Introduction

The Danish system of higher education has long been a formally unified system. In spite of this, however, there are a number of different types of institutions, including universities, schools, colleges, and specialised institutions. The university sector consists of twelve university or university-type institutions, including seven universities, a school of pharmacy, two business schools, and a school of educational studies. The non-university sector consists of about 120 schools, colleges and specialised institutions. In 1992 a major reform of the university sector took place.

Input

Access to higher education is open for everyone holding one of the following exams: The upper secondary school leaving examination (Studentereksamen), the higher preparatory examination (HF-eksamen), the higher commercial examination (HHX) or the higher technical examination (HTX). However, because the institutions determine the number of available study places themselves, there are normally more applicants than places. Therefore each school, university or college decides who will enter. The admission criteria are based on the average mark of the leaving examination at upper secondary level and/or work experience or other qualifications. These criteria differ between ‘short’, ‘medium’ and ‘long’ cycle higher education and between disciplines. Sometimes students need to have taken specific subjects at specific levels to enter ‘short’, ‘medium’ or ‘long’ cycle programmes. The allocation of new students over available study places is centrally co-ordinated by the Koordinerende Tilmeldung (KOT). Only for a limited number of study programmes is a national numerus clausus set, i.e. for medical and teacher programmes (Klemperer, 1999).

As in other Scandinavian countries, students pay no tuition. Danish students receive state grants as long as the students perform well. Students are allowed to have an extra period of six months of study two times without loosing their grants.

Structural characteristics

Short cycle education

‘Short’ cycle higher education (KVU) is offered in technical and commercial schools, specialised colleges (colleges of education, engineering, socio-educational training, etc.) and in a number of special institutions (such as commercial academies and schools of social work).
Short cycle higher education consists of a wide variety of programmes that vary in length between one and a half and two and a half years, leading to a KVU-degree. Short cycle higher programmes are provided by the technical and commercial schools (institutions that also provide upper secondary education). The majority of short-cycle programmes are professionally oriented. Completion of short cycle higher education does not automatically qualify students to be admitted to medium and long cycle higher education institutions. The main aim of short cycle programmes is to prepare people for work (Klemperer, 1999). The actual average study time of KVU programmes is two years.

Medium cycle education
‘Medium’ cycle higher education (MVU) is offered by specialised professionally oriented institutions. These higher education courses last three to four years, leading to an MVU-degree. Most ‘medium’ cycle higher education courses are offered at non-university institutions. In 1998 there were five colleges of engineering, four schools of social work, twenty-three schools for training nurses, thirteen other schools for health professionals, and around 60 colleges of education (which include thirty-two teacher training colleges and eleven state colleges of socio-educational training) in the medium cycle higher education sector. Most of these institutions are specialised in particular fields, and all of them are professionally oriented. Many of the medium cycle programmes include a period of practical work in the curriculum (Klemperer, 1999). The average time to completion for MVU degrees is just over 3 years.

University cycle education
The universities are the sole providers of what is known as ‘long’ cycle higher education. Long cycle degrees are 5-6 years long (kandidat degrees). Until 1988 universities only offered kandidat and postgraduate degrees. In 1988 universities gained the right to grant Bachelor’s degrees, and the first of these degrees were awarded in 1991. Because these degrees are three years long, they can be seen as ‘medium’ cycle degrees. Although the Bachelor’s degree is seen as a degree qualifying for the labour market, and is recognised as such by employers, not many students leave the universities with a Bachelor’s degree to start a career in the labour market. Most students that hold a Bachelor’s degree continue to study for the kandidat. Also, not every study programme at the universities offers this Bachelor’s degree. After completing a kandidat degree, students may continue into a PhD programme (Klemperer, 1999, Ministry of Education, 2000a). The average time to completion is 5.5 years.

Intermediary qualification
The only intermediary qualification is the Bachelor’s degree in the ‘long’ cycle higher education. This degree qualifies for both the labour market and the kandidat degree. As mentioned above, most students with a Bachelor’s degree continue to study for the kandidat.

The Ministry of Education prescribes in broad lines the content of the programmes and protects the (academic) titles. For instance, in the year 2000, 75 programmes leading to a ‘short’ cycle higher education have been closed down and replaced by thirteen new programmes (Beverwijk et al., 2000; Ministry of Education, 2000b). For some occupations specific degrees are required, i.e. for
teachers, medical doctors, lawyers etc. These degrees for protected occupations are offered within both ‘medium’ (i.e. teachers, nurses) and ‘long’ (i.e. medical doctors) cycle higher education.

Table 6.1 gives an overview of the student numbers in the different programmes (KVU, MVU, LVU).

Table 6.1: Student numbers in Danish higher education

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<tbody>
<tr>
<td>KVU</td>
<td>16,725</td>
<td>16,152</td>
<td>15,741</td>
<td>15,993</td>
<td>17,041</td>
<td>18,094</td>
</tr>
<tr>
<td>MVU</td>
<td>84,034</td>
<td>90,515</td>
<td>100,580</td>
<td>107,962</td>
<td>115,282</td>
<td>120,075</td>
</tr>
<tr>
<td>LVU</td>
<td>60,850</td>
<td>57,145</td>
<td>53,879</td>
<td>52,004</td>
<td>50,228</td>
<td>50,739</td>
</tr>
<tr>
<td>Total</td>
<td>161,609</td>
<td>163,812</td>
<td>170,200</td>
<td>175,959</td>
<td>182,551</td>
<td>188,908</td>
</tr>
</tbody>
</table>

Structural characteristics

The design of higher education is like a binary system. First of all, there is a separate law that deals with the universities. The administration and ruling of the non-universities is dealt with in other laws (Ministry of Education and Research, 1992). The reason for this is because in addition to providing education, universities perform research. The other institutions only offer education.

Secondly, there is a huge difference between the programmes offered in the university and non-university sector. Within the university sector all types of education are being provided, including disciplines like law, medicine, and the humanities, and including music and art (Ministry of Education, 2000a). The range of studies in the non-university sector is less broad, because it is directed towards a future profession, such as midwifery, social worker, teacher or engineer (Eurydice, 2000). Disciplines like law and medicine are lacking in the non-university sector, although paramedical education programmes, like midwifery, nursing and physiotherapy, are offered. The universities do not train teachers, although teachers in upper secondary education require a kan-didat examination from the university. Teachers in primary and lower secondary education have completed teacher training at the level of ‘medium’ cycle higher education in specialised schools. Teachers in upper secondary education have at least a university degree and have completed six months of pedagogical training, provided by non-university institutions (Eurydice, 2000).

A further difference concerning the curriculum is that the universities should keep their teaching up to date by using results from research and that writing a thesis is a final part of ‘long’ cycle higher education programmes qualifying for kandidat. All, or almost all, ‘short’ and ‘medium’ cycle higher education programmes contain shorter or longer periods of practical training (Eurydice, 2000) and qualify for a profession.
Interaction between sectors

There is hardly any interaction between ‘short’, ‘medium’ and ‘long’ cycle higher education. Students who have obtained a ‘short’ cycle degree are not automatically entitled to enter ‘medium’ or ‘long’ cycle higher education. However, the colleges and universities providing ‘medium’ and ‘long’ cycle higher education can admit student with a ‘short’ cycle higher education degree. The same holds for students who have a ‘medium’ cycle higher education degree and want to enter ‘long’ cycle higher education. There is no formal system of credit transfers from ‘short’ to ‘medium’ and ‘long’ cycle higher education. Students with ‘short’ and ‘medium’ cycle degrees can improve their qualifications through the system of open education (åben uddannelse), although these degrees are not considered to be the same as the ‘long’ cycle degrees offered in the normal system (Klemperer, 1999).

The outflow of students in ‘short’, ‘medium’ and ‘long’ cycle higher education can illustrate this. Of the students in ‘short’ cycle programmes in 1994, 53 percent still were in ‘short’ cycle programmes in 1995, 39 percent (including drop outs) entered the labour market, only 5 percent entered ‘medium’ cycle programmes and a mere 1 percent entered ‘long’ cycle programmes. Of the students in ‘medium’ cycle programmes in 1994, 73 percent still were in ‘medium’ cycle higher education in 1995, 21 percent entered the labour market, while no more than 5 percent entered ‘long’ cycle higher education. Of the students in ‘long’ cycle programmes in 1994, 81 percent still were in ‘long’ cycle higher education in 1995, 15 percent entered the labour market, while 3 percent changed to ‘medium’ cycle programmes (Undervisningsministeriet, 1998).

Other system characteristics

Finance

In 1996 the institutions for higher education received DKK 4.2 billion for their educational activities. DKK 2.7 billion flowed to the universities, and DKK 1.5 billion went to the other institutions. The universities also received DKK 3.8 billion to perform research. Another DKK 2 billion was provided to the whole higher education sector to cover capital and other expenses (Undervisningsministeriet, 1998).

Higher education in Denmark is solely financed by the state. Students do not pay tuition fees. The Ministry of Education funds the schools and colleges that provide ‘short’ cycle and ‘medium’ cycle higher education through a taximeter system. The universities (‘long’ cycle higher education) also receive funding through a different taximeter system from the Ministry of Education. The taximeter system is an output based funding system that gives a school an amount of funding according to the number of students that have passed their exams, i.e. completed a year of study. The tariffs in the taximeter system differ between type of education, i.e. ‘short’, ‘medium’ or ‘long’ cycle, and vary by subject. The Ministry of Education gives these taximeter funds as a lump sum to the institutions. Besides the funds for education, the universities also receive funds for their basic research. The Ministry of Research and Information Technology provides these, either directly or through the Danish Research Councils. The major part of the funds is given as lump sum. The universities
receive on average one third of their budget through the taximeter system for their educational activities and two third of their budget for performing research (Klemperer, 1999).

**Personnel**

A marked difference in personnel between the universities and other institutions exist. Teachers at the schools, colleges and institutions offering ‘short’ and ‘medium’ cycle higher education should have at least a *kandidat* degree from the long cycle higher education. Because these teachers do not perform research, a PhD is not required. Within ‘short’ cycle higher education it is also possible to get a teaching position on the basis of a combination of education and employment. Experience in a suitable occupation can compensate for a lack of formal education. Because at universities both teaching and research are performed, the Ministry requires candidates for full-time positions in the university sector to have a qualification at the PhD level (Eurydice, 2000).

**Quality assurance**

A recent development has been the change in the quality assessment system for higher education. Traditionally quality was more or less guaranteed through a system of external examiners. Although the prime task of these examiners was to guard the fair treatment of students at exams, they also guarded over the content and the quality of the study programmes. Because an important part of the external examiners come form future employers, they helped to guard national standards and guard the fit between the curriculum and future occupations. The external examiners worked in all educational sectors, as well in ‘short’, ‘medium’ as in ‘long’ cycle higher education. With the reform in ‘long’ cycle higher education in 1992, the *Evalueringscenteret* was established. This organisation became responsible for quality assessments within the university sector (Ministry of Education and Research, 1992). In 1999 the activities of this institute (now called EVA), were broadened to other types of education, including ‘short’ and ‘medium’ cycle higher education. So at the moment there is no difference in methods of quality assurance and assessment between the different types of higher education.

**Output**

The position on the labour market after graduation differs between ‘short’, ‘medium’ and ‘long’ cycle higher education. Regrettably, information about wages and salaries of recent graduates is not available. However, unemployment among graduates from ‘medium’ cycle higher education is lowest. It grew from 2.9% in 1988 till 4.9% in 1993 and dropped till 3.1% in 1996. The unemployment among graduates from ‘short’ and ‘long’ cycle higher education was slightly higher. It varied from 4.5% in 1985 to 6.5% in 1993 and 4.5% in 1996. These unemployment figures are far below the national average and below the youth unemployment figures (OECD, 1999).

Employees with a ‘short’ and medium’ cycle degree earn about 20% more and employees with a ‘long’ cycle degree earn 60% more than employees with lower secondary education (Teichler, 1999).
Developments

Higher education in Denmark has been divided into university (LVU) and non-university (KVU and MVU) education for a long time. Traditionally the universities have focused on academic teaching and research whereas the non-university institutions have focused on teaching in professional areas. Although the universities made a small movement towards the non-universities by starting to offer Bachelor’s degrees in some disciplines, the distinction is still very pronounced. Only students with a Bachelor’s degree are admitted to the kandidat examination. Few students with a Bachelor’s degree enter the labour market and students with other ‘medium’ cycle higher education degrees have to start at the entrance level of a university study, if they wish to obtain a LVU-degree. In addition, the universities are administered under different laws than the MVU and KVU schools and colleges. This was confirmed once again by the university reform in 1992 (Ministry of Education and Research, 1992).

Recent changes

Structural change
In January 1998, the Danish Minister of Education proposed a change in the structure of the higher education system. The policy goal of the government is to reach a 50% graduation rate from tertiary education of the age cohort, and the proposed changes aim to enable the system to cope with higher enrolments. The changes involve reorganisation of the existing higher education system through mergers. The intention is to create fewer, multi-disciplinary institutions. Two major alternatives are being considered: the creation of a unified system of higher education, or (more likely) the creation of a well-defined binary system with a university sector and a non-university sector offering short cycle and medium cycle professional education. Medium cycle non-university higher education programmes would lead to Bachelor’s degrees, which would primarily qualify students to enter the labour market. The government intends for the changes to take place voluntarily within the next five to seven years (Klemperer, 1999). At this moment mergers between institutions within the same region offering ‘medium’ cycle higher education is underway.

Bologna declaration
As a consequence of signing the Bologna declaration, the Danish Minister of Education proposed to introduce the professionsbachelor as a new title to be obtained in the ‘medium’ cycle higher education. This is part of the proposed law restructures this type of education and makes the mergers possible (Undervisningsministeriet, 2000).

Conclusion

Although the Danes see their system of higher education as one sub-system of the education sector, it can be argued, and we would agree, that this system is in fact a binary system. First of all, there is a separate law that deals with the
universities. The administration and ruling of the non-universities is dealt with in other laws. The universities and non-university institutions offer very different degrees. The universities offer ‘academic’ degrees, which take a long time to accomplish, while the non-universities offer shorter ‘professional’ degrees. Secondly, the range of studies in the university sector is much broader than in the non-university sector. Within the universities almost all disciplines can be studied. Thirdly, there is little interaction between the universities and the non-university institutions, and the graduates acquire different types of positions in the labour market. A final argument in favour of calling the Danish system a binary one concerns the differences between the sectors in terms of the qualification of staff. Whereas in universities staff require a PhD, staff of non-university institutions only need kandidat degrees.

Only two arguments in favour of calling the Danish system a unitary one can be mentioned. These concern the unified entrance qualifications and the unified funding system. In spite of the fact that the official entrance qualifications do not differ on paper between ‘short’, ‘medium’ and ‘long’ cycle higher education, in practice they do differ, due to the fact that selection criteria are set by the institutions. And although all the schools, colleges and universities are funded through the taximeter system, the tariffs in this funding system differ between sector and disciplines. In addition, the universities also receive funds for doing research.