Introduction

Looking solely at the legislation, one could claim that the Dutch higher education system has been officially known as a binary system since 1986. At that moment the higher professional education sector was taken out of secondary education and received separate legislation (HBO Act), formally becoming part of higher education. However, one could also argue that the general idea of the existence of two sectors of higher education is much older and can be traced back to the beginning of the previous century, when the Domestic Science and Technical Education Act was established in 1919. The year 1968 stands for another hallmark in the development of the sector of higher professional education: the sector was integrated with secondary education as a result of the Secondary Education Act. At present the 1993 Higher Education and Research Act (WHW) regulates the higher education system, comprising thirteen universities, the Open University and (at present) 62 hogescholen. Table 4.1 gives an overview of the enrolments (total number of students) per sector. Both in total number of students and number of first-years students, the hogescholen sector is larger than the university sector.

Table 4.1: Enrolments in Dutch higher education

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<tbody>
<tr>
<td>Universities</td>
<td>178,690</td>
<td>187,942</td>
<td>187,958</td>
<td>185,215</td>
<td>177,620</td>
<td>165,880</td>
<td>159,457</td>
<td>160,304</td>
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<tr>
<td>Hogescholen</td>
<td>246,690</td>
<td>263,253</td>
<td>269,545</td>
<td>271,866</td>
<td>271,905</td>
<td>276,257</td>
<td>280,162</td>
<td>290,530</td>
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</table>

Source: CBS/CHEPS Higher Education Monitor

Input

Admission to the hogescholen is open to students holding a certificate of senior general secondary education (five year HAVO), secondary vocational education (MBO) or pre-university education (six year VWO). The latter route is actually a detour, but a considerable number of students enrol the hogescholen with a VWO certificate (about 20%). To enrol a university, the student must hold a VWO certificate or a propaedeutic (first year) certificate of a hogeschool. The colloquium doctum is an entrance examination both for the university and the hogescholen sector for people aged 21 and over which do not have a regular secondary education certificate.
In addition to the certificate requirements, higher education institutions may require programme-related demands. Since the recent changes in the structure of secondary education, institutions may require students to have obtained specific – nationally determined – ‘profiles’ in their secondary education. These profiles vary by programme and can be described as a consistent set of knowledge and skills acquired in the second tier of secondary education. In both HAVO and VWO there are four profiles: culture and society (in general preparing for programmes in the social sciences, arts, languages and culture), economy and society (preparing for economy and social sciences), nature and health (preparing for medical sciences, nursing and biology), and nature and technology (preparing for natural sciences and engineering).

Government and the higher education institutions can determine further restrictions to access. In the case of an oversupply of graduates (for instance in some professions in the health sector), government – after consulting organisations most involved – determines the maximum number of first-year students to be enrolled (numerus fixus). Since September 1999, the higher education institutions are allowed to apply a combination of a system of weighted lottery (based on average secondary education results) with its own selection mechanisms (e.g. tests, interviews, work experience, etc.) for programmes with a numerus fixus. A specific restriction concerning the access to higher education relates to the hogescholen. These higher education institutions may require in particular fields knowledge and skills in connection with the profession related to the programme (e.g. teacher training, art, physical education).

**Structural characteristics**

Structural differences between hogescholen and universities pertain to the nature of postgraduate education and the types of initial degrees offered.

**Hogescholen degrees**

Hogescholen offer four-year programmes (168 credit points) in economics, health, social-agogics, agriculture, education, engineering and arts. The programmes are full and/or part-time, some programmes are offered in a working-learning mode (e.g. co-operative education or so-called duale leerwegen). The WHW states that hogescholen should offer theoretical instruction and to develop the skills required for practical application in a particular profession. Students completing a four-year programme receive the qualification baccalaureus (bc). In case of an engineering programme, the title ingenieur (ing.) may be used. The students are allowed to use the Bachelor title. The average time to degree is identical to the nominal duration, with variations between disciplines (health, 3.5 years; arts, 4.5 years, 1995 data). Hogescholen also offer professional Master programmes – often in co-operation with higher education institutions outside the Netherlands – but these are not (yet) recognised and funded by the government.
University degrees
Universities offer four to six-year (168 to 252 credit points) full- and part-time programmes in economics, education, health, humanities, social sciences, agriculture, engineering and natural sciences. The length of programmes varies from discipline to discipline. In engineering, agriculture and natural sciences, many programmes are five years. In health a number of programmes take five or six years (dentistry, medicine, veterinary sciences, pharmacy); a first qualification is received after four years, students continue their studies (one to two years) for a professional degree. In most other disciplines, programmes take four years. The average time to degree is 5.8 years with variations by discipline (agriculture 5.2 years, humanities, 6.2 years, 1996 data). Graduates receive the qualification doctorandus (drs), in engineering the title ingenieur (ir) is awarded, in law student receive the title meester (mr). Graduates are allowed to use the title Master. The universities also offer PhD programmes, leading to the degree of doctor (dr).

Intermediary qualifications
Intermediary qualifications hardly exist in the Dutch higher education system. Universities have the opportunity since 1998 to offer a kind of intermediary qualification (three years of study), comparable to the kandidaatsexamen (a qualification abolished in 1982). For such a qualification, the title Bachelor can be used.

Professional versus academic programmes
Although the regulations make a distinction between professionally oriented and academically oriented programmes, this distinction does not fully coincide with the distinction between universities and hogescholen. Traditionally, many professional programmes were offered at the universities, such as medicine, pharmacy, law and teacher education. Also, the fact that hogescholen programmes are supposed to offer theoretical instruction makes them in this respect to a certain extent comparable to university programmes.

Co-operation between the sectors
Interactions between the two sectors have taken place regularly through time, but nowadays these interactions are much more structured than they were some decades ago. The hogescholen are becoming more and more ‘equal-but-different’ partners of the universities, and the introduction of credit points (consequently opening the possibility of credit transfer) have, amongst other things, contributed to the increase of structural interaction (Beverwijk and Huisman, 1999). Structural interaction relates, for example, to the smooth transfer of students from hogeschool to university or vice versa to the mutual use of the institutions’ infrastructures. The change in the study finance in the late 1980s has also had an effect on the degree of interaction between the sectors. Previously, students with a hogeschool degree could continue their studies at a university, and still obtain study finance. With the change in study finance, students received support for many fewer years, that is the formal duration plus one extra year. This forced university study programmes that were to a considerable extent dependent on hogeschool graduates enrolment to develop so-called doorstroomprogramma’s. The development of these programmes had impact on co-operation between hogescholen and universities in rela-
ted areas. The latest Higher Education and Research Plan (2000) – a four-yearly ministerial policy document – paves the way for mergers between universities and hogescholen, on the premise that each will continue to offer its ‘own’ type of degrees and programmes.

**Other System Characteristics**

**Finance**

The universities are funded on the basis of the performance-funding model (PBM). This model is a formula-based distribution model; the total budgets for higher education are fixed beforehand. In the budgets for universities, the variables in the formula for educational activities are: number of diplomas awarded (50% of the education budget), fixed sums (37%) and number of first year students (13%). For the research part of the budget, the variables are: fixed sums, PhD dissertations and designers’ certificates, research schools, top research schools and strategic allocations. The model for the hogescholen is also a formula-based distribution model. Here, important variables are: the number of enrolling students, the time to degree, and drop out rates. The budgets for both hogescholen and universities are allocated as a lump sum.

Hogescholen are allowed to perform research activities, but the size of contract research activities is relatively small. The total government budget for the hogescholen in 2000 is 2,728 Mfl and for the universities 5,613 Mfl. Precise data are not available, but estimated guesses lead to 8% of the budget spent on contract activities at hogescholen (218 Mfl) at universities this is about 15% (842 Mfl, Boezerooy, 1999). The largest part of the budget is a governmental block grant (for the universities about 75% of the budget, for hogescholen the proportion is higher). Two other important sources of funds are tuition fees (about 7% in the university sector, 18% in the hogescholen sector) and research council grants (5%, only for the universities).

**Quality Assurance**

External quality assurance systems for teaching have been introduced in the late 1980s at the universities and in the beginning of the 1990s at the hogescholen. For research, such a system was introduced earlier. In the beginning of the 1980s, the conditional funding system was introduced but abolished a few years later. The two sectors have separate systems for teaching quality assurance carried out under supervision of the HBO Council and the Association of Universities in the Netherlands (VSNU). The basic principles are the same: every five years (universities) or seven years (hogescholen) a self-evaluation is undertaken at the programme level, followed by an external peer review (visiting committee) leading to a public report of the visiting committee. The Inspectorate for Higher Education is in charge of monitoring the quality assurance process (meta-evaluation) and the follow-up by the higher education institutions. For university research, a quality assurance system – also based on the principles of peer review and a public report – was re-introduced in 1993. At present, experiments have started in the hogescholen sector with a system of accreditation. In the near future, such a system will also be implemented in the university sector.
Personnel
At universities various personnel categories can be distinguished: support staff, university teachers (UD), associate professors (UHD) and full professors. The deregulation of employment conditions has lead to some leeway for the institutions to develop new categories, but universities mostly stick to the ‘traditional’ categories. Table 4.2 gives an overview of 1993 and 1998 data. Next to the academic staff, there are some 41,000 members of support staff (1998).

Table 4.2: Academic personnel at universities

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<tr>
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<th>1993</th>
<th>1998</th>
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<tr>
<td>Professors</td>
<td>2,450</td>
<td>2,474</td>
</tr>
<tr>
<td>Ass. Professors</td>
<td>2,572</td>
<td>2,623</td>
</tr>
<tr>
<td>University teachers</td>
<td>6,123</td>
<td>5,930</td>
</tr>
<tr>
<td>PhD candidates</td>
<td>6,876</td>
<td>5,649</td>
</tr>
<tr>
<td>Other researchers</td>
<td>6,079</td>
<td>6,597</td>
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<tr>
<td><strong>Total</strong></td>
<td>24,100</td>
<td>23,273</td>
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</table>

Source: ‘Talent voor de toekomst’ 2000

A doctorandus degree is required to fulfil a position at the university as a teacher or researcher. At hogescholen, personnel can be divided into support staff and teaching staff. Table 4.3 gives an overview of numbers of staff in recent years. A further distinction within the teaching staff can be made in: docent A, docent B, hogeschooldocent, hogeschooldocent B, hogeschooldocent C, hogeschoolhoofddocent, lector and other teaching staff. The categories docent A and hogeschooldocent are the largest, 51% and 40% of the total teaching staff, respectively. The position of lector is an exception (HBO Council, 1998).

Table 4.3: Staff at hogescholen

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<tr>
<td>Teaching staff</td>
<td>13,700</td>
<td>13,022</td>
<td>13,256</td>
</tr>
<tr>
<td>Support staff</td>
<td>8,000</td>
<td>8,154</td>
<td>8,641</td>
</tr>
</tbody>
</table>

Source: HBO Council

Output
The unemployment rates for both the university and hogescholen graduates are low, mainly due to developments in the national and global economy. Historically, the employment perspectives for hogescholen graduates – shortly after graduation – have been better than the perspectives of university graduates. In recent years, however, the differences are small. It must be stressed however that there are large differences between disciplines within the two sectors (e.g. arts versus engineering in the HBO sector; humanities versus eco-
nomics in the university sector). The unemployment rate for HBO graduates (18 months after graduation) has been decreasing since 1993 and recently was about 3% (measured in 1998). The average unemployment rate for university graduates (18 months after graduation) was recently 2.7% (measured in 1999).

The returns of university education are higher than those of the HBO sector. Taking a junior secondary education diploma (MAVO) as the benchmark, university graduates in 1999 on average earn more than 60% more than holders of a MAVO diploma. HBO graduates earn on average 40% more than MAVO diploma holders. Compared with 1994, the returns have increased (Leuven and Oosterbeek, 2000). On average, an HBO graduate earns Hfl 3523,- (gross income per month, ROA, 1999). A university graduate earns Hfl 4463,-, this is the median score (ROA, 2000).

With respect to other destinations than the labour market, data are available on continuation in educational activities after graduation. About 19% of the HBO graduates continue educational activities (1998 data, ROA). At the university level, 9% continue education activities (1999 data, ROA).

Developments

Tensions between sectors
The history of the binary system in the Netherlands is characterised by tensions between the two sectors. The tensions have grown with the upgrading of the HBO sector (government-induced mergers between HBO institutions started in the beginning of the 1980s, separate legislation for HBO was passed in 1986, and the separate regulations were united into one higher education act in 1993).

The tensions are, for instance, visible in the universities’ moving more into the area of professional education instead of solely stressing academic education. Many programmes emerging in the 1980s and 1990s can be classified as professionnally-oriented. Another tension is the wish of hogescholen to offer (recognised and government-funded) Master degrees. One potentially important recent development is the possibility to merge hogescholen and universities. A few higher education institutions have developed far-reaching co-operation activities, which soon can be formalised by actual mergers. To date, it is not yet clear to what extent institutions will use the opportunities available to merge. Furthermore, the impact on the long term is difficult to predict. One scenario would be that only a few institutions (the early adopters) engage in mergers, leaving the system mostly unaffected. Another scenario would be that after a first wave of mergers (similar to the merger operations in the HBO sector in the 1980s), other institutions soon will follow. It must be stressed however, that up until now, most plans for mergers have been developed involving large-size multidisciplinary hogescholen. Mergers between universities and small-size hogescholen may not be feasible.

Bologna declaration
A second recent development that might have consequences for the binary structure, is the implementation of the Bachelor/Master degree structure. The
advice of the Education Council assumes that the present binary structure can be maintained. There are, however, other views. The HBO Council (2000), for instance, argues that – given the changes in the system – the usefulness of the binary system should be reconsidered. Verkleij et al. (2000) maintain that the Bologna declaration has more profound consequences than the Education Council estimates. They argue for the recognition of the variations of programmes and degrees within the institutions, which must be valued and accredited on the basis of their contents (and not based on the type of institution). Consequently, they believe that the strict binary divide will disappear.

**Conclusion**

There are rather strong differences between the two sectors of the Dutch binary system. Three elements stand out: differences in entrance qualifications, the exclusive basic research function of the universities (including the right to award PhD degrees), and variations in the degrees awarded. In some respects there are also similarities: the length of programmes is, for instance, rather similar in both sectors (the standard is still four years). Furthermore, professionally-oriented programmes are offered on both sides of the binary divide.