

## Introduction

The system of post-secondary education in Austria includes four types of institutions, and is divided into two sectors. The university sector includes eighteen universities, of which twelve are regular universities and six are universities of the arts. The non-university sector includes specialised programmes for applied studies: the *Fachhochschulstudien*, established in 1994-1995. Furthermore, there are the *Akademien* in the field of social work, teacher training, paramedical professions and religious education. In Austrian terms however, these *Akademien* are not part of the higher education system (Pechar, 1998).

Major reforms to the Austrian higher education system were decided upon in 1993. The most important changes relate to the organisation of the universities (*Universitätsorganisations-gesetz*, 1993) and to the setting up of a new sector of higher education. In 1993, the *Fachhochschul-Studiengesetz* (FHStG) marked the establishment of a new type of post-secondary educational institution in Austria, an important change in the Austrian higher education landscape. The first *Fachhochschule* programmes began operations in the 1994-1995 academic year, and in 2000 the 68 programmes offered encompass the fields of business and economics, tourism, engineering, telecommunications and administration. In 1998-1999 there were almost 8,000 students enrolled in these *Fachhochschulstudien*, and the number envisaged for 2005 is 21,000 (Hochschulbericht, 1999).

## Input

Austrian higher education has tried, until 1993, to absorb the massification of higher education into its regular universities. The overall number of students at the universities has increased more than tenfold in the last forty years (Kellermann and Sagmeister, 2000). Although the non-university sector has expanded since 1994-1995 with the introduction of the *Fachhochschulstudien*, the university sector still accommodates the bulk of the Austrian higher education students (tables 5.1 and 5.2).

**Table 5.1:** Number of students (incl. foreign students)

	Universities	Arts Universities	Fachhochschulen
1990	186,607	6,872	-
1991	194,875	6,999	-
1992	199,021	6,748	-
1993	203,991	6,648	-
1994	209,290	6,837	695
1995	213,525	6,833	1,754
1996	213,510	6,835	3,756
1997	212,247	6,893	5,769
1998	214,885	7,278	7,867

Source: CHEPS Higher Education Monitor / Statistisches Taschenbuch 1999

**Table 5.2:** New entrants (incl. foreign students)

	Universities	Arts Universities	Fachhochschulen
1993	23,231	923	-
1994	23,242	928	558
1995	24,106	858	1,199
1996	22,065	835	2,204
1997	20,976	725	2,536
1998	22,889	767	2,895

Source: Statistisches Taschenbuch 1999

A *Reifeprüfung* (matriculation examination or *Matura*) obtained from a secondary higher school is required for admission to all university studies. This matriculation examination entitles its holders to enrol in university studies of their choice without any further limitations. For some study programmes, additional examinations have to be taken in subjects which are relevant for the study programme in question, or applicants must demonstrate their artistic talents, practical skills, or physical aptitude in addition to the *Reifeprüfung*. Persons who are not in possession of the matriculation examination, but who are especially qualified for certain studies because of the nature of their work or in any other way, may sit for a *Studienberechtigungsprüfung* (university entrance examination) which is an entitlement to enrol in a particular course of university studies. The *Berufsreifeprüfung*, a special type of matriculation examination allowing unlimited access to university, was introduced in 1997 as a new entrance opportunity for all types of studies for persons having successfully completed professional training. In absolute figures, this type of enrolment is insignificant (Eurydice, 1999). To be admitted as a regular student at an arts university, applicants must pass an aptitude test to demonstrate their artistic talent. For some studies, additional requirements have to be met. The minimum age to become a regular student is seventeen years, and fifteen years in exceptional cases for instrumental music studies. The require-

ments of admission to *Fachhochschule* are the *Reifeprüfung*, the *Studienberechtigungsprüfung*, the *Berufsreifeprüfung* or any professional qualification in the particular field. Similar admission requirements apply to the *Akademien*.

## Structural characteristics

### *Degrees and programmes*

Graduates of study programmes at the universities are awarded the degree of *Magister* or *Diplom-Ingenieur*. *Fachhochschulen* offer *Magister FH* and *Diplom-Ingenieur FH* degrees. University studies are divided into two cycles: the *Diplomstudien* and the *Doktoratstudien*. The *Diplomstudien* are further divided into two stages: The *Erste Diplomprüfung* after two years, and the *Zweite Diplomprüfung* after another two or three years. These *Diplomstudien* require at least eight (humanities and social sciences), nine (pedagogical sciences) or ten (technical, natural and technological sciences) semesters. In reality, however, most students take a considerably longer time to complete the programmes (Hochschulbericht, 1996). Before 1997, the universities also provided short courses (*Kurzstudien*). Due to the small student numbers and the introduction of the *Fachhochschulen*, these programmes were abolished in the 1997 Act on University Studies. The arts universities offer degrees corresponding to the programme (e.g. *Akademisch Geprüfter Konzertsänger*). In response to the Bologna declaration, universities have the opportunity to offer programmes in three cycles (*Bakkalaureat – Magister/Diplom-Ingenieur – Doktorat*). Supplementary regulations were added to the University Study Act of 1997 that enables universities, on a voluntary basis, to convert the *Diplomstudien* into a two cycle course, upon application by the university and approval by the federal minister. The *Bakkalaureat* constitutes an official entrance qualification for the labour market, as opposed to the *Erste Diplomprüfung* (Schrier and Kaiser, 1998). The *Fachhochschule* programmes last seven to eight semesters. These programmes are university-level programmes which intend to convey a scientifically based professional education. As a rule, one semester is spent in practical professional training. *Fachhochschulestudien* end with the conferral of an academic degree, which is also an entitlement to take up doctoral studies at a university (although additional courses might be required).

The actual average length of studies at universities is fourteen semesters. This means that students generally exceed the prescribed minimum time of study by four or five semesters. Approximately 4.8% of all students stay within the set minimum. The actual duration of a *Fachhochschule* study course, including the time needed to finish the final assignment, is seven or eight semesters. In January 1999, the number of *Fachhochschulen* graduates was about 650 (Pratt and Hackl, 1999). With 680 entrants starting the courses in 1994, the completion rate is satisfactory, especially when compared with the universities.

### *Academic versus professional programmes*

The relation between universities and *Fachhochschulen* is considered to be 'equal but different'. The university curricula are strongly shaped by the Humboldtian tradition. From the start of the programme, students are consi-

dered ‘apprentice researchers, who are able to conduct their studies independently’. The obligations of academics *vis-à-vis* students are regarded as informal and the need for guiding and monitoring is not seen’ (Pechar, 1998, p. 42). At the *Fachhochschulen* and *Akademien*, students follow a rather school-like curriculum. The difference between universities and *Fachhochschulen* is evident in the way the curricula are developed. University teachers are free to choose the contents and methods of their courses. The repertory of lecture types has remained largely unchanged in recent decades. It includes lectures, seminars, introductory seminars, exercises and practical courses. At arts universities, students are fostered individually in their artistic development by one-on-one tuition. Since the University Study Act of 1997, the responsibility for curriculum design has been decentralised. The study committees of the individual institutions now have to develop their own curriculum. In addition, hearings are required in which representatives from the labour market have the opportunity to comment on the curricula. The right of the Minister is reduced to the right to decline the proposals for curriculum changes or new curricula.

The key aspect of the FHStG is the accreditation model. This Act set up a central accreditation council – *Fachhochschulrat* – which examines proposals for programmes according to quality, adequacy of access regulations, qualifications of staff, existing infrastructure, cost estimates and a plan for evaluation and further development of the curriculum. The *Fachhochschule* can be considered rather radical in the centralised Austrian context of the early 1990s. The *Fachhochschulrat* is set up as an autonomous board which is not subject to instructions of the Minister. It should base its decisions on ‘the criteria of scholarship and the correspondence between the curriculum and professional requirements’ (Austria, 1993). This model was chosen to permit a large variety of institutions to offer courses, while at the same time ensuring uniform standards (Pratt, 1993).

#### *Relationship with the government*

Another important issue in respect to structural characteristics, are the different levels of dependency on government between universities and *Fachhochschulen*. Traditionally, universities did not receive money to be spent at their own discretion. Organisational reforms in the 1990s have changed this by the introduction of a type of lump sum financing, but the bulk of the budget is still earmarked. The relationship between *Fachhochschulen* and the federal government is more distant. The *Fachhochschulen* are quasi-private institutions where public bodies join the associations or are shareholders of the companies which legally own the institutions (Pechar, 1998). Federal money is allocated in the form of enrolment-driven lump sums and the government only decides on the number of study places it funds, and on the amount of funding per student. Furthermore, the *Fachhochschulen* are partly funded by provincial governments and municipalities. The budgets of the *Akademien* are neither enrolment-driven nor are they completely disassociated from enrolments: the bulk of the funding is not elastic because personnel are mostly tenured civil servants.

One can conclude from the previous section that there is a clear institutional distinction between the universities and the *Fachhochschulen*. Although it is

possible for the universities to offer *Fachhochschulstudien*, and this was foreseen at the time of the implementation of the FHStG (Pratt, 1993: 150), so far universities have been reluctant to offer these programmes. Since the degrees issued at both institutions are considered equal, there will probably not be a high level of interaction in terms of student flows. The flow of students will be limited to graduates of the *Fachhochschulen* to the doctoral programmes of the universities.

#### *Research*

Similarly to the educational function, the distinction between universities and *Fachhochschulen* is also evident in the research function. The inseparability of teaching and research is the fundamental organisational principle of Austrian universities. According to Austrian law, scholarship and university teaching are 'free' in the sense that they are not subject to external regulations with regard to subject matter. The *Fachhochschulen* are allowed to be involved in applied research and development, but structural funding of research is not provided. In 1998, a programme to promote co-operation with companies on a competitive basis has been launched with a budget of 3.6 million Euro. The universities and their research institutions will continue to play a dominant role in publicly-funded research. For the *Fachhochschulen*, an increasing role is seen as the carriers of regional innovations and the provider of specific services.

It is not likely that there will be a high level of interaction between the universities and the *Fachhochschulen* in the near future. Both are too distinct in their orientation, cultures and governance.

### Other system characteristics

#### *Finance*

As indicated above, there are considerable differences between the financing of universities and *Fachhochschulen*. These differences are evident in the sources of funding, the allocation methods and in the amount of funding received. Where university funding comes mainly from the federal government and is predominantly earmarked, *Fachhochschulen* are funded by several bodies (federal, provincial and local government and third parties) and receive lump sum funding based on enrolments.

In 1998, the average cost for each regular student was approximately 100,000 Austrian *Schillings* at universities, 280,000 at arts universities, and 94,000 at *Fachhochschulen*. The internal allocation of funds (for universities and *Fachhochschulen* together) for 1990 and 1997-1999 is given in table 5.3. This clearly shows a relative decline in personnel expenses, and an increase in material costs.

**Table 5.3:** Expenses of higher education institutions (in Billion Austrian Schillings)

	1990		1997		1998		1999	
	in Bio.S	in %						
Personnel costs	7,177	41.1	11,027	37.6	12,008	37.6	12,124	36.7
Material costs	7,748	44.4	14,768	50.4	16,138	50.5	16,988	51.4
Building costs	708	4.1	609	2.1	655	2.1	776	2.3
Research and development	1,840	10.5	2,915	9.9	3,136	9.8	3,157	9.6
Total	17,467	100	29,318	100	31,936	100	33,045	100

Source: Statistischen Taschenbuch 1998, 1999

*Personnel*

In Austria, there is no special initial training for university lecturers. Initial training is acquired on the job. The prerequisite for appointment as *Universitätsassistent* (university assistant) or *Vertragsassistent* (assistant lecturer under private or public law) is graduation from a university. After four years of initial, limited-term service, an assistant lecturer may enter provisional service. This presupposes his or her taking a pertinent doctoral degree and successful performance in teaching, the development of the arts, research, and the typical administrative tasks occurring at a university department. To obtain a definitive, permanent post, an assistant lecturer has to acquire the teaching qualification of an *Universitätsdozent* (associate professor) after a further six years at the latest, or prove successful service in research, teaching and administration. For appointment as a *Universitätsprofessor* (university professor), candidates need a pertinent university degree, and have to have acquired the position of associate professor (or an equivalent scientific qualification domestically or internationally) as well as prove their educational skills. Professorships at arts universities may be granted without formal qualifications.

In recent years, the established posts for scientific and non-scientific staff at universities have increased to a total of over 19,000 posts (table 5.4). With a share of 60%, scientific personnel account for the majority of university and contract assistants. The ratio of scientific to non-scientific posts was approximately 4:3 in 1998.

**Table 5.4:** Academic and non-academic personnel in Universities and Art Universities

	Academic	Non academic	Total
1990	8,664	6,159	14,823
1991	8,913	6,514	15,427
1992	9,279	6,514	15,793
1993	9,611	7,007	16,617
1994	9,910	6,919	16,829
1995	10,654	7,338	17,992
1996	10,921	7,534	18,455
1997	11,004	7,409	18,413
1998	11,081	8,392	19,473

Source: CHEPS Higher Education Monitor

Of all university assistants 28% are women, as are 12.8% of *Universitätsdozenten* (assistant professors), and 42.6% of *Universitätsassistenten* (contract assistants). In the academic year 1998-1999, the professor/student ratio was 1:113 (national and foreign students), the (fixed-service) professor or assistant/student ratio was 1:24. The arts universities generally show a different staff structure than universities. At the arts universities, professors account for one third of the total of 1,270 scientific staff posts.

For the staff of the institutions, the *Fachhochschulen* policy implied less individual freedom than for staff in universities. The *Fachhochschulen* policy was based on the idea of corporate autonomy, rather than individual autonomy (Pratt and Hackl, 1999). The enhancement of the professional aspect of education is reflected in the regulation that half of the members of the *Fachhochschulen* have to be practitioners (the other half are academics), and that the course development teams have to include practitioners.

#### *Fundamental versus applied research*

The relation between universities and *Fachhochschulen* with respect to research has already been discussed above. The differences in research mainly reflect the differences in education. *Fachhochschule* research is applied research and funded by various sources (central government, local governments, business) where university research is mainly fundamental and funded by government. In 1992 the universities insisted on this monopoly of 'pure' research and rejected direct access of *Fachhochschulen* graduates to doctoral studies. Now, universities and the *Fachhochschulrat* jointly decide upon the additional studies needed by *Fachhochschule* graduates.

#### *Quality assurance*

There is no particular tradition of quality evaluation in Austrian universities. Before the University Organisation Act of 1993, systematic quality evaluation was limited to purely quantitative reports submitted every three years by the heads of university departments. Individual evaluation was part of the initial procedure for appointing university professors or granting the academics the status of university faculty (De Lange and Van de Maat, 1999). Under the 1993 University Organisation Act, two evaluation instruments became obligatory for continuous performance evaluation: the evaluation of lecture courses and progress reports by the department heads which include data on teaching and on research-related performance. The Ministry has not directly linked evaluations with decision-making and resource allocation. Individual universities and departments can, however, implement a direct link policy for internal decision-making and resource allocation.

Within the *Fachhochschule* sector, quality assessment is linked to the accreditation policy. The most important authority for *Fachhochschule* programmes is the *Fachhochschulrat*, consisting of sixteen members appointed by the Minister of Science and Transport. This council examines whether the proposed programmes fulfil the legal requirements and determines whether or not they will be approved for a maximum of five years. The decision of the council has to be approved by the Minister of Science and Transport. The submitted proposals have to include an internal programme evaluation. Applications for

renewal have to be accompanied by a peer review report covering fourteen different issues. If this report is negative, additional measures for improvement have to be proposed to the *Fachhochschulrat*. These will be examined by the council, leading to the approval or termination of the programme.

## Output

Since the *Fachhochschule* sector in Austrian higher education is relatively new, there are no numbers available yet on the success of graduates in the labour market. Unemployment figures of universities have increased in the past decades. In 1981 there were 502 unemployed university graduates whereas in 1995 the number was 4,894 (Kellerman and Sagmeister, 2000). This figure, however, also includes graduates involved in further education, practical training and those attending military service.

With respect to the qualitative connection between university education and labour market, which was investigated in the study 'The University and its graduates' (Kellerman *et al.*, 1994), graduates frequently state that their qualifications are broader than the job requirements or that the requirements were different from their qualifications. Still, the majority of graduates consider their education as useful for their personal development (80%) and as useful for their professional development (60%).

The establishment of *Fachhochschulen* was largely based on labour market demands. Employers, others outside the education system and representatives of universities supported the idea that there was a need for a new form of education that was professionally oriented and had a shorter duration. Universities have not been able to satisfy this demand (OECD, 1995). Employers recognised that they needed new types of skills that include sound theoretical knowledge and a concern with practical problems. The *Fachhochschulen* were expected to create an intermediate level between the specialised, but narrowly skilled BHS (upper-secondary technical/professional schools) graduates and the academically shaped – and relatively old – university graduates. The *Fachhochschulen* perform this function by delivering a new form of (professional) education. This is supported by the fact that applications for accreditation are required to include a study of the labour market. No systematic research has been done yet on the relation with the labour market, but one may observe that the programmes that have been accredited do offer new combinations of subjects or are geared towards new employment areas, and the graduates are well received on the labour market (Pratt and Hackl, 1999).

The matter of recognition of the *Magister FH* and *Diplom-Ingenieur FH* in relation to the university degrees is something that cannot yet be described. The first impression, however, is that, the *Fachhochschulen* degrees are highly valued, at least from the viewpoint of employers.

## Developments

### *Fachhochschulstudienengesetz*

The major acts and regulations that have led to the current situation originate from the year 1993. In higher education, Austria had problems of high drop-out rates and long durations of study. The system was regarded as highly inefficient. In 1993, the Parliament passed the *Universitätsorganisationsgesetz* (UOG) which replaced the law of 1975. The main aim of the UOG was to increase efficiency: the universities should have greater autonomy, their structure should be divided into strategic and operative agencies and deregulation should be introduced.

The most important act with respect to the binary structure of Austrian higher education was the *Fachhochschulstudienengesetz* (FHStG). This act proposed the creation of a new non-university sector. The discussion about diversifying the system originated from the 1970s. New plans in this period failed, due to opinions that the laws governing universities already permitted diversified studies and that the existing *Akademien* were fulfilling the function of the non-university sector in other countries. The late 1980s and early 1990s proved to be a better climate for introducing the *Fachhochschulen*. This was due to geopolitical factors (mainly the EU-membership and integration) and the acknowledgement that universities had to be relieved from their burden of expansion. Furthermore, the developments were compatible with the tendencies towards deregulation and decentralisation within Austrian government.

### *Bologna declaration*

Current discussions regarding the binary system concentrate on the position of the *Akademien* within this system and on the developments within Europe (mainly the Bologna declaration). With respect to the former, one can say that the aim to reduce overlap and to create a more simple and transparent system of post-secondary education has not yet been achieved (Pratt and Hackl, 1999). The fragmentation of responsibilities between the different ministries and the provinces has hindered the incorporation of existing institutions (the *Akademien*, governed by the Ministry of Education) within the *Fachhochschulen* sector (governed by the Ministry of Science and Transport). Recently, the situation has begun to change with current initiatives aiming at including social work courses into the *Fachhochschulen*. Similar plans exist with respect to paramedical professions.

Issues related to developments in Europe concentrate upon the position of the *Fachhochschulen* within the Bologna debate and the creation of a two-tier structure within higher education in Europe (three-tier when the PhD level is included). Within the university sector there is already agreement upon the implementation of this structure. Since 1999, universities have the opportunity to offer programmes in three cycles (*Bakkalaureat – Magister/Diplom-Ingenieur – Doktorat*). Supplementary regulations which were added to the University Study Act of 1997 enable universities, on a voluntary basis, to convert the *Diplomstudien* into a two-cycle course. There has been a proposal to amend the Act on *Fachhochschulen* accordingly (conversion into a two cycle course) to prevent devaluation of *Fachhochschulen* degrees and to increase international comparability. This proposal, however, failed to secure a majority in the coalition government.

## Conclusions

Although the binary system in Austria is relatively young, and is still in the process of growth to maturity, one can conclude that there are considerable differences between the *Fachhochschulen* and the universities. The most evident distinctions are related to:

- **Institutional autonomy:** the universities are state agencies, whereas the *Fachhochschulen* are independent institutions. The universities are subject to tight regulations while the federal law for *Fachhochschulen* provides a fairly open framework.
- **Teaching and learning:** the universities are shaped according to the Humboldtian tradition while at the *Fachhochschulen* students follow a school-like curriculum. Both students and academics of *Fachhochschulen* are expected to meet more explicit obligations than in universities. This also leads to a higher level of conformity between official and actual duration of study within the *Fachhochschulen* than in the universities.
- **Admissions:** there is open access to universities for all citizens who hold a *Matura*. There is no *numerus clausus* that enables institutions to reject students. *Fachhochschulen* admit students according to the available places. The more school-like teaching culture requires a better link between the number of students and the number of teachers and other resources.
- **Funding:** universities are funded almost solely by the federal government whereas the *Fachhochschulen* have a more diversified funding base. Furthermore, university funding is predominantly earmarked (although there is a tendency towards lump sum financing and no direct relation to student numbers); the federal funding of the *Fachhochschulen* is not earmarked and is enrolment-based.
- Finally, there is an obvious difference in **quality management**. The relation between quality management and accreditation is one of the key aspects of the new *Fachhochschulen*. The approval of the programmes is dependent on the system of quality management and is submitted to periodical assessment. The universities traditionally had a weak system of quality assessment. New regulations are, however, tending toward a more systematic approach.

Considering the above, one can clearly define the Austrian system as binary, although the inclusion and position of the *Akademien* remains a critical issue. These institutions, although post-secondary, are not considered to be part of higher education and are governed by another Ministry than the *Fachhochschulen* and universities. Furthermore, their graduates do not meet the entrance requirements for the doctoral programmes nor for the top category of civil service. In the late 1990s, however, initiatives have been launched to make the distinction between the *Akademien* and *Fachhochschulen* more transparent and to incorporate some Akademie programmes into the *Fachhochschulen*.

Although the *Fachhochschulen* policy is considered to be successful, the non-university sector still plays a (quantitatively) minor role in Austrian higher education. After seven years of *Fachhochschulen*, both succession rates and the valuation by the labour market seem to be positive, and the enrolment numbers show a substantial growth. The prolonged domination of universities, however, will remain in the near future, at least in numbers. The 'equal but

different' concept with respect to universities and *Fachhochschulen* in Austrian higher education will be exposed to a critical test within the Bologna discussion. Some fear a re-establishment of the universities as an elite sector with the introduction of different degree structures.