV*), *FH* Vorarlberg and *FH* Oberösterreich. This means that some 30% of *FH* students do not pay any tuition fees. But this does not mean there is no reimbursement via subsidies of the provincial governments, for example.

CVET university courses and university-style courses (*LuCs*) are funded via participant fees on very different levels and are therefore market-driven.

Since 1997 there has been a generally recognised pathway from IVET to general HE study entitlement in the form of the *Berufsreifeprüfung* (BRP) exam. It was conceived by the social

partners in particular. Preparatory courses are mainly provided at CVET institutions. Funding has, to date, basically been via participant fees, which have been reimbursed to a considerable part by educational grants from the provinces and social partners if the students are successful in their exams.

In the future, according to declarations of political intention, the entire costs will be borne by the public. This aims to provide a major incentive for the formal higher qualification of individuals with VET, and at the same time the goal is to enhance the attractiveness of VET.

Another focus of public financing of adult learning are courses preparing for the lower secondary qualification. These are funded completely by the public, they aim to strengthen basic education and offer opportunities to acquire a formal qualification.

In addition, a large number of intensive training programmes for skilled workers are funded via AMS. Although the exceptional admission to the apprenticeship-leave exam does not require any specific course prerequisites from a formal-legal viewpoint, hardly anyone is admitted without course preparation.

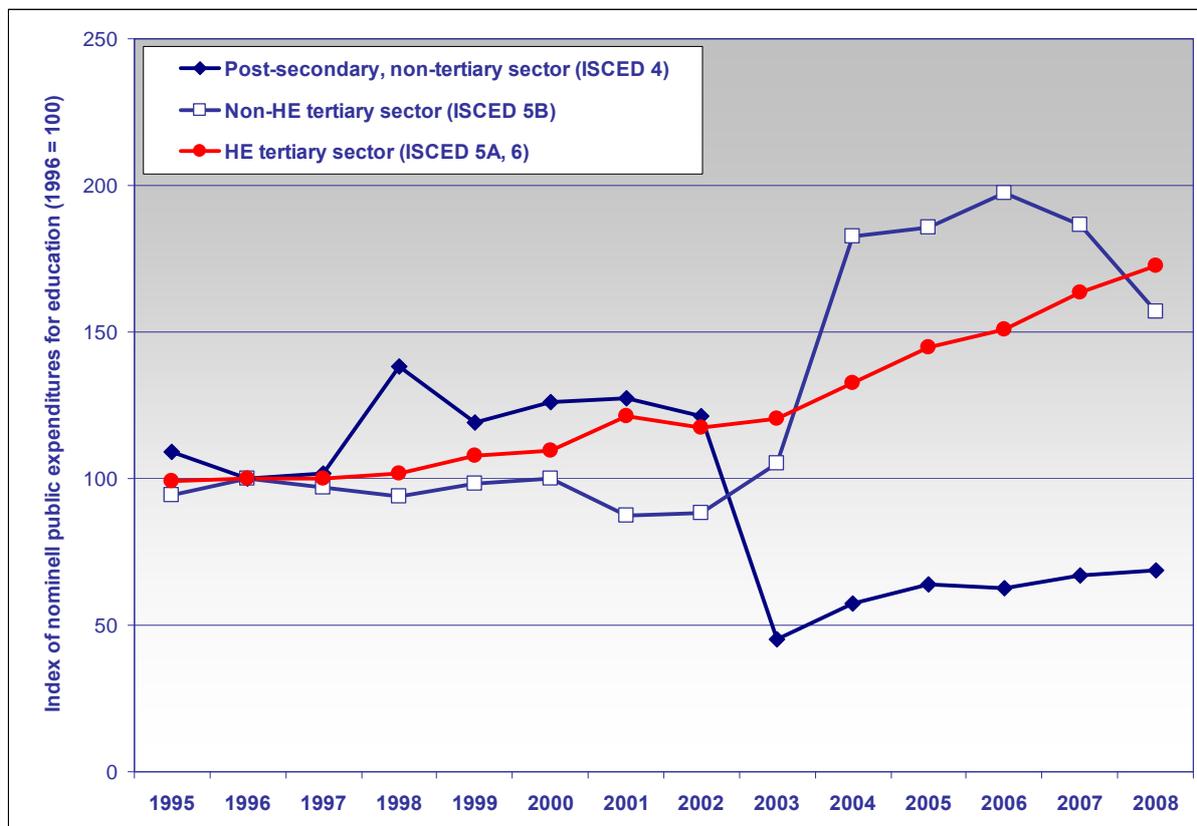
When analysing public expenditure for post-secondary and tertiary education overall since the mid-1990s, a nominal growth of public education expenses of 68% is found.

In the period of observation 1996 to 2008, ISCED 4 applies to VET college (except for post-secondary VET courses) and expenses for healthcare and nursing training at this ISCED level, ISCED 5B applies to special forms of VET school and college as well as programmes in the healthcare and nursing sector which are classified as such. ISCED 5A and 6 cover the HE sector, which since 1994 has also included *FH* programmes.

Between 2002 and 2006, a greater increase is identified for the ISCED 5B education segment than for the HE sector.

The increase in public education expenditure related to category ISCED 5B is due to a “model modification to calculate educationally relevant parts of the family allowance” (Communication of Statistics Austria, 23.11. 2011). The decline in public education expenditure related to ISCED 4 from 2002 to 2003 “can be explained by the reclassification of the federal institutions for nursery teacher training from ISCED 4 to ISCED 3V” (Communication of Statistics Austria, 23.11. 2011)

DIAGRAM 8-1:

**Public education expenditure in the post-secondary and tertiary sector (according to ISCED)
from 1995 to 2008 (in EUR million)**

Source: Statistics Austria

TABLE 8-1:

**Public education expenditure in the post-secondary and tertiary sector (according to ISCED)
from 1995 to 2008 (in EUR million)**

Year	ISCED 4 Post-secondary, non- tertiary sector	ISCED 5B Non-HE tertiary sector	ISCED 5A/6 HE tertiary sector
1996	76.5	201.3	2 253.7
1997	77.8	194.8	2 255.3
1998	105.8	189.1	2 290.9
1999	91.2	198.2	2 431.0
2000	96.4	201.6	2 467.5
2001	97.4	176.0	2 730.8
2002	92.8	177.9	2 648.2
2003	34.7	212.2	2 711.7
2004	44.0	368.0	2 988.7
2005	49.0	373.5	3 265.3
2006	48.0	397.5	3 404.7
2007	51.3	375.1	3 681.4
2008	52.6	316.2	3 889.1

Source: Statistics Austria, Education expenditure statistics; on the internet:

http://www.statistik.at/web_de/statistiken/bildung_und_kultur/formales_bildungswesen/bildungsausgaben/index.html (08.09.2011)

Findings of the AES related to CET financing

Around four fifths of the formal education of the 25- to 64-year-old residential population takes place in the HE sector (see section 1.3 of the report). In the majority of cases, participation has professional motives, with funding shares by the participants themselves. Roughly half of those taking part in formal education were employed. In the year of observation, tuition fees were collected at Austrian HE institutions not only for HE-based CVET courses, which is still the case today, but also for regular studies.

In 2006/07, according to the AES, some 74% of formal educational activities were held “only or mainly outside paid working hours” (Statistics Austria 2009, p. 95). Course, registration and examination fees were completely or partly financed by the employer for 15% of 25- to 64-year-old people taking part in formal education in 2006/2007, and in some 77% of cases by the participants themselves. Higher funding shares of employers indicate sector-oriented vocational qualifications: men 22%, apprenticeship diploma 38%, employees 24% (Statistics Austria 2009, p. 96).

On average the participants' expenses for formal education in the main working age came to some EUR 1 400 in the year of observation, of which some EUR 1 100 was for study fees and other participant fees. Employees bore the relatively highest private contributions. The differences in terms of age and gender are also eye-catching.

In non-formal education - as can be expected - the employers' funding share for course, registration and examination fees was much higher than for formal educational activities. For employees, in some 63% of cases the mentioned fees were financed by the companies, in 22% by the participants completely or partly; for the remainder, there were no fees or they were not known to the interviewees (Statistics Austria 2009, p. 116).

TABLE 8-2:

**Private expenses of participants in formal educational activities in 2006/07*;
data: mean value in euros**

Classification characteristics (selection)	Number	School/study, registration or examination fees ⁽¹⁾	Books and technical learning aids	Total
Total	189 500	1 102.75	311.39	1 414.14
Men	100 100	1 238.36	334.52	1 572.88
Women	89 400	945.03	284.49	1 229.52
<i>Age</i>				
25 to 34 years	123 600	978.75	245.36	1 224.11
35 to 44 years	48 000	1 315.19	463.21	1 778.40
<i>Formal education</i>				
Secondary academic school or VET college	87 800	1 127.95	312.50	1 440.45
Uni, HE institution, etc.	57 600	1 175.42	382.03	1 557.45
<i>Employment status</i>				
Employed	95 400	1 427.88	387.69	1 815.57
Non-employed	83 100	857.21	259.11	1 116.32

* of participants; first mentioned educational activity in each case

⁽¹⁾ in 2006/2007 tuition fees were collected at HE institutions

Source: Statistics Austria 2009, AES 2007

8.2 Role of the social partners

Traditionally the Austrian social partners hold a strong position in designing VET. This also applies to post-secondary VET. Their influence and involvement play a role at various levels.

Responsibility for apprenticeship training constitutes a sector genuinely organised by social partners. The apprenticeship offices and exam systems are organised by the regional economic chambers - in the sphere of competence delegated to them on behalf of the public. The development of apprenticeships and framework conditions for company-based and part-time vocational school-based VET is managed in particular by the Federal Advisory Board on Apprenticeship and the regional advisory boards on apprenticeship, which are appointed by the social partners.

The social partners hold a statutory right to review curricula of VET schools and colleges and therefore also of the special forms for adults. The social partners' organisations themselves are also providers of school-based VET. In general, both employee and employer associations have set up think tanks which deal with issues of VET and VET development in the

national and European context. The associations are major actors in educational policy discussions and in working groups where key issues are handled with competent ministries, such as with a view to the Austrian lifelong learning strategy or the current EQF-NQF development.

The importance of the topic of CET for the social partners is reflected not least in the fact that all major associations have established their own CET institutions (*WIFI*, *BFI*, *LFI*, etc.), which are able to meet considerable parts of company-based⁵² and vocational as well as general⁵³ CET demand. Since 1994, the CET institutions of the interest representations have been substantially involved in the development of the *FH* sector.

8.3 Policy development and initiatives

Policy development and initiatives in VET at secondary and post-secondary level basically have - as well as the top level of educational policy and the media discourse triggered by it - two institutional starting points: the competent specialist units in the federal ministries concerned and the educational policy departments of the interest representations and social partners.

Here the increasing empirical evidence orientation of policy-makers and their initiatives is obvious so that innovations such as *Berufsreifeprüfung* or the development of the *FH* sector are usually preceded and accompanied by empirical research. At present, the following challenges in particular are the topic of educational policy and educational science discussions: compulsory school competences and the debate on the comprehensive school, NQF, quality in VET, the Bologna process.

8.4 Quality assurance

Quality assurance in VET and especially in post-secondary VET is a heterogeneous problem due to the variety of subsumed programmes. Quality assurance basically always builds on the formulation of objectives for a VET programme, including a statement of reasons, and on the development of indicators to observe the achievement of objectives and the derived measures to optimise them.

⁵² In 2005, some 17% of external course hours attended during paid working time were held at educational institutions of employer associations and 3.1% at educational institutions of employee organisations (Pauli, Sommer-Binder 2008, p. 59).

⁵³ In 2006/07, 30% of participants in non-formal educational activities were enrolled - according to the AES - in institutions such as *WIFI*, *BFI*, adult education centres, but merely less than 8% in the regular education system (schools, *FHs*, universities) (Statistics Austria 2009, p. 130).

The entire VET school and college sector is essentially within the sphere of public school administration. In this context, an elaborate quality assurance approach with a vocational pedagogy orientation has been pursued for a long time in the VET school and college sector (for the scientific basis, cf. Paechter 2009). The objective is to establish competence-based educational standards as reliable target indicators for school-based VET in Austria. Therefore, as a logical consequence, the quality process and the development of educational standards have been linked.

In the *Quality in VET (QIBB)* process, the objective is to structure the major IVET areas in a binding manner at different levels based on the nationwide standards: “The implementation of ‘Educational standards in VET’ has already laid a major foundation for ‘competence-oriented teaching’. As well as ‘the competence- and learning outcome-oriented curricula’ and ‘partly standardised, competence-oriented upper secondary school-leaving exam at VET college’, these initiatives reflect the central topics of Austrian VET within the framework of QIBB. (...) Competence-orientation should become a major part of lesson planning, implementation and performance appraisal.”⁵⁴

But quality assurance of VET cannot be limited to the process of competence acquisition in the education system as an objective. Similarly important is the question whether the achieved objective, the awarded proofs of competence or qualification, also proves itself on the labour market. This external dimension of the objective is an essential factor for Austrian education policy.

Quality assurance in Austrian VET is very closely associated with the observation of the labour market situation. The image and attractiveness of VET programmes are basically connected with labour market factors which are regularly published in the form of indicators such as the unemployment rate, the labour force participation rate, or incomes by formal educational attainment based on data of Statistics Austria and which receive great attention in the spheres of educational science and educational policy. Relevant systematic information is provided in Chapter 7 of this report based on the 2010 Microcensus.

Adult education providers have developed different strategies of quality assurance. As well as ISO certifications, participant surveys and specific quality development approaches for educational providers (such as learner-oriented quality testing in CVET, LQW) have gained

⁵⁴ BMUKK: Educational standards - competence-oriented teaching. On the internet: http://www.bildungsstandards.berufsbildendeschulen.at/de/kompetenzorientiertes_unterrichten.html (01.08.2011).

in importance. Quality assurance in adult education has become increasingly important not only for educational providers but also for financing and funding institutions. Some sponsors and federal provinces have paved the way; now a comprehensive tool is available with Ö-CERT which will make the “quality efforts of adult education institutions for those looking for educational offers as well as for funding authorities more transparent” (Gruber, Schlögl 2011).

Quality assurance and management has an explicitly high importance in the FH sector, as emphasised by the Fachhochschule Council:

“In the Austrian FH sector the following processes of external quality assurance are conducted: initial and re-accreditation of programmes, and evaluation of institutions. The establishment of a new programme requires its prior accreditation by the FHR, which is valid for a maximum of five years. Before expiry of the accreditation period, a re-accreditation of the programme is required. FH institutions are regularly subjected to an institutional evaluation, with the focus on in-house assurance and development of programme quality. The outcomes of the institutional evaluation need to be considered in any re-accreditation procedure.”

(http://www.fhr.ac.at/fhr_inhalt/02_qualitaetssicherung/qualitaetssicherung.htm, 22.11.2011)

8.5 Teachers and trainers

This topic addresses very different qualifications of teaching staff. Teaching staff in the school system for youths and in the special forms for adults basically differ from staff in the field of adult learning in terms of access to teaching work. The former are fully regulated professions, the latter are not.

In the VET school and college sector, teaching staff in the special forms for adults boast the same formal qualification as in the main forms for youths. In general education and occupation-related theory they are graduates of long HE studies (master, diploma) (see the following presentation).

In adult education, access to qualified professions is not regulated, at the same time considerable efforts are being made to professionalise the specialist staff. These efforts are being conducted in the varied provider structure by a specific qualification programme and “supra-institutional qualification concepts for adult educators” (Heilinger 2008, p. 2ff.).

But this has also led to novel offers, such as the Academy of Continuing Education (*wba*) in particular, which since early 2007 has examined and recognised the specialised adult educators' qualifications which they have acquired and proven by practical work as well as formal

or non-formal education. If necessary, the Academy recommends required supplementary CVET programmes. This is done at certificate level for all fields where educators are employed and in different ways at diploma level for apprenticeship training, educational management, educational guidance, and library services. An add-on qualification by means of a master study as part of a CVET university course has been possible since 2011 (University of Klagenfurt and Federal Institute for Adult Learning in Strobl). Relevant programmes are also provided at the CVET University in Krems and the University College of Education in Linz.

PRESENTATION 8-1:

VET teacher preparation

Function	Theoretical training	Practical experience
VET schools or colleges		
General education	University diploma degree finishing with national teacher examination	One year teaching practice following university studies
Occupation-related theory	University master degree in a specialised field; additionally pedagogical preparation at university colleges of education	Between two and four years of relevant occupational practice
Training in workshops, kitchens, IT, etc.	Upper secondary education with diploma plus pedagogical preparation at university colleges of education	Two or three years of relevant occupational practice
Vocational school for apprentices		
General education theory and subject-related instruction (including theory)	Upper secondary education with diploma and graduation at university colleges of education (bachelor degree, after three years of study)	At least three years of relevant work experience
Practical training	Diploma from an occupation-related VET programme and master craftsman exam and graduation at university colleges of education (bachelor degree, after three years of study)	At least three years of relevant occupational practice
Training in the company		
IVET trainer at workplace (<i>Ausbilder</i>)	Either attend a 40-hour course or pass an exam organised by a recognised CVET-provider to prove pedagogical skills and basic legal knowledge	The training company has to prove his ability for IVET due to the Vocational Training Act. Trainers are usually experienced skilled persons nominated by the employer

For detailed information see: BMUKK, Bildungswege im lehrenden Bereich, Download: <http://www.bmukk.gv.at/medienpool/6337/bwlehr.pdf>; 02072009

8.6 Educational counselling and career guidance

Educational counselling and career guidance are offered by a wide range of institutions in Austria. “Austria is characterised by varied links between the fields of VET (IVET and CVET), instruction and information. Financial subsidies are frequently not separated from counselling and/or instruction, and guidance about educational offers is conveyed in many cases by the educational institutions themselves.” (Eickhoff et al., p. 6). However, it has always been relatively difficult to take comprehensive stock of the institutions and actors in educational counselling and career guidance in Austria (*cf. e.g.* Härtel 2001, p. 12ff). A large number of federal and regional authorities, municipal institutions, bodies of public and private law, associations, businesses and various individual actors provide services connected with educational counselling and career guidance.

The major adult education institutions have their own counselling and advice centres, such as the Economic Promotion Institute (*WIFI*), Vocational Training Institute (*BFI*), the adult education centres (*VHS*), church-run adult learning establishments, *Laendliches Fortbildungsinstitut (LFI)*, and many others. As educational counselling and career guidance services today form a part of the entire education system, these services also move within this environment. A large part of these services are therefore primarily located at these institutions.

Data about the information behaviour and about the use of counselling and guidance offers is found in the 2007 *Adult Education Survey (AES)*. This data also allows conclusions on the structure of offers and any improvements required. *Guido Sommer-Binder* has compiled relevant findings in an informative article (Sommer-Binder 2010). Some 30% of the population in the main working age searched for information about IVET and CVET options in 2007; the higher the formal qualification level, the more frequent is the search for information (lower secondary school graduates: 55%, secondary academic school and VET college: 45%, VET school: 34%, apprenticeship diploma: 33%, and compulsory school: 14%).

The question of which sources are used to obtain information, guidance and counselling about IVET and CVET promptly is a good indicator of the importance of the internet in this context:

TABLE 8-3:

Search for IVET and CVET options in 2006/07: share of individuals using the respective source of information, by formal education, in %

Source of information (multiple sources possible!)	Total	HE institution	Sec. ac. school or VET college	VET school	Apprenticeship	Compulsory school
Internet	61	79	67	52	54	39
TV, radio, newspapers, magazines or billboards	30	35	27	40	26	23
Relatives, neighbours, colleagues at work	22	31	19	25	17	23
Own employer	21	30	20	23	16	17
Books	18	23	19	17	17	13
Schools and HE institutions	16	25	19	11	12	8
Counselling and advice centres (e.g. Public Employment Service)	12	8	8	12	15	21
Other sources of information	13	12	11	20	13	10

Source: Statistics Austria, AES

Formal education and work provide similar results about the search for educational guidance and counselling. When differentiating by age it can be seen that among 25- to 34-year-olds the share of people looking for education-related information is twice as high as among 55- to 64-year-olds (38% vs. approx. 19%). Some 87% of those looking for information about IVET and CVET options are also successful in their attempt. Around 10% stated they had not found the desired information. Among the unemployed, however, this share runs to some 24%, among compulsory school graduates 22% (Sommer-Binder 2010, p. 9ff.).

In recent years the competent institutions have not only widely expanded the information available on the internet and interconnected their data sources but also worked on the professionalisation of guidance officers and disseminated new concepts, such as career management skills, competence identification and competence balances (*cf.* relevant contributions in Hammerer & Schneeberger 2010).

8.7 National Qualifications Framework

The objective is to link the Austrian qualification system with the EQF by creating a National Qualifications Framework (NQF), which mainly aims to “create a systematic classification in the complexity of the Austrian education landscape” (Meyer, Staudecker 2011, p. 1). The relevant process is currently underway under the responsibility of the Federal Ministry for Education, the Arts and Culture (*BMUKK*) and the Federal Ministry of Science and Research (*BMWF*) (*cf.* Mayer, Staudecker 2011); some background information is helpful to understand the nature of this process.

Since 2007 research projects about the prerequisites and special aspects of NQF development have been commissioned by the Education Ministry and conducted by many researchers. The Education and Science Ministries with representatives of relevant organisations have formed a steering group to design and promote the development of the NQF (Tritscher-Archan 2010).

The following have been the major stages: in 2007 research institutions carried out “detailed studies”. From 2008 onwards several pilot projects have been conducted in the sectors of construction, tourism, healthcare, electrical engineering and business/administration. Following the consultation process in 2008 and the analysis by an expert group of the large number of received statements in 2009, the first NQF principles were decided in Austria in November 2009 by a presentation to the council of ministers based on the NQF position paper. In 2010 the criteria and procedures for the classification of qualifications were developed. These were to be initially reviewed by conducting the simulation phase⁵⁵ based on “exemplary qualifications”. The simulation phase aimed to pursue the following objectives in particular:

- Testing of the developed criteria to assign qualifications to the NQF and of the procedure to assign qualifications (Draft manual C1⁵⁶)
- Development of an evaluated and tested basis for future classifications of qualifications of all corridors
- “Testing” of the critical moments in the procedure

Subsequently it is planned to include non-formal qualifications in the NQF process as well: The long-term goal is to specify the NQF level on all qualification certificates and to register

⁵⁵ BMUKK, Strategieentwicklung in der Berufsbildung: Entwurf NQR Entwicklung 2010/2011.

⁵⁶ C1 = Corridor 1, which refers to formal education, *i.e.* certificates and diplomas of the public education system. Corridor 2 should then focus on non-formal qualifications.

the qualification in a database (=NQF register)⁵⁷. The Austrian Agency for International Cooperation in Education and Research (ÖAD, *Österreichischer Austauschdienst*) was appointed coordination office for the NQF in Austria⁵⁸.

The key step in developing and setting up the National Qualifications Framework has probably been the agreement in principle to divide the system into two parts from EQF Level 6 to 8. The academic qualifications starting with the bachelor degree should be determined by the Bologna qualifications and qualifications from VET and adult education by the EQF descriptors or the explanations of these descriptors developed in Austria in the form of a manual.

In the NQF, Level 6 becomes the crossroads between HE education on the one hand and VET and adult education on the other. The relevant document of the responsible ministries speaks merely of “technical reasons”:

“No demands were made in the course of the consultation to set up independent partial frameworks (e.g. separate framework in adult education, separate framework for the tertiary sector) - the idea of a joint framework was basically assessed as understandable and pragmatic. Difficulties only start with the “technical” design of a joint framework because the statements implicitly emphasise the autonomy of the Bologna process and the necessity of a specific design (“regulating elements”) for non-formally acquired qualifications. To address these concerns, a division of Levels 6 to 8 is suggested:

Bologna qualifications	Non-HE qualifications (such as VET, adult education)
8 – PhD 8	8
7 – MA 7	7
6 – BA 6	6
	5
	4
	3
	2
	1

Notes on the diagram: In the NQF all Austrian qualifications can be illustrated at Levels 1-5 (and at 6-8 for non-HE qualifications) through the ‘filter’ of the EQF descriptions and

⁵⁷ BMUKK, Strategieentwicklung in der Berufsbildung: Entwurf NQR Entwicklung 2010/2011.

⁵⁸ ÖAD: Tasks of the coordination office. On the internet:
http://www.oead.at/projekte_kooperationen/qualitaet_transparenz/nqr_koordinierungsstelle/aufgaben_der_nks/ (23.07. 2011).

the explanatory table. As work in the Bologna process has already progressed so far, it is not necessary to create any criteria or a procedure for the 'Bologna qualifications'.⁵⁹

The division undoubtedly represents a reduction of the administrative efforts in the allocation of qualifications of Levels 6 to 8. With the abandonment of the 'Dublin descriptors' which were developed in the Bologna process for Level 5, however, the possibility of strengthening the connection between HE and VET and adult education as well as the widening of HE access via the short cycle (Level 5 qualification) remained unused. This aspect is highlighted in the Bologna process as a significant approach for widening access to tertiary education.⁶⁰

The Austrian VET and academic education system has always had an implicit ranking of qualifications, which however had largely differing meanings in the spheres of VET on the one hand and academic education on the other (*cf.* Schneeberger 2009, p. 135ff.). Whereas a journeyman traditionally represented the standard of a qualification and the master craftsman the top level in the crafts, trades and many personal services (such as hairdressers), new ideas and problems emerged from the idea of a comprehensive and standardised vertical qualifications framework.

The explication of the 'implicit vertical qualifications framework' first of all triggered expectations in part of education research and education policy, which exceeded mere transparency or translation tools. The work in the NQF process has - with hindsight - turned out more discussion- and time-consuming than originally assumed. Despite intense academic contract research and support and varied political and administrative activities by boards, no definite allocation of formal proofs of qualifications has yet been conducted outside the Bologna qualifications as of August 2011. But the reason is not so much the educational reform expectations on the NQF, which go beyond the transparency objectives, but rather the well-established tradition of the spheres of VET on the one hand and academic education on the other.

In Austria there are a large number of advanced, post-secondary or higher IVET and CVET pathways, ranging from part-time industrial master college to the certified financial accountant training, the formal classification of which - in particular in an international comparison - is

⁵⁹ BMUKK and BMWF: Aufbau eines Nationalen Qualifikationsrahmens in Österreich. Schlussfolgerungen, Grundsatzentscheidungen und Maßnahmen nach Abschluss des NQR Konsultationsverfahrens, October 2009, p. 9; italics not in the original.

⁶⁰ BMWF: The Bologna Process 2020 – The European Higher Education Area in the new decade. Communiqué of the Conference of European Ministers Responsible for Higher Education, Leuven and Louvain-la-Neuve, 28-29 April 2009. On the internet: http://www.ond.vlaanderen.be/hogeronderwijs/bologna/conference/documents/Leuven_Louvain-la-Neuve_Communique%C3%A9_April_2009.pdf (07.12.2010).

currently not satisfactory or has not yet conducted. Therefore the NQF-EQF process is also seen as an opportunity to position higher VET in the tertiary sector internationally and, in this way, to present it in a transparent and understandable manner. The “broad political consensus” which is required for this purpose has not yet manifested however (Mayr 2011, p. 150.)

9. Self-assessment of strengths and weaknesses

Strengths

1. Qualifications of the VET school and college system are also possible in second-chance education and are acquired by many young adults
2. Apprenticeship diplomas for adults provide good opportunities on the labour market. This traditionally opens up a way in Austria which is characterised in European educational policy as outcome-orientation. Access to the exam is legally safeguarded via the 'exceptional admission', practical preparation is frequently conducted via courses organised by Public Employment Service (*Arbeitsmarktservice, AMS*). The work of VET experts and the social partner advisory boards therefore benefits the VET of young people and the qualification of adults in second-chance education. The apprenticeship diploma acquired in second-chance education has become quantitatively more important in the last 10 years.
3. The relatively low unemployment rate in the international comparison proves the validity and external quality of VET in Austria. Orientation towards outcomes on the labour market for each VET route can be regarded as the major indicator in the educational policy discourse in Austria.
4. Higher Income revenues compared to individuals without any qualification after compulsory schooling can be proven in all VET pathways.
5. Subject-based CVET subsidies are offered by the federal government, the provincial governments, municipal governments as well as employer and employee associations, and are accepted by the target groups.
6. The *Berufsreifepfprüfung (BRP)* exam was introduced in 1997 with the objectives of making apprenticeship training more attractive, promoting vertical permeability in the direction of tertiary education, and ensuring the higher qualification of graduates with an apprenticeship diploma or VET school qualification. The *BRP* has proven an important route of higher qualification for IVET graduates which is accepted by a considerable number of young adults and enjoys broad financial support. In the future, it is expected that the entire costs of the *BRP* will be borne by the public.

Weaknesses

1. The Austrian education system's almost unique structure in an international comparison ⁶¹ leads to a very low degree of transparency of proofs of qualification and to classification problems in the international context.
2. Pronounced segmentation of the post-secondary sector in the special forms of VET college, adult education on the one hand and the HE sector on the other.
3. In general, low willingness to recognise qualifications and, in particular, to enable their accumulation can be observed in Austria. This concerns the interfaces between VET colleges, *FHs* and universities.
4. There is a lack of short tertiary programmes, in terms of Level 5 of the EQF, for example, which can be completed in adult education and the HE sector or which are recognised in both sectors and make credit transfer possible.
5. For the healthcare and nursing sector with a view to healthcare programmes excluding doctors, for example, the fragmentation of competencies is mentioned as problematic – despite the wide ranging competences of the Federal ministry of health – due to differences concerning service law and salary law of the nine provinces (Bundesländer).

⁶¹ Unique is in particular the long form of VET college at upper secondary level, which leads to senior qualifications in the employment system and entitles graduates to general HE access. Similarly can the systemic positioning of certified healthcare and nursing after year 10 internationally nowhere be found. In general, the Austrian qualification system is additionally characterised by a high share of job-specific VET at the upper secondary level. According to the 2008 Educational Attainment Register, some 30% of 20- to 24-year-olds obtained an apprenticeship diploma (dual VET) and another 30% a full-time school-based VET qualification (VET school, VET college, post-secondary VET course).

10. Additional information and overview

At the project meeting on 24 January 2012, in which OECD auditors and members of the project's advisory board took part, it was suggested to round off the country report by providing some additional information about the institutional situation in the post-secondary VET landscape, which is characterised by institutional diversity; furthermore it was also proposed to search for more empirical evidence about issues related to social permeability. In addition, the idea was expressed to draw up a synopsis in the form of a table to give an overview of the topic.

Institutional aspects

Building on the definition of post-secondary VET which is used in this project, the following VET and exam options were included mainly:

1. VET college (*BHS*)

In 1970/71 there were 109 VET colleges in Austria, in 1990/91 there were as many as 301, in 2009/10 there are 304 such institutions⁶². *BHSs* are federal schools and provide a wide regional offer. The numbers of students and teachers are still increasing slightly. In 2009/10 there were 137 534 students and 22 130 teachers. Their teachers are financed by the federal government, for federal schools this also includes the entire infrastructure costs. Personnel costs are also borne by the federal government at schools where the federal government is not specified as the provider. Seventy-six percent of *BHSs* are federal schools, other providers are churches, municipal governments, provinces, as well as associations and voluntary organisations⁶³.

As well as *BHSs* there are also 34 colleges for the training of teachers and educators, which have a similar structure.

2. Preparatory courses for apprenticeship diplomas acquired in second-chance education

In principle it is possible to obtain an apprenticeship diploma without completing regular apprenticeship training. But adult candidates take the apprenticeship-leave exam 'with exceptional admission' before the same exam committee as apprentices at the end of their apprenticeship period. In most cases, however, they attend preparatory courses for apprenticeship

⁶² Statistics Austria: Statistical Yearbook of Austria 2012. Vienna 2011a, p. 129.

⁶³ Statistics Austria: Education in Figures 2009/10, Volume of Tables, Vienna 2011b, p. 66f.

diplomas in second-chance education. These are as a rule funded by AMS (both course fees and unemployment benefit) and conducted by CVET providers, above all the Vocational Training Institute or *BFI*. Apprenticeship-leave exams in second-chance education (admission due to proof of professional practice) are a quantitatively significant form of post-secondary VET not only in the federal capital Vienna but also in other provinces, with the share of all exam attempts rising.

3. Part-time industrial master certificates, master craftsperson certificates and related previous qualifications

Part-time industrial master and master craftsperson are traditionally important pathways of upgrading training for people with an apprenticeship diploma but are offered in different CVET institutions.

Part-time industrial masters mostly attend evening schools for employees of some two years' duration which are formally (according to school legislation) set up as special forms of VET school. But these are offered by adult education establishments, which levy course fees. Attendance of courses and completion of course-specific and final exams are laid down by curricula and obligatory. The school certificate is the part-time industrial master qualification at the same time.

Master craftspersons in most cases attend preparatory courses in adult learning institutions with vocational orientation (particularly the Institute for Economic Promotion or *WIFI*). *WIFI* is the CVET institution of the Austrian Economic Chamber. The Economic Chamber (like the Chamber of Labour) is regulated based on a system of obligatory membership with one major task being to provide CVET to employees and the self-employed.

Master craftsperson courses are as a rule attended on a part-time basis and can take several years. But course attendance is not mandatory. The exam is taken at the offices responsible for the master craftsperson exam in the nine provinces. These are set up at the Economic Chambers and act in the sphere of competence delegated to them on behalf of the Federal Minister of Economy. Candidates who furnish proof of a relevant apprenticeship diploma no longer need to take the respective module.

4. *Berufsreifepfung (BRP)* as an example of non-traditional HE access

Preparation for the *BRP* can be in self-study, distance study or in preparatory courses (adult education institutions, schools for people in employment, schools within the framework of partial legal capacity). For students who attend preparatory courses at recognised adult education institutions (currently *BFI*s, adult education centres, *WIFI*s and *LFIs*), it is possible to take up to three exams there (one exam must by all means be taken at a college), provided that the courses have been recognised as equivalent by the *Federal Ministry of Education*,

Arts and Culture. At all the other - including private – providers, candidates are obliged to take the exam before the school exam committee, the same applies to exam preparation in self-study.

http://erwachsenenbildung.at/bildungsinfo/zweiter_bildungsweg/berufsreifepreuefung.php

(27.01.2012)

5. HE-based CVET courses

HE-based CVET courses are held at the respective HE institutions (universities, universities of applied sciences, university colleges of education, private universities), where, in principle, different legal regulations apply for financing and admission. Different fees can be levied from students, the university or other HE institution decides on admission of applicants based on transparent criteria.

6. Fachhochschule programmes

In 2009/10 exactly 306 *Fachhochschul-Studiengänge* (*Fachhochschule* programmes)⁶⁴ were counted. These are offered by *Fachhochschulerhalter* (*Fachhochschule* providers). As a rule these providers are legal entities of private law: limited liability companies, non-profit associations or non-profit private foundations. Of 21 providers, currently 12 are organised as a '*Fachhochschule*'. Upon application, the *Fachhochschule* Council awards the title '*Fachhochschule*' to specific providers if a certain development status can be proven (at least two programmes; a minimum number of 1 000 study places within 5 years; a self-governing board must exist). Behind providers there are, among others, adult education establishments, provinces or also ministries (such as *BMLVS*).

(FHR, http://www.fhr.ac.at/fhr_inhalt/02_qualitaetssicherung/erhalter.htm, 26.01.2012)

7. VET and CVET programmes in the healthcare sector

VET and CVET programmes in the healthcare sector are based at different institutions. Qualified nursing staff are traditionally trained at schools of the healthcare sector, which are set up at hospitals. Providers can be provinces, municipalities or others, the legal framework conditions are laid down by the Federal Ministry for Health. Until 2006 there were also colleges of the healthcare sector, for which the federal government used to be responsible. Since then they have been converted into universities of applied sciences. There is another new feature in three provinces where qualified nursing staff are qualified in *Fachhochschule* programmes.

⁶⁴ Statistics Austria: Statistical Yearbook of Austria 2012. Vienna 2011a, p. 133.

8. VET and CVET programmes in the agricultural sector

In the agricultural sector there are different institutions in the post-secondary VET sector. As well as VET colleges of agriculture and forestry, which are federal schools with federal teachers (responsibility of the Federal Ministry for Agriculture), there is the wide regional network of CVET institutions *LFI*s (*Laendliches Fortbildungsinstitut*), which is connected with the Chamber of Agriculture. The Chambers of Agriculture are also set up based on mandatory membership. At *LFI*s skilled workers' exams, master craftsperson exams and certificates for specialist qualifications are conducted and participation is prepared in related courses. Advice and CVET for those active in agriculture and forestry is the *LFI*'s main task.

9. VET and CVET programmes in the security and defence sector

Programmes for the police service and armed forces are one particular aspect of VET and CVET programmes outside the school system. To date, the programmes conducted at the Security Academy have been classified essentially as in-house CVET and are therefore not recorded in official educational reports, the data of which are also passed on to UNESCO, OECD and Eurostat. The Federal Ministry of the Interior (*BMI*) bears responsibility for the Security Academy. The Security Academy is one of the Ministry's units. The Security Academy has also opened its offers to external applicants (such as *ASFINAG*, banks, car rental companies, Austrian Integration Fund or *ÖIF*, Telekom Austria AG).

http://www.bmi.gv.at/cms/BMI_SIAK/bildungsman/start.aspx (27.01. 2012)

The programmes for senior posts of the civil service are connected with the University of Applied Sciences in Wiener Neustadt. This also applies to programmes at a higher level of the armed forces. The Defence Ministry is responsible for basic programmes.

To date no figures are publicly accessible about participants and graduations in the two areas below *Fachhochschule* level but information about curricula and quality assurance is available on the internet.

10. Professional qualifications obtained in CVET and practical periods

There exists a wide range of professional qualifications obtained in courses, work placements or prescribed practical periods. CVET institutions, the Health Ministry (psychotherapists, for example) or the Ministry of Economy and the Ministry of Agriculture (awarding of the professional title *Ingenieur* after at least three years of advanced practice) confer relevant proof of qualification.

VET and social permeability

BHSs and *Fachhochschule* programmes constitute major cornerstones for widening access to higher education in Austria.

Between 1970 and 1990 the number of *BHS* locations in Austria increased from slightly more than 100 to some 300 (see above). This was connected with objectives to increase regional, gender-specific and social equality of opportunity. There exists empirical evidence that these expectations have been fulfilled at least in part (*cf.* Box 1). The *Fachhochschule* sector was introduced in 1994 and has developed rapidly since then. The school type *BHS* still exists, but the number of institutions has hardly increased since.

BOX 1:

Scientific evidence related to *BHS* as a social advancement pathway

“Where parents have rising educational aspirations, *BHSs* in particular represent a popular option for families with a lower social status, this is proven by their growing number of students in the period of observation.”

From: Susanne Schöberl & Herbert Neureiter: Chapter 7.4: Berufsbildung im Trend. In Schreiner, Claudia / Schwantner, Ursula (ed.): PISA 2006: Österreichischer Expertenbericht zum Naturwissenschafts-Schwerpunkt. Graz, 2009. On the internet: <https://www.bifie.at/buch/815/7/4> (27.01.2012).

“In Austria educational inequality still exists in the second half of the 1990s. Boys and youths from lower educational, professional and income groups demonstrate lower educational participation in the upper secondary school system, which means they are less likely to attend the upper cycle of secondary academic school or a VET college. This is further aggravated by a weak regional effect: youths who live in municipalities with a population of up to 10 000 - under otherwise identical conditions - less frequently attend the upper cycle of secondary academic school or a VET college. The reason that the differences were not more pronounced is because VET colleges are able to alleviate regional but also social and gender-specific inequalities, although they can never compensate for them fully. The first important conclusion from this is that VET colleges need to be further expanded to reduce regional and social inequalities, but the wide regional distribution must be taken into consideration here.”

From: Johann Bacher: Soziale Ungleichheit und Bildungspartizipation im weiterführenden Schulsystem Österreichs. In: Österreichische Zeitschrift für Soziologie, 28th Year, Issue 3, 2003, p. 3-32
http://www.jku.at/soz/content/e94921/e95831/e96904/e97470/BacherBildungsungleichheitsterreich_ge_r.pdf (27.01.2012)

Similar to the expansion of *BHSs* decades earlier, the *Fachhochschule* sector, which has developed since 1994, has proven an institutional change that is enhancing equality of opportunity for youths from groups less likely to access education: in the winter semester 2009/10, for example, 52 percent of the total of around 25 400 Austrians first enrolled at public universities (with information about their parents' educational attainment) came from households where the father has no upper secondary qualification (the school-leaving certificate *Matura* or higher) (Statistics Austria 2011, p. 289). Among about 12 200 students first admitted to *FH* programmes, however, this share was some 65 percent (Statistics Austria 2011, p. 352).

Two other indicators prove the special function of *FH* programmes in terms of social permeability. On the one hand, the share of beginners with a *BHS Reifeprüfung* certificate and VET diploma is, with 46 percent, clearly higher than at public universities (26 percent); on the other hand, the share of those who were employed before taking up a study is, with some 53 percent in the *FH* sector, higher than at public universities (41 percent) (Statistics Austria 2011, Education in Figures, Volume of Tables, pp. 286, 289; 348, 352). This is also reflected in the age of study beginners: in 2009/10 38 percent of those first admitted to *FH* programmes were 25 years old or older; at public universities this share was below 13 percent at the time of comparison (Statistics Austria, *loc.cit.*, p. 285, 348).

OVERVIEW 10-1:

Brief information about post-secondary VET in Austria

	Name	Form of learning	ISCED	Duration	Type of qualification	Number of graduates	Type of institution
1	VET college (<i>BHS</i>)	School-based VET; special forms	4A or 5B	5 years; 2 years (post-secondary VET course)	<i>Reifeprüfung</i> certificate and VET diploma	23 101 (2009)	Federal schools
2	Apprenticeship diploma in second-chance education	Exceptional admission; in most cases preparatory courses	3B	12 months or more	Apprenticeship-leave examination	8 039 (2010)	Adult education, frequently at <i>BFI</i>
3	Part-time industrial master (<i>WM</i>) schools; courses for master craftsperson (<i>M</i>) exam	Special form of BMS for <i>WM</i> ; courses (<i>M</i>) exam	5B	2 years (<i>WM</i>) or several courses per module (<i>M</i>)	Certificate; master craftsperson qualification	3 536 (2008)	VET school and college; adult education institution
4	<i>Berufsreifeprüfung</i>	Preparatory courses	4A	1-2 years	Upper secondary school-leaving certificate (<i>Reifeprüfung</i>)	2 600 (2007)	Adult education institutions; schools
5	HE-based CVET courses	Non-degree programmes with focus on CVET	5B or 5A	1-2 years	Titles starting with 'Akademische/r ...' (i.e. graduate); master degrees	4 942* (2008/09)	Unis, <i>FHS</i> ; university colleges of education; private universities
6	<i>FH</i> programmes	HE study	5A	6 semesters BA; 2-4 sem. MA	Bachelor / master	8 774 (2008/09)	<i>FH</i> provider; <i>FH</i>
7	Schools of the healthcare sector	Theoretical and practical instruction	4B	3 years	Diploma	14 705 (2008)	Specialist <i>BMSs</i>
8	VET and CVET in the agricultural sector	<i>BHSs</i> ; master craftsperson exam courses; certificate courses	4A (<i>BHS</i>); 5B; no classification	5 years (<i>BHS</i>); other course durations differ	<i>Reifeprüfung</i> certificate and VET diploma (<i>BHS</i>); master craftsperson exams; certificate	621 <i>BHSs</i> ; other data not accessible	Federal schools; <i>LFIs</i>
9	VET and CVET in the security and defence sector	Courses, study programmes	Not in UOE	Mostly 2 years	Exam before committee	No data accessible	Units of federal ministries
10	Professional qualifications	Courses; practical periods	Not in UOE	Different	Official awarding; entry etc.	No data accessible	Adult education institutions; professional associations; federal ministries

* not including degrees from *FH* programmes and university colleges of education Not in UOE = not included in the reporting for UNESCO, OECD, Eurostat
Source: in-house compilation

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Annex of tables

TABLE A-1:

Public education expenditure by education sectors (ISCED) from 1995 to 2008 (in EUR million)

Year	ISCED 0 Elemen- tary level	ISCED 1 Primary level, years 1 - 4	ISCED 2 Lower secon- dary level, years 5 - 8	ISCED 3 Upper sec. level, years 9 and higher	ISCED 4 Post- secon- dary level non- tertiary	ISCED 5B Non- univer- sity tertiary sector	ISCED 5A/6 Univer- sity tertiary sector	ISCED 9 Non- assign- able (n.a.)	Public educa- tion expendi- ture total	Public educa- tion expendi- ture in % of GDP
1996	771.1	2 198.9	2 712.1	2 338.2	76.5	201.3	2 253.7	173.4	10 725.3	6.0
1997	795.1	2 235.2	2 667.8	2 371.4	77.8	194.8	2 255.3	146.1	10 743.5	5.9
1998	882.6	2 304.5	2 702.1	2 482.1	105.8	189.1	2 290.9	144.3	11 101.5	5.8
1999	850.4	2 400.8	2 956.6	2 517.8	91.2	198.2	2 431.0	155.6	11 601.7	5.9
2000	880.5	2 297.7	2 959.5	2 608.1	96.4	201.6	2 467.5	143.3	11 654.6	5.6
2001	834.8	2 368.9	2 860.8	2 584.5	97.4	176.0	2 730.8	355.5	12 008.6	5.7
2002	886.4	2 432.5	2 958.7	2 663.1	92.8	177.9	2 648.2	394.7	12 254.3	5.6
2003	926.3	2 560.7	3 181.4	2 990.7	34.7	212.2	2 711.7	-	12 617.7	5.7
2004	938.8	2 435.2	3 035.4	3 040.1	44.0	368.0	2 988.7	-	12 850.3	5.5
2005	989.2	2 533.5	3 181.4	2 945.4	49.0	373.5	3 265.3	-	13 337.3	5.5
2006	1 028.5	2 599.2	3 324.4	3 195.7	48.0	397.5	3 404.7	-	13 998.0	5.4
2007	1 108.1	2 635.2	3 415.1	3 349.9	51.3	375.1	3 681.4	-	14 616.1	5.4
2008	1 290.9	2 758.6	3 616.0	3 540.1	52.6	316.2	3 889.1	-	15 463.5	5.5

Source: Statistics Austria, Education expenditure statistics

TABLE A-2:

Educational attainment of 20- to 64-year-old employees (excluding people completing their military or community service)**A) Men**

ISCED	Educational attainment	Population	Economically active	Employees
6	Doctorate study	48 631	45 873	44 906
	FH	36 643	34 024	33 358
5a	University/HE institution	205 498	190 285	185 049
	Other, MBA, MAS	7 678	6 905	6 433
	Post-secondary VET course, specific post-secondary VET course for upper secondary school graduates (<i>Abiturientenlehrgang</i>)	9 420	8 463	8 025
5b	Master craftsperson or part-time industrial master examination	157 111	137 305	135 470
	CVET university course without initial degree	5 379	5 079	4 862
	HE-related institution/post-secondary VET college	26 284	23 857	23 571
4	School for general healthcare and nursing (4B)	7 767	7 082	6 999
	VET college, normal form (4A)	237 672	206 595	197 030
	Apprenticeship diploma (3B)	1 145 277	966 275	930 227
	VET school shorter than two years	17 459	14 425	13 932
3	VET school of two years or more (3B)	180 501	161 135	154 620
	Secondary academic school (3A)	156 076	111 432	104 692
2	Qualification from lower secondary or the lower cycle of secondary academic school	289 442	209 910	186 591
1	No compulsory school qual.	16 103	7 893	7 109
Total		2 546 941	2 136 538	2 042 874

B) Women

ISCED	Educational attainment	Population	Economically active	Employees
6	Doctorate study	22 645	19 010	18 579
	FH	37 231	30 726	29 273
5a	University/HE institution	206 279	173 078	167 481
	Other, MBA, MAS	6 956	6 331	6 189
	Post-secondary VET course, specific post-secondary VET course for upper secondary school graduates (<i>Abiturientenlehrgang</i>)	18 893	13 900	13 479
5b	Master craftsperson or part-time industrial master examination	25 333	18 848	18 595
	CVET university course without initial degree	7 363	5 993	5 948
	HE-related institution/post-secondary VET college	95 456	79 693	78 619
4	School for general healthcare and nursing (4B)	66 271	57 099	56 528
	VET college, normal form (4A)	255 013	208 415	201 331
	Apprenticeship diploma (3B)	722 315	536 184	516 347
	VET school shorter than two years	43 036	28 885	28 012
3	VET school of two years or more (3B)	355 901	275 662	265 563
	Secondary academic school (3A)	197 677	133 043	127 052
2	Qualification from lower secondary or the lower cycle of secondary academic school	483 300	268 415	250 900
1	No compulsory school qual.	31 854	9 329	8 179
Total		2.575.523	1 864 611	1 792 075

Source: 2010 Microcensus annual results; ibw calculation and presentation

TABLE A-3.1:

Students in VET schools and colleges and in the field of engineering, industry and trade in a comparison over time

School type	Students			Schools		
	2000/01	2006/07	2009/10	2000/01	2006/07	2009/10
VET schools (main and special forms) total	12 252	19 032	20 615	138	150	165
Schools of engineering and trades (in the narrower sense)	7 292	8 494	8 177	49	50	51
Schools in the VET field of 'arts'	975	987	916	9	9	8
Schools in the VET field of 'clothing'	636	537	539	12	8	8
Schools of engineering and trades (TGMSs) with organisational statutes		734	691	-	10	8
including: Special forms for adults	3 349	4 140	5 146	68	73	90
TGMSs, part-time industrial master colleges and courses	2 356	2 872	3 703	40	49	54
TGMSs, building craftsperson schools	525	578	523	13	7	7
TGMSs, preparatory courses and preparatory courses for employees	295	391	480	8	9	18
TGMSs, master craftsperson schools and master craftsperson courses	173	299	293	7	8	8
TGMSs, courses and schools for employees			147	-	-	3
<i>Adults total</i>						
VET colleges (main and special forms)	48 537	51 587	53 703	137	152	157
VET colleges of engineering and trades (in the narrower sense)	37 952	40 933	41 816	55	63	63
VET colleges in the VET field of 'clothing'	2 059	2 232	2 370	15	14	14
VET colleges in the VET field of 'arts'	1 660	2 003	2 351	8	9	9
including: Special forms for adults	6 866	6 419	7 166	59	66	71
VET colleges for employees at VET colleges of engineering and trades (in the narrower sense)	4 246	3 823	4 282	23	23	28
Post-secondary VET courses at VET colleges of engineering and trades (in the narrower sense)	2 025	1 357	1 379	20	20	17
Add-on courses at VET colleges of engineering and trades (in the narrower sense)	335	903	1 091	10	18	19
Post-secondary VET courses for clothing at VET colleges of engineering and trades	143	199	207	2	3	3
Post-secondary VET courses for arts at VET colleges of engineering and trades	42	89	152	1	1	3
Add-on courses for clothing at VET colleges of engineering and trades	75	48	55	3	1	1

Source: Statistics Austria, school statistics

TABLE A-3.2:

Students and schools/colleges in business, management, the service industries and tourism sectors in a comparison over time

School type	Students			Schools		
	2000/01	2006/07	2009/10	2000/01	2006/07	2009/10
VET schools (main and special forms)	24 701	25 198	23 200	280	268	255
Schools of business administration	12 405	12 102	11 217	112	111	107
Three-year school of management and service industries	7 440	7 827	7 255	79	77	74
Schools in the VET field of 'tourism'	2 520	2 503	2 367	19	20	20
Home economics schools (1-year course)	1 488	1 169	965	50	40	36
Schools of business administration (KMSs) with organisational statutes		789	752	-	5	7
Home economics schools (2-year course)	783	445	325	20	10	6
Schools for management and service industries with organisational statutes		298	263	-	5	5
including: Programmes for adults	65	65	56	2	3	2
KMSs, courses, special programmes and schools for employees	46	27	36	1	1	1
KMSs, preparatory courses and preparatory courses for employees	19	38	20	1	2	1
Colleges	71 741	79 428	80 001	259	278	285
Colleges of business administration	37 525	38 616	37 806	106	106	106
Colleges of management and service industries	22 381	26 767	27 225	72	81	82
VET colleges in the VET field of 'tourism'	5 959	6 572	7 002	20	21	21
including: Programmes for adults	5 876	7 473	7 968	61	70	76
Colleges of business administration for employees	2 303	3 312	3 585	14	18	19
Add-on courses at colleges of business administration	1 007	1 239	1 384	12	13	13
Add-on courses at colleges of management and service industries	516	956	1 175	5	11	13
Post-secondary VET courses at colleges of business administration	654	564	587	12	10	11
Add-on courses for tourism at VET colleges	458	463	496	6	6	7
Post-secondary VET courses at colleges of management and service industries	42	129	177	2	3	4
Post-secondary VET courses for tourism	896	810	564	10	9	9

Source: Statistics Austria, school statistics

TABLE A-3.3:

Students and schools/colleges in healthcare, education and the social sector in a comparison over time

School type	Students			Schools		
	2000/01	2006/07	2009/10	2000/01	2006/07	2009/10
VET schools	1 461	25 623	27 533	14	302	309
Healthcare schools		18 981	20 258	-	230	242
Schools of social occupations with organisational statutes		5 153	5 712	-	58	52
Schools of social occupations	1 461	1 489	1 563	14	14	15
VET colleges	12 740	12 514	15 313	48	55	63
Nursery teacher training colleges	7 864	7 612	7 800	29	29	29
Colleges of social pedagogy	439	409	442	2	2	2
including: adult students	768	1 097	1 664	17	24	32
PE teacher training colleges	3 669	3 396	5 407	4	4	4
Post-secondary VET courses at nursery teacher training colleges	239	252	716	6	5	11
VET courses at nursery teacher training colleges		196	236	-	7	9
Post-secondary VET courses at colleges of social pedagogy	529	615	672	7	6	6
VET courses at colleges of social pedagogy		34	40	-	2	2
Teacher training colleges in the healthcare sector		3 994	1 783	-	65	41
Post-secondary teacher training colleges	10 746	8 871	-	14	14	-
Colleges for the training of vocational teachers	1 339	1 526	-	4	4	-
Colleges for the training of teachers of religion	1 028	1 017	-	9	9	-
Post-secondary colleges for social work	1 394	25	-	9	1	-

Source: Statistics Austria, school statistics

TABLE A-4:

**20- to 64-year-old employees in 2010 with upper secondary qualification
and major occupational groups; in 1 000**

Educational attainment, occupational group	School for general health-care and nursing	VET college, normal form	Post-secondary VET course, incl. for upper sec. school graduates	Master craftsman and part-time industrial master exam	CVET university course without first degree	HE-related institution / post-sec. VET college	FH	Uni/ HE institution	Doctorate
ISCED = International classification	4B	4A	5B	5B	5B	5B	5A	5A	6
ISCO major occupational group									
Managers & senior officials*	0.3	35.7	2.4	26.1	1.9	4.9	9.9	39.5	7.5
Professionals	0.1	26.9	2.4	1.9	1.9	67.9	26.7	219.6	45.3
Technicians & associate professionals	49.7	171.9	10.2	36.5	4.2	19.8	15.6	47.6	5.6
Clerical support workers	1.4	89.2	3.0	4.5	1.9	3.7	5.6	20.5	3.5
Service and sales workers	8.9	34.9	1.8	10.9	0.7	3.7	2.4	13.0	0.6
Skilled agricultural, forestry and fishery workers	1.5	8.5	-	17.5	0.1	0.2	-	0.9	-
Craft and related workers	0.0	9.3	0.7	46.7	-	0.3	1.0	4.2	0.2
Plant and machine operators, and assemblers	0.0	5.6	-	5.1	-	0.2	0.2	1.3	0.1
Elementary occupations	1.1	15.3	1.0	4.8	0.0	1.1	0.9	5.4	0.6
Armed forces	0.3	1.1	0.0	0.1	0.2	0.4	0.4	0.5	-
Total	63.5	398.4	21.5	154.1	10.8	102.2	62.6	352.5	63.5

Note: * incl. legislators

Source: 2010 Microcensus annual results; ibw calculation and presentation

TABLE A-5:

20- to 64-year-old employees (excluding people completing their military or community service) in 2010 by formal qualification and ÖNACE sectors; absolute figures in 1 000 people

ÖNACE sector	ISCED 1, 2		ISCED 3		ISCED 4		ISCED 5B		ISCED 5A		ISCED 6	
	max. compulsory schooling	Apprenticeship	Nursing school	VET college, normal form	Post-secondary VET course, incl. for upper sec. school graduates	Master crafts-person and part-time industrial master exam	CVET university course without first degree	HE-related institution / post-sec. VET college	FH	Uni/ HE institution	MBA, MAS	Doctorate study
Primary sector	40.8	67.1	1.5	12.6	-	18.1	0.1	0.3	0.2	2.7	-	0.4
Material goods production (incl. energy & water supply)	87.1	330.6	0.5	66.6	1.6	49.6	1.0	2.0	13.7	31.9	0.6	9.0
Construction	30.6	158.6	0.1	25.3	1.0	19.4	0.2	0.4	2.2	7.9	0.0	1.0
Commerce; repair of motor vehicles, personal & household goods	67.3	295.6	0.6	54.8	1.5	18.0	0.4	2.7	6.2	26.9	0.8	2.6
Hotels & catering	50.6	93.2	0.2	18.3	2.1	5.2	0.3	1.7	1.5	6.9	0.2	0.4
Transport, storage & communication	28.9	115.0	0.2	25.6	0.3	7.9	0.3	0.3	2.1	11.0	0.2	0.7
Financial intermediation	5.5	28.5	0.2	36.1	1.7	1.6	1.2	0.8	3.3	18.3	0.7	1.8
Real estate, renting & business activities	47.2	91.5	0.8	63.5	3.6	10.4	1.8	2.3	13.0	69.3	2.9	16.8
Public administration & public services	91.4	262.6	59.1	95.2	9.7	23.6	5.5	91.4	20.3	171.9	7.3	30.3
Private households & extraterritorial organisations	3.3	3.9	0.1	0.4	-	0.3	-	0.2	0.2	5.8	-	0.5
Total	452.8	1.446.6	63.5	398.4	21.5	154.1	10.8	102.2	62.6	352.5	12.6	63.5

Note: * including energy & water supply

Source: 2010 Microcensus annual results; ibw calculation and presentation

TABLE A-6:

**Gross hourly earnings in € (median, 25th and 75th percentile)
according to ISCO major occupational groups and highest formal educational attainment:
all people in dependent employment (2006)**

ISCO major occupational group		Max. compulsory schooling	Apprenticeship	VET school	Sec. ac. school	VET college	Master crafts-person, post-secondary VET courses and colleges	Universities & Fachhochschulen
Managers	Percentile 75	29.97	27.78	30.91	36.64	38.12	26.75	50.34
	Percentile 25	16.00	15.55	16.74	19.66	21.00	16.22	25.03
	Median	21.47	20.70	23.35	25.93	27.21	21.34	34.81
Professionals	Percentile 75	26.63	25.50	23.71	21.86	25.22	18.90	26.94
	Percentile 25	12.50	13.85	13.64	13.25	14.12	13.74	14.58
	Median	15.30	18.72	18.27	16.36	18.13	16.19	19.65
Technicians & associate professionals	Percentile 75	15.84	19.05	18.49	19.79	22.15	21.92	22.93
	Percentile 25	10.11	11.82	12.44	11.67	12.78	13.54	13.93
	Median	12.03	14.92	14.84	14.91	16.68	17.19	17.79
Clerical support workers	Percentile 75	13.60	15.19	16.57	19.00	17.47	20.38	22.85
	Percentile 25	8.51	9.88	9.88	9.90	10.03	12.01	12.61
	Median	10.43	11.99	12.59	13.67	13.00	15.58	16.67
Service and sales workers	Percentile 75	9.76	11.11	11.15	11.76	12.39	15.28	13.77
	Percentile 25	6.85	7.45	7.38	7.15	7.27	8.65	8.51
	Median	7.92	9.03	9.04	9.28	9.18	10.85	10.15
Craft and related trades workers	Percentile 75	12.72	13.91	13.60	13.73	15.76	17.17	15.29
	Percentile 25	9.25	10.39	9.59	9.54	10.00	12.01	10.42
	Median	10.78	11.92	11.39	11.33	12.14	14.16	12.37
Plant and machine operators, and assemblers	Percentile 75	12.57	14.30	13.46	13.96	13.32	17.00	12.87
	Percentile 25	8.78	9.59	9.03	8.35	7.79	11.39	7.40
	Median	10.46	11.74	10.78	10.51	10.54	14.07	10.00
Elementary occupations	Percentile 75	9.89	11.23	10.15	10.00	10.11	11.58	10.10
	Percentile 25	6.91	7.87	6.98	6.97	7.18	7.24	6.93
	Median	8.24	9.36	8.41	8.24	8.48	9.46	8.33

Source: Statistics Austria, 2006 income structure survey; ibw presentation

TABLE A-7:

**Residential population aged 20 to 64 by highest formal educational attainment:
ISCED vs. national educational qualifications in 2010**

Formal education	ISCED level								TOTAL	
	1	2	3c*	3a,b	4a, b	5b	5a	6		
No compulsory school qualification	47 956	-	-	-	-	-	-	-	-	47 956
Qualification from lower secondary or the lower cycle of secondary academic school	-	774 137	-	-	-	-	-	-	-	774 137
Apprenticeship-leave examination	-	-	-	1 872 858	-	-	-	-	-	1 872 858
VET school shorter than two years	-	-	60 661	-	-	-	-	-	-	60 661
VET school of two years or more	-	-	-	536 704	-	-	-	-	-	536 704
Nursing school	-	-	-	-	74 037	-	-	-	-	74 037
Sec. ac. school	-	-	-	354 571	-	-	-	-	-	354 571
VET college, normal form	-	-	-	-	495 211	-	-	-	-	495 211
Post-secondary VET course, specific post-secondary VET course for upper secondary school graduates (Abiturientenlehrgang)	-	-	-	-	-	28 367	-	-	-	28 367
Master craftsperson/part-time industrial master exam	-	-	-	-	-	182 615	-	-	-	182 615
CVET university course without initial degree	-	-	-	-	-	12 743	-	-	-	12 743
HE-related institution (post-secondary VET college)	-	-	-	-	-	121 740	-	-	-	121 740
FH	-	-	-	-	-	-	73 902	-	-	73 902
University/HE institution	-	-	-	-	-	-	411 952	-	-	411 952
Other, MBA, MAS	-	-	-	-	-	-	14 633	-	-	14 633
Doctorate study	-	-	-	-	-	-	-	71 275	-	71 275
Total	47 956	774 137	60 661	2 764 133	569 248	345 465	500 487	71 275	-	5 133 362

Source: 2010 Microcensus annual results; ibw calculation; note: * shorter than 2 years