

OECD THEMATIC REVIEW OF TERTIARY EDUCATION

THE NETHERLANDS

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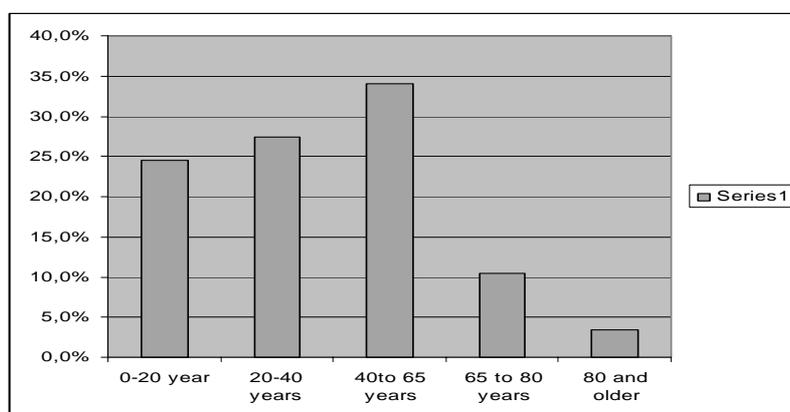
1 THE NATIONAL CONTEXT OF TERTIAIRY EDUCATION

Population

1 The Netherlands have a population of 16.3 million (2005). Since 1995 there has been a growth in population of 5.7%¹. With migration as the most important cause; fertility rates are still low. The trend is a slowly rising number but growth is diminishing. Prognoses give a population of maximum 17.7 million at the end of the 2030s. The number of non-western minorities rose strongly; at this moment amounting to about 10% of the population. The traditional most prominent groups are people from Turkey, Morocco, Surinam, the Netherlands Antilles and Aruba. The number of people who were granted asylum has dropped significantly.

2 Ageing is a prominent phenomenon in the Netherlands. The following chart shows the actual distribution of the population according to age.

Table 1.1 Age distribution of the population



3 Aging will be even more prominent after 2010. The absolute number for the elderly will peak in 2040 (23% of the total population will be over 65 compared to 14% in 2005).

Social trends; labour

4 The average age of the labour force is rising slowly but steadily; 39.6 years of age in 1990, 41.6 in 2002. This will impose a major challenge in the years to come; the number of older people still working will increase but eventually these will make place for younger people. Participation in labour has risen from 52% in 1981 up to an actual figure of 65% (of the potential working population 16-65 years of age). This is due to the rising percentage of women and older workers. The participation rate of females nearly doubled (30% - 55%) whereas the participation of males rose by only 2% in the same period. There is also a strong trend within the group aged 50-59 for more and more people to participate in work. But the number of workers aged 60-65 is still very low. The average educational qualifications of the working population are rising; the number of people with an educational level of at least secondary level (mbo) increased from 66% in 1992 to 74% ten years later. Twenty-seven percent have qualifications from, higher education and this number is rising strongly.

5 There is a trend for more people to work but then often part time. Whereas formerly only women took part-time jobs there is a trend, especially among younger men, to take a part-time job. In 1992 only one out of 12 men had a part-time job, then years later this is 1 in 7. Movement on the labour market is significant. Although it dropped in recent years (since 2001) due to the economic recession, 13% of the working population still changed jobs last year (figure 2003). The percentage of unemployment was 8% in the mid 90's and dropped steeply to 3.4% in 2001. After 2001 it rose again to 5.3% in 2003, to 6.6% in 2004 and 6.4% in 2005.

¹ According to CBS (National statistical agency), the population is 16.3 million in 2005 compared to 15.4 million 10 years before.

Social trends; welfare

6 Welfare in the Netherlands improved greatly in the past decades. Within 22 years the gross national product rose by more than 50% and consumer purchasing power also increased by some 30% until 2001². In more recent years, as a consequence of the economic recession, purchasing power stabilised or dropped slightly. Although the average income and purchasing power has risen the last two decades, inequality rose to an even greater extent. Although the poor do not get poorer the rich do definitely get richer. The number of millionaires (in €) has tripled over the last decade. The risk of unemployment poses the greatest threat to income purchasing power drops significantly when jobs are lost. Poverty is still a factor to be reckoned with. The low income group used to comprise 15-16% of the total population in the mid 90s, it dropped to 10%, between 1998 and 2001 and it has been rising slightly³. Single parent families and single women run the greatest risk of poverty⁴. The general feeling is that it is harder to manage since the introduction of the euro and the recession of the last few years.

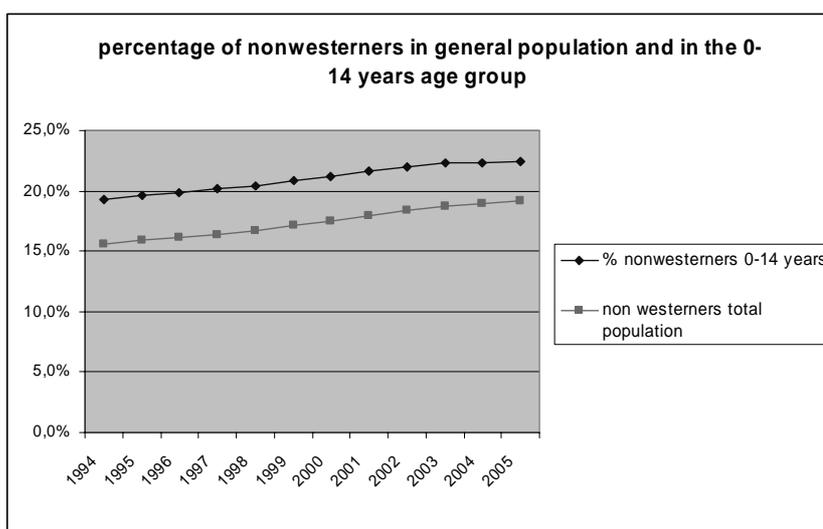
Social trends; diversity

7 As previously stated the number of non-western inhabitants has grown in the last two decades and now accounts for approximately 10% of the gross population. This creates opportunities of cultural diversity but the problems of a multicultural society are also evident. This applies particularly to the larger cities in the country. In the four largest cities (Amsterdam, Rotterdam, The Hague and Utrecht) the number of non western people exceeds 30% and is still rising, 51% of the population of 0-14 year olds are non western. The western inhabitants of the cities are leaving and the non-westerners taking their place. There is a considerable difference between western and non-western people as to income, wealth, education and employment. This is especially true for people with a Moroccan background, many of whom immigrated to the Netherlands in the 1960s and 1970s as 'foreign workers'. The situation of non-westerners is improving. The second generation is better off in terms of education level, income and employment.

In the next future the percentage of non-westerners in the 18-35 age group will grow gradually as can be expected when taking the recent developments of the percentage of non westerners in the 0-14 years age group, into account.

This is show in the next figure:

Table 1.2. Percentage of non-westerners in general populations and in the 0-14 year's age group



² Source: CBS De Nederlandse samenleving 2004 sociale trends pagina 66 ev.

³ CBS definition of the low income group is the group with an income below the level of social security (bijstand). As indicator with this definition is given the purchasing power of the level of social security in 1979 which was an all time high.

⁴ Source: CBS De Nederlandse samenleving 2004 sociale trends Pagina 74 ev.

Social trends; emancipation

8 Women now participate to a far greater extent in labour than they did a few decades ago. In the early 80s only 30% of women between 15-64 years of age had a job (for more than 12 hours a week). This figure rose to 55% in 2003. The trend towards more part-time jobs applies particularly to women. Working women suffer some job stress but on the whole not significantly more than men. The one exception is young females (20-30 years of age). Although the position of women in terms of careers is still far weaker than men, the gap is diminishing. In 2002 the number of women holding positions in higher (and scientific) management was 25% (1995; 14%). Females perform well at school and girls are in the majority at high and secondary school levels and they are catching up with the males in higher education. There are about equal numbers of male and female students at university or in hogescholen. There is, however, more of a distinction in the choice of subject: women choose more often for a career in health, social sciences and teaching, fewer for science and technology.

Economic trends; macro economic developments

9 The annual growth of the Dutch economy remained at 2.5% for a long time. However, this changed with the start of the decline of the economy in 2001. There was a decline of 0.1% in 2003 but 2004 the economy recovered slightly (0.7%), still under the long-time average but better than it was before. In the first half of 2005 growth dropped again to 0.4% (positive) to end at 0.9% for the whole year 2005⁵. Export (considered the motor of Dutch economy) has grown by 8.5%. China, India and Eastern Europe in particular, have increased in importance for Dutch export. Public expenditure has declined (zero growth). Compared to the average of the 25 countries of the European Union (EU), the Dutch economy is performing poorly; with 0.6 percentage points lower growth than the average of 2.3% in the EU. There had been a reduction in Investment for years until 2004, but this improved in 2004. Inflation is 1.2% and has reached its lowest point since 1989. There has been growth in the commercial sector of the economy; not in the public sector. For the first time since 2000 there has been growth in industry. Growth is strong in commercial services and wholesale (due to export).

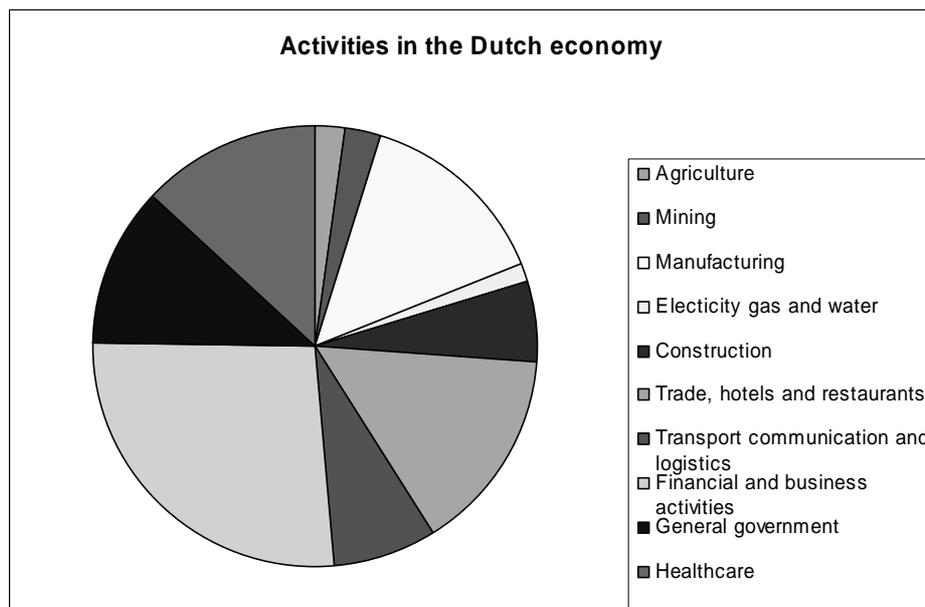
Economic trends; the private sector

10 The profitability of the private sector has stabilized over the last few years. Wages are at 80% of the added value of the average of the entire private sector and they are decreasing slightly (80.6% in 2001). However the number of bankruptcies is still growing rapidly. An all time high of 9.300 bankruptcies were registered in 2004, representing, about 1% of all businesses in the private sector. The deficit of unpaid debts in 2004 was estimated to € 1.9 billion. The following chart⁶ shows the Dutch economy per sector. Financial and business activities represent by far the largest sector (27% of the economy). Trade, catering and accommodation, hotels and restaurants are the second largest (15%), followed by the manufacturing sector as third, (14%). The private sectors account for 75% of the economy. The relative position of these sectors changes very slowly. Manufacturing has been in a decline for years but showed a revival in 2004. Agriculture (including forestry and fishing) is shrinking and financial activities have clearly been growing in recent years.

⁵ Source CBS Press release february 14 2006

⁶ National accounts in the Netherlands 2004 Table M7

Table 1.3 Activities in the Dutch economy



Economic trends; the public sector

11 Public expenditure has been affected by the political goal (and EU agreement) of keeping the deficit of public finance below 3% of the GNP. In 2003 the deficit was higher than this 3% line but in 2004 the deficit was reduced to 2.1%. With the exception of a rise in revenues from taxes and social insurances expenditure by the central government stabilised.

Social and economic trends and the tertiary education sector

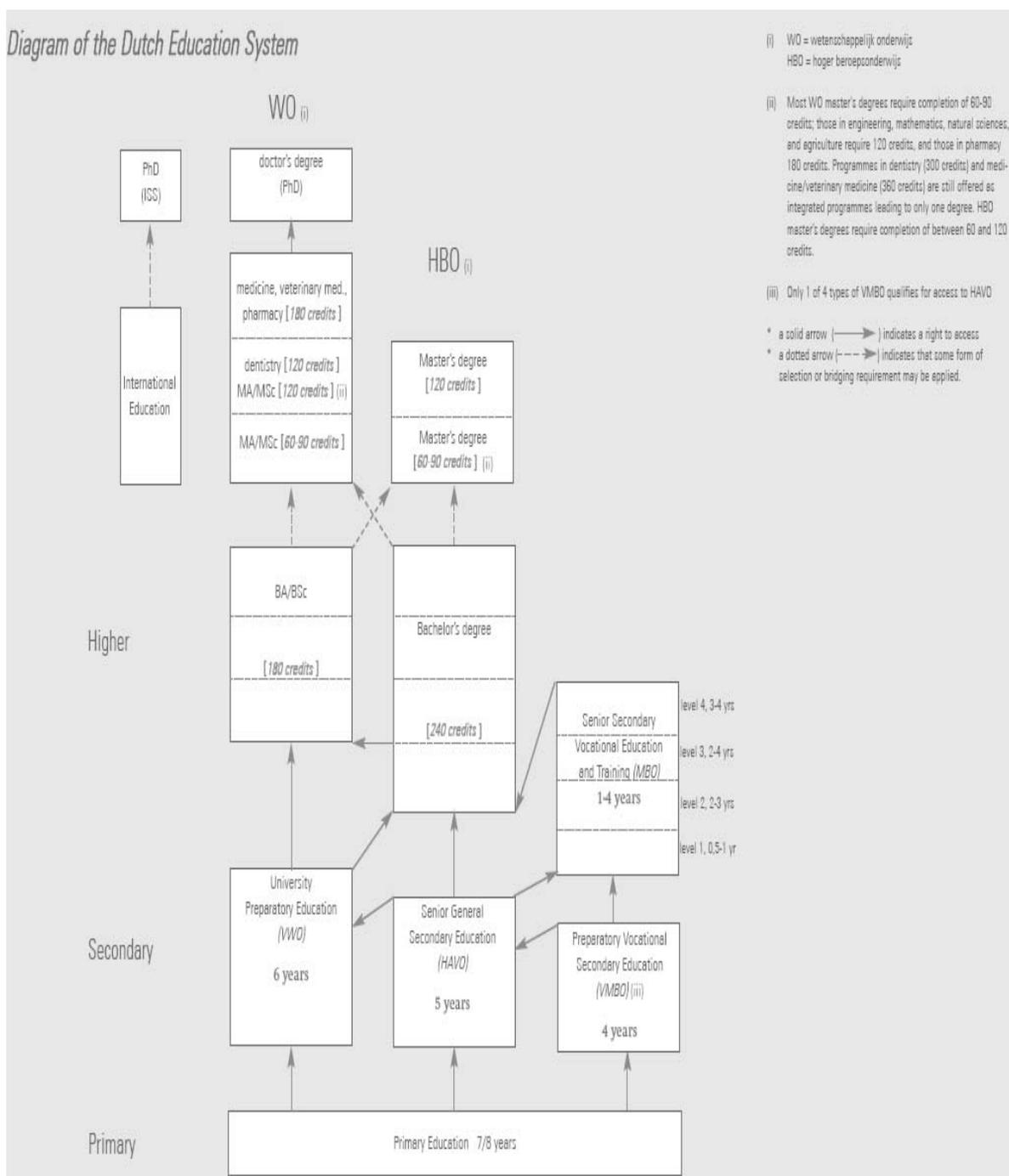
12 There are some major demographic trends that have an effect on the tertiary education system. The ageing process throughout the general population is also evident workforce of the tertiary education sector; especially in the HBO sector (see chapter 2 for an explanation of the subsectors in tertiary education). The emancipation of women is also reflected in tertiary education. The percentage of female students in higher education has increased to above 50% but some gender aspects still remaining; as they do in society in general. The percentage of women in higher management is still low, especially in universities. The number of female college professors is still well below 10%, although this number has increased over the last few years. The presence of non western minorities is also reflected in the tertiary system. The number of non-western minorities in the classrooms in tertiary education grew from 14.4% (HBO 1997) and 16.4% (universities 1997) to 16.8% (HBO 2001) and 17.6% (universities 2001)⁷. In the larger cities where non-westerners traditionally are present in larger numbers this is reflected in the student population. There are no indications for the emergence of institutes with a mainly non-western student population.

However, the size of the teaching staff in universities and hogescholen is relatively small. The economic trend in public finance during did not lead to a stabilization of public expenditure for education⁸. The trend of higher participation in education, especially in tertiary education, resulted in higher costs.

⁷ Source: Key figures 1999-2003 page 97. In HBO about 40% is of the traditional 4 origins and in the universities this is 25%.

⁸ The Education budget for 2006 is € 27.875 million (2001 € 21.072).

Table 1.4 Diagram of the Dutch Education System



Source Nuffic/ Ministry OCW

Relevant documents

CBS	Werkloosheid licht gedaald; persbericht 15-9-2005	2005
CBS	De Nederlandse samenleving 2004, sociale trends	2004
CBS	De Nederlandse economie 2004	2005
CBS	National accounts in the Netherlands	2005
Ministerie van OCW	Een verkenning naar onderwijs en onderzoek in 2010	2002
OECD	Education at a glance 2005	2005
RWI	Kwartaalanalyse arbeidsmarkt juni 2005	2005

2 GENERAL DESCRIPTION OF THE TERTIARY EDUCATION SYSTEM

2.1 Introduction

13. The system of tertiary education consists of both publicly funded institutes and privately funded institutes. This division into two categories is somewhat artificial. Reality is far more complex since funding is also more complex. Most publicly funded institutes also undertake commercial activities, and with, tuition fees of thousands of euros per year, some programs are a mix of private and public funding.

14. The institutes of the publicly funded system in tertiary education and research can be divided into four categories:

- Hogescholen (Hoger Beroeps Onderwijs)⁹
- Universities
- Academic medical centres
- Research institutes

15. The higher Education system in the Netherlands is based on a three-cycle degree system, consisting of a bachelor, master and PhD. Until 2002, the first two cycles at research universities were combined in a single integrated cycle. The three-cycle system was officially introduced in the Netherlands at the beginning of the academic year 2002-2003, but degrees from the former, integrated system can be awarded until 2007-2009.

The Netherlands has a binary system of higher education, which means there are two types of programmes: research oriented education (wetenschappelijk onderwijs, WO), traditionally offered by research universities, and professional higher education, (hoger beroepsonderwijs, HBO), traditionally offered by hogescholen, or universities of professional education. These programmes differ not only in focus, but in access requirements, length and degree nomenclature as well. Research activities are not traditionally the task of hogescholen but of universities, academic medical centres and research institutes. There is however a new trend (and policy) of conducting practice-based research under the supervision of 'lectors' at hogescholen. In the document the abbreviations WO for universities and HBO are used. Since the introduction of the Bachelor Master structure in 2002 the binary system develops into a system with a variety of suppliers which calls for a new typology of higher education institutes in the Netherlands.

16. Access to the system of tertiary education is obtained by qualifying from one of the following types of schools

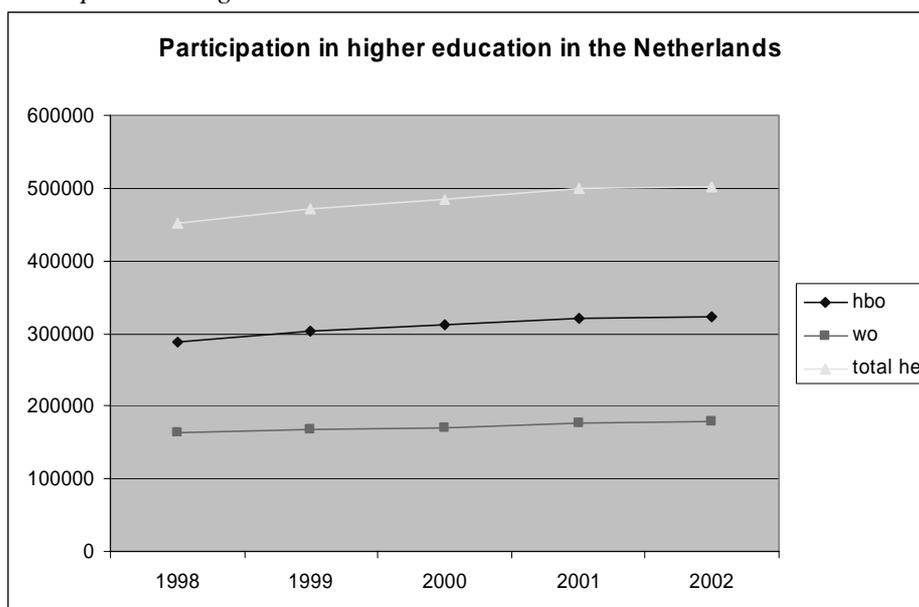
- MBO level 4 ('intermediate level vocational education', gives access to hogescholen).
- havo (five-year higher level of secondary education, gives access to hogescholen).
- vwo (six-year highest level secondary education, gives access to HBO and universities/academic medical centres).
- Successfully completing a first-year examination at a hogeschool allows access to a university program in the same area of expertise.

17. As shown in the table below participation in higher education has increased during recent years¹⁰. The total number of students in higher education rose from 450.000 in 1998 to just over 500.000 in 2002 (an increase of 11% in a 4-year period). The increase is slightly greater for the hogescholen (11.8%) than for the universities (9.6%). The increase for the universities is partly the result of an increase of the enrolment of students with a hogeschool diploma (from 20.000 in 2000 up to 28.000 four years later).

⁹ The sector itself describes the institutes in English as 'universities of professional education'. In this report, we use the Dutch term 'hogescholen' to mark the distinction with (research) universities,

¹⁰ Source: Kerncijfers 1998-2002 Ministerie OCW 2003.

Table 2.1 Participation in higher education in the Netherlands



18. Over a longer period of time (since 1990) the universities have almost stabilized (-0.7%) but the hogescholen have increased their numbers by 33.1%. The total growth was 18.7% in the period 1990-2002. In the years to come the number of students at both hogescholen and universities is expected to grow by 22% (period 2003-2009¹¹).

The most recent figure (2003-2004) shows that 43% of our youth participate in higher education¹².

Expenditure

19. Public expenditure on higher education for the coming year 2006 will be € 1.868 million for the HBO sector and € 3.472 million for the university sector (including € 508 million for the academic medical centres). Public spending has increased since 2004 by 6.1% for hogescholen and 4.4% for universities. More details on the funding the system are given in chapter 7.

2.2 The system elements

20. The higher education system in the Netherlands is based on a three-cycle degree system, consisting of the Bachelor, Master and PhD degrees. The three-cycle system was officially introduced in the Netherlands at the beginning of the academic year of 2002-2003. Bachelor and Master programmes are available at both universities and hogescholen (although hogescholen focus on the Bachelor programmes) at publicly funded and privately funded institutes alike. PhD degrees can be awarded only by universities and the ISS. The introduction of the three cycle system is near to completion. Obviously there are still some students following courses under the old regime (those in their 3rd or 4th year). The Bachelor course normally takes 3 years at university and 4 years at a hogeschool, the Master's degree an additional 1 or 2 years, and for PhD programs 4 years is usual¹³.

21. The tasks of the four types of institutes differ. Traditionally hogeschool programmes focused solely on education. They did not include any research assignments. This changed in recent years as a consequence of the Bologna declaration. With the space of a few years hogescholen managed to appoint 270 lecturers. The job specification of a lecturer is to transfer knowledge to industry (SME's) and society in general and to develop applications of knowledge on demand. They are knowledge experts in their field and are specialists in the application of knowledge in professional context within companies and organi-

¹¹ Source: Referentieraming 2004; methodiek en tabellen pagina 3; Ministerie OCW 2005.

¹² Onderwijsinspectie Onderwijsverslag 2003-2004 pag 293

¹³ Recently some programs have initiated for a 3-year course for PHD, followed after a research master.

sations. They are key players in the innovation strategy of the government (see chapter 5) and their role is promoted by authorities like the Onderwijsraad (Advisory Board to the Minister of Education) and the AWT (Advice Council for Science and Technology)¹⁴.

Non funded institutes

22. Institutes without public funding that are part of the system are the so-called ‘designated’ (“aangewezen”) institutes. Although these designated institutes are not funded by central government, students can obtain publicly funded student grants/loans for (accredited) programmes at these institutes, and the programmes are registered by the IB-groep¹⁵. The institutes in this category are united in PAE-PON (Platform van Aangewezen / Erkende Particuliere Onderwijsinstellingen in Nederland). There are nine institutes of this type at university level and 62 institutes at hogeschool level. Figures on the year 2004 show that there are 62 privately funded institutes offering around 500 programmes. The total enrolment is estimated to be 60.000 - 70.000 students, of which 20% receive public study finance.
www.paepon.nl

Publicly funded institutes; hogescholen

23. The hogescholen are united in the HBO-raad. The HBO-raad links all 44 government-funded hogescholen in the Netherlands. Until 1985 there were predominantly small hogescholen. In the early eighties more than 340 smaller institutes were present. Most institutes had a specific domain like technology, teacher training or social services and were very regionally focussed. From 1985 on the government stimulated the transformation into larger multisectoral institutes. Over the last 20 years these institutions have clustered into the actual number of 44 predominantly larger hogescholen; some with more than 30.000 students (Inholland, Hogeschool Utrecht, Fontys) and facilities in a number of cities. The HBO-raad has an English website (www.hbo-raad.nl).

Publicly funded institutes; Universities

24. There are 14 universities in the Netherlands including the Open University. Their branch organisation is called the VSNU. The VSNU has an English website (www.vsnunl.nl). One university (Wageningen) is funded by the Ministry of Agriculture, Nature and Food Quality; the others by the ministry of OCW. There are 158.000 bachelor and 18.600 master students registered (including medical centres)¹⁶. Together they employ over 50.000 people (40.000 fte). There is one category of staff that is specific for the Dutch situation; the PhD students. In most countries PhD students are students who are not usually employed by their university. The Netherlands have 8,000 PhD students (7500 fte) employed by universities with a contract for 4 years. It goes without saying that universities have a task not only in education but also in research.

Publicly funded institutes; Academic medical centres

25. There are 8 academic medical centres. Formerly these centres were an integrated part of (for training purposes) the universities. Their branch organisation is the NFU (www.nfunl.nl). These 8 institutes employ 60.000 people, and provide education for more than 20.000 Bachelor students, 1,000 Master students¹⁷, and 800 medical specialists in training¹⁸. Academic medical centres have a triple task: education (bachelor, master, medical specialists and PhD), research and patient care.

Publicly funded institutes; Research institutes

26. Although research institutes are not involved in education, they are an integral part of the system due to their close links to the universities. Their association is called de WVOI. There are three employers; the NWO (Netherlands Organisation of Scientific Research), Koninklijke Bibliotheek (Royal Li-

¹⁴ The members of the AWT are appointed by the Minister of Education and the Minister of Economic Affairs.

¹⁵ The IB-group is an agency of the Ministry of Education and is (among others things) responsible for the administration of student tuition fees.

¹⁶ Figures 2004 source VSNU www.vsnunl.nl.

¹⁷ source VSNU

¹⁸ Source: <http://orde.artsennet.nl>

brary) and the KNAW (Royal Netherlands Academy of Arts and Sciences)¹⁹. Together they employ 4000 people²⁰. Websites are; www.know.nl www.nwo.nl www.kb.nl. They are funding organisations for university research and are also highly specialised top quality research organisations themselves.

2.3 Students at hogescholen

Student numbers

27. The HBO sector continues to grow. It should be noted, however, that a different count definition is used now. On 1 October 2004, the number of participants totalled nearly 337,000. In absolute terms, the increase can be attributed primarily to full-time education. In part-time and dual education, student numbers even declined slightly in absolute terms.

Intake

28. Until 2000, the number of first-year students had risen to more than 83,000. After a decrease in 2001/02, a higher intake was measured in 2003/04. The increase in the Education sector (teacher training courses), which started in during 2002, did not continue in 2004. With 31,100 students, intake is highest by far in the Economics sector. In part-time education the intake figures fell slightly, according to the new measurement, to 12,400. The figure below shows the inflow of students per discipline in recent years.

Table 2.2 *Number of first year students per year and discipline in hogescholen*

	2001	2002	2003	2004
Agriculture	2,600	2,400	2,400	2,300
Education	12,800	13,600	15,500	15,000
Technology	15,000	14,700	14,700	14,600
Health	6,900	7,200	8,000	7,900
Economy	30,200	28,200	29,600	31,100
Social services	12,000	10,800	11,800	12,200
Language and culture	3,300	3,200	3,300	3,300
total	80,000	77,700	82,800	84,200

Source: Ministry of Education Science and Culture Table by EIM

Dual education

29. Dual education is a type of programme in which the student is employed by a company, on the basis of an education labour contract, in a position relevant to the programme he is enrolled in. Although the enrolment number fell slightly in 2004 compared to 2003, long-term trends indicate a clear and increasing need for this type of education. For instance, the number of first-year students entering a dual education program increased from some 200 in 1992/93 to approximately 2,500 in 2004/05, while the total number of enrolled students increased from 200 (in 1992/93) to more than 11,000 in 2004/05. Students in dual education have been graduating since 1995. The number of graduates in this sector totalled approximately 1,600 in 2003/4.

Graduates

30. During the past five years, the number of graduates has gradually increased, which is in keeping – albeit with a delay of four to five years – with the increase in entrance numbers. The sector of Economics, in particular, shows a marked increase in graduates. The rise has not been as steep, in the other sectors Engineering & Technology and agriculture, for example the number of graduates has remained virtually stable.

¹⁹ The KNAW decided to leave the association and follow the CAO of the universities. They are, however, not a member of the VSNU and therefore mentioned in this context.

²⁰ Source SBO Knelpuntenanalyse 2004

Table 2.3 *Graduates per discipline in 2004 in hogescholen*

	2001	2002	2003	2004
Social services	8.526	8.488	8.404	8.781
Economy	15.338	16.716	17.875	18.482
Education	11.865	12.783	13.662	14.183
Language and culture	2.420	2.808	2.732	2.915
Health	5.552	5.755	5.987	5.740
Technology	10.322	10.613	1.071	10.839
Agriculture	1.755	1.716	1.622	1.846
Totals	55.778	58.879	51.353	62.786

Source: Ministry of Education Science and Culture Table by EIM

Duration of study

31. The average duration of a hogeschool course as anticipated for the students enrolled, has remained virtually stable over the past five years. On average, students graduate after approximately 4.2 years. Studying economics usually takes longest and the health care courses are the shortest (3.8 years).

2.4 Students at universities and university medical centres

Student Numbers

32. The total number of students is affected by trends in intake levels and the average duration of the study. The average duration of study showed a decrease until the academic year 2001/02. To some extent, this can be attributed to government policy aimed at reducing the duration of courses. Since 1999, the effect of the decline in intake which lasted until 1996 and the reduction in the average length of the study has been balanced by the growth in numbers entering university. Other factors contributing to the increase in enrolment numbers may have been the increase in the number of five-year courses and the changes in the student finance system, which reduced the pressure on students to graduate as early as possible.

Intake

33. At the start of the 1990s, demographic changes - particularly a decrease in the number of births in the early 1970s – resulted in a steady decline in numbers of new entrants to university. Since 1997 – with a slight dip in 1999 – there has been an increase in first-year students. In the 2002/03 academic year, the number of first-year students exceeded the record set in 1991/92 the previous top year. This increase in intake continued in the 2004/05 academic year. The rise is widespread and is spectacular in Health. in this sector because of the increasing capacity (and demand).

Table 2.4 *Number of first year students per year and discipline in universities*

	99/00	00/01	01/02	2003	2004
total inflow	32230	33375	35953	37932	40738
Social sciences	7092	7291	8073	8665	9202
Economy	6128	6121	6827	6551	7032
Law	4342	4378	4576	4438	4834
Language and Culture	4067	4472	4822	5190	5693
Health	2794	3075	3345	4091	4447
Science	2448	2540	2561	2773	3126
Technology	4717	4748	4783	5116	5210
Agriculture	642	750	966	1108	1194

Graduates

34. The number of graduates is strongly related to the intake in previous years and the average duration of study. In 1996/97, for instance, the number of students graduating peaked as students from two cohorts graduated at the same time. This is due to the fact that students beginning in 1990 were allowed six years of financial support, while new entrants in 1991 were generally permitted basic and supplementary grants for a maximum of only five years. The effect of the increasing intake became visible in 2002. In the table below the number of university graduates per discipline is shown over the last four years.

Table 2.5 *Graduates per discipline in 2004 in universities*

	2001	2002	2003	2004
Science	1658	1620	1536	1406
Technology	2376	2613	2806	3051
Health	2743	2918	2809	2851
Economy	3464	3701	4005	4052
Law	3151	2970	3017	2998
Social sciences	3926	4319	4597	5157
Language and Culture	2399	2391	2517	2589
Agriculture	500	610	600	985
totals	19717	20532	21287	22104

Open University

35. The Open University has been providing distance learning courses in higher education since 1984. The Open University offers full degree courses, but students can also take part of a course or a few subjects only.

Duration of the program

36. Students tend to graduate earlier and earlier: the completion rate after five years of study has clearly been increasing. Seventeen percent of university students in the 1989/90 cohort obtained their master's degree after five years of study; in the 1992/93 cohort, this figure rose to 30%. However, this trend has not continued since. The completion rate after five years seems to have stabilized at 26%. It should be noted that all these figures are derived from the old system.

PhD students

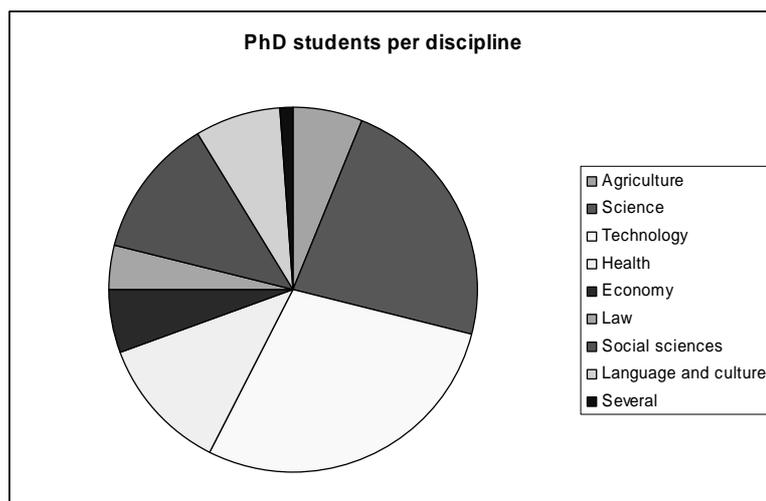
37. In contrast to many other countries being a PhD student in the Netherlands mostly is a job, in the sense that PhD students are appointed for a specific period (usually four years). Their tasks also include teaching. A small number of Ph-d students study on the basis of a scholarship. There are 7400 PhD students (FTE)²¹ employed at Dutch universities (and academic medical centres)²². About half of them are employed in the disciplines of science and technology. There is a gender difference in these numbers. Bachelor and Master programs have slightly more female than male students, but only 41% of PhD students is female²³.

²¹ Source: VSNU website, Wopi figures 7400 full time equivalent is approximately 8000 persons.

²² Of course there are "external" PhD's; people who will have their PhD while not having a formal institutional relation with the university.

²³ This percentage however has increased drastically in the last decade. IN absolute terms the number of female PhD's has tripled in the last 10 years.

Table 2.6 Number of PhD students per discipline



2.5 Organisations supporting the system

38 In the process of policy making in higher education there are a lot of organisations involved. All of them have the possibility to influence (and are often asked to do so). These organisations are introduced below in a number of categories.

Organisations belonging to the Ministry of Education, Culture and Science

There are a number of departments within the organisation of the ministry. They include.

- Onderwijsinspectie (Inspectorate of education in the Netherlands). This inspectorate works for the entire spectrum of education. www.owinsp.nl
- Cfi. Ministerial organisation for finance and information. www.cfi.nl
- Onderwijsraad. This is the council advising the national government on educational matters. The Onderwijsraad gives advice (requested and not-requested) on all possible aspects of education policy in all fields of education (from primary education up to higher education). www.onderwijsraad.nl.
- Adviesraad voor wetenschap en technologie. The Advisory Council for Science and Technology Policy (AWT) advises the Dutch government and parliament on policy in the areas of scientific research, technological development and innovation. www.awt.nl

(Quasi) Autonomous organisations implementing government policy

39. Close to the ministry there are a number of organisations who have a role in implementing government policy

- Informatie Beheer Groep (Information Administration Group). The IB group has the complex task of implementing a number of regulations in the field of the admission and registration of students, administration of grants and loans, administration of graduates and the collection of debts (ensuing from loans). The IB group is an autonomous organisation that works on the basis of a contract for the ministry. www.ib-groep.nl
- Platform beta en techniek. This Platform for Science and Technology has been commissioned by the government, education and business sectors to ensure sufficient availability of people with a background in scientific or technical education. www.deltapunt.nl
- NVAO Netherlands Flemish Accreditation Organisation. Concerned with quality assurance through accreditation, see chapters 8 and 9. www.nvao.nl

Branch organisations (employers)

40. There are five relevant branch organisations in the field of tertiary education:

- The VSNU is the employers' organisation for the 14 universities in the Netherlands. www.vsnu.nl

- The HBO-raad is the employers' organisation for all 44 hogescholen. www.hbo-raad.nl
- The NFU is the employers' organisation for the 8 academic medical centres www.nfu.nl
- WVOI is the employers organisation for the research institutes www.nwo.nl www.knaw.nl www.kb.nl
- PAEPON is the platform for institutes that are privately funded. www.paepon.nl
- FION is the Federation of
- Institutes for International Education in the Netherlands. www.fion.nl

Trade unions and student organisations

41. The following organisations represent personnel and students within the system
- Algemene Onderwijs Bond. Biggest trade union for workers in the field of education (primary to higher education). www.aob.nl
 - Onderwijsbond CNV Trade union with a Christian religious background. www.ocnv.nl
 - Abva-kabo-fnv. Trade union prominent in higher education www.abvakabofnv.nl
 - FBZ Trade union in the field of medical university centres. www.fbz.nu
 - VAWO trade union in the field of research institutes www.vawo.nl
 - Landelijke studenten vakbond. This students' union has existed since 1983. www.lsvb.nl
 - Interstedelijk studenten overleg. This union is the largest student organisation in higher education with 180.000 members in universities and hogescholen. www.iso-student.nl
 - PNN Promovendi Netwerk Nederland. Network of PhD students in the Netherlands www.hetpnn.nl

Social funds

42. These organisations are formed by the branch organisations and trade unions together.
- Sofokles. Social fund for the universities, research institutes and academic medical centres www.sofokles.nl
 - Mobiliteitsfonds HBO. Social fund for the HBO sector. www.mobiliteitsfonds.nl
 - SBO. Social fund for the entire education sector. www.sboinfo.nl

Other organisations

43. Finally there are a few organisations to be mentioned
- Nuffic. Information agency for international mobility, recognition of qualifications and grants systems. Nuffic gives information for foreign students about studying in the Netherlands as well as for Dutch students in higher education abroad. It also advises on the recognition of certificates and diplomas and on internationalisation of individual institutes www.nuffic.nl
 - Innovatieplatform. The Innovation Platform aims to strengthen the innovation potential of the Netherlands in order to secure a leading role for this country in the European knowledge economy of 2010 www.innovatieplatform.nl

2.6 Changes over the last decade for students

44. In recent years we saw some significant changes in the system, which may influence studying in higher education institutes: the bachelor-master structure and the changes in the grant system.

Bachelor master structure

45. The bachelor master structure was only recently introduced in higher education in the Netherlands (2002-2003). The old structure consisted of a four year course in hogescholen and a 4, 5 or 6 year course at universities²⁴. The latter could be followed by a PhD programme. The Bachelor-master-structure introduced a 4 year cycle in the hogescholen leading to a Bachelor degree, and a 3 year Bachelor course at universities, followed by a 1 or 2 year Master course. But some hogescholen also offer Master courses. The PhD system is accessible for university graduates on the basis of selection and the availability of funds. Also non-university graduates can be admitted after assessment of their competencies.

²⁴ Most courses had a 4 year cycle. Some courses took longer - technology and medicine in particular.

46. For students in the HBO sector the full course in the old system took 4 years, this is the same length the new bachelor course. Changes for the students might very well be minimal. However, after this 4 year course and be awarded their bachelor degree, these graduates have, the possibility of going to master courses (both at hogescholen and universities)²⁵. At this moment there are some 28.000 hogeschool graduates studying at universities²⁶; most of whom start from the beginning of the course. In the future it may be easier for HBO-bachelor graduate to enrol in a master course at a university. Taking into account the large (and growing) number of 28.000 it looks as if there is a clear interest among HBO-graduates to take this route. There are more options open to university students. Instead of an undivided 4 year course in the old system there is the possibility for students to finish higher education after the bachelor phase or to continue to one of the master courses. Probably there will be a variety of master courses, both labour market oriented courses and research oriented courses that prepare for a career in scientific research. Apart from those choices, they also can alter their choice for a specific university.

47. The bachelor master structure was introduced in 2002-2003. The introduction has not yet been completed. About 90% of the former courses have been changed into Bachelor courses in the new system and in addition a large number of Master courses have been introduced. This process is still going on and will continue in the coming years. Last academic year the majority of students graduating from higher education did so under the old system. This will change drastically in the coming years. Whether or not the available choices for students and graduates will be used, will become clear in the years to come. The fact that student numbers and the number of graduates are well documented will make it possible to monitor these choices²⁷.

Grant system

48. In the last decade the grant system for students in higher education changed. The system as it is today will be explained to make it understandable. Then the changes in de period from 1995 onward will be presented. In chapter 7 more information will be given about the way consumers of higher education contribute towards the funding of the system (which is linked to the grant system).

49. The grant system is available for every student registered in fulltime higher education; both at publicly financed institutes and at 'designated' (privately funded but accredited) institutes. The total grant consists of four components²⁸.

- Basisbeurs (basic grant for all students)
- Aanvullende beurs (supplementary grant related to parents' income)
- Lening (loan)
- OV jaarkaart (public transport season ticket)

50. The basic and supplementary grants are available for the established nominal duration of the course (in general 4 years). Loans and the public transport season ticket will be available for 3 years more. The basic grant is available for everyone irrespective of parental income but differs according to whether students are living with their parents or not (monthly € 76 for students who live with their parents, € 233 for those who do not). The supplementary grant is awarded to people with low parental income; the grant is maximum € 241 monthly. The loan is maximized to an amount of € 259 per month for students with a grant and to a maximum of € 787 per month for those who do not have a grant. All loans have a low interest rate (2005 level; 3.05%). Grants and the public transport season ticket called a 'performance grant' ("prestatiebeurs") which implies that if students do not graduate within 10 years the full

²⁵ For master courses at hogescholen the transfer is expected to be relatively easy. There will be special transfer programmes for those entering master courses at university with a HBO Bachelor diploma.

²⁶ Source: VSNU website

²⁷ On the VSNU website these numbers are documented under the heading "cijfers" and then "onderwijs". On the HBO-raad website you will find the publication "Het HBO ontcijferd 2005".

²⁸ In this presentation only the highlights of the system are given. Further specifications are found in chapter 7.

amount of the basic grant, supplementary grant and the public transport season ticket (must be paid back (provided the person has a certain minimum income).

51. There have been a number of changes for the students over the past ten years. The system itself was implemented (WSF2000). Major changes were:

- The maximum amount of loans was altered and the system was made more flexible. Loans could be changed each month and the maximum amount was raised.
- The duration of grants was changed. For a four year course a grant could be obtained for five years (course duration + one year). From 2000 onwards the duration of the grant is equal to the length of the course. Many students, especially at university, study longer than the normative course duration. This change forces students to find alternative sources of income after the fourth year.

52. In 1999 one adaptation was made. The public transport season ticket was also included in the “prestatiebeurs” which implies that those who do not graduate will have to repay the price of the ticket (2005: monthly amount €76)²⁹. The ‘performance grant’ itself was introduced in August 1996 prior to that date students did not have to pay back grants whether they graduated or not.

2.7 Laws underlying the tertiary education system

53. All these laws are published on the internet: <http://wetten.overheid.nl>

- Wet Hoger onderwijs en Wetenschappelijk onderzoek (WHW); Law underlying the entire system of tertiary education and research (see chapter 8).
- Wet Onderwijs Toezicht (WOT). This law regulates the work of the education inspectorate.
- Wet Studie Financiering 2000 (WSF) Law that regulates student grants and student loans
- Wet op het onderwijsnummer. Law that regulates the implementation, use and maintenance of a unique registration number per student in all education administration at the institutes and the IB-group.
- Wet op de Onderwijsraad. Law that regulates the national advisory board on education.

A new law underlying the system will be introduced shortly (see annex 5)

2.8 Relevant documents

Adviesraad voor het Wetenschaps- en Technologiebeleid	Ontwerp en ontwikkeling De functie en plaats van onderzoeksactiviteiten in hogescholen	2005
CHEPS	Issues in higher education policy	2005
CINOP	Kort en goed Verkenning invoering verkorte programma's in het hoger beroepsonderwijs	2005
CHEPS (e.v.a.)	Evenwicht zonder sturing; wegen voor nieuw hoger onderwijs en wetenschap deel 1	2005
CBS	Heeft Nederland wel zo weinig hoger opgeleiden	2005
CBS	Nederlandse bevolking steeds hoger opgeleid	2005
CHEPS	Eerste tweede en derde geldstroom in 9 universitaire stelsels	2001
HBO-raad	Invulling tweede fase havo/vwo	2003
HBO-raad	Evaluatie lectoren en kenniskringen	2004
HBO-raad	Het HBO ontcijferd 2005	2005
Inspectie van het Onderwijs	Examencommissies in het hoger onderwijs	2002
Inspectie van het	Onderwijsverslag 2003-2004	2005

²⁹ This rule applies for those who received their first time grant after August 1999.

Onderwijs		
Ministerie van OCW	Wetenschapsbudget 2004	2004
Ministerie van OCW	Kennis in kaart 2004, 2005	2004
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
Ministerie van OCW	Kerncijfers 1998-2002	2003
Ministerie van OCW	referentieramingen 2005	2004
Ministerie van OCW	Key figures 1999-2003	2004
Ministerie van OCW	Onderwijsdeelname 1990-2020 beelden anno 2005	2005
Ministerie van OCW	Beleidsnotitie experimenten met een open bestel in het hoger onderwijs	2005
Ministerie van OCW	Een verkenning naar onderwijs en onderzoek in 2010	2002
Nuffic	The education system in the Netherlands	2004
OECD	Education at a glance 2005	2005
Onderwijsraad	Ruimte voor nieuwe aanbieders in het hoger onderwijs	2004
Onderwijsraad	Invoering bachelor-master-systeem in het hoger onderwijs	2000
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004
VSNU	Duaal Wetenschappelijk Onderwijs	2004
VSNU	Ontwikkeling bachelor en master ingeschrevenen per hoop gebied en instelling 2000-04	2005
VSNU	Onderzoekinvestering per geldstroom in fte	
VSNU	Ingeschrevenen in wo met hbo eindexamen	2005

3 THE TERTIARY EDUCATION SYSTEM AND THE LABOUR MARKET

3.1 Situation

54 Two distinct aspects of the dynamics of the relation between the tertiary education system and the labour market will be discussed; the numeric relation between supply and demand and course content. The numeric aspect of the relation seems to be very important in terms of the numbers of specific professionals. Neither oversupply nor the lack of professionals seems to be a desirable situation. Unemployed skilled professionals are not a very productive output of the education system. Shortages, however, are a serious problem for employers making it difficult to get work done and so posing a threat to the economy. Shortages also result in higher salaries which are also counterproductive for economic growth. The labour market, however, seems to react flexibly. Many professionals find work in a profession remote from their original area of expertise, and employers are flexible in their demands as supply-demand relation change. This seems apply particularly to highly educated people.

Numeric supply and demand

55 The number of students in tertiary education rose over the last decades and is expected to keep on rising in the next 10-15 years. Therefore, the supply of highly educated people also rose. This seems in line with the increased demand in the labour market. The prognoses for the next years (until 2008) are that the demand for tertiary education graduates will be greater than the supply (ROA; De arbeidsmarkt naar opleiding en beroep tot 2008). Compared to the perspectives of those completing other educational levels (vocational training or lower) graduates from higher education institutes have a far better chance. Due to the general economic situation in the Netherlands unemployment rates have risen in the last few years. Last year (2005) unemployment rates are stabilising and the number of vacancies have risen. Within this general picture there is a relative low percentage of unemployment among highly educated persons.

Unemployment rates in 2004 by educational level are shown in the table below.³⁰

Table 3.1 Unemployment in 2004 per educational level

Primary education	13,25%
Secondary education	8,16%
Vocational training	5,41%
Hogescholen general	4,14%
- Hogescholen technical	3,91%
- Hogescholen economic	3,93%
- Hogescholen social	4,35%
University general	4,95%
- University technical	4,32%
- University economic	3,51%
- University social	3,76%

56 Another factor to be considered while considering the supply and demand of graduates is their salary. The most recent figures on the earnings of the entire working population are those of the “loon-structuuronderzoek 2002” of the Central Bureau of Statistics³¹. In the table below the average hourly salaries are presented (in Euros).

³⁰ Source: CBS statline table by EIM

³¹ Figures can be found their website url <http://www.cbs.nl/NR/rdonlyres/CA46ABAF-3C4A-4E32-8386-4B781ED21EE2/0/2005Iso2002pub.xls#Tabel4b!A1>

Table 3.2 *Salaries of graduates for men and women*

Salary per hour	total	men	women
Hogeschool graduates	€21.38	€23.72	€18.21
Technical	€23.61	€24.12	€17.94
Economic	€21.78	€24.80	€17.49
Social/ services	€20.03	€22.18	€18.59
University graduates	€27.85	€29.71	€24.23
Technical	€27.67	€28.41	€23.25
Economic	€29.76	€31.84	€24.74
Social/ services	€26.43	€28.49	€24.14

57 In general there are significant gender differences in earnings. Men have significantly better salaries than women (hogeschool +30%, university +23%). On the whole university graduates have a 30% higher salary than hogeschool graduates. This does not, however, apply to technology where university salaries are only 17% higher. These two elements together show that even corrected for discipline, men with hogeschool diplomas have about the same earnings as women with a university degree.

Numeric allocation, concern for the near future

58 There is great concern about the insufficient supply of graduates in the fields of technology, teaching and healthcare professionals (especially nurses) in the near future.

- The number of graduates in science and technology is 14% of the total number of graduates in tertiary education. Compared to other OECD countries the number of graduates in these areas is very low and is showing a downward tendency (In most other OECD countries there is an upward tendency³²).
- The demand for teaching staff especially in secondary education exceeded the supply in the years up to 2002. But now, due to the recession, most schools seem to have little trouble in finding the right number of teachers. There is, however, great consensus about the expectation that once the economy is up on its feet again, the supply of teachers, especially in specific disciplines (technology, some languages, economics and mathematics) will be insufficient. This is worsened by the fact that a lot of the current teaching staff in secondary education will retire from teaching in the coming decade.
- In the field of health care training there is expected to be a growing gap between supply and demand: shortages in doctors, specialists and specialized nurses. In the near future with a rising economy and an ageing general population the demand for all types of professionals in health care is expected to increase (dramatically in some cases and regions). For the academic medical centres that have a very prominent position in training doctors and nurses, the problem of ageing has three aspects. The ageing of the general population urges these institutes to train more doctors and nurses. Secondly, ageing will cause the research and development investments to rise: more treatments and more complicated treatments. The vast majority of medical research is executed in academic medical centres. Thirdly, the workforce of these institutes is ageing as well. In the near future these three trends will come together and put great stress on the educational capacity in this sector.

Numeric specifications and regulation by the central government

59 There is no policy of forcing people to apply for a specific course in order to meet the demands of the labour market. In contrast there is the possibility to regulate the number of applications. Higher education institutes can set a maximum number of applications because of their capacity. The WHW legislation allows central government to set a maximum enrolment number for certain courses based on labour market considerations. Traditionally, enrolment in courses in the arts (music, fine arts) and courses

³² Third European report on science and technology indicators 2003 pag 187 table 4.1.9

in the medical field have been restricted. The Ministry also applies a version of restriction called “macrodoelmatigheid” (macro efficiency), to new programmes; this is discussed in the section below.

Quality of courses in relation to the labour market

60 In most courses in tertiary education, practical training is an important part of preparation for the labour market. Therefore institutes have numerous contacts with enterprises and organisation in their professional field. The first and oldest governmental guidelines as to the content of courses are the European guidelines for a number of professions, primarily in the medical field; doctors, nurses, veterinarians, dentists, pharmacists and also architects.

61 In the HBO sector the relation between labour market and the courses is clear. The same is true for a number of courses at universities. However, for other university courses the relation with labour market is far from obvious. Therefore strategies to adapt to the needs of the professions are different in hogescholen and universities. In hogescholen the needs of the labour market are of utmost importance; these needs justify their existence. Hogescholen have a long and enduring relation with organisations in their work field (businesses and non-profit organisation); some of them have even been founded by businesses or branch organisations. One clear requisite for teachers at hogescholen is their practical experience in the field of the courses they teach, and hogeschool students spend about ¼ of their time in practical training³³. Apart from formal regulations these intense and enduring relation have all sorts of direct and indirect influences on the quality and content of courses. Both in the old procedures of quality assurance, as in the new procedure of accreditation the content of courses in relation to the labour market demands is guarded as an important aspect of the quality of the education³⁴. However in the HBO sector both the institutes and employers are concerned about the relations between the content of programmes and the demands of the labour market. In order to bring both closer together they signed a covenant in December 2005.

62 The sector itself has an elaborate system of validation of content of education and qualifications by the work field. Most courses are given at a number of locations and specific schools. The HBO-raad has appointed a number of “sector advice councils”. These councils have many contacts with relevant stakeholders and register the developments in relevant professions. They transfer this knowledge in order to specify the required knowledge and skills of professionals in the field³⁵. These specified learning outcomes are the guidelines for the courses themselves.

International labour market

63 Tertiary education is becoming ever more internationally oriented (see also chapter 10). PhD students are also more and more internationally oriented and master courses will be the next group of courses in higher education in which a growing number of foreign students is expected to unroll and graduate. There are, however, hardly any figures on the mobility of graduates. Tertiary education and universities in particular show great concern about the internationalisation of the labour market. Institutes seem particularly concerned about the aspect of ‘brain drain’ of top talent. One of the very few reports on brain drain is found at the Maastricht Economic Research Institute on Innovation and Technology (MERIT). This report states that the Netherlands have one of the highest numbers of science and technology PhDs working in the United States. This represents a threat to maintaining a certain capacity of scientists and research staff in this field. Because of attraction the American science community exerts worldwide, the brain drain in this field is particularly prominent. It is a threat to the development of the knowledge society, the Lisbon agreement and the Bologna process.

³³ In hogescholen most students have full time courses. However there is a growing number of dual courses where applicants are both employees and students.

³⁴ The sector has a research instrument called the HBO-monitor to monitor the labour market success of graduates.

³⁵ Sectoraal adviescollege.

3.2 Policy

64 The Dutch government is very much aware of the crucial role of the system of tertiary education (and research) in strengthening society. The system plays a vital role in the quality of society both for the learning individual and in the transition to the “knowledge society”. This demands a flexible and highly qualified workforce. The Dutch government is aware of the fact that the Netherlands have only an average score concerning the number of HE graduates in the national workforce, compared to other OECD countries. The 2004 HOOP (Ministry OCW) document states clearly that the number of vwo graduates that choose higher education is at its maximum. Therefore the number of graduates from havo and mbo levels entering higher education should be raised. Being the only sector of tertiary education where havo and mbo graduates are admitted, hogescholen play a crucial role in increasing the number of tertiary education graduates in the near future. In 2005 the HBO-raad and the secretary of higher education signed a document called the “prestatieagenda” (performance agenda) one of which is: promoting the number of mbo graduates going to and successfully completing hogeschool courses.

65. There is a major commitment by the Dutch government and HE institutes to strengthen the relation between education and the business community, with special attention for SMEs. Some specific areas receive extra attention in the relationship between tertiary education and the labour market:

- Bèta en Techniek (science and technology). The Dutch government has installed the “Platform bèta en techniek” to promote the courses in science and technology (action plan produced in December 2003). The goal is to enlarge the number of graduates in these fields in order to improve the Dutch position compared to other OECD countries.
- The Ministry of Education has started a new campaign to stimulate young people to enter teacher training programmes, especially those for secondary education.
- The 8 academic medical centres in the Netherlands have the task of providing a larger number of doctors and specialists as well as renewing the system of higher education for health care.

Short courses; associate degree

66 In Dutch educational policy there is a new initiative to develop short courses in hogescholen. There are two reasons to do so. The first reason is the argument of the labour market. In SMEs in particular, there is a growing number of highly educated employees and entrepreneurs (primarily from hogescholen). This process can be accelerated by introducing short courses. The second reason is the lack of diversity within qualifications. With only bachelor and master degrees (and PhD), the Netherlands seem to have a system with relatively little variation. A country like Denmark has 10 different levels in the entire educational system. The Dutch MBO level equals level 5 in that classification, HBO level is level 8 in the Danish classification. While the Danish classification system may be very detailed, by introducing the possibility of short (2 year) HBO courses within the Dutch system the government tries to fill the gap. By introducing these short courses the number of applicants for tertiary education is expected to rise. The SME employers’ organisation (MKB Nederland) is very much in favour of introducing the associate degree. The VNO-NCW organisation is concerned about the possibility of “degrading” the image of hogescholen and their courses. In 2006 pilots will start with courses of 120 ECTS. The NVAO will be the secretary of the selection committee. After successful completion of such courses the graduates can progress could either enter the labour market or will have the full opportunity to follow the full bachelor course.

Given the professional practice, the labour market signalled the need for an intermediate level between the current level of MBO4 and the Bachelor. The level of the qualification will be in line with the descriptor developed in the Bologna process for a short qualification within the Bachelor. Like the other higher education qualification the new qualification (Associate degree) will be regulated by law. This is being done in the proposal for the new legislation. In co-operation with the employers the NVAO developed an accreditation framework for this type of new programmes. Programmes that are developed at hogescholen and have received a positive advice of the NVAO, are eligible for government pilot subsidies.

67 In June 2005 the secretary of higher education invited the hogescholen to submit proposals for short year courses in the form of pilots. These new courses should fit entirely in the European Qualification framework; they should have 120 ECTS (2 years) and be an integral part of a standard bachelor

course³⁶. They should be especially suited for mbo graduates and working people³⁷. One of the criteria for allowing these short courses to start is a proven labour market demand. The pilots are expected to start in 2006 and will be evaluated after a period of 4 years.

Knowledge circles, innovation and the labour market

68 In Chapter 5 the innovation strategy will be discussed. The main line of innovation strategy is to optimise the coherent relationship between education institutes and their work field. All individual hogescholen have their own “werkveldcommissie”, a council of expert who interact with relevant parties (individual employers, branch organisations) in order to tune in for their courses. Two instruments in this innovation strategy require attention in this chapter.

69 First of all, there is the policy of the Minister of Education and Science to promote ‘lectors’ and ‘knowledge circles’ at hogescholen. Over 200 new lectors have been appointed in a short period of time, and one of their tasks is to create knowledge circles with relevant organisations. These networks of knowledge circles consist of companies and organisation in the work field. It is expected that these knowledge circles will strengthen contacts between educational institutes and organisations in the labour market.

70 Another initiative to be mentioned here is the measure taken by the Minister of Economic Affairs; the ‘knowledge vouchers’. Knowledge vouchers are, in essence, a subsidy for companies that buy services from knowledge institutes in order to improve the innovation of processes, products and services. In doing so, the relation between companies and knowledge institutes is strengthened. It is particularly valuable because the initiative for actions is in the hands of businesses. It is expected that with these knowledge vouchers not only innovation but also the relation between education and labour market will benefit.

Demand orientation and the labour market.

71 The policy in recent years has been to improve the demand orientation of HE-institutes. Institutes react to the ever changing demands by supplying courses for a variety of target groups. Apart from the traditional full-time courses a growing number of students (and companies) seem to be interested in dual courses (that combine study and work in the same area) and part time courses. In Hoop 2004 this is stated as being one of the goals of national government³⁸.

Commercial activities of HE institutes

72 Both universities and hogescholen execute a growing number of commercial activities; both research and education/training. In this relation there is a natural trend of HE institutes, as a supplier of services, to improve relations with the demand side of the market: companies and organisations.

Accreditation and the labour market

73 One of the basic principles of accreditation (explained in detail in chapter 9) is that the competences of graduates should be derived from the professional practice within companies, government and non-profit organisations. Since accreditation is a prerequisite for public funding, this has a decisive impact on the (regional) supply of courses.

3.3 Results

74 It is hard to tell whether educational policy to improve relations with the labour market in general has an impact. It definitely is clear that the intention of educational policy to improve the educational level of the general population and to raise the numbers of young people higher educational quali-

³⁶ These courses are therefore subject to the same procedures and criteria of quality assurance as full 4 year bachelor courses.

³⁷ For working people, attending a 4 year course is not always an option.

³⁸ Hoger Onderwijs en Onderzoek Plan 2004 page 29.

fications works. And it is definitely in line with the demands of the labour market. Unemployment is (far) lower among highly educated people than among those with lower/intermediate education; they also have far better salaries. The intentions to improve the enrolment of mbo-students in hogescholen, is part of this strategy, and it works.

75 It is uncertain whether organisations in the labour market are more content today about the output of institutes and the qualities of graduates than they were before. There are no systematic evaluations for the entire spectrum of courses in tertiary education, let alone time series analyses of this kind.

76 A number of observations concerning the effectiveness of policy on the relation between education and the labour market in recent years can be made:

- The number of dual courses and the number of dual students have increased significantly over the last decade. This is a clear indication that the arrangements to satisfy the needs of specific target groups (as students) and segments of the labour market have a positive effect. The absolute number of dual students in tertiary education is still relatively modest (12.000 in 2002). The vast majority of students are full time.”
- It is too early to tell if lecturers and knowledge circles have positive labour market effects. The growing number of lecturers shows that hogescholen are very keen to promote this measure. The experience up to now is limited. Whether or not it is effective has yet to be established.
- Knowledge vouchers have been very well received in the business community. Many employers have been using this subsidy and relations with knowledge institutes have been intensified. There are, however, no data about the effectiveness of this measure.
- Hogescholen have taken their task to strengthen the relation with the labour market seriously. Practically all institutes have special offices for entrepreneurs and the relations are numerous. There is good practice but also room for improvement

3.4 Conclusion and critical remarks

77 This leads to the following conclusions

- Labour market figures that show the relation between education and employment are available on a yearly basis. Recent developments are visible only after a year or so. Labour market figures per course are practically non-existent. The only reliable labour market figures are from the Research Centre of Education and Labour Market at Maastricht University³⁹. These figures are detailed and give insight in the labour market situation of graduates per course, but only for recently graduates.
- In recent years there is a growing awareness both on the side of the higher education institutions and on the side of business and employers organisation to strengthen the relations in order to make a better fit between the content of courses and the demands of employers. The recent covenant between MKB Nederland and the HBO-raad is a clear example of these closer bonds. However there is no clear model about what a better fit might be. The main issue seems to be how to organise and institutionalize the relation and to what extent prescriptions about the content of course and curricula should be given by the business community. For MBO the Netherlands have a model with Knowledge centres per branch. Some arguments seem to be in favour for this model for hogescholen, other arguments are not. Searching for an ideal structure seems to be one of the main challenges for the near future.
- The funding (see chapter 7) of institutes is very much influenced by numbers of students and numbers of diplomas. Funding, however, is not directed to the organisations in the labour market. Therefore steering the market demand means the market of students; by increasing the number of students in courses, institutes increase their budget. Whether or not graduates have the qualities they should have is not a relevant topic in funding. Therefore demand orientation is not an everyday topic in the relation of institutes and their field or work. It is relevant in the phase of accreditation only; then programmes have to show the relation with the labour market. It is not

³⁹ For the agriculture sector labour market information is given by Stoas in close cooperation with RAO from Maastricht university.

possible to document, at national policy level, how this impacts on the content of courses and on the content of the qualifications of graduates.

- There is a one phenomenon concerning the policy of promoting science and technology that seems rather strange. It is a fact that the percentage enrolled in science and technology is low and descending; this is worrying. However, one would expect that labour market figures and earning would show a relatively positive position for graduates from these courses. This is not the case. Therefore it is hard to prove whether the demand for graduates from these disciplines is as great as some organisations (SER, Platform, Onderwijsraad, Ministry Education, Culture and Science and Ministry of Economic Affairs) make us believe it is. Taking into account the fact that the Netherlands are an exporter of knowledge workers in this field (especially to the US) the demand side of the labour market fails to react in line with this large demand by providing higher salaries and more jobs. On the other hand the labour market for personnel in these disciplines is an international affair, with a price mechanism which is based on international developments. For instance research personnel at universities in these disciplines are attracted from all over the world. Employer's organisations have reported shortages in this field but in the labour market statistics do not confirm this.
- The fact that the number of science and technology students is so low is partly due to the fact that science and technology is almost entirely a masculine world. Although central government has been trying to interest girls to study science and technology its success is marginal. Only 30% of students in sciences (university) and 10% in technology (universities and hogescholen are females.
- The HBO sector advice councils have a lot of experience in defining the content of professional education programmes. However these councils are an entirely internal affair; all members of the councils are experts from hogescholen. Validation however is done by presenting the competence profiles to the relevant branch organisation. Validation of the content of courses by the professional community (like in the Skills Councils in the UK) can be taken a step forward with the new covenant signed in December 2005.
- In the Netherlands as in all continental European countries there is no tradition of sponsoring higher education by private contributions from firms. More private contributions could make the demand orientation of institutes better and might strengthen the relations with the labour market. So far there are no signs that this situation is changing. Initial education, including tertiary education, is considered a primary concern for government finance.

3.5 Relevant documents

B&A groep	Onderwijs en innovatie	2005
CINOP	Kort en goed Verkenning invoering verkorte programma's in het hoger beroepsonderwijs	2005
Choice	Keuzegids hoger onderwijs	yearly in october
Centraal Plan Bureau	Scarcity of science and engineering students in the Netherlands	2005
CBS	Heeft Nederland wel zo weinig hoger opgeleiden	2005
CBS	Nederlandse bevolking steeds hoger opgeleid	2005
CBS	Tabellen loonstrucuuronderzoek 2002	2005
EU/Cordis	Third European report on science and technology indicators 2003	2003
HBO-raad	HBO monitor	2005
HBO-raad	Brancheverslag HBO	2005
HBO-raad	Beroepscompetenties werktuigbouwkunde	2002
Ministerie van OCW	Wetenschapsbudget 2004	2004
Ministerie van OCW	Kennis in kaart 2004, 2005	2004

Ministerie van OCW	Zonder kenniswerkers geen kenniseconomie. Achtergronddocument bij kabinetsnota	2004
Ministerie van OCW	Een hbo-student in dienst? De fiscus komt bedrijven tegemoet. Fiscale regeling afdrachtvermindering	2005
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
Ministerie van OCW	Alpa-plan Beta techniek	2003
Ministerie van OCW	Prestatieagenda OCW HBO-raad	2005
Ministerie van OCW	Beleidsnotitie experimenten met een open bestel in het hoger onderwijs	2005
Ministerie van OCW	OECD economic survey in the Netherlands (concept)	2005
Merit	The Brain-Drain - Emigration Flows for Qualified Scientists	
MKB nederland	De vraag naar HBO-ers bij mkb bedrijven	2004
Onderwijsraad	Hoger onderwijs: meer kenniswerkers en betere kennisbenutting	2004
ROA	De arbeidsmarkt naar opleiding en beroep tot 2008	2003
RWI	Kwartaalanalyse arbeidsmarkt juni 2005	2005
Roa	Werkgelegenheid en scholing 2003	2004
Roa	statistische bijlage schoolverlaters tussen onderwijs en beroep	2005
Stoas	De arbeidsmarkt van het hoger agrarisch onderwijs	2004
SEOR	De maatschappelijke betekenis van het hoger onderwijs	2003
Sociaal Economische Raad	Het nieuwe leren	2002
VSNU	WO-monitor	
VSNU	Duaal Wetenschappelijk Onderwijs	2004

4 THE REGIONAL ROLE OF TERTIARY EDUCATION

4.1 Situation

78 The Netherlands are a small country; one could almost say that it is a region within Europe. A closer look however, makes it clear that cultural and economic differences between parts of the country are substantial. Looking at the definition of a region within the context of the Netherlands it could be said that a region has the size of 30-70 km; for instance mainport Rotterdam, Industrial region Eindhoven-Helmond, Amsterdam-Schiphol, Twente etc. Regions matter. Regions have specific characteristics in terms of economic activities. Economic activities tend to be clustered and networks of higher education institutes, research facilities and economic activities tend to have a very local component; in the Netherlands as well as elsewhere.

79 There are two different roles of tertiary education in terms of the region they supply.

- Supply of education for the local population of students.
- Regional role in knowledge networks, innovation and incubation (birthplace for enterprises).

Supply of education for the local population of students

80 Most courses in higher education are found in more than three institutes. Some, like teacher training for primary education, have courses in more than 40 institutes. Many very common courses are given in 10-20 different institutes. As far as these courses are concerned it is evident that a student can find a place to study in the proximity of his or her home town; and many do. In contrast unique courses are available both at universities and hogescholen. Although most students tend to choose courses in the proximity of their homes these unique courses (or courses to be found in 2 or 3 locations only) tend to attract students from all over the country (and abroad). So there is a relation between the demand for higher education and the regional supply but it is certainly not 100%. There are a number of reasons to concentrate education in a small number of locations. Some courses that explicitly demand high quality, expensive infrastructure (like training dentists), have a historical bond with a certain region, or supply only a very low national demand for workers. Or there is little demand for places from students. For such types of education regional boundaries usually are less strictly observed it could be said that "the nation is their region".

Knowledge network, innovation and incubators

81 Knowledge networks are not limited to certain regions. Certainly specialised knowledge is more internationally than regionally oriented. Networks of large companies, universities and specialised research institutes cross borders. The cooperation between Philips laboratory (Eindhoven) and Sony in developing the compact disc a few decades ago is an example of highly specialised knowledge networking that was certainly not regional. In contrast to these highly specialised knowledge networks there is a growing awareness of the importance of regional knowledge networks to encourage innovation. An important prerequisite for effective regional knowledge networks seems to be a certain mass. In the Netherlands there are a large number of knowledge networks. One example is 'Food Valley' in the region around Wageningen university and research centre.

*Food valley*⁴⁰

82 *This highly innovative network is centred on the well known knowledge institute Wageningen University and some 70 agro and food companies and research institutes are members of this network. In total there are 10.000 people employed in this network and it is in the centre of one of the main innovative priorities set out by the national government: life sciences. The network itself, although situated in the region of Wageningen, has links all over the world, through Wageningen university and research centre as well as through the associated companies of which a great number are internation-*

⁴⁰ see also their website www.foodvalley.nl

ally operating businesses. Food valley is the innovative motor for food and agro industry. Since 2003 it also has facilities for starting entrepreneurs (biopartner incubator) and several companies have been accommodated since then.

83 The education advice council (Onderwijsraad) gives a clear picture of the importance of knowledge networks⁴¹. Knowledge networks emerged in the last decade; they are an important improvement tool in generating and applying knowledge. Knowledge networks are a crucial factor in the innovation of processes, services and products. And knowledge networks usually have strong regional anchoring. There are no figures available for the number of regional knowledge networks in the Netherlands. A recent study for the education advice council shows that the relevance of educational institutes is always a crucial factor in the success of knowledge networks⁴². These networks are usually not restricted to higher education institutes but also appear in institutes for professional training and local government (and, of course business organisations) are part of these networks. Smart indicators for the impact of regional knowledge networks have not been developed, but there seem to be a number of critical characteristics. First of all, concentration or focus on a specific field of knowledge is very relevant. Secondly, networks should have a critical mass; both the number of companies as well as a diversity of educational and research institutes seem to be crucial factors. Thirdly, the variety and intensity of interaction between partners in the network is relevant.

84 A growing number of educational institutes have facilities to be the cradle of new companies: incubators. Food Valley is an excellent example in this respect. The numbers of spin-offs per university are presented in HOOP 2004, in which it is shown that the number of spin-offs differs strongly per university. At present no figures or surveys are available for hogescholen, but they will be in the future.

4.2 Policy

85 Since the mid 80s Dutch educational policy has been in favour of greater autonomy for institutes of higher education⁴³. This implies that forming regional networks is the responsibility of tertiary education institutes.

86. There are, however, also a number of national policy measures that promote networking in the region.

- In higher education institutes, especially in those courses where there are close relations between education and professional performance, the dual component in education is very prominent. Students have to learn their profession partly in practice (traineeship). Therefore good relations between the educational institute and professional organisations (that provide their students with trainee facilities) is especially important. For many courses this implies close relations with organisation in the region. This has been true for decades and its significance can hardly be overestimated.
- On a local level (cities and provinces) authorities are very interested in strengthening local economic structure. Good examples of this policy are found in regions like Amsterdam, the province of South Holland and others.
- Since 2004 the NVAO has been operational in the field of the accreditation of courses (see also chapter 9). Among the criteria for accreditation, labour market demands are prominent in the HBO sector. For most courses the labour market demand is a regional matter. Regional networks will be beneficial for acquiring good knowledge of the labour market demands and therefore for the accreditation of courses.
- Since 2001 there is a policy of appointing a growing number of lecturers and knowledge circles at hogescholen (see also chapter 5). Lecturers and knowledge circles: these are aimed at improving the ex-

⁴¹ Onderwijsraad: Bijdragen van onderwijs aan het Nederlandse innovatiesysteem mei 2005.

⁴² Onderwijs en innovatie quick scan and case studies. B&A groep 2004. This document is based on 8 case studies and gives no insight into the magnitude of the phenomenon of knowledge networks in the Netherlands

⁴³ Education Policy analyses OECD 2003

ternal orientation of (higher) educational institutes, especially with regard to SME. Lectors do play an important role in the innovative networks between institutes of higher education and SME. In the 2004-agreement between lectors and knowledge circles the availability is included of €38,4 million starting in 2006, further extended to almost €50 million in 2007. This will strengthen the regional orientation of hogescholen.

- The introduction of associate degree routes in the hogescholen: Innovation in SME is very much in demand of well-educated personnel on a high level. Students who finish a complete course in a hogeschool are often too expensive. The experiment of short cycle higher education makes it possible for SME to attract less-expensive, but still high-educated personnel
- RAAK-regeling: Regional Action and Attention for Knowledge innovation. Aim of this regulation is to strengthen the relationship between higher education institutes and the SME-sector. The regulation offers financial support to co-operation projects in the field of knowledge-development and knowledge-exchange between institutes for higher education (partly including regional education centres, ROC's) and small and medium enterprise (SME). For the RAAK-regulation is an annual amount of € 5 to 8 million available.
- In the HOOP 2004 document attention is paid to the subject of entrepreneurs within institutes as well as to students⁴⁴. What measures will be taken in order to stimulate this is not yet known. Together with the Ministry of Economic Affairs specific policy will be developed for "techno starters".
- The Ministry of Economic Affairs' innovation policy stimulates the demand for services from tertiary education and research institutes by business enterprises, with special attention for (regional) SMEs. This policy is discussed in chapter 5, but it is worth noticing that there is a strong regional effect in this. Many SMEs are local parties in the direct proximity of the institutes.

87 The Education Advice Council suggests a number of policy improvements in their advice of May 2005:

1. Strengthening cooperation with educational institutes
2. Acknowledging professors acting as knowledge brokers
3. Strengthening regional dimension in relation to profiling the educational institute
4. Strengthening national facilitating policy.

4.3 Results

88 Most of the above mentioned policy measures are of recent date. The number of lectors has grown dramatically over the last few years and an evaluation in 2004 showed that the impact on the quality of education has been significant. However, the impact on regional innovation until now has been positive but modest.

89 There are some clear indications about the effectiveness of institutional policy towards incubators. There are no figures for the hogescholen but for universities these figures show significant differences between universities. Twente University scores highest in the number of spin-offs (new firms). Twente University also has a long history of promoting entrepreneurship and providing facilities for incubators.

4.4 Conclusion and remarks

90 The Netherlands have a long history of decentralisation of higher education policy. This is very clear in respect to the regionalisation of tertiary education. Regionalisation is primarily the responsibility of the individual universities and hogescholen. Whether this works or not is, to a great extent, unknown. There are very few systematic evaluations or surveys. Whether an institute is in the centre of a number of professional regional networks or not is not very well known. Policy has been directed towards strengthening the relation with professional organisations in the proximity of the institute. For some courses the

⁴⁴ HOOP 2004 Page 30. The number of spin-offs are presented on page 84.

coverage area is the entire country, but for most courses the region is up to 60 km around their location. Institutes are the central driving force behind the growing number of regional innovative networks. They realise that in order to do their work properly, interaction within networks is of utmost importance.

91 Some critical remarks can be made;

- The double role of providing education and being active in regional networks should have implications for the system of professional competencies of educational staff⁴⁵.
- There is a growing awareness, both in (local and national) government and the business community, of the need for regionalisation. This also is an ingrained awareness of the universities for this, and universities very often have a strong and diverse network with companies and institutions in their region. For some it's a tradition of decades. Nonetheless there is no external financial stimulus for HE-institutes to do so. As long as students come to their courses, institutes can flourish without participating actively in regional knowledge networks. If the active attitude of institutes were to be a condition for funding, policy in this respect would probably be more effective. And the universities and faculties who already have an active role in this would be rightly being rewarded for that.
- The fact that a growing number of highly educated people are employed by small and medium size enterprises (SMEs) means that the importance of regional (innovative) networks will grow. The Ministry of Economic Affairs has recognised this and a number of measures have been taken to promote the active networking of enterprises with higher education institutes (see also next chapter). Using only dialogue and words to stimulate interaction between institutes and enterprises is not very persuasive. There are hardly any active measures, in terms of financial incentives.
- The educational advice council emphasises that bringing parties together and stimulating them to interact is a necessary prerequisite, but it is not enough to establish a productive knowledge network. It is a necessity to have a coordinating body in between the parties to monitor the activities, results and communication. This implies that organisations are in the position to participate financially in these networks; both enterprises and institutes. Many institutes, however, lack this kind of budget. It would be wise to consider a subsidy regime for institutes (similar to the WBSO for enterprises). Of course more generous structural investments would be the lasting solution.
- Local authorities are keen to strengthen the economic structure of their region. They are important actors in this respect. The national level of educational policy could benefit from taking these local authorities into considerations in order to optimise the effect of investment in education, research and enterprises. Sometimes they are appointed as members of the supervisory boards of higher education institutes.
- The communication skills of regional innovative networks should be improved. It should be quite clear to students as well as to enterprises in which networks the institute participates.
- The educational advice council states that it would be wise to coordinate the investments in enterprises by the Ministry of Economic Affairs and those from the Ministry of Education and Science. Their collective investments could be directed to innovative networks and the necessary network coordination.
- The WHW does not regulate the role of institutes in regional knowledge networks. The proposal for a new WHOO gives a role to the stakeholders (in the region). This new legislation prescribes that the institutes will not only address to the minister but also to the stakeholder (students and employers). This will give the stakeholders a more active role of institutes and a more engaged position in their region. Obviously this should be achieved without forcing the higher education institutes towards more paper work and bureaucracy.
- Large budgets are available for investments in the economic infrastructure. The budget for ICES-KIS (see also chapter 5) is € 800 million. This budget is directed at a number of priorities related to high quality research and innovation. A large number of SMEs are not involved in this kind of innovations. The highly specialised research institutes and some universities seem to

⁴⁵ This advice is formulated in 'Bijdragen van het onderwijs aan het Nederlandse innovatiesysteem.' page 59.

profit most from such investments unlike the vast majority of institutes and enterprises. However important, these investments may be, investment in these other courses and enterprises is at least equally important.

4.5 Relevant documents

Adviesraad voor het Wetenschaps- en Technologiebeleid	Academia in the 21st century. An analysis of trends and perspectives in higher education and research	2004
Adviesraad voor het Wetenschaps- en Technologiebeleid	Ontwerp en ontwikkeling De functie en plaats van onderzoeksactiviteiten in hogescholen	2005
BA groep	Onderwijs en innovatie	2005
Centraal Plan Bureau	De pijlers onder de kenniseconomie: opties voor institutionele vernieuwing.	2002
Dialogic	Innovatie en regionale netwerken	2004
EIM	Ondernemerschapmonitor. Themaspécial over Ondernemerschap en Onderwijs	2005
HBO-raad	Evaluatie lectoren en kenniskringen	2004
HBO-raad VNO-NCW	Aan de slag met innovatie	2004
IPO	De regionale dimensie van kennis en innovatie	2005
IPO	De rol van provincies op het gebied van innovatie en kenniseconomie	2004
Ministerie van Economische zaken	Naar een hoogwaardige en duurzame kenniseconomie. Verkenning economische structuur.	2001
Ministerie van OCW	Kennis in kaart 2004, 2005	2004
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
Ministerie Economische Zaken	BSIK Naar een sterke kennisinfrastructuur	2003
OECD	Education Policy Analysis	2004
Onderwijsraad	Bijdragen van onderwijs aan het Nederlandse innovatiesysteem	2005
SEOR	De maatschappelijke betekenis van het hoger onderwijs	2003

5 THE ROLE OF TERTIARY EDUCATION IN RESEARCH AND INNOVATION

“Innovation is in essence the making of new combinations of existing and available resources. A combination of pieces of knowledge is one of the major sources for innovation.”

J. Schumpeter, 1943

5.1 Situation

Infrastructure

92 In the Netherlands the system of tertiary education has the task to educate people, conduct research and transfer knowledge to the industry and society in general. They educate future researchers and other knowledge workers in society. University graduates are the essential actors in research and innovation⁴⁶. The research system consists of universities, non-university research institutes and other research centres (TNO, Technological institutes). The heart of the Dutch public research system lies in the universities (14) and academic medical centres (8). Universities are the primary source of basic, innovative and risk-bearing research which may open new horizons (AWT Advies 61 page 17). Looking at disciplinary differences figures indicate that most disciplines are stable in terms of input. The only exceptions are medicine and science with a 10% increase in input⁴⁷.

93 There are a number of research facilities outside the universities. The infrastructure consists of the research institutes of NWO (research Counsel), KNAW (Royal Academy of Science), institutes geared to the application of knowledge, such as TNO and the large technological institutes (GTIs) and the public-privately financed Top Technological Institutes. The latter two are primary examples of public private cooperation.

NWO, being the research council, plays an important role in determining the funding of research activities: all 2nd stream funding. Also, new research initiatives are launched by NWO. The organisation of NWO consists of a number of discipline oriented boards in which academics are represented. The general board finally decides on all grant decisions and supervises the few own NWO-institutes; (see chapter 8). NWO also has a number of research institutes. NWO institutes include Centrum voor Wiskunde en Informatica (CWI) and Stichting voor Fundamenteel Onderzoek der Materie (FOM).

KNAW institutes include among others Nederlands Instituut voor Oorlogsdocumentatie (NIOD), Nederlands Instituut voor Hersenonderzoek (NIH) and Hubrecht Laboratorium KNAW.

TNO consists of 15 specialised institutes for applied scientific research; primarily in the field of science, technology and medical applications. TNO also has many relationships with universities and frequently cooperates in research projects.

The third category of institutes consists of the large technological institutes (GTI) specialised in their own field. These are Energieonderzoek Centrum Nederland, Waterloopkundig Laboratorium, Grondmechanica Delft, Maritiem Research Instituut Nederland and Nationaal Lucht- en Ruimtevaartlaboratorium. GTI's are organisations for public private partnership.

The technological top institutes (TTI) are: Dutch Polymer Institute (DPI), Netherlands Institute for Metals Research (NIMR), Telematica Instituut, and Wageningen Centre for Food Sciences (WCFS) . TTI's are organisations for public private partnership.

There are no broad structural relations between universities as a whole and research institutes. There is however a large number of relations between researchers in both fields and cooperation between university faculties and specific research groups within research institutes.

94 Recent years have seen some developments concerning research at the hogescholen. A number of lecturers have been employed with the primary task to establish profession oriented and applied re-

⁴⁶ There is a very clear positive correlation between the education level within companies and sectors and innovative indicators. See also: SEOR: De maatschappelijke betekenis van hoger onderwijs page 25.

⁴⁷ Figures in technology are incomplete because the largest technical university (Delft) is absent in these figures from 1999 to 2002.

search activities in their field. The number of lecturers in recent years showed a spectacular growth from 18 (2002), to 86 (2003, to 178 (2004) through to the current figure of 207 lecturers in 2005 (source: AWT advice nr. 65 page 23). In recent years, some networks and partnerships between universities and hogescholen were established and these may affect the research capacities in the institutes.

95 The last category of research activities are those of private companies. The larger research intensive companies like Philips, DSM, Shell, Unilever, and Akzo all have their own research programmes. In addition, a growing number of SME's (small and medium sized enterprises) initiate research activities.

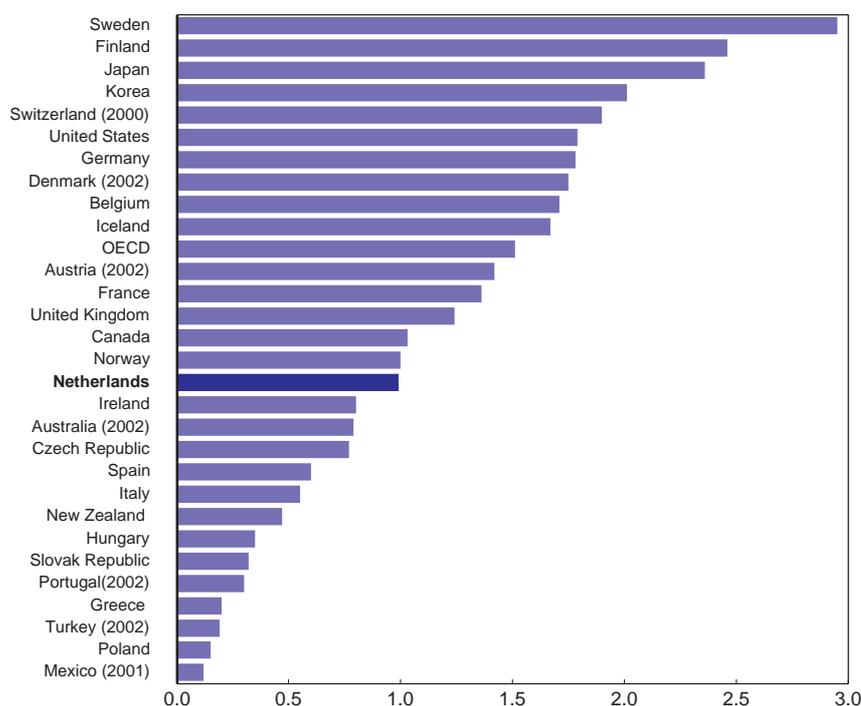
Expenditures

96 Investments in research activities consist of public funds and private funds. The resulting public expenditure for research activities at universities and research institutes (such as NWO, KNAW, TNO and GTI) amounted to € 3.569 billion in 2003⁴⁸, 0.75% of the GDP⁴⁹ but decreasing. This figure is above the average EU-25 figure of 0.64%. Research at hogescholen is relatively modest (€30 million annually). The Ministry is keen on keeping the research funding concentrated in the universities.

97. Private expenditure on research and developments is relatively low in the Netherlands⁵⁰. They are 1% of the GDP, half of these private R&D efforts are made by 7 larger companies. International benchmarks show that the private part in the total efforts in R&D activities is low in the Netherlands, as shown on the next figure. This is partly explained by the structure of Dutch economy, with a relative large component of services (which are low in R&D activities).

Table 5.1 Business enterprise sector expenditure on R&D as percent of the GDP

2003 or latest available year



Source: OECD (2005), Main Science and Technology Indicators, May 2005.

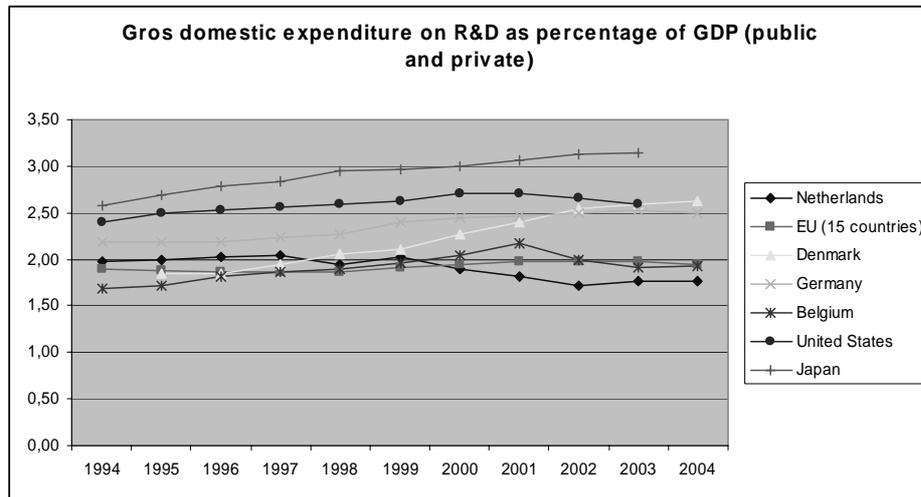
⁴⁸ CPB, *Pijlers onder de kenniseconomie*, page 141.

⁴⁹ Ministry of Economic Affairs, *In actie voor innovatie deel 2*, page 15.

⁵⁰ NOWT Wetenschap en technologie indicatoren page 28.

98 Most recent information of the total investments in R&D is given at the Eurostat website. Total investments in the Netherlands are 1.77% of the GDP (2004). Historically the Netherlands were on an average position in Europe but our country has been losing ground as shown in the graphic below. The historical figure of 1.97% for the Netherlands in 1994 is significantly higher than the most recent figure. In the EU the figure remained the same and some countries like Denmark and Germany have altered their course and have been enlarging their investments. Compared with global references of the US and Japan the investments in Europe in general and in the Netherlands in specific are far behind.

Table 5.2 Gross domestic expenditure on R&D as percentage of the GDP per country



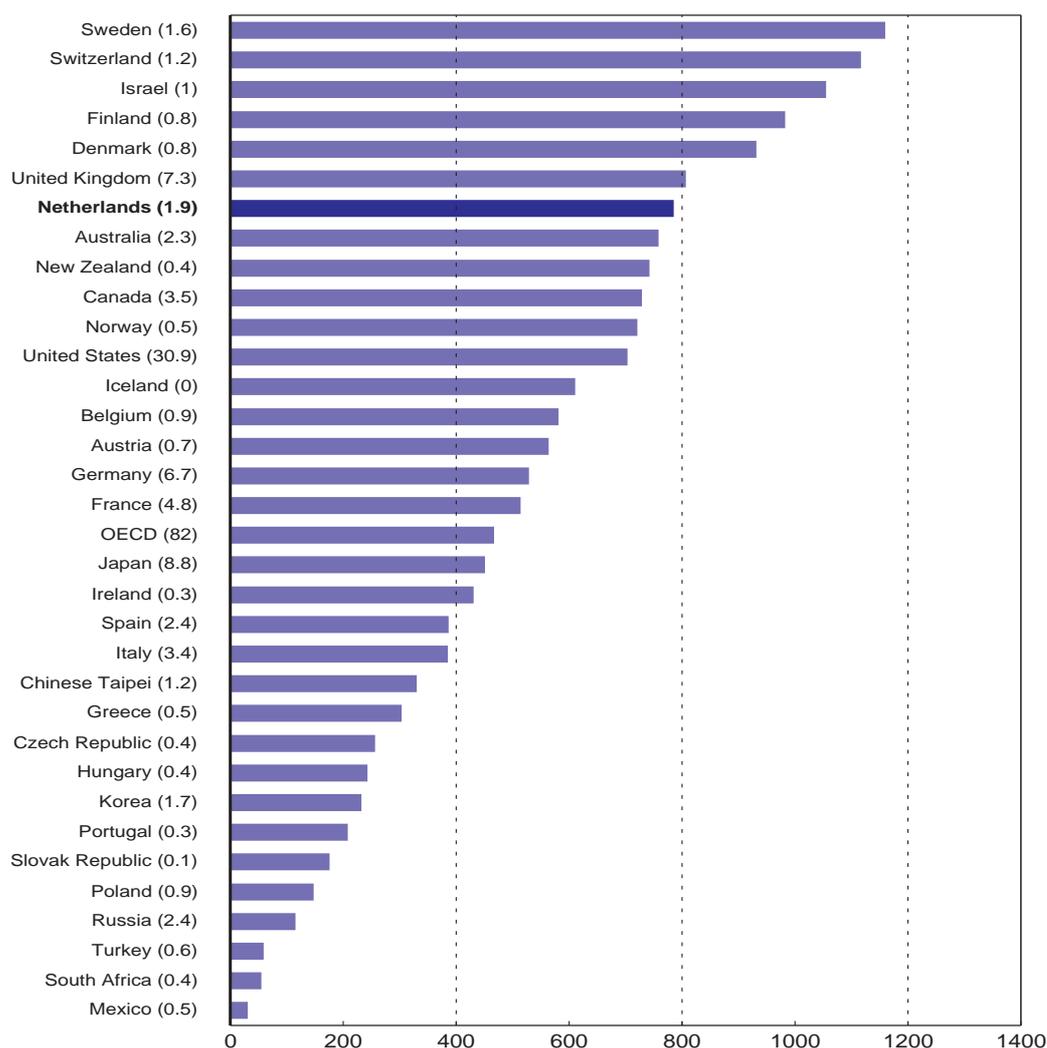
Source: Eurostat website; graphic by EIM

99 Another investment is that in human resources. The number of PhD's and the total number of researchers is relatively low. The VSNU branch report 2004 shows a total number of 5.2 researchers per 1000 of the Dutch workforce, which is low compared to other European countries (UK 5.5, Germany and France 6.6, Norway 8.8, Sweden 10.1 and Finland 13.7) and Japan (9.1). The Netherlands also has a low number of PhD students per 1000 25-34 year olds⁵¹: 0.34, compared to USA 0.41, EU 0.56, UK 0.68, Germany 0.81, Sweden 1.24.

100 There are a number of parameters to determine the results of the investments in R&D. For most of these parameters the results of the Netherlands are above average. Although the Netherlands have a relatively small number of researchers, the number of scientific publications is relatively high, as shown in the figure below.

⁵¹ Source: science and technology indicators 2003.

Table 5.3 Scientific publications per 1 million inhabitants per year per country



1. Data in parenthesis represent the country share in total world scientific articles in 2001.

Source: OECD (2005), OECD Science, Technology and Industry: Scoreboard 2005.

101 The impact score of scientific publications (in international scientific publications) based on citation scores is 25% higher than the global average; only the score of the Switzerland and the US are slightly higher⁵². The number of patents per million inhabitants (279) is also above the EU average (140). Only Sweden (312), Finland (311) and Germany (301) are higher in the EU. Differences between the disciplines are shown in the table below (from wetenschaps en technologie indicatoren 2005 page 79). As shown below the production of the scientific output from universities differs per discipline, as does the citation score. Citation score for science at universities is high but in social sciences, economics and language and culture it is lower.

⁵² Nederlandse Wetenschap en Technologie Indicatoren (NOWT) 2005 page 68.

Table 5.4 Publication and citation score per discipline

Tabel 4.9 Onderzoekprestatieprofiel van Nederlandse institutionele sectoren per kennisdomein

Percentage van publicatie-output (P) en citatie-impactscores (C), per NOWT/HOOP-gebied (2000-2003)*, **

NOWT/HOOP-gebied	Univ.		Niet-univ. onderzoekinst.		Ziekenhuizen, med. centra		Overheidsinstellingen		Overige publieke inst.		Bedrijven	
	P	C	P	C	P	C	P	C	P	C	P	C
Gezondheid	71%	1,18	13%	1,34	11%	1,11	1%	1,06	1%	1,07	3%	1,30
Natuur	67%	1,26	20%	1,26	1%	0,9	1%	1,02	1%	0,72	8%	1,24
Techniek	64%	1,10	14%	0,99	—	—	1%	0,61	—	—	15%	0,98
Landbouw	37%	1,15	51%	1,35	1%	n.a.	1%	n.a.	—	—	10%	1,50
Gedrag & Maatsch.	84%	0,98	9%	1,20	3%	0,82	1%	n.a.	1%	n.a.	2%	1,16
Economie	82%	0,94	10%	0,94	—	—	4%	n.a.	—	—	2%	n.a.
Recht	69%	1,24	11%	n.a.	2%	n.a.	11%	n.a.	—	—	2%	n.a.
Taal & Cultuur	83%	0,76	11%	1,15	2%	n.a.	1%	n.a.	2%	n.a.	1%	n.a.

Bron: CWTS/Thomson Scientific; bewerking: CWTS.

* De citatiescore betreft het aantal ontvangen citaties vanuit internationale wetenschappelijke tijdschriften ten opzichte van het mondiaal gemiddelde in het desbetreffende onderzoeksgebied (de gemiddelde mondiale score wordt gelijk gesteld aan 1.0).

** Drempelwaarden: publicatie-output (P) - meer dan 1% van Nederlandse totaal in 2000-2003 (—); citatiescores (C) - meer dan 100 publicaties in 2000-2003 (n.a.).

Research and Innovation

102 Although the Netherlands perform above average in the output of scientific publications and the citation indexes, performance in innovation is relatively modest. According to the European Innovation Scoreboard (EIS) Summary Innovation Index, which brings together 22 indicators considered to reflect innovation activity, innovation activity in the Netherlands ranks 12th out of the 20 high-income countries for which the index has been calculated. Thus the Netherlands perform well in creating knowledge but performs rather poorly in using this knowledge for innovation. This is very often referred to as the European or Dutch paradox.

Special subject; science and technology

103 Disciplines in science and technology in tertiary education are considered to be of special significance for the direct relation between education and innovation and for the amount of R&D activities (75% of all R&D staff has a background in science or technology⁵³). The demand for graduates from these disciplines (although influenced by conjuncture fluctuations) exceeds the supply. The Minister of Education, Science and Culture reports a diminishing number of graduates in both science and technology at universities and hogescholen⁵⁴. The decline in numbers of graduates in technology at university level (minus 30% between 1994 and 2001) in particular is considered a serious problem. Graduates from secondary education simply make other choices; science and technology were not very popular in the last decade. Only 14% of all Dutch graduates from tertiary education are from science and technology. This is a sharp contrast to the OECD and EU average of 21%.

5.2 Policy

104 Government policy in this field can be described along three lines; education policy, science policy and innovation policy. The first two are the responsibility of the Minister of Education, Culture and

⁵³ Platform beta en techniek, *Zonder kenniswerkers geen kenniseconomie* page 10

⁵⁴ *Kennis in kaart 2004* page 14

Science and that of the Minister of Agriculture⁵⁵. The Minister of Economic Affairs is primarily responsible for innovation (although in close cooperation with the Minister of Education, Culture and Science).

Education policy

105 All researchers are trained by universities, and therefore education policy is of utmost importance for research output and innovation. In universities education is very much linked with research in terms of content, teaching, financing and human resources. Government policy aims to increase the number of knowledge workers through a greater effort in raising the number of students (bachelor and master) and the number of PhD students. In chapter 2 we presented the growing number of students. To obtain this increase the international orientation of the marketing of higher education is becoming more and more prominent (chapter 10). With the introduction of the bachelor master system in 2002 the Dutch minister took an important step towards better international positioning. In order to get a better profile in international benchmarks is to be achieved not only recognition is important but so are the objectives to specialise in some fields in order to reach the absolute top position in certain disciplines. Both national government and individual institutes are engaged in the process of establishing “centres of excellence” for education and research.. The idea is to link “excellence” to “talent” in “centres of excellence”. These centres might be established to enable very talented students and young graduates to study in an excellent scientific or professional environment (of world fame). Last year, the NVAO (Netherlands Flemish Accreditation Organisation) has been asked to develop a framework for an excellent education programme. The NVAO is also intended to be secretary of a selection committee. Because of the time and substantial budget needed for a well founded programme, possibilities for a number of centres of excellence (15 at most) are explored for the future: 2008 and beyond.

Another kind of pilots, regarding selection of students, have been subsidized and are in progress since September 2005. In these pilots universities are allowed to select students before entrance to higher education and to ask a higher fee. (Legally Higher Education Institutes are obliged to admit all students who wish to register, for the fee set by the government). These pilots (ca 20 programmes) offer programmes with added value, which implies intensified education and a more demanding curriculum. It demands talent or extra efforts of students. A selection committee drew up terms of reference and selected the pilots.

Furthermore the three technical universities TU Delft, TU Eindhoven and Universiteit Twente receive government funding to install 5 joint top-research schools. These centres of excellence lead to more focus and volume in their research and are aimed at economic restructuring and innovation.

106 Another concern is improving the relation of institutes and their labour market. The policy of the growing number of lecturers and knowledge circles (chapter 4) is one of the initiatives recently taken to improve this situation. There is a growing focus on supporting entrepreneurship; in terms of specially developed courses and providing facilities for graduates (and students) in the environment (both physically and in terms of entrepreneurial climate). Initiatives taken by institutes in this respect are numerous. All these changes are intended to contribute to innovation in business and society.

Policy for research and science

107 The three ministers involved (Education, Culture and Science, Agriculture Nature and Food Quality and the minister of Economic Affairs) have various instruments at their disposal to influence the research activities of universities (and research institutes) and the quality of their performance. In order to understand these instruments, an explanation of funding mechanisms is necessary. There is a system of three streams of money (see also chapter 7). The first stream is the stream directly financed by the Minister of Education, Science and Culture. The second stream is the NWO and KNAW funding. The first stream is about twice the size of the second stream. The third stream consists of direct commissions for research and education from private companies, central government the EU and NGOs. The distinctive feature of the second stream is competition on the basis of scientific quality (peer reviews): the amount a university acquires in the second stream depends on the quality of the proposals. By increasing the second stream central government is able to influence competition and quality aspects of research.

⁵⁵ The Ministry of Agriculture, Nature and Food Quality is responsible for policy considering the institutes specialised in agriculture and natural environment.

Apart from the second stream of funds central government finances the so called GTI TTI and Bsik projects⁵⁶. In total these cover about half the budget for the total public research expense (the other half is 'first stream', direct funding of universities). Employer organisations have emphasized there should be more beta technical graduates and so have the EU ministers. Apart from the competitive 2nd stream funding, quality of all academic research programmes is assessed through independent research assessments. All research programmes are assessed using the Standard Evaluation Protocol (SEP) on the basis of peer review. The responsibility for this system of assessment lies with the universities, NWO and the KNAW. Results of these assessments are taken into account whilst formulating university priorities and policy. In the past 8 years, these assessments have shown the academic research to be of international competitive quality.

108 The central document for governmental science policy is "wetenschapsbudget 2004" (science budget 2004). The subtitle of this document is "focus on excellence and more value". The very essence is just that; concentration of input (finance and human resources), higher quality of the research output and better use of this output, thereby generating more effective use of science.

109 The central government (Ministries of "Economic Affairs", "Education, Culture and Science" and "Agriculture Nature and Food Quality") has identified three national priorities; ICT, genomics/life sciences and nanotechnology. New initiatives have been developed (with considerable investments) in these fields by the ICES KIS projects⁵⁷.

110 Through promoting networking by universities, research institutes and private companies central government tries to achieve a situation in which concentration and more mass will stimulate quality.

111 The Innovation platform has launched by the prime minister. Recently a document from the innovation platform was launched under the title "Knowledge ambition and research infrastructure". This document raises the issue of big facilities; research investments higher than € 15 million that exceed the investment capacities of NWO and individual universities and proposed a investment programme of ME 100. Unlike the US and some countries in Europe the Netherlands so far does not have a foundation to support investments of this magnitude. These big facilities are a crucial factor in specific fields of research. The innovation platform proposes that a special foundation should be established to finance these big facilities, in order to compete with other European nations that have been investing considerable large amounts in big facilities in recent years.

112 Research activities within hogescholen are stimulated by the appointment of lecturers, knowledge circles and indirectly by the WBSO and knowledge vouchers (see below). The Minister has stated that the applied research tasks of hogescholen will be given a proper place in the new legislation underlying the higher education infrastructure.

Innovation policy

113 There are strong elements in the Dutch innovation system and weak ones. Strengths include the quality of scientific research, the exploitation of this research in patents, ICT infrastructure and the contribution by private companies to public institutes. On the other hand there is a considerable lack in R&D investments of private companies, a growing deficit of knowledge workers especially in technology and science and rather unproductive cooperation between private companies and the public infrastructure. Central government is eager to change all that and in order to do so, the government installed the "Innovation platform" in 2003. The task of this platform is to develop proposals for the improvement of the innovative capacity of the Netherlands in order to regain a leading role as a knowledge economy⁵⁸.

⁵⁶ Formerly called ICES Kis

⁵⁷ ICES KIS Stands for Interdepartemental commission for strengthening the economics structure and the knowledge infrastructure. So far ICES KIS had three investments impulses. One in 1994 (€113 Million), the next in 1998 (€ 211 Mil) and the most recent one of € 800 million in 2003 (with the mentioned priorities).

⁵⁸ The Lisbon ambitions are obviously a main inspiration. Prime Minister Balkenende is chairman of this platform that consists of 18 people with leading positions in government science and industry.

114 One of the key elements of the Dutch deficit is the fact that private investment in R&D is low. Promoting research and development initiatives by private companies is effected by a fiscal measure for R&D from the Minister of Economic Affairs⁵⁹. It is one of the central government's primary instruments to promote innovation. Recently this measure has been extended and supported by other measures such as the knowledge vouchers⁶⁰ and the "RAAK regeling"⁶¹. These measures focus primarily on the interaction between hogescholen and SMEs. These policy measures are highly recommended, not only by the innovation platform but also by government advice councils such as the social economic council (Sociaal Economische Raad) and the Education Council (Onderwijsraad). The representatives of SMEs (MKB-Nederland) and larger companies (VNO-NCW) work together with HBO-raad and VSNU to strengthen the relations and networking between education and business⁶². Policy measures for both education institutes and the private sector are advocated in combination. Special attention is given to the central role of hogescholen and innovation in SMEs. The branch report of the HBO-raad for 2004 states that there will be special offices for entrepreneurs in the region within hogescholen.

Special subject; science and technology

115 Science and technology is of the utmost importance for R&D initiatives. A shortage of knowledge workers of this kind will lead to innovation in technology related sectors of business becoming very difficult. In the Netherlands, as stated above, the number of students choosing for science and technology are much lower (14%) than in other countries (OECD average 21%). The combination of special importance and shortages of knowledge workers compelled the government to pay special attention to this subject. The Dutch government installed the "Platform beta en techniek" to promote courses in science and technology (action plan produced in December 2003). The platform develops activities in primary, secondary and tertiary education, and it conducts a number of projects in the field of tertiary education and innovation; both in promoting the image of technology and stimulating regional action plans.

5.3 Results

116 The Netherlands shows a relatively modest investment in education in general and in higher education and research in particular. One would expect rather poor results from that lack of investment. International benchmarks show the opposite. Dutch universities and research activities in general can compete on the aspect of the production of knowledge (citation, patents). Knowledge however, is an international phenomenon and so the economic revenues from these investments in a small country such as the Netherlands are hard to prove and probably small⁶³.

117 It is hard to tell at this moment in time whether all the above mentioned measures will achieve the anticipated results. There is certainly a lot of activity, but figures like the 14% S&T choices or the culture of insufficient use of knowledge cannot be changed overnight. The AWT states, in its advice about the research activities in hogescholen, that the attribution of lectors and knowledge centres is still modest.

⁵⁹ The Wet Bevordering Speur en Ontwikkelingswerk (WBSO), Law for promotion of R&D, is a fiscal facility to reduce taxes for employees working on the innovation of processes, products and services. The budget for 2003 was €367 million.

⁶⁰ "Knowledge vouchers" is a subsidy system by the Minister of Economic Affairs. SMEs can use knowledge vouchers to buy services from knowledge institutes.

⁶¹ RAAK-regeling: Regional Action and Attention for Knowledge innovation. Aim of this regulation is to strengthen the relationship between Hogescholen and the SME-sector. The regulation offers financial support to co-operation projects in the field of knowledge-development and knowledge-exchange between institutes for higher education (to some extent including regional education centres, ROC's) and small and medium enterprise (SME). For the RAAK-regulation makes an annual amount of € 5 a 8 million available

⁶² Innovation charter business and knowledge by NFU, VNO-NCW and VSNU; November 2004. Aan de slag met innovatie VNO-NCW and HBO-raad. September 2004

⁶³ In advice no 62 of the AWT research was presented to prove the economic value of investments in university education and research on the basis of econometric models. Verspaget of the Eindhoven Centre for Innovation Studies stated in this advice that the direct economic revenues from the Dutch investments in higher education and research for the Dutch economy are relatively small.

118 One of the Ministry of Economic Affairs' older instruments, the WBSO, is well used and well appreciated by entrepreneurs. Its impact on improving innovation is however unknown.

5.4 Conclusion and remarks

119 We conclude that the Netherlands have a well balanced infrastructure for research activities, partly in the universities and partly outside the universities. Total investment in higher education and research in particular are below OECD average (related to the gross national product). On the output side however, the Netherlands performs well in research activities; the scientific quality an output are internationally well rated. The main problem is the exploitation of knowledge in innovation. In recent years this problem was put on the agenda of the central government and a number of policies have been implemented.

120 A number of critical remarks have been made about the subject of this chapter by the Education Council (Onderwijsraad), the Social Economic Council (SER)⁶⁴, the Advisory Board for Science and Technology (AWT), the Central Planning Agency (CPB), the HBO-raad and the VSNU. The major items of criticism will be reviewed rather than repeating all the individual remarks in detail⁶⁵.

- Firstly: investment. Both the Social Economic Council and the Education Council state very clearly that in order to achieve the Lisbon objectives public investments in higher education needs to be increased. This is imperative and they were not satisfied with the budgets in recent years nor are they satisfied with the budget for 2006. All advising counsels seem to agree that the full weight of initial higher education a public responsibility.
- Secondly: R&D investments by private enterprises. Budgets should be raised dramatically in order to keep up in internationally.
- Some parties seem to agree that students could contribute more to the cost of higher education than they do today. Obviously this additional funding is focused on improving quality and should be additional not substitutional. Other parties are afraid that enforcing students to pay more might cause the government to invest less in higher education which they consider detrimental to the system. If this is implemented there should be guarantees that the total public and private (for example through higher tuition fees) investments will rise.
- Focus and critical mass in research activities can be achieved by investments in specific programmes. This can, to some extent, be done through enlarging the "second flow" of money (that increased in the last decade) or by specific measures such as financing large research facilities. This also has a downside: 2nd and 3rd stream funding does not include funding for regular research infrastructure (housing, libraries, laboratories etc.) Also, non-R&D-intensive research (social sciences, humanities, languages and culture) are under pressure from the system as their share of 2nd and especially 3rd stream funding is very limited. This issue of co-funding limiting investments in these facilities and sciences has been raised by the universities and can be considered internationally recognisable. Still, international comparisons with relevant countries like Germany and France investments show the third flow to be modest in the Netherlands⁶⁶.
- Though the innovation platform suggested that more research funding could be more dynamic, the recent committee on research funding seems to consider the present competitiveness adequate.
- Peer reviews don't seem to have an external effect but does have an internal effect in allocating funding. The first stream of money in essence is non competitive in the relation between the Minister and the universities. However, proven quality is a criterion for decision making within universities to

⁶⁴ The SER elaborates in a document called "generating knowledge sharing knowledge" (August 2003; available in English on their website). They even call their advice a "six-pack of measures".

⁶⁵ Each of these organisations has its own clear opinion about this topic. On the other hand the same remarks were made by several if not all of these organisations.

⁶⁶ In 2001 a comparison was made of flows of money between 9 countries in a publication by CHEPS. The empirical data of this comparison however date from 1998-2000.

direct investments towards specific programs. The second stream however is competitive by its nature and defines the stream of public money towards individual programmes and research groups.

- There are different opinions on the dynamics of research and the role of quality in policy decisions. The innovation platform is in favour of more dynamics and more quality driven financial incentives.
- The regional dimension, especially for hogescholen, seems to be a crucial aspect. Many initiatives have been taken in this respect but these are not clear for all parties. There are many organisations involved and, for the individual entrepreneur, things are not transparent at all. Networking appears to be imperative⁶⁷.

5.5 Relevant documents

Adviesraad voor het Wetenschaps- en Technologiebeleid	Innovatie zonder inventie Kennisbenutting in het MKB	2005
Adviesraad voor het Wetenschaps- en Technologiebeleid	Kennis voor beleid - beleid voor kennis	2005
Adviesraad voor het Wetenschaps- en Technologiebeleid	De waarde van weten. De economische betekenis van universitair onderzoek	
Adviesraad voor het Wetenschaps- en Technologiebeleid	Academia in the 21st century. An analysis of trends and perspectives in higher education and research	
Adviesraad voor het Wetenschaps- en Technologiebeleid	Ontwerp en ontwikkeling De functie en plaats van onderzoeksactiviteiten in hogescholen	2005
B&A groep	Onderwijs en innovatie	2005
Centraal Plan Bureau	Nederlands onderwijs en onderzoek in internationaal perspectief	2005
Centraal Plan Bureau	De pijlers onder de kenniseconomie: opties voor institutionele vernieuwing.	2002
Centraal Plan Bureau	Onderwijs, R&D en economische groei	
CHEPS	Issues in higher education policy	2005
CHEPS	Research Prestatiemeting; een internationale vergelijking	2005
CHEPS	Eerste tweede en derde geldstroom in 9 universitaire stelsels	2001
Dialogic	Innovatie en regionale netwerken	2004
EIM	Kern van de kenniseconomie Een sterkte-zwakteanalyse van vier opleidingen in het Nederlandse hoger onderwijs	2004
EIM	Ondernemerschapsmonitor. Themaspécial over Ondernemerschap en Onderwijs	2005
EU/Cordis	Third European report on science and technology indicators 2003	2003
Eurostat	Gross domestic expenditure on R&D	2005
HBO-raad	Evaluatie lectoren en kenniskringen	2004
HBO-raad VNO-NCW	Aan de slag met innovatie	2004
HBO-raad	Brancheverslag HBO	2005
HBO-raad	Kleine mythologie van onderzoek in het HBO	2002
Innovatieplatform	Kennisambitie en researchinfrastructuur	2005
IPO	De regionale dimensie van kennis en innovatie	2005
IPO	De rol van provincies op het gebied van innovatie en	2004

⁶⁷ More on regionalisation can be found in chapter 4.

	kenniseconomie	
Ministerie van OCW	Wetenschapsbudget 2004	2004
Ministerie van Economische zaken	De Innovatiebrief	2003
Ministerie van Economische zaken	Naar een hoogwaardige en duurzame kenniseconomie. Verkenning economische structuur.	2001
Ministerie van OCW	Kennis in kaart 2004, 2005	2004
Ministerie van OCW	Zonder kenniswerkers geen kenniseconomie. Achtergronddocument bij kabinetsnota	2004
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
Ministerie Economische Zaken	BSIK Naar een sterke kennisinfrastructuur	2003
Ministerie van OCW	OECD economic survey in the Netherlands (concept)	2005
Ministerie van OCW	Onderzoektalent op waarde geschat	2005
Nederlandse federatie van universitair medische centra	Onderzoek onderzocht	2005
Nederlands observatorium van wetenschap en technologie	Wetenschap en technologie indicatoren 2003	2003
Nederlands observatorium van wetenschap en technologie	Wetenschap en technologie indicatoren 2005	2005
OECD	Innovation Policy and Performance: A Cross-Country Comparison	2004
Onderwijsraad	Bijdragen van onderwijs aan het Nederlandse innovatiesysteem	2005
Onderwijsraad	Hoger onderwijs: meer kenniswerkers en betere kennisbenutting	2004
SEOR	De maatschappelijke betekenis van het hoger onderwijs	2003
Sociaal Economische Raad	Interactie voor innovatie	2003
Sociaal Economische Raad	Kennis maken, kennis delen	2003
Sociaal Economische Raad	Het nieuwe leren	2002
VNO-NCW, KNAW, NWO, TNO en VSNU	Kennisstrategie 2010 Actieplan	2004
VNO-NCW, KNAW, NWO, TNO en VSNU	Beschermd kennis is bruikbare kennis	2004
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004
VSNU	Onderzoekinvestering per geldstroom in fte	

6 ACHIEVING EQUITY IN AND THROUGH TERTIARY EDUCATION

6.1 Situation

121 In this chapter equity of tertiary education will be presented using four criteria; gender differences, diversity, age and social economic background. These criteria will be applied not only to the students but also to the staff of hogescholen and universities. As shown below, information about the situation for most criteria is available for both students and staff. This is not always the case for policy measures, and their effectiveness. One general remark should be made concerning the access to tertiary education for students in general; this concerns the grant system (studiefinanciering). The system itself is discussed in the next chapter. One of the prominent goals of this system is to guarantee access to tertiary education (and mbo = vocational training) for all students under 30 years of age irrespective of sex, race, religion or social economic background.

Gender; students

122 In higher education accessibility has been improved in the last decades. A figure from the distant past; in 1970 20% of university students were female. Today the numbers of male and female students in hogescholen and universities are practically equal⁶⁸. In general females have caught up very effectively with males in terms of access to higher education; per discipline the picture is quite different. As stated in chapter 1 there is a strong gender effect in student choice per discipline. The percentage of females is high in health, teaching and social sciences. In science, technology and economy there are far more male students⁶⁹. During the period from 1991-2004 the position of female students in disciplines such as economics, science and technology did improve but this progress is relatively slight. In terms of performance in higher education women perform better. The branch report of the universities states that, of the women who started university 8 years earlier 67% graduated at universities and another 8% did so at hogescholen. The figures for men are significantly lower; 54% and 9%. The hogescholen report the same differences. Women graduate significantly more often within 5 years than men do (58% for women 46% for men)⁷⁰.

Gender; staff

123 Although gender differences in terms of student numbers have disappeared, there are still significant differences on the staff of hogescholen and universities. In terms of full time equivalents the percentage of female staff of hogescholen is 42% (2004)⁷¹, and significantly lower for teaching staff (35% women) than for support staff. The percentage of female staff (both in teaching and support) is growing steadily by 1 or 2 % per year. The discrepancy (as in universities) is most significant in higher positions⁷². In 2002 18.1% of all professionals in more senior posts were female; this figure was 19.4% a year later⁷³.

124 Gender differences among University staff are shown in the following chart.

⁶⁸ In HBO 50.7% of all students in 2004-05 were female. This was 49.7% for universities.

⁶⁹ Ministerie OCW; Onderwijsdeelnamen 1990-2020 beelden anno 2005 page 43.

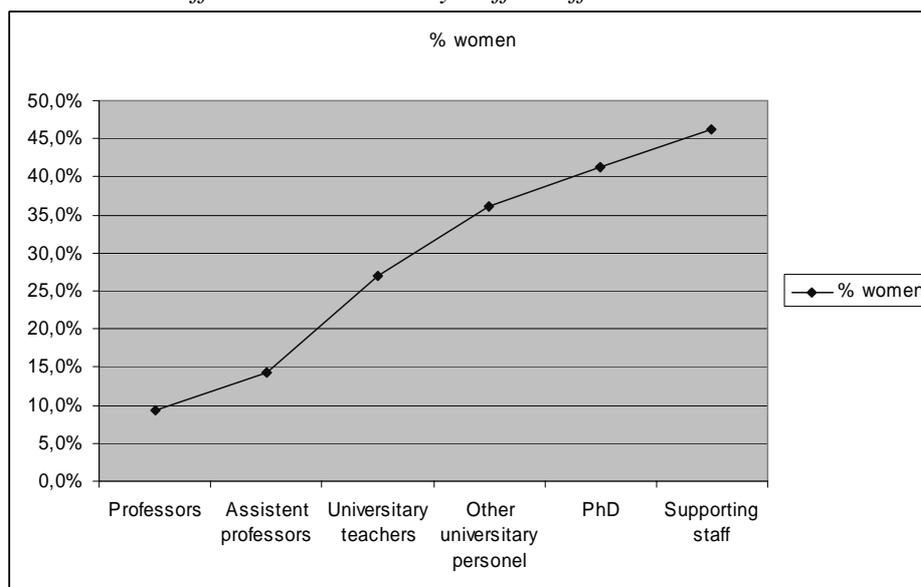
⁷⁰ Note that there is no entry selection. Anyone that has successfully completed secondary education has to be admitted to tertiary education.

⁷¹ Source SBO jaarverslag 2004.

⁷² Kerncijfers 1998-2002 OCW;

⁷³ Branch report Hogescholen 2004 page 36. Higher ranks are salary scale 13 or higher.

Table 6.1 Gender differences at university staff in different ranks



Source VNSU figures of WOPI 2004; figure produced by EIM

125 It is clear that in higher university positions the percentage of women is very low. More than 90% of all university professors are male⁷⁴. In lower ranks the percentage of women is higher. Among PhD students (personnel in the Dutch situation) the percentage of women is 41%⁷⁵. In the support staff the percentage of women is 46%. Figures are rising among all scientific ranks. The percentage of women among PhD students has risen spectacularly from less than 18% in 1990 to 41%⁷⁶. After the emancipation in the period up to 2000, of those female students participating in tertiary education in general, an increasing number of female PhD students (and graduates) seems to be the next step in the development of a stronger position for women in tertiary education.

Diversity

126 A recent publication by the Ministry of Education has shown that the number of students in tertiary education with a non-western background increased significantly during the period 1995-2002⁷⁷. The absolute number almost doubled from 18.500 in 1995 to 35.000 in 2002.

Among 17-25 year olds (non-westerners) the participation in tertiary education increased from just 10% in 1995 to 16% in 2002. On the other hand, general participation in tertiary education increased as well. The relative position of non western students remains approximately the same. The gap in relation to Dutch youngsters or western minorities is still considerable. The gap is particularly wide for the “first generation migrants”. The second generation of non-westerners (born in the Netherlands) however, is catching up rapidly. Their generation participates in tertiary education about 3 times more often than those of the first generation. Among non westerners those with a Turkish and Moroccan background participate far less in higher education than those from Aruba, the Antilles, Surinam and other non western minorities⁷⁸. Success in tertiary education does differ between non westerners and Dutch students. The percentage among non western students who leave tertiary education within the first two years is 20% and 3% higher than the same figure for Dutch students. Differences in 5 year graduation successes are

⁷⁴ Although progress has been made, it is only 10 years ago that the percentage of women among university professors was 3.5 %; close to a global low record.

⁷⁵ The latest science and technology indicators (2005) reports 41.3% women among PhD graduates (page 61)

⁷⁶ Source: CBS jaarboek onderwijsstatistiek 2005 page 120

⁷⁷ Ministerie OCW; Onderwijsdeelname 1990-2020 beelden anno 2005 page 41

⁷⁸ Figures presented in the CBS web magazine on March 1 2004.

larger; 60% versus 38% in hogescholen⁷⁹. ROA reports that there are no, or only small, differences between non-western minorities and the Dutch graduates from tertiary education in terms of unemployment or salaries⁸⁰.

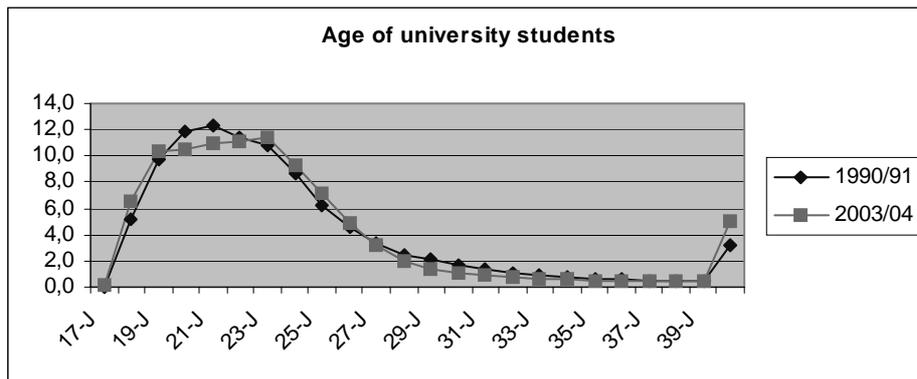
127 To the best of our knowledge there are no figures on the number of personnel in terms of diversity. Since most personnel (at least the teaching staff) are more highly educated (very often academic) it seems likely that the lack of non western minorities on the staff will be greater than within the student population.

Age; students

128 Most students in tertiary education participate directly after leaving havo, vwo or mbo. The length of study in tertiary education is becoming shorter; more graduates and faster students. Therefore it is not surprising that the average age of graduates is dropping slightly. The Central Bureau of Statistics reports that the average age of graduates from hogescholen is 23.4 years in the most recently reported year (2002-03), this is 0.4 years younger than 12 years previously⁸¹. The figures for university graduates are 25.8 (2002-03) compared to 26.6 years earlier (1990-91).

Looking at the figures of the age of students enrolled in tertiary education there are hardly any differences reported over the last 13 years in terms of age, this is shown in the figure below. In recent years only the number of 40+ students is slightly higher than it was 15 years ago, which might be attributed to promotion policies, and an actual increase in life long learning activities.

Table 6.2 Age distribution of students at universities in percentages in 1990 and 2003



Source: Referentieramingen 2004 Ministry OCW. Figure by EIM

Age; staff

129 In tertiary education the working population clearly ageing. However there are considerable differences between hogescholen and universities.

⁷⁹ Ministry of OCW HOOP 2004 Page 81. The differences for university students are of the same category but these figures, taken over 5 years basis are very low. In general, those who graduated under the old system (before bachelor master) were at university longer than those at Hogescholen.

⁸⁰ ROA Maastricht; De arbeidsmarkt naar opleiding en beroep tot 2008 november 2003

⁸¹ CBS Jaarboek onderwijs in cijfers 2005 HBO page 90, universities page 118

Table 6.3 Age distribution of staff at universities

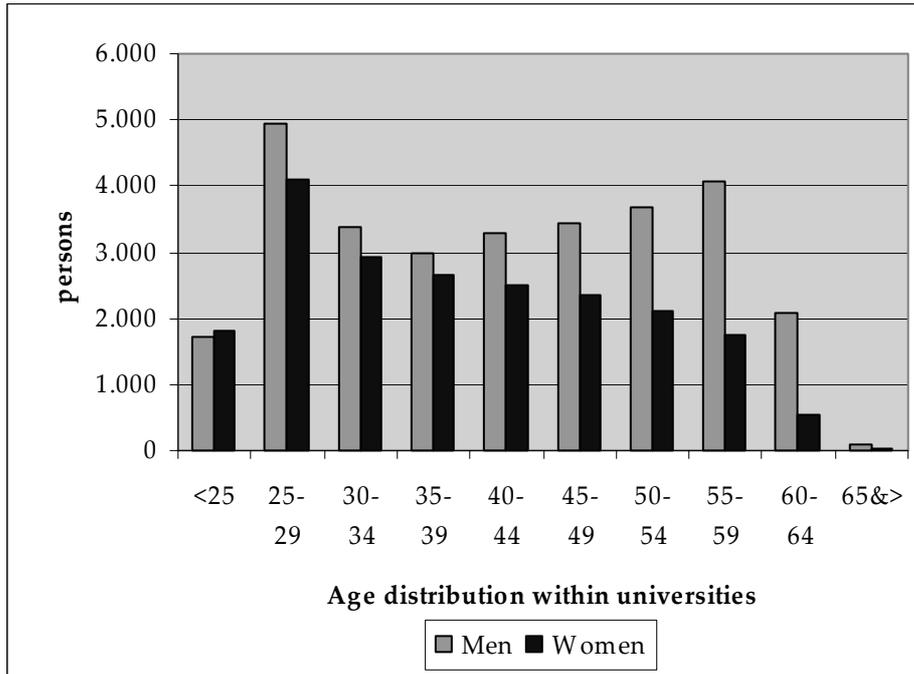
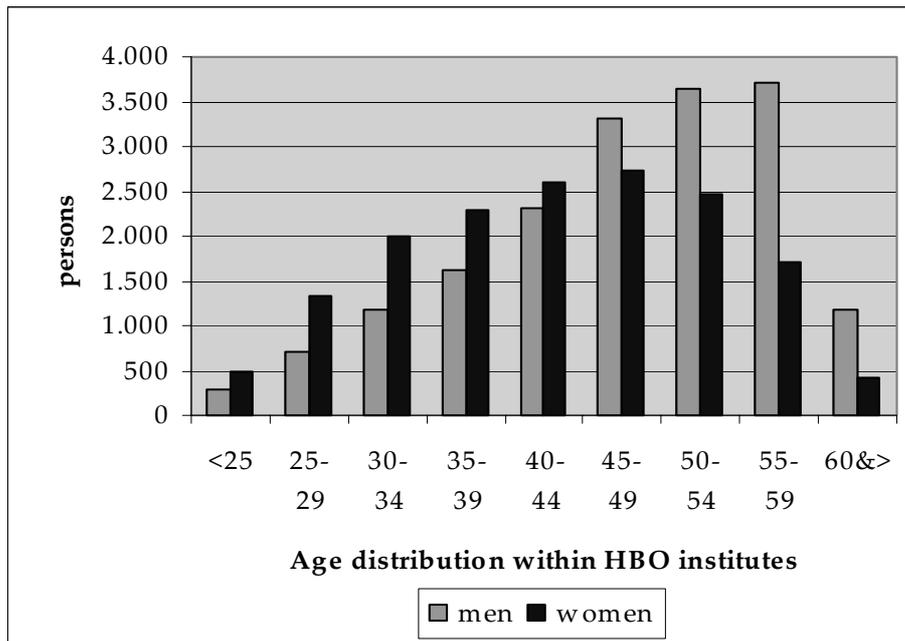


Table 6.4 Age distribution of staff at hogescholen



Source: jaarboek SBO 2005

130 In hogescholen there is a peak at the age of 50-54 and the number of 55-60 year olds is almost as high. This picture is more extreme for men than for women. At universities the working population seems to be more in balance in terms of age. Looking at the staff of professors and assistant professors the picture is the same as at hogescholen. But with a massive young high potential workforce of PhD students and post doctorates universities have the resources to replace the ageing workforce among their more senior staff. Hogescholen do not have this reservoir. In the most recent SBO bottle-neck analysis (Sector Bureau of Education, analysis) ageing has been designated as the number one priority number in human resource management in the entire education sector with special attention for hogescholen. There

are no indications of selection in terms of age; selection is based primarily of qualifications (some of which are linked to age).

Social economic background

131 In the Netherlands there is almost 100% admission to higher education for those who completed the havo or vwo successfully. Ninety percent of the graduates move on to further education immediately after graduation and the vast majority of the other ten percent make a choice a year later. This does not mean that there is no actual correlation between the social economic background of students and their school careers. Children with higher social economic background do perform better in the education system. The Dutch CBS reports that 42% of the children with parents with a higher social economic background enter the highest level of secondary education. Only 11% of the lower SES group enter tertiary education⁸².

132 There is an annual research product called the “studentenmonitor”. One of the central themes in this monitor is the relation between students’ social economic backgrounds on the one hand and students’ choices (and income, attitudes etc) on the other hand. Social economic background does correlate with student choices concerning the level of education; hogeschool or university. Within the student population those with lower social economic backgrounds are more often found in hogescholen while students with higher social economic backgrounds are more often found at universities (the actual reported correlation is 0.57)⁸³. Social economic background does not seem to correlate with the actual choices in terms of discipline.

133 However, the general conclusion is that school careers and success in higher education is not directly influenced by social economic status, but primarily by personal capabilities and motivation⁸⁴. The influence of SES is indirect only because secondary and primary education is selective in terms of SES and school success.

6.2 Policy

Gender policy; students

134 There is hardly any gender policy concerning participation in tertiary education simply because there is no reason for it. Although only some decennia ago, women were at a considerable disadvantage, this is no longer the case. The only policy worth reporting here is the policy to interest female students in studying science and technology. The introduction of the “deltaplan beta en techniek” (2003) promotes the participation of (male and) female students in science and technology. Special attention is paid to strengthening the interest of girls during their entire school career⁸⁵; improved teaching methods especially in secondary education (as a preparation for tertiary education). In some cases the opposite applies, trying to interest boys in studying disciplines that have become more and more feminine. In teacher training for primary education, for example measures have been taken to interest more boys in these courses⁸⁶.

Gender policy; staff

135 On the IR fact sheet issued by the VSNU it is stated that a number of universities have a specifically gender oriented policy in trying to get more women to join their higher university ranks⁸⁷. The sector has developed an index to indicate the gender situation in the universities. This index is called the

⁸² CBS Jaarboek onderwijs in cijfers 2005. page 209

⁸³ ITS Studentenmonitor 2003 page 58.

⁸⁴ Inspectie van het onderwijs onderwijsverslag 2003-04 page 303.

⁸⁵ The term Deltaplan refers to the plan for the protection of the Dutch Delta against the sea after the 1953 disaster. The Deltaplan beta en techniek is considered to be an integral plan for all levels of education from primary school through universities.

⁸⁶ For this project the slogan “Wanted; Paboys” is used. PA stands for teacher training primary education (Pedagogical Academy).

⁸⁷ Factsheet IR personele ontwikkelingen VSNU website oktober 2005.

GPI (glass ceiling index). This index indicates the relative position of women in more senior positions compared to those in lower academic positions. At this moment this index is 3.1 which means there are 3.1 times as many female staff in lower positions than in more senior positions⁸⁸. Although not a specific gender policy, the growing number of female PhD students seems to be the most spectacular gender development in university staff. Through the project *Aspasia* the university sector and the NWO in particular have been trying to optimise the number of female UHDs (assistant professors). The ministry dedicated a special *Aspasia* budget intended to enable talented female university teachers to improve their competencies in order to achieve the position of assistant professor. Thirty such projects were implemented, in 2002 the number grew to 40 and the number for 2005 is expected to be 20.

136 The HBO sector reports the increase in the number of women in their institutes, and a growing number of women in senior positions. In 2002 the “Glazen gids” (Glass guide) was developed by the LSE (national bureau for emancipation in the hogescholen). It is a self screening instrument to allow hogescholen to analyse the glass ceiling culture in their organisation. To date there are no reports as to the application of this instrument.

Diversity policy

137 The “Inspectie voor het onderwijs” reports, that practically all institutes have a policy to increase the number of non-western students, and to improve their success⁸⁹. The hogescholen are exhibiting growing attention for diversity policy although it applies primarily to students; not to staff. A growing number of students at hogescholen are of non western origin and this has significance for teaching, and in certain cases also for the curriculum itself⁹⁰. The HBO sector is in a phase of orientation. Mobiliteitsfondsen HBO has recently launched a research project to optimise knowledge about the development of competencies of hogeschool personnel to deal with the demands of multicultural society. At both hogescholen and universities diversity is a topic of growing interest among HRM professionals. Initiatives like those from the “Amsterdams Instituut voor Arbeidsvraagstukken” that developed training in “diversity on the work floor” and others show a growing interest in professionalizing HRM policy⁹¹. The necessity for diversification policy recognised everywhere in tertiary education, and there is a massive movement to learn more about it.

138 Central government has stimulated the development of talent with non western background in four different ways

- The ministry has made an agreement with 22 HE institutes in order to enlarge the results of non-western students (budget yearly €1.5 million 3 years)
- ECHO has been asked to develop a network of successful non western graduates and students⁹².
- At several locations Imam training has started to strengthen integration of Muslims in Netherlands
- The minister subsidises the organisation of refugee students (UAF). The yearly budget is €2.6 mln.

Age policy

139 There is no policy in tertiary education concerning the age of students. The average age does not seem to change much and there is no reason for concern.

140 On the contrary there is great concern about age policy relating to the staff, especially in hogescholen and academic medical centres. The problem is familiar. A growing part of the workforce is 50+ years of age. Thereby the organisations are confronted with two kinds of problems; keeping the

⁸⁸ This index indicates barriers preventing women from making a career at universities, irrespective of discipline. When a discipline has only 20% female members of staff and this figure is the same for more senior and lower positions, the index will be 1. When the percentage of women in higher positions is 20%, and the percentage in lower positions is 50% the index will be 2.5

⁸⁹ Onderwijsinspectie Onderwijsverslag 2004 page 248

⁹⁰ For instance, in teacher training there is a project called “full colour” where a number of hogescholen participate in improving the preparation of young professionals to teach in a multi cultural environment.

⁹¹ The hogeschool in Amsterdam has a lector for diversity in human resource management.

⁹² Echo is a center for diversity policy. www.echo-net.nl

older workers fit and eventually the difficult task of replacing them with younger people on the increasingly difficult labour market, without risking too much brain drain. There are a number of measures in the CAO⁹³ for hogescholen and universities covering the ageing working population in terms of workload and formal number of working hours.

141 There does not seem to be any systematic national strategies for improving HRM policy for the ageing workforce, at present, though it was explicit policy in the past. The sector's social funds such as the Mobiliteitsfonds HBO and Sofokles have special projects on strategic personnel planning paying special attention to ageing.

Policy; social economic status

142 Regarding access to education, the student support system takes into consideration the income of parents. Income of parents below a certain level (gross income € 29.000, year 2005) entitles the student to additional grants from the government. Policies on diversity do imply policy on social mobility. Ethnic diversity within society is reflected in the social structure. Ethnic groups in general have a minor position in terms of education and income. Successful policy on diversity therefore implies social mobility.

6.3 Results

143 The number of female students has grown to a 50-50% situation. The number of students with an ethnic background in tertiary education is growing. The staffs of HE institutes are recruiting more and more female professionals in their ranks. Whether all these developments are the result of educational policies or are the logic consequence of a social trend in western society is hard to tell. To pinpoint a specific effect of a certain measure is, in respect to equity, very difficult; if not impossible.

144 Looking at specific subjects it is possible to state that the policy of emancipation of the last decades has led to the above mentioned 50-50 participation of male and female students in higher education. Then again, distinguishing the effect of a European, maybe global, trend and of local educational policies is impossible; and is no longer of any interest. When considering the employment of scholars and professors, the emancipation of women in the institutes however is quite a different matter. Here also trend and policy are hard to distinguish. But projects like Aspasia, knowledge centres for female studies, and courses on strategic personnel planning are said to contribute and the results are sometimes spectacular, as in the case of PhD students (absolute numbers tripled in less than 15 years) and female university professors (tripled in 10 years).

145 There is a growing trend in the diversity of the student population shows a growing trend; however the gap still remains constant because there is also a growing trend in participation in tertiary education by the general population. There is very little solid proof of the effectiveness of specific projects targeting diversity. Proven results of the policies to improve age specific HRM policies and policies related to the diversity of personnel are still very scarce. But the situation is being closely monitored.

6.4 Conclusion and remarks

146

- The clear conclusion on the gender developments in the student population is that, apart from differences in choice of discipline, the former gap between men and women has disappeared.
- This is not the case for the staff. Although figures are rising and some even spectacularly way (as in the case of PhDs) the general effect is still very small. Women in senior positions in both universities and hogescholen are still rare.
- Diversity among students seems to be developing rapidly although the gap between Dutch students and non-westerns is still considerable. Second generation migrants are catching up rapidly.

⁹³ CAO stands for "Collectieve Arbeidsovereenkomst". It is the collective agreement on labour between organisations of employers and employees. Usually these CAOs are valid for a limited period of one or two years. Many of the measures in a CAO continue from one CAO to the next.

Their participation in higher education is about 3 times higher than that of the first generation. It all seems to be a matter of (maybe considerable) time, before the gap between non-western and Dutch students, narrows.

- There are no indications of the diversity within the staff. Simply no one knows.
- Age is a problem only as far as staff is concerned.
- The average age of students is increasing, due to the relative rising participation of older students. This might be attributed to promotion policies, and tendencies of actual increase in life long learning activities.
- Social economic background does not influence participation in tertiary education directly and is no longer an issue. It has almost disappeared from the statistics (apart from the diversity criterion). Policy is reflected in the student support system, in some additional facilitation for students from ethnic minority groups and the monitoring of the situation in the student monitor.

147 The following remarks apply to equity.

- In the Mobiliteitsfonds HBO and Sofokles the sector has knowledge centres for HRM policies but so far these institutes have not been given the funds to develop as a knowledge centre for subjects such as the ageing workforce and diversity.
- The age of students is not a topic of discussion. However it should be. In respect to the knowledge society there is a growing necessity for older people in the workforce to improve their competencies through tertiary education. The fact that no system to finance studies is available for those of 30+ years of age does not help. The fact that the Netherlands recently introduced a bachelor master structure may have consequences for the number of people who would like to do a (more widely available) master course in later years of their career. Attributing “learning entitlements” to a student of any age i.e. applying the reduced fees set by the government may also stimulate older persons to enter tertiary education.
- There are many complaints from institutes and students about diversity as well of a growing difficulty to implement a policy on this subject. The cultural and political climate in the country has changed the attitude towards diversity in general. Compared to the general inclusion of foreigners in the past, the attitude has changed in such a way that foreigners do not feel welcome here, as stated at the most recent Sofokles conference, November 15 this year.
- On the same topic of diversity, the academic community complains about the admission procedures for foreign students and staff.
- There are possibilities to improve the figures on the subjects discussed in this chapter. Diversity in personnel is not reported. Diversity of students is reported in terms of applications but not in terms of diplomas etc. In the university sector the reports on labour market developments even stopped after 2002. Some of these figures are available as samples or additional research, but not integral, nor public, nor on an annual basis.

6.5 Relevant documents

Centraal Plan Bureau	Private bijdragen voor hoger onderwijs; profiteren van het profijtbeginsel	2004
Centraal Plan Bureau	De pijlers onder de kenniseconomie: opties voor institutionele vernieuwing.	2002
CBS	De Nederlandse samenleving 2004, sociale trends	2004
CBS	Tweede generatie niet westerse allochonen	2004
EIM	Knelpuntenanalyse onderwijs arbeidsmarkt	2004
HBO-raad	Brancheverslag HBO	2005
HBOraad	Het HBO ontcijferd 2005	2005
Inspectie van het Onderwijs	Onderwijsverslag 2003-2004	2005
ITS	Studentenmonitor 2004	2005
Ministerie van OCW	Kennis in kaart 2004, 2005	2004

Ministerie van OCW	Onderwijsdeelname 1990-2020 beelden anno 2005	2005
Onderwijsraad	Bekostiging hoger onderwijs	2003
SEOR	De maatschappelijke betekenis van het hoger onderwijs	2003
SBO	Investeren en terugverdienen	2003
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004

7 RESOURCING THE TERTIARY EDUCATION SYSTEM

7.1 Staff; situation

148 Ensuring the supply of the work force has been a concern for both the national government and the partners in the higher education sector. The 2004 document, issued by the social partners in the hogescholen, universities, research institutes and academic medical centres, called “Knelpuntenanalyse onderwijs arbeidsmarkt” gives a clear picture of the staff related labour market themes. The general picture is that there has been an increasing supply of personnel on the labour market in the last few years. Problems concerning the supply of qualified scientific personnel have diminished but have still to be taken into account. In addition there will be serious challenges in the years ahead. One of the major concerns of the tertiary sector is the ageing of the staff. In the years to come there will be a tendency to retain older members of staff the labour force as well as to replace them after retirement. This problem is particularly serious in the HBO sector and the academic medical centres. In some fields there has been great concern about the brain drain of retiring personnel, especially in the HBO sector for teacher training, technology and health care (nurses etc). In the HBO sector and the academic medical centres there is not only the problem of replacing staff that leave but also a rising of demand for their services. A larger number of students (and increasing need for treatment in the academic medical centres) has put an additional strain on the labour market policies of these sectors. Also the universities have to deal with a considerable ageing problem, especially in the higher ranks of scientific staff. This problem has been recognized at an early stage by a committee chaired by Dr. B.E. van Vught Tijssen. The committee advised both the universities and the minister of education, culture and research on the subject in the report ‘Talent voor de Toekomst, Toekomst voor Talent’. And although universities seem to have a more balanced composition of personnel, they also face some major challenges in the years to come to replace senior staff - professors and university lecturers. Lack of sufficient resources however can endanger the will to deal adequately with the ageing problem.

149 Challenges also seem to originate from the growing tendency of internationalization. Not only students are interested for taking part in foreign courses and vice versa. There is growing international competition (both at universities and research institutes) between institutes for top talent.

150 Nearly all sectors in the tertiary education system saw the number of staff stabilize or rise slightly. The HBO sector however saw a rise in personnel of about 13% in the last 4 years.

7.2 Staff; policy

151 The national guideline policies for personnel have been and will be the goals related to the Lisbon conference. It is quite clear that the demand for more “knowledge workers” will lead to greater strain for higher education to produce such larger numbers. More investments in education and research will have to be done to facilitate this supply⁹⁴. The key to success concerning the ageing workforce seems to lie in the hands of the HRM of the institutes. For instance the HBO-raad has been strengthening the HRM policy within hogescholen through workshops and additional training of HRM managers. The universities also pay attention to these problems by providing courses in “academic leadership”. The necessity to work longer will also be included in the CAO⁹⁵ of each sector. Universities seem to be well prepared for the phenomenon of the ageing workforce. Universities, by their nature and policy, are places with large numbers of young academics who seem to be eager to fill the gap. In the universities, there has been growing concern about the salaries of PhD students under the former “AIO regeling”⁹⁶.

⁹⁴ The OECD notes that the investment in education and research has been quite moderate compared to international investment (OECD Science and technology indicators).

⁹⁵ CAO (Collectieve Arbeid Overeenkomst) is a collective labour agreement, which is the result of negotiations between employees and employers for each sector.

⁹⁶ Unlike in most other countries the vast majority of PhD students are employees of the universities. Under the old regime their salary was of a very low level which made becoming a PhD student less competitive.

The salaries of PhD students were increased in the years 2003-05 by 22% to make them more competitive.

152 In all sectors there is a growing awareness of the necessity to create good working conditions and balanced HRM policies. Included in the more elaborate developments are new systems of job descriptions and job evaluations for all personnel. Criteria for promotion to a certain position are described in these systems.

153 Obviously institutes have an interest in promoting the qualification and capability of their personnel. In a growing number of institutes new instruments like the POP (personal development plan) have been introduced. There are training facilities and the possibility to address conferences etc. There is no systematic and general insight in the scale according to which these instruments are applied.

7.3 Staff; results

154 For some policies it is too early to tell whether or not they result in the improvement of the supply of staff. The policy of the university sector to employ a balanced number of (senior and older) professors and assistant professors and a large number of (younger) PhD students and post graduates works efficiently but is no absolute guarantee for the absence of problems. After PhD students' rise in salary a greater number of candidates were reported, leading to better quality.

7.4 Staff; conclusion

155 So far no serious or unsolvable problems have occurred in the supply of personnel although in certain research fields universities have to attract more PhD students from foreign countries. Competition for the most talented staff seems to be "part of the game", especially for universities, research institutes and academic medical centres. International competition is tough but the Dutch institutes seem to be fairly competitive. The problem of the ageing workforce seems to be the most profound challenge for the near future, especially for the hogescholen and academic medical centres but is far from absent in the universities as well.

7.5 Resources; finance

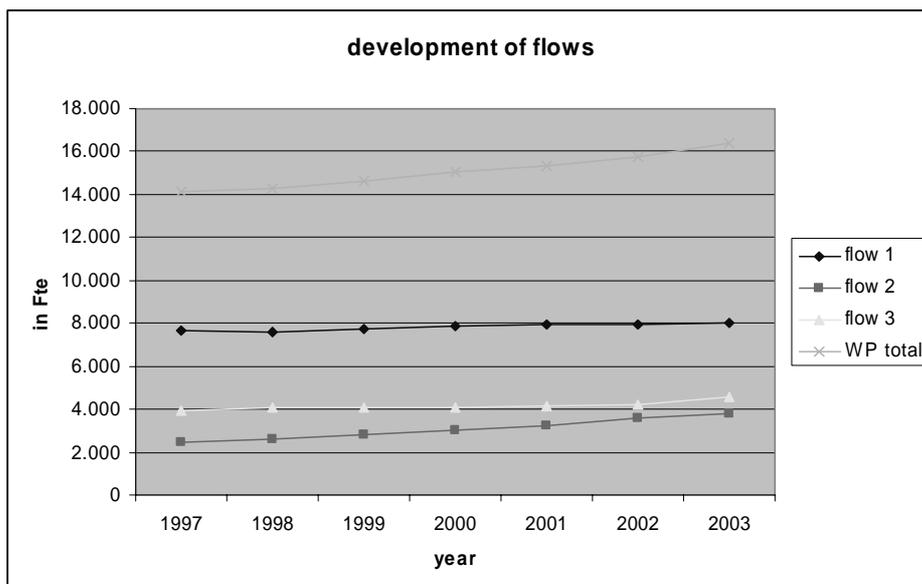
Situation

156 There are two major sources of income for institutes of higher education; public funding and private contributions from students and businesses. The universities speak of three budget streams: two public ones and one private one:

- Public formula funding goes directly to institutes of higher education for all their tasks (first stream)
- Another stream of public funding goes via the research council to research proposals in competition (second stream);
- Private income for commissioned research or other tasks (third stream), business.

157 In the figure below the input of the three streams are given.

Table 7.1 Development of money streams 1997-2003



Source: Ministry of education science and culture, graphic by EIM.

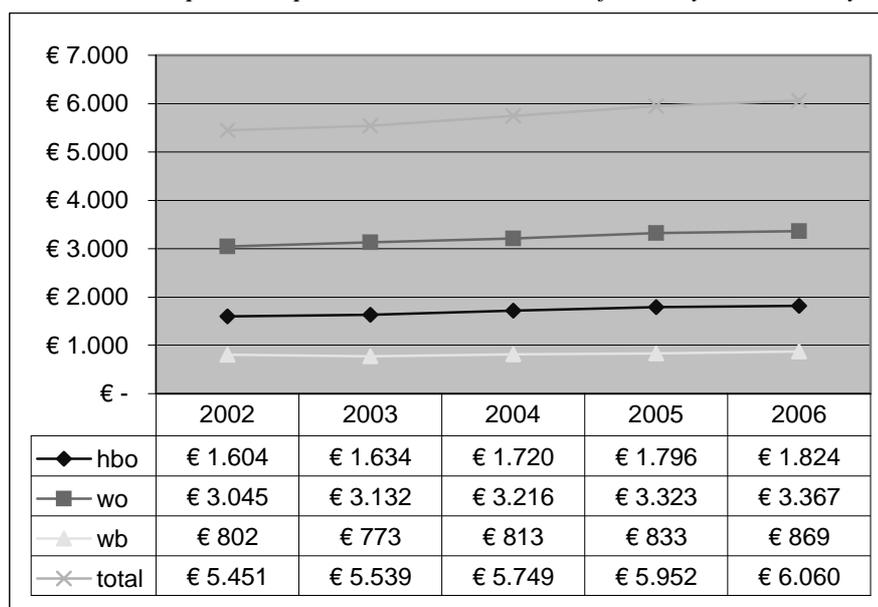
In terms of budget the figures of 2004 show that the first second and third flow of money are € 1.7 million, 0.3 million and 0.9 for the third flow.

158 The figure clearly shows that the first stream hardly changed over the years. There is a slow increase in the third stream but the main changes are found in the second stream of money.

Public funding

159 Public funding is the largest contribution to the income of HE-institutes. Funding the tertiary system is primarily a governmental task. All publicly funded HE institutes have the same legal base: the WHW. However two ministries are involved (OCW and LNV; the latter for the agricultural higher education institutes). The budget system itself originates from 1987; although for universities some major alterations were implemented in the year 2000. The introduction of the bachelor-master system has led to major alterations in the budgeting system in the year 2003. Before looking into the details of funding mechanisms, a general picture of funding higher education is presented. This general picture is accompanied by an insight in the development in recent years and by an international comparison. Over the last 5 years the budget for the whole tertiary system increased by 11.2%. The budget for hogescholen increased by 13.7%, that of the universities rose by 10.6%, and the science budget increased by 8.4%. The absolute total amounted to 6.06 billion euro. In the figure below the development over the years is visualised (with added absolute figures). The amounts are given in million €.

Table 7.2 Total public expenditure on the sectors of tertiary education system



Source: Fact sheets OCW 2006, figure by EIM

160 This total increase of more than € 600 million in this period was as stated 11.2%, but the increase in the number of students was greater: 16% (hogescholen 13.5% and universities (7.1%)⁹⁷. Therefore the budget per student dropped⁹⁸. The budget per student for hogescholen remained stable but it fell significantly for the universities (minus 6%)⁹⁹ and will continue to do so in the coming years according to budget figures of the Dutch government. Education at a glance 2005 gives a clear insight in the expenditure on education in general and tertiary education (with or without R&D activities). For details we refer to this OECD report. For the present report it seems sufficient to remark that the Netherlands' investment in primary, secondary and tertiary education is quite average in absolute terms¹⁰⁰. Related to the gross national product however the Netherlands scores below 5% while the average for all OECD countries is above 6%. Public expenditure in the Netherlands is above average for R&D.

Budget rules public funding

161 For universities and hogescholen public funding is regulated through a 'macro' budget for the entire sector. The macro budget consists of an education budget, a research budget and an additional budget for teacher training, medical centres and specific investments.

For universities the education budget in the formula funding is based on a basic component of 37%, a component based on results of 50% (diplomas/performance) and a component based on the number of first year students (13%). Thus, in practice the total macro budget is primarily influenced by the number of students and diplomas in a certain year. The division of the macro budget into a lump sum per university is based on the same three criteria; basic funding, diplomas and number of first year students¹⁰¹.

162 The number of PhD's is an important indicator for the research budget in the formula funding. Apart from their research budget (1e stream of money) universities receive revenues from the science

⁹⁷ The figures used are from "referentieramingen 2004" student numbers based on totals excluding LNV,

⁹⁸ Including the science budget the total budget per student in higher education dropped from 11067 (2002) to 10717 (2006) (minus 4.2%) excluding the science budget the figures were 9439 (2002) to 9180 (2006) which is minus 3.7%.

⁹⁹ All these amounts are in absolute terms and not corrected for inflation or the institutes rising costs.

¹⁰⁰ OECD Education at a glance 2005 page 162. Figures are from 2002, the start of the time series represented before.

¹⁰¹ In practice it is more complicated. There are two different budget levels for different disciplines. The costs universities and hogescholen incur to provide courses in medicine or physics differ from those for economics or law. Therefore the budgets per first year students, as well as diplomas, have different budget categories (diplomas 3 and students 2 categories at universities).

budget (indicated in the figure above as wb). Various investments by NWO and KNAW go to research project executed by universities.

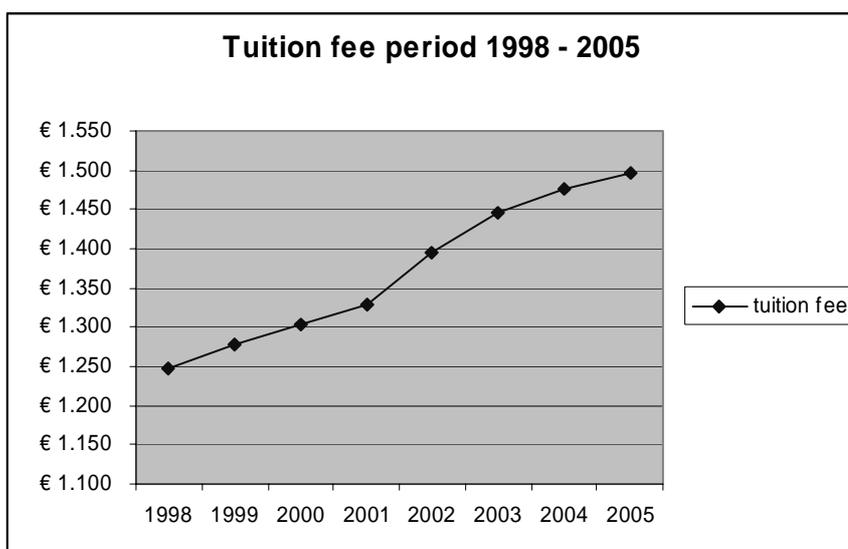
163 The division of the macro budget in to lump sum per institute follows the same lines for the hogescholen. There is no research budget and the education budget is based on the total number of students (not the first year), the number of diplomas and the number of drop outs. In order to improve efficiency another parameter has been introduced called the “onderwijsvraagfactor”. This factor is below 1 when the average student takes more than 4.5 years to graduate and the dropout actually leaves school after more than 1.35 years. The hogescholen receive an additional budget for “lectors” with a research function.

164 From 2002 onward the macro budget increased and kept on increasing steadily with the number of students. Nonetheless the public funding per student has decreased over the years and will continue to do so in the coming years.

Private funding

165 Funding by students consists primarily of tuition fees. With some exceptions the tuition fee set by the government is € 1496 per year per EER student (year 2005-06). For Students from outside the EER and/or EER students who are older than 30 years of age the institute is free to set its own fees. The amount of the tuition fee per year has changed gradually over the years as shown in the figure below.

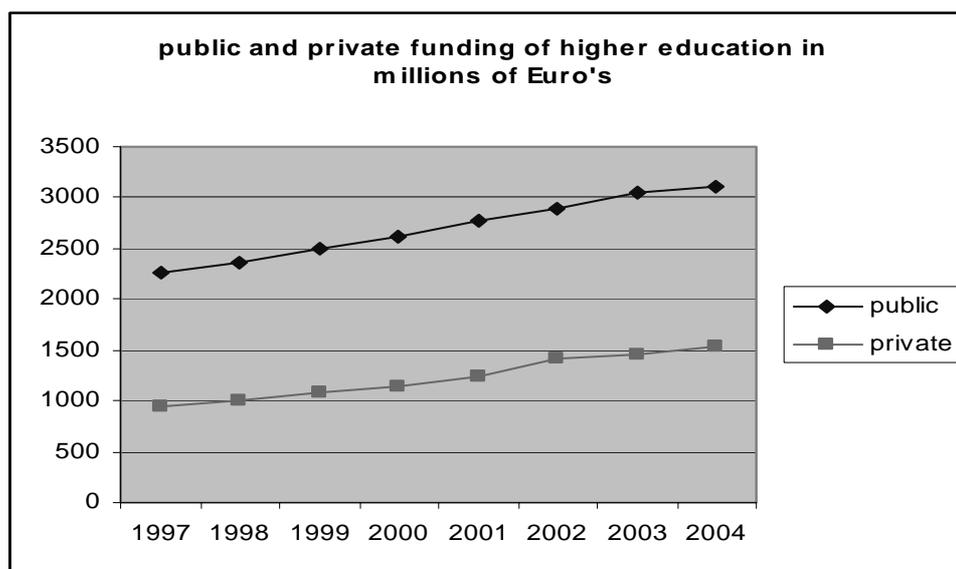
Table 7.3 Development of the tuition fee 1998-2005



166 Contributions by companies are primarily made in terms of research assignments. Like all other continental European countries the Netherlands does not have a history of companies contributing directly to the HE institutes by making donations. Through participation in dual courses, giving access to research facilities, commissioning research and other contacts, companies do, however, play a vital role in the system. The contribution made by private businesses to research activities is far below average compared to other OECD countries (see also chapter 5).

Because of the changing contribution in terms of tuition fees and the growth of the third flow of money the balance between private and public funding is changing as shown in the table below:

Table 7.4. Public and private funding in higher education in millions of Euro's



As can clearly be seen both private and public investments in higher education is rising, but private contributions are rising more rapidly. In 1997 it was 29.2% of the total and in 2004 this figure grew to 33.2%.

Student grants

167 Although in its essence the student grant system itself is not a mechanism for direct contribution to the HE institutes, the grant system is still important here. Student grants do facilitate the participation of students in tertiary education, and they are an important tool in optimising full access to education, irrespective of sex, race or social economic background. Student grants are a public contribution towards students' private expenditures. The system is based on legislation in the Wet Studiefinanciering 2000 (WSF2000).

168 The budget for student support (grants and loans) (University, HBO and MBO students) is 3,085 million euro in 2006, is an increase of 15% compared to two years earlier (2004). The grant system itself comprises 4 elements

- The basic grant is for all students. It differentiates between students who live with their parents and those who live on their own. In 2006 the monthly grant is € 89 for students living at home and € 248 for students living independently. On the total SF budget the basic grant paragraph is 29%.
- Travelling costs. All students receive a season ticket for free public transport (train, metro, bus). This 29% of the total budget.
- Supplementary grant. This supplement is available for students with low- income parents. This supplement is a maximum monthly amount of € 207 for students living at home students and € 225 for students living independently. In the total system it is 21%.
- Loans. Students can take out a loan of maximum € 266 per month. Loans are 29% of the total expenditure in 2006. This is a loan with a low interest rate and be repaid within a period of 15 years, starting two years after graduation. An ex-student with a low income can apply for the monthly amount due to be reduced. After 15 years the ex-student is exempt from the repayment of any remaining debt. The entire system of grants is based on results (prestatiebeurs). This means that the total amount including travelling expenses should be paid back (with interest) if the student does not graduate within 10 years. The same mild pay-back conditions apply. This system of result (performance) based grants started in 1996, so next year will be the first year that this system has been fully implemented.

169 Entitlement to grants and loans is valid for a period of ten years. Along with this goes the right for student grants for the period of the normative study length + loans for another 3 years. During these

three years a student is entitled to a loan of maximum € 800 per month and to free public transport. This facilitates both quicker and slower students.

7.6 Financing; policy

170 Over the last few years there have been no major changes in policy concerning funding of the tertiary system. The annual adaptation of the macro budget to changing student numbers has taken place and, of course, the introduction of bachelor and master courses has led to some changes in the parameters of the lump sum budget per institute. Tuition fees have increased gradually and other private contributions have not changed much. All in all it has been a rather stable situation with no major policy movements. In the near future this will change. There are a number of policy ideas worth mentioning here that have been discussed in recent years and could very well change the landscape of higher education institutes in the near future. One of the more elaborate proposals is the introduction of “learning entitlements” (leerrechten) for students.

Learning entitlements (leerrechten)

171 The policy idea of learning entitlements was introduced in October 2004 as a further development of proposals for the OCW budget 2005. The system is based on the principle of demand oriented tertiary education based on decisions made by students rather than supply oriented tertiary education. Students will be given learning entitlements upon entering tertiary education for a full bachelor course (and once the bachelor graduation is a fact, for a master course). These rights upon registration of a student with learning entitlements are transferred to a HE institute by the student and this in turn will be the basis for payment to the institutions by the national government. This system will more directly link funding the HE institutes to student demands (grants and learning entitlements are related). And it reduces the risks of fraud (see below).

Unwanted effects

172 Regarding the funding system there was an incident known as “the HBO fraud” students that were registered but not participating. The minister appointed the commission Schutte (2003) to investigate this fraud and this commission concluded, in a preliminary report in 2004, that the government should retrieve 44 million from the hogescholen. Further investigations showed amounts that are significantly higher; 82 million for the HBO sector and 3.6 million for the universities over a five year period¹⁰². This concerns roughly 1% of the total budget for the hogescholen and 0.03% of the universities. There were irregularities at a number of hogescholen but the vast majority were found at only two institutes. The universities were also investigated but hardly any irregularities were found there. This incident attracted a great deal of media attention and as a consequence the macro budget for hogescholen was frozen temporarily. This incident meant that the Minister of Education had to re-think the policy governing the relations the Minister and the institutes. The HBO-raad, although the vast majority of institutes were not at fault, defended the behaviour of the institutes by stating that the rules for funding could be interpreted in more than one way. The Rekenkamer and a specially installed OCW taskforce “rekenchap” concluded that budget rules are open to what they call “creative thinking”. The 2003 report from the Rekenkamer¹⁰³ suggests gives a number of possible fraud situation which later were concluded by the commission Schutte in 2005. A few of them are presented here as illustration of the discussion.

- Double registration of students in disciplines at both high and low rates. The student follows the study in the low tariff but the high tariff is paid for. (N.B. Students have to pay fees for one programme only.)
- Double diplomas for foreign students that participate only in part in the Dutch course and for Dutch students that follow part of their course abroad.
- All diplomas count for funding but it is possible that a second diploma is awarded without any substantial investment being made by the institute

¹⁰² The investigation itself, which became a political necessity, cost 11 million Euro.

¹⁰³ Onregelmatigheden bekostiging (hoger) onderwijs rekenkamer februari 2003.

173 One factor of importance that emerged from all this is that the Minister concluded that a new strategy of good governance should be developed¹⁰⁴. This might include new funding rules, as the state-secretary proposes. At this moment the government is in discussions with the higher education sector about new rules and regulations concerning the funding of institutes. The hogescholen, certainly after the fraud situation, can not oppose such proposals. The university sector, however, is not convinced of their necessity (branch report VSNU page 26) and is backed in this opinion by the Raad van State, the principal legal advisory body of the government.

Funding rules for research activities

174 There is a lot of discussion about funding rules for research activities within the tertiary system. Although the vast majority of research activities take place at universities and research institutes, hogescholen demonstrate a growing interest in applied research activities. Obviously the universities show some concern about this.

175 A possible new funding mechanism for tertiary education as discussed above might very well include these research activities. From 2007 onward hogescholen will receive funds for development and application, or applied research, as a follow-up of payment for the lecturers. There is a strong political desire to place the research activities in the priorities of the knowledge economy (see also chapter 5). As the branch report of the VSNU very clearly states, the total research activities by universities did not change much in the period 1998-2003¹⁰⁵. There is, however, a transfer from first stream to second stream. In this way institutes such as NWO and KNAW have increased their influence on research activities of universities, in the same way as the EU (third stream) requires that project funding should be matched by funds from the university itself.

176 In 2003 the Advice Council for Science and Technology (AWT) focused on this theme and announced the problem of matching. The council concluded that universities invest about 80 cents of every euro in the second and third flow of money through co-funding or matching. This will lead to the university itself having less influence on strategic choices in terms of research, the deterioration of research facilities and declining research activities in language-, culture- and social sciences. Excellent research groups are confronted with the situation that co-funding or matching is not available for obtaining 2nd and 3rd stream research programmes. This statement however is the subject of wide discussion (including by the Central Plan Bureau). Matching is particularly relevant in cases of EU research funding.

The problem of matching is explained in the following example.

Consider a research group with a budget of €5 million on first stream research activities. If this research group has no relations with firms or other contractors the full budget will be applied towards the research priorities set out by them (institutional research program). If this research group has contracts with firms and is successful in generating additional research budget of (let say) €3 million this group will have to invest about the same amount from their own budget in making this possible. Thus 3 out of the 5 million from the first stream have to be invested in making the contract activities possible. Although the research group has enlarged its total budget from € 5 to 8 million, the budget for strategic priorities, diminishes from € 5 to 2 million.

177 A fact is that, unlike the funding mechanisms of education (which are largely based on output), the funding of research activities by the second money stream is not based on promising research output, but on promising research proposals. In the years to come this might change. The government is in favour of a funding mechanism based on results.

Student grant system

¹⁰⁴ Beleidsagenda begroting 2005.

¹⁰⁵ Branch report VSNU; page 37. Note: The figures are in fte not in Euro.

178 The newly proposed system of learning entitlements, in combination with the newly proposed student support system will give more flexibility to the student as well as more efficiency in the system itself. More flexibility and more responsibility on the part of students will be the logical consequence. Without going into all the details of the new student support system the highlights can be presented as follows.

- The new student support system introduces “collegegeldkrediet” (tuition fee loans). This increases the total amount of the loans. To accommodate the possible higher tuition fee students have to pay if they do not graduate in time, a student can obtain a loan for the amount of the tuition fee he/she has to pay, up to a maximum of € 7500 per year. The situation today is that many students have jobs to meet the cost of living expenses (and to avoid borrowing). With more facilities for loans the minister expects the students to be able to study more efficiently, and invest more time in their studies¹⁰⁶.
- Rules and regulation for paying back study loans will, for all ex-students, be dependent on the actual benefit an ex-student gains from his or her qualifications. Above a certain income level (ca € 15.000 per year for a single person and ca € 20.000 per year for a person with a partner) the ex-student has to repay 8% of his annual income, as long as necessary to repay the total debt, but during a maximum of 25 years. The possibility of a break in refunding (of a maximum of 5 years) will also be introduced. This break is added to the 25 year repayment period. Thus if the break is 5 years, the total period of repayment will extend to 25 plus 5, being 30 years maximum.
No repayment is required for students with an income below the level mentioned. Once the maximum period of repayment has expired the ex-student is exempted from any remaining debt.
- The strict age limit of 30 years of age will be more flexible. As long as students begin studying before reaching the age of 30 their entitlement to student support will be valid in their 30-s.

Stimulating private contributions from businesses

179 As stated previously there are no private contributions to tertiary educations, and private R&D investments are relatively small (see also chapter 5). The Ministry of Economic Affairs has introduced very measures (knowledge vouchers, Raak system) to stimulate and intensify the use of knowledge by companies and to stimulate research activities within companies (WBSO). All these measures were discussed in chapter 5. These measures have been intensified in recent years. The relevance of the knowledge economy and the political attention it is receiving will continue in the coming years.

7.7 Finance; results

180 Investments in Dutch tertiary education (as in education in general) can be considered relatively modest compared to other OECD countries (in terms of a percentage of the GNP). Nevertheless the Dutch secondary system is performing among the best measured by the international Pisa benchmark. From secondary education to tertiary education practically all graduates from havo and vwo progress into further education, mostly into hogeschool or university. Access is irrespective of gender or social economic background. In a recent document about the knowledge economy the quality of Dutch tertiary education was characterised as being good value for money¹⁰⁷. Aiming for the top is very difficult in this system but in general the quality is good. In the European top 20 of the Third European report on science and technology, 7 of the 13 Dutch universities are in the top 20. On a global scale the scores are also good. In the Shanghai top 500 benchmark, 10 of our 13 universities have places in the top 200 of this scale. In the Times Higher Education Supplement 8 out of 13 are in the top 200. Criteria for these benchmarks differ but the general picture is quite good. And participating in tertiary education is indeed a good investment for both student and society. A recent document by Professor Maassen van den Brink has shown that investment in education is worthwhile. More highly educated people are healthier and therefore make fewer demands on the healthcare system. They are more often employed and therefore

¹⁰⁶ The studentenmonitor shows that students in tertiary education study 29 hours a week on average. Governmental theory is that with fewer working hours and more time for study the results would improve; faster students or higher marks, or both.

¹⁰⁷ De Jonge en Berger; Kern van de kenniseconomie Den Haag 2003

are less likely to need social security benefits. They are also rarely involved in crime and therefore expenditures in public safety and crime prevention are not made on their behalf¹⁰⁸. The CBS earnings survey (2002) shows that graduates from tertiary education earn significantly more than graduates from only secondary education. Their higher earnings will mean that they contribute more than low income groups to the public taxes, since taxes are progressive.

7.8 Finance; conclusion and remarks

181 The following conclusions are to be drawn from the above chapter:

- The main conclusion is, taking OECD countries as a reference group, that the Netherlands does invest below average in tertiary education (in relation to their gross national product) but that the quality is nevertheless far above average.
- Public investment in research activities is good but that of private businesses is only modest.

182 Some critical remarks can be made.

- Underinvestment in tertiary education does not seem to be influenced by the political background of the ministers in charge. It is a long term tradition.
- It can be considered remarkable that there is some debate about the system of funding. No thorough evaluation of the 1987 system neither of the hogescholen nor of the former or actual system of universities has been carried out; the funding system of the universities has been adapted because of the introduction of the bachelor- master structure. However every possible effort was made to investigate the “HBO fraud” in the last two years. Earlier evaluation (and subsequent action) would probably have prevented this incident and would have strengthened instead of weakening the public image of tertiary education. Though it must be said that the details of the formula of the funding system changed more often than did the system as such. Some argue that the budget cuts of recent years have lead institutions towards “creative use of budget rules”.
- There has been considerable criticism of higher education institutes in terms of relevance for the labour market and quality in general. The comment that the relation between companies and colleges should be better has been made repeatedly and frequently (Ministry of Economic Affairs, political parties, Social Economic Council). However we should consider that the Business community is the missing link in funding the system. There is no tradition in the Netherlands that private companies should contribute to tertiary education and their investment in research is very modest (in contrast to public investment in research). Considering the report on matching from the AWT, the business community is also used to obtain academic services at a cheap rate.

7.9 Relevant documents

Adviesraad voor het Wetenschaps- en Technologiebeleid	De waarde van weten. De economische betekenis van universitair onderzoek	2004
Adviesraad voor het Wetenschaps- en Technologiebeleid	Een vermogen betalen. De financiering van universitair onderzoek	2005
CBS	Tabellen loonstructuuronderzoek 2002	2005
Centraal Plan Bureau	Nederlands onderwijs en onderzoek in internationaal perspectief	2005
Centraal Plan Bureau	Private bijdragen voor hoger onderwijs; profiteren van het profijtbeginsel	2004
Centraal Plan Bureau	Higher education reform; getting the incentives right	2001
Centraal Plan Bureau	Returns to university education; evidence from an institutional reform	2004

¹⁰⁸ Investeren en terugverdienen. SBO 2003

CHEPS	Kosten per student	2004
CHEPS	Public funding of higher education	2002
CHEPS	What we know about the efficiency of higher education institutions: The best evidence	2003
CHEPS	De Bekostiging van het Universitaire Onderwijs en Onderzoek in Nederland: Modellen, Thema's en Trends	2004
CHEPS	Issues in higher education policy	2005
CHEPS (e.v.a.)	Evenwicht zonder sturing; wegen voor nieuw hoger onderwijs en wetenschap deel 1	2005
EIM	Knelpuntenanalyse onderwijs arbeidsmarkt	2004
EIM	Kern van de kenniseconomie Een sterkte-zwakteanalyse van vier opleidingen in het Nederlandse hoger onderwijs	2004
EIM	Knelpuntenanalyse onderwijs arbeidsmarkt	2004
EU/Cordis	Third European report on science and technology indicators 2003	2003
HBO-raad	Het HBO ontcijferd 2005	2005
HBO-raad	Brancheverslag HBO	2005
HBO-raad	Brancheverslag HBO	2005
Inspectie van het Onderwijs	Onderwijsverslag 2003-2004	2005
ITS	Studentenmonitor 2004	2005
Ministerie van OCW	Kennis in kaart 2004, 2005	2004
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
Ministerie van OCW	Onderzoektalent op waarde geschat	2005
Ministerie van OCW	Wetenschapsbudget 2004	2004
Ministerie van OCW	Kennis in kaart 2004, 2005	2004
Ministerie van OCW	Een hbo-student in dienst? De fiscus komt bedrijven tegemoet. Fiscale regeling afdrachtvermindering	2005
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	Beleidsbrief financiering in het hoger onderwijs	2004
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
Ministerie van OCW	Alpa-plan Beta techniek	2003
Ministerie van OCW	referentieramingen 2005	2004
Ministerie van OCW	Beleidsnotitie doelmatigheid hoger onderwijs	2003
Ministerie van OCW	Beleidsagenda begroting 2005	2004
Ministerie van OCW	Factsheet begroting 2006	2005
Nederlands observatorium van wetenschap en technologie	Wetenschap en technologie indicatoren 2003	2003
Nederlands observatorium van wetenschap en technologie	Wetenschap en technologie indicatoren 2005	2005
OECD	Education at a glance 2005	2005
Onderwijsraad	Bijdragen van onderwijs aan het Nederlandse innovatiesysteem	2005
Onderwijsraad	Ruimte voor nieuwe aanbieders in het hoger onderwijs	2004
Onderwijsraad	Hoger onderwijs: meer kenniswerkers en betere kennisbenutting	2004
Onderwijsraad	Bekostiging hoger onderwijs	2003
Rekenkamer	Onregelmatigheden bekostiging hoger onderwijs	2003
Research voor Beleid	De internationale mobiliteit van kenniswerkers	2004
SBO	Investeren en terugverdienen	2003
Schutte commissie	Eerlijk delen II	2005
Shanghai jiao tong university	Top 500 world universities	2005

Sociaal Economische Raad	Kennis maken, kennis delen	2003
Times	Times higher education supplement; world university rankings	2004
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004
VSNU	Branchejaarverslag universiteiten 2003 in cijfers	2004
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004
VSNU	Onderzoekinvestering per geldstroom in fte	

8.1 Situation and policy

General policy and division of responsibility

183 The aim of the institutes is laid down by law: universities have aims in terms of research and education, hogescholen primarily in education. How they do this is their own responsibility. Quality assurance is obligatory. The quality of programmes is assured by accreditation by the NVAO (The accreditation organisation of The Netherlands and Flanders). Existing programmes have to be accredited every 6 years. New programmes have to be accredited before students can be registered. The content of the curriculum is up to the higher education institutes, with the remark that the NVAO checks if the profile of a programme is geared to a profession versus more academically oriented. Furthermore the accreditation framework asks for information on progression of graduates into the labour market.

The higher education institutes are autonomous for spending their formula funding received from the government, for recruitment of personnel and working conditions (within regulations by ministry of Labour) and for their buildings and infrastructure.

Resource allocation is done by the government on the basis of yearly forecasts of the number of new entrants. The yearly expansion showed in the latest ten years a yearly expansion of numbers driven by community demand and student choices, with the exception of the medical field. The places for medicine, dentistry and paramedical professions are limited. The numbers are jointly set by the ministry of Education and the ministry of Health and have been raised a few years ago in response to forecasted shortages. The resources have to be secured from the ministry of Finance. The yearly government budget shows figures for the coming four years. The actual allocation to higher education institutes is on the basis of formula funding in which newly registered students and diploma's (successful completions) are key factors. The formula funding also contains funding for maintenance of buildings. In the formula funding for universities there is also a budget for (fundamental) research. This latter is based on history. Next to this universities are eligible for competitive research funding.

184 The key factors in the formula funding have been and are being adjusted to counterbalance unwanted side effects. Over the years higher education institutes have become more autonomous. They account via yearly reports on budget spending and regarding content, according to an information protocol. They are obliged to report on their policy and implementation, their education and research (universities), their student population and progression of students, including from where they enter, personnel and labour conditions, internationalisation and specific policy issues, of late their contribution to innovation and the knowledge economy. These reports are analysed and institutes receive feed back on this. Furthermore performance indicators are readily accessible compiled per institute in the publication *Kenis in Kaart* (Knowledge mapped out). In practice higher education institutes try their best not to be the worst performer.

For policy designing the government first relies on facts and figures, evaluations and monitors. Furthermore it involves various advisory boards and the main stakeholders: student bodies and employer organisations.

185 Tertiary education policy encompasses many fields it ranges from housing and the labour market to priorities in research and the right to award degrees. The division of responsibility between central government, (quasi) independent national organisations and the institutes of higher education vary accordingly.

Forecasting the labour market and monitoring the actual developments in terms of graduates, their employment and wages, is done on a yearly basis, both commissioned by government and by the higher education institutes.

186 A numerus clauses set by the government (ministers of Education and Health jointly) exists only for students in medicine, dentistry and some paramedical programmes. Otherwise higher education institutions are obliged by law to admit any student with the required secondary school certificate.

[For some programmes institutions set limits to the numbers. Motives vary from a limit of a faculty to the huge numbers of students (for instance no more than 600 first year students psychology), to keeping

a balance between male and female students in an institution (in the past for instance no more than 60% female students in a particular hospitality management institution).]

The government supports the call from industry for more graduates in the science and technical fields by subsidizing various activities through the Platform beta techniek.

187 The Ministry of OCW (Education, Culture and Science) is the main source of funding for higher education in the Netherlands, and is also a key policy maker. The official central government philosophy since the famous HOAK¹⁰⁹ policy paper has been to have as little central steering as possible, given the goals to be achieved. This is also known as the 'state supervising model' as opposed to the 'state control model'¹¹⁰. The described philosophy is expressed in the WHW (Law on higher education and scientific research), first issued in 1992 and frequently adapted since.

188 The current WHW legislation deals almost exclusively with education and includes the following topics:

- Some of the tasks and requirements for accreditation (at programme level)
- The general goals/tasks of universities (research and education) and hogescholen (education)
- The names of all higher education institutes that receive public funding (the founding of a new publicly funded institute would therefore require a change in the law)
- The Minister of Education has the right to 'recognise' an institute providing higher education. It will not be funded but does have the right to award degrees, provided the programme completed by a graduate is accredited. and subsequently registered.
- If an accredited programme at one of these institutes has been completed successfully, the institute has the right to award the appropriate degree
- The number of credits a Bachelor or Master programme has to have
- An institute that wishes to expand beyond its main location must request permission to do so from the Minister of Education. The Minister has the right to refuse this for reasons of efficiency.

Also, the Minister has to be asked permission to start a new programme (next to the required quality test by the NVAO). This permission is needed for a specific programme at a specific location, if it is also offered elsewhere. This is called 'steering on the basis of macro efficiency'. It is a rather far-reaching control of programme supply, compared to other higher education systems¹¹¹. If the labour market is misbalanced in a certain field, the Minister of Education has the right to establish a 'numerus fixus', a maximum number of students allowed to enrol in a certain programme. This is only applied for places in the field of medicine dentistry and paramedical professions.

189 At this moment (November 2005) the Ministry of OCW proposes a draft for a new law on higher education to replace the current WHW.

The current act has existed for 15 years and has been amended 90 times. Cohesion has consequently been weakened and readability reduced. Therefore with the 91st amendment a clean sheet is being proposed. Furthermore the process of decreasing regulation and increasing institutional autonomy has to progress, which led to a proposal for a new law on higher education to replace the current WHW. Since the introduction of Bachelor and Master programmes the quality of programmes is guaranteed by accreditation. To enable tailor-made programmes suited to the needs of students and society the current interpretation of a programme ('opleiding') is considered too confining, and will be extended. This will also reduce administrative burdens in accreditation procedures. And it is considered relevant as with the introduction of the Bachelor Master structure, a majority of hogescholen (especially the larger institutes) and some universities started offering programmes with 'major-minor' components. The 'minor' field varies from 30 credits (half year) to 120 credits (two of the four years).

¹⁰⁹ HOAK is an acronym for Hoger Onderwijs Autonomie en Kwaliteit (Higher Education, Autonomy and Quality).

¹¹⁰ These terms are used in Maassen & Van Vught 'Alternative models of governmental steering in higher education' in: Goedegebuure & Van Vught (eds.), *Comparative Policy Studies in Higher Education*, Utrecht: Lemma, 1994.

¹¹¹ A comparison with four other countries was made in Huisman, Beerkens & Goedegebuure, *Regulating the programme supply in higher education; a comparative analysis*, Enschede: CHEPS, 2003.

190 From 2007 onward, various experiments are planned to investigate the effects of a more ‘open higher education system’ where the difference between funded and ‘recognised’ institutes (the latter do not receive public funding but are allowed to award degrees) will be reduced, in the sense that funding would also be possible for the education of students in certain programmes at recognised institutes provided the programme is of sufficient quality, i.e. accredited and registered..

191 To enable cooperation between institutes in the European Higher Education Area (Bologna process) the focus of the new legislation moves from the institute to the ‘learning environment’ for students. The higher education institutes will subsequently be free to organise their cooperation. For example, joint degrees (where students attend courses at multiple institutes) will be made possible. The new act contains responsibilities aimed at the outcome rather than at the process. It offers a framework and allows the higher education institutions the freedom to achieve well defined objectives without prescribing the way in which these objectives should be achieved. It prescribes the duty to care. In the field of labour conditions, institutes will no longer have specific consultation obligations. Equal representation of women (a policy obligation for institutes) can be dealt with in the annual report instead of a specific document. The goal is to abolish all specific regulations in this area. In that way the difference between higher education institutes and private companies in the field of labour conditions will disappear.

192 Furthermore to meet the objective of increasing the autonomy of institutes, central government (OCW) wishes to cancel all specific regulation in the field of housing; therefore the ‘trust fund’ that was established (for a transitional period) to ensure payment of interest on mortgage loans by hogescholen will be abolished.

193 NWO (the abbreviation for the Dutch organisation for Scientific Research) is an organisation that, besides governing several research institutes, allocates research funds to universities. (See chapter 7.2 for details.) The Board of NWO is appointed by the Minister of Education, but he is advised by the KNAW and the universities. The funds that NWO allocates are provided by central government, to be distributed among universities (hogescholen play no significant role in scientific research, their aim is to provide higher professional education and some practice based research). This is called the ‘second stream of research funds’. The objective of this system is to promote competition for funds and by doing so improve the quality of research, and to make the national research efforts more efficient by designating specific scientific fields for which extra funds are available.

194 Three allocation procedures are used by NWO:

- Fixed budgets for scientific priorities
NWO identifies promising scientific fields, describing the kind of research to be performed. Sometimes this takes the form of more or less fixed projects, for which PhD students or post-doctoral researchers are required. In 2004 94 research programmes were carried out in 9 areas.
- Specific programmes
These are meant to stimulate talented young scientists or specific target groups (ethnic minorities, women).
- The ‘open competition’
In the open competition, scientists in all fields can submit research proposals. These proposals are evaluated by experts, and grants are given to the most promising proposals.

195 The KNAW, the Royal Dutch Academy of Sciences, is also involved in distributing research funds. For example, this organisation has a grant system for promoting the career of promising young researchers. Besides direct allocation of resources, the KNAW organises the acknowledgement of Research Schools (onderzoekscholen), which indirectly might influence the research budget at universities. Up to the present acknowledgement of Research Schools is a voluntary process. In the future KNAW will compulsory assess the structure in which the doctorate programmes are embedded, for instance in Graduate- or Research Schools

196 NVAO, the Accreditation Organisation of The Netherlands and Flanders, determines whether a programme meets the requirements for government funding. All Bachelor and Master Programs at Dutch universities and hogescholen need to be accredited in order to (continue to) receive part of the government budget. This system is relatively new (NVAO was established in 2003), and complements the ‘peer review’ system of quality assurance, operated by the sector itself, through VSNU (the association of universities) and HBO Raad (association of hogescholen). More on this topic is presented in the next chapter on quality assurance.

197 The institutes themselves are the decision makers in the field of staff recruitment, setting institutional goals (within national frameworks), and the actual content of curricula and research programmes. Certain requirements (e.g. those of the accreditation) have to be met in order to receive public funding. And steering at a central level is accomplished by means of financial incentives (as described under NWO). Certain tasks, such as negotiating terms of employment, are delegated to their branch organisations (VSNU and HBO-raad, described in Chapter one). The WHW law determines that institutes must make plans to promote equal representation of women in certain areas of the labour market (e.g. professors). The Minister of Education still has the right to specify a minimum number of PhD candidates to be appointed; this right has not been used in the last ten years, however. Institutes themselves can decide to be discontinued.

Expanding the tertiary education sector

198 One general objective of Dutch educational policy has been to increase the number of student enrolment in higher education. Apart from the field of healthcare¹¹², hardly any specific activities were undertaken in the last five years to promote the expansion of certain parts of the higher education system. In the university sector, enrolment numbers went down and up over the last fifteen years, current numbers being slightly higher than the last peak (early 1990s). Hogescholen however show a continuous increase in enrolment numbers. This increase has been the result mainly of students coming from ‘MBO’ (intermediate level professional education, roughly equivalent to ISCED 4). This stream of students from the intermediate to the higher level of professional education is known as beroepskolom, ‘professional column’. The Ministry of OCW recently launched experiments with tertiary short cycle programmes in the HBO sector, in an attempt to further increase the number of students in tertiary education (more on this subject below, under ‘diversity’). It is hard to say, however, whether specific policy measures have led to this increase. One could argue that the institutes themselves are stimulated to attract as many students as possible: a significant part of the public funding for institutes depends on the number of first year students enrolled. This leads critics to state that a ‘grey mediocrity’ is becoming the norm in higher education, with not enough room for academic excellence, because of this wish to attract many students. (Recent years have shown some experimenting with stricter admission policies for certain ‘top programmes’ to confront this risk.)

Governance of institutes

199 The WHW law regulates several aspects of the governing of institutes. At the lowest level, each programme must have a specific ‘education and exam regulation’ which governs the content of the curriculum and the procedures concerning exams. And for hogescholen and public universities¹¹³ the outline of the organisational structure is given in this law.

200 In 1997 the way of governing universities was changed. Several changes to the WHW were made under the title MUB (the abbreviation means ‘modernizing university governance’). The goals of these changes were to strengthen the governing power of universities, extending their autonomy and improving the quality of primary processes. Since these changes, the WHW law reads as follows regarding governance of institutes:

¹¹² The fixed maximum enrolment numbers for certain programmes were raised, and several new medical programmes were established, both in universities and HBO institutes.

¹¹³ In the Netherlands, three universities are privately founded (of origin religiously based), the others are publicly founded institutes. Nowadays, there are very few differences remaining between these two types of institutes.

- Universities should have a central Board, governing at a central level. An external Supervisory Board (3-5 members) has a supervisory and advisory role. The members of this Supervisory Board are appointed by the Minister of Education. One of the members of the Supervisory Board should have a special 'vote of confidence' from personnel and staff. Although at faculty level many links can be seen between an institute (either hogeschool or university) and industry/business, there is no obligation for the Minister to appoint people from industry/companies to the Supervisory Board¹¹⁴. The only limitation in this respect is that no active politicians active at national level can be appointed. At a lower level, Faculties are lead by Deans, and each programme must have a Programme Committee (50% of the committee should consist of students).
- Hogescholen should have a central Board or central Directorate. A hogeschool may consist of Faculties but this is not mandatory. Hogescholen are all privately founded and have a Foundation Board, but they do not have a Supervisory Board. In practice distinguished actors in (local) industry or local government are very often members of the Foundation Board.

201 Universities and hogescholen have an obligation to ensure that personnel and students have a say in management. Universities can choose the model with two councils (student council and staff council) or use the model of a 'University Council' in which personnel and students are represented. This council has the right to advise the Board on various subjects, and the permission of the Council is required on some changes (e.g. in the system of internal quality assurance). hogescholen are required to have a representative advisory council, consisting of representatives of the student population and staff. In other words, they cannot choose as universities can, and have to follow the 'second model' with one council as described above.

202 In 2005 an evaluation of the MUB changes (in the university sector) was conducted. The most important conclusions were:

- On average managers, scientific staff and students are satisfied with the governance model.
- Autonomy is viewed as sufficient, although most board members would prefer a more distant role for the central government.
- It is a problem for most universities to find sufficient members for their advisory councils. The majority of both students and staff are not interested in governing their university, and as a consequence few of them are willing to participate in these councils.
- Scientific staff is more critical of the way of governing than students. The researchers suppose that this is partially due to tension between formal and informal structures common to universities.
- The role and tasks of the Supervisory Board (which came into being as a result of the MUB changes in 1997) are still unclear, especially the way in which they actually supervise.

The new legislation proposes to end these different prescriptions for hogescholen and universities governance.

In stead it will prescribe for all government funded higher education institutes strictly separate executive and supervisory boards; duties and authorities have to be clearly demarcated. In the annual report the supervisory board is accountable for its actions and the way it exercised supervision.

Regarding the say in management of students, it rests a duty on the Board to provide for participation of students in decision making. For decisions regarding the budget of the institutions only a right of consultation of students is prescribed. For many other decisions there is the right of consent.

203 In addition to the regulations concerning institute governance, the government uses financial incentives to improve the quality of governance at the institute level. Because of the funding system (explained more detailed in chapter seven), institute boards are stimulated to find ways to attract many students and to lead students through the programme in an efficient way, aiming for a large number of graduates. This funding system might put pressure on the quality of education and research. An institute might be tempted to lower the standards of education or exams to award degrees even to students whose performance is below standard. Therefore, counterbalancing mechanisms exist to ensure quality at different levels (institute, faculty, and programme). More on this subject is presented in chapter 9.

¹¹⁴ Although the Supervisory Board was introduced also with the aim of involving industry and society at large in the governance of universities.

204 Recently, some concerns have risen about the 'bureaucratic tendencies' within education institutes (from primary schools up to universities). The Onderwijsraad (important advisory body for the Ministry of Education) published a report¹¹⁵ which suggested that, as a result of a decrease in the amount and extent of regulation by central government, institutes themselves made more rules. No 'hard evidence' of this tendency was found in tertiary education, however.

Diversity

205 The Dutch tertiary education system makes a marked distinction between universities (which are responsible for education and various types of scientific research) and hogescholen (mainly involved in education). This distinction has diminished slightly in last few years. First of all because the amount of research at hogescholen has increased; although it is stressed that the objective is only 'practice based research and knowledge dissemination', some measures have been taken to raise the 'scientific image' of hogescholen, e.g. by appointing lectors (comparable to full professors at universities, working at the frontline of knowledge in their field and promoting the intellectual level of hogescholen). Secondly, some hogescholen are allowed to award 'professional masters' degrees (usually without public funding however), and the possibilities for a 'professional doctorate' are being investigated¹¹⁶. Thirdly, some universities and hogescholen have established formal links and cooperate in certain programmes.

206 There is a tendency for hogescholen to act more like universities, which makes sense because universities are considered 'higher level' and more prestigious. On the other hand there is a sense of 'professional pride' of the HBO sector: professional education is something different than the more theoretical scientific education provided at universities. And providing higher education directed at professions is considered very important for society as a whole, also by the Ministry of Education and parliament. Therefore, we expect to see the distinction maintained over the coming years.

207 Diversity is stimulated through the proposed experiments with tertiary short cycle programmes in the HBO sector. These should lead to 'associate degrees'. A survey of this type of programmes lead to the conclusion that probably more students will enter higher education as a result of these short programmes (which is a national policy goal), but there is a risk that students who are now enrolled in a Bachelor programme will then turn to the 'easier' short cycle programme. The value that these short programmes will have for the labour market is difficult to assess, according to the researchers who performed the survey.

System linkages

208 The higher education system is, of course, not a 'closed circuit' but has links with other forms of education. The institutes themselves are, apart from their publicly funded programmes and research, also involved in commercial activities. For example, they offer short post graduate courses for companies to train management, health care professionals, civil servants etc., or they start up a commercial programme, e.g. an MBA. There is no specific national policy to encourage these activities, but diminishing public funding is a financial incentive for institutes to find new ways of generating income.

209 A strong and important link is between secondary and tertiary education. This link is vital for the quality of the 'input' of higher education, the first year students. Various policy measures of the last ten years have had an impact on this link. First, the 'second phase' was introduced in secondary education. This meant a drastic change in the way education is organised in the last two years of Havo and VWO schools. The teacher should no longer provide information to the pupils 'one way', but he/she should act more like a coach. The students themselves should find ways to obtain the information they need and use it. The philosophy behind all this was to encourage 'learning to learn' and the skills to find information quickly, which would give future students an advantage in the transition from secondary to tertiary education.

¹¹⁵ Onderwijsraad, *Bureaucratisering in het onderwijs*, Den Haag, 2004.

¹¹⁶ Formerly, HBO institutes were appointed to award (professional) Bachelor degrees only, as opposed to universities, who can award Bachelor (BSc and BA) and Master (MSc, MA, MPhil) degrees, as well as PhDs

However, this change has led to major criticism. The most important objection is that students coming from this new kind of secondary education have less factual knowledge than their predecessors, resulting in a lack of elementary knowledge that institutes of higher education now have to provide themselves in the first year or earlier: some universities have started 'repair summer classes' to provide the knowledge needed in the first year in advance. Also, students are said to have a 'cut-and-paste' mentality in which the internet provides information that students hardly reflected upon. Such criticism has led to adaptations in the 'second phase' education.

Besides this general change in secondary education, some local initiatives have also had an impact. At some secondary schools it is possible for good students to 'work ahead' and already attend some classes at universities, for which credits are given providing them with a head start in the first year. Also, an MBO graduate (medium level professional education) is admitted to a hogeschool sometimes in the second year. MBO highest level enrolment in 2004 was 161.801 students. Percentage of entrants in hogescholen from this type of secondary education is 32% (2003) (OCW keyfigures 2005)

Possibilities for a transition will become more focussed if the plans for a new higher education act come into effect. At present there are problems with the transition, (every graduate of MBO has right of admission in all kind of programmes in hogescholen) resulting in relatively high numbers of students leaving in the first year¹¹⁷. Not only the required secondary education (Havo, VWO or MBO) provides a basis for tertiary education. Some people have had 'less' formal education, but through their working experience acquired enough skills and knowledge to enter higher education. The WHW law allows institutes to use an admission procedure (including an entrance examination) for this kind of students. And the Open University offers courses without any entrance requirements.

Furthermore, because of employers demand, short programmes will be offered by hogescholen from September 2006 onward. The programmes will be composed of 120 credits (ECTS and comply with the level descriptor for short higher education, developed in the Bologna framework. The graduates will be awarded the Associate degree and will have the possibility of progression onto a bachelor degree in the same field.

210 The links *between* institutes of higher education have not always been the result of individual initiatives. In the eighties and early nineties, central government obliged many institutes to merge to acquire a certain scale, and since that time more mergers have taken place on the initiative of institutes themselves.

In the early nineties the government started a policy of promoting top quality research schools by a policy of rewarding a quality label for the research schools on the basis of research output, sufficient critical mass in scholarly research and the quality of PhD training programmes. It asked for proposals from the institutions to be recognised as excellent research schools. The proposals would not be granted with money, only with the recognition of being an excellent research school by a committee nominated by the KNAW. Up to the present 102 research schools have been recognised as having met the accreditation criteria of the KNAW. The schools were formed by combining research capacity either from one faculty with a more focussed aim than before, or by more faculties from one institution to obtain a substantial volume, or by a combination of scholars from various institutions into one field of research, also to give profile to the group. A number of these schools are network like organisations grouped around the content of joint research programmes and PhD training facilities. For funding and material facilities they depend on the organisational structures of the universities concerned. A Dutch research school numbers on average 75 PhD candidates and 110 full time equivalents (fte) research capacity. The smallest school numbers 14 PhD candidates and 18 fte research capacity, the largest 191 PhD candidates and 372 fte research capacity.

The research schools are subject to regular quality assurance by peers. An analysis of these foreign peer reviewers about the quality and added value of the research schools is available (May 2005, English summary December 2005).

211 In the current situation, *formal* cooperation is allowed on some levels but is not explicitly 'required' by national policy. This might change if a new law on higher education comes into effect. Considerations of 'tailor made learning environments' for students, through whatever organisational means,

¹¹⁷ This is not considered a bad thing in itself, as the first year is also meant as a selection period.

leads central government to focus less on the institute as such. For example, joint programmes (where students attend courses at multiple institutes) and joint degrees (diploma's formally awarded by various institutes jointly) will be made possible, provided the new law will come into effect. Annex 3 shows the numbers of students changing from one institute to another.

212 Another possible link within the system itself is from hogeschool to university or vice versa. The transition from hogeschool to university can be made at two stages: after the first year of the hogeschool, if the results of the first year examination are satisfactory, a student may enter a university (in the first year). This transition is not without problems for many, as former hogeschool students drop out relatively often in the first year of a more academic university programme. Some university students switch to a programme at a hogeschool, most of them after their first year. A study commissioned by the Ministry of OCW in 2000 showed that 1.7% of hogeschool students of one particular cohort switched to university within four years, and 3.7% of university students of that same cohort switched to a hogeschool.¹¹⁸ After acquiring a Bachelor degree from a hogeschool a student may enter a Master programme at a university. And vice versa, a university Bachelor gives admission to a hogeschool masters programme. Limitations can be made (by institutes) on the basis of content; this has the effect that only students with a Bachelor background from a very similar programme are admitted to a certain Master programme.

Student information

213 The information that prospective students need to decide which programme they want to follow at which institute is considered crucial if they are to establish their rights as consumers. For about ten years now, an annual book filled with information on all programmes at all institutes (Keuzegids Hoger Onderwijs, Choice Guide Higher Education) has been published, including the result of students' polls about the programme. In 2003 the Minister of Education appointed the 'Programme Choice Information Quality Board' which, on behalf of the Ministry, supervises the compilation of this book, ensuring that it continues to provide sufficient independent information. From 2006, this information will also be made available through the internet. The plans for a new Higher Education Act state that the right of prospective students to be informed about programmes will probably be included in the law, but without detailed regulations (such as the Student-right-to-know Act in the United States).

8.2 Results and conclusions

214 Over the last twenty years, the policy objective of central government has always been to decrease rules and regulations and to increase the autonomy of the institutes. In some fields more and more power has been transferred from central government to institutes. Examples are quality assurance, housing and labour conditions. The plans for a new law on higher education and research show a further stage in this development with plans to loosen control over specific programmes. However, the autonomy has not increased in all fields. New policy issues sometimes brought about new regulations, for example in the field of equal representation for women (for which a specific written policy was required from the institutes). Through 'steering on macro efficiency' the Minister of Education still has the right to cancel programmes and to prohibit the start of new programmes at certain locations. And the power to decide on research priorities is partly given (through major financial incentives) to national organisations, mainly NWO.

215 In addition to increasing the autonomy of institutes, a second objective is to increase student autonomy. This requires students to be well informed about the different institutes and programmes; central government has a facilitating role here, which has become more intense in recent years. The intention is that students 'vote with their feet' if they are not satisfied with the programme that they are offered. This improvement in the supply of information has not led to major 'student flows' from certain

¹¹⁸ Source: SCO Kohnstamm Instituut & SEO, *Deelname aan hoger onderwijs deel 5, studievoortgang van eerstejaarsstudenten cohort 1997/98*, Amsterdam, October 2000.

institutes to others. Students seem rather conservative, and many end up choosing ‘the university round the corner’.

216 In recent years some attempts have been made to ‘open up’ the tertiary education system in various ways: by lowering entrance barriers for new commercial suppliers of education, by lowering the barrier between hogescholen and universities and between tertiary and secondary education, and by allowing institutes more flexibility in admission policies. However, these examples are mostly in a planning or experimental phase and have not yet been transformed into concrete policy.

8.3 Relevant documents

ASSR/Ivlos	Foreign peer reviewers about the quality and added value of Dutch research schools.	2006
Centraal Plan Bureau	Een Open Bestel in het middelbaar beroepsonderwijs en het hoger onderwijs	2004
Centraal Plan Bureau	Higher education reform; getting the incentives right	2001
Centraal Plan Bureau	The market for higher education	1999
Centraal Plan Bureau	Regulating the programme supply in higher education A comparative analysis	2003
CHEPS	Gezonde spanning, Beleidsevaluatie van de MUB (Beleidsgerichte studies Hoger onderwijs en Wetenschappelijk onderzoek 114)	2005
CINOP	Kort en goed Verkenning invoering verkorte programma's in het hoger beroepsonderwijs	2005
CHEPS (e.v.a.)	Evenwicht zonder sturing; wegen voor nieuw hoger onderwijs en wetenschap deel 1	2005
HBO-raad	Quick scan voor major-minor	2004
Intomart/GFK Beleidsonderzoek	Medezeggenschap studenten hoger onderwijs	2005
IOWO	Ieder zijn zeg Beleidsgerichte studies Hoger onderwijs en Wetenschappelijk onderzoek	2002
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
Onderwijsraad	Ruimte voor nieuwe aanbieders in het hoger onderwijs	2004
Onderwijsraad	Bekostiging hoger onderwijs	2003
Onderwijsraad	Bureacratisering en schaalfactoren in het onderwijs	2004
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004

9 ASSURING AND IMPROVING THE QUALITY OF TERTIARY EDUCATION

9.1 Situation and policy

Education: from self-regulation to accreditation

217 In 2002 the Bachelor and Master degrees were introduced in the Netherlands. This change also brought about an important change in the quality assurance system for higher education (at both hogescholen and universities). Until 2002, the institutes themselves (through their respective branch organisations) organised the quality assurance. They had developed a system (originating around 1990) in which self evaluation was complemented by 'peer review', a site visit by external experts in the field that was to be assessed. Results were made public (a legal obligation.) This peer review system has had considerable international attention as a form of 'self regulation conditioned by law'. The Minister of Education was still responsible for the quality of (higher) education, and had the right to intervene in the case of serious concern about the quality of a programme or the quality assurance system. But on the whole the institutes themselves were responsible for quality assurance. It has been argued that the focus of this system was on *improvement* of programmes, more than on *accountability* towards society and government. Both functions were present, but it was geared more towards improving the quality of programmes.

218 With the introduction of Bachelor and Master Degrees, the way quality assurance was organised changed into a system of accreditation of programmes, in order to be more internationally comparable. In this new system, an independent organisation checks whether certain criteria have been met, in order to establish a minimum level of quality. If a programme is not accredited, it will lose the right to public funding and the right to award degrees. Accreditation organisations evaluate six main areas:

- Goals (must meet international standards)
- Programme (must have relationship with research in the case of universities, or with professional field in the case of hogescholen, must be coherent)
- Staff deployment and Human Resource Management (staff must be of sufficient quantity and quality)
- Facilities (sufficient material facilities and tutoring)
- Internal quality assurance (systematic evaluation of the programme, in which judgments of staff, students, alumni and professional field must be incorporated)
- Results (quality of graduates must meet minimum standards, and output in terms of graduates must meet target figures based on comparable programmes)

219 The changes in this field can be seen as a move towards quality assurance with an accent on accountability, in which visibility of requirements and transparency towards government and society has become more important. In that respect, it could be argued that society and central government (in its role of main sponsor of education) have facilitated the institute and faculty management to implement strong measures toward a better quality. With an external judgement in hand management can simply do and more effective job in improving the quality of the courses. It should also be understood that if improvements would be needed they have to be implemented before the accreditation can be granted. The organisations that supervise the actual visits and assessments stress the fact that the improvement function remains a part of the assessments; for example, a 'management letter' with specific recommendations that are not made public can be a part of the assessment.

220 This change in the system of quality assurance applies only to education (in both the HBO and university sector); the system of research quality assessment has remained roughly the same as before the introduction of the bachelor-master-structure. Private 'designated' institutes for tertiary education, which receive no public funding but are allowed to award the same degrees as publicly funded institutes, have the same obligations concerning quality assurance as the public institutes; accreditation is in all cases a necessary condition for the right to award degrees.

Organisations

221 Some important players in the field of quality assurance are NVAO, QANU and NQA. NVAO, the organisation that awards accreditations to programmes, was introduced in chapter 8. NVAO has published a list of approved assessment organisations from which a programme can choose. These organisations provide a peer review of a self evaluation made by the institute, including a location visit to establish the quality. Then, a report is made. If the outcome is positive, the institute can use this report as the basis for accreditation.

Most assessments are organised by two of these approved assessment organisations: QANU and NQA. QANU (Quality Assurance Netherlands Universities) is the main external assessment panel for the accreditation procedures in the university sector. It is an independent organisation, with roots in a department of the VSNU (the university branch organisation). NQA (Netherlands Quality Agency) is comparable to QANU, but works exclusively for the HBO sector. Similar to QANU, NQA originated within a branch organisation, in this case the 'HBO-raad'. To make assessments comparable to international standards, NVAO, NQA and QANU participate in ENQA (European Association for Quality Assurance in higher education) and INQAAHE (International Network for Quality Assurance Agencies in Higher Education). In addition, NVAO participates in ECA (European Consortium for Accreditation). In ECA 15 accreditation organisations from 10 European countries cooperate to achieve mutual recognition of accreditation decisions before the end of 2007." The education inspectorate plays a relatively minor role in tertiary education, as opposed to primary and secondary education. It has the right to attend meetings of the NVAO, and the right to (incidentally) investigate aspects of higher education. On a broad level, it supervises the functioning of the accreditation system and the tertiary education system in general.

Research

222 The system of quality assurance for scientific research in universities and research institutes (such as NWO's institutes) has not been changed into an accreditation system. It is organised through the 'Standard Evaluation Protocol for public research organisations', as framed by the branch organisations of universities and research organisations together (VSNU, the KNAW, NWO). This protocol provides both the procedures for assessing the quality of research and the criteria which are used. The main criteria are quality (international recognition and innovative potential), productivity (scientific output), relevance (scientific and socio-economic impact) and vitality/feasibility (flexibility, management, and leadership). The protocol states that all universities are obliged to evaluate their research activities every three years. Additionally, every six years an external committee – completely independent of the research institutes involved – assesses these research activities. The external assessment covers both the content of the research programme and the management, strategy and mission of the research centre where it is carried out. The evaluation protocol provides the possibility to assess one or more research institutes within the same university or for comparison with similar institutes in the Netherlands and/or abroad. The results are made public, serving the accountability. And they are also used as a management tool by institutes. In conclusion, assessment of research quality is still very much performed by the sector itself.

Assessment by students

223 In quite a different way we see quality assessment by 'consumers' (students)¹¹⁹ in the "Keuzegids Hoger Onderwijs", mentioned in Chapter 8 under 'student information'. The Keuzegids is an annual overview of all programmes in Dutch tertiary education, aimed at future students. The origin of the information in this guide is a large survey among students in tertiary education programmes, in both hogescholen and universities. Students assess the quality of their programme on a standardised number of topics. In this way the Keuzegids not only gives information on (aspects of) the quality of a programme for students but it is also a benchmark instrument for the institutes themselves. From January 1st 2005 the database containing the evaluative information on programs is also available on the internet via www.studiekueze123.nl.

¹¹⁹ Apart from this form of quality assessment, the opinion of students is also incorporated in the programme reviews in the context of accreditation.

9.2 Results and conclusions

224 The 'peer review' system of quality assurance, largely organised by the sector itself, in which the principles of self evaluation and peer reviews come together, has led to a greater awareness of quality in the institutes. The transparency of quality statements has been enhanced by the public character of the outcomes of peer reviews as well as the public information aimed at future students in the Keuzegids Hoger Onderwijs (based on surveys and these reviews). According to some critics, the change to a system of accreditation will eventually lead to a focus on a 'minimum' level, instead of striving for constant improvement. However, the criteria for accreditation include an obligation for each programme to constantly improve itself, based on the opinions of staff, students, alumni and the professional field. Programmes will have to prove improvement.

225 The new format for accreditation was intended to have a more rigorous effect than previous arrangements, in terms of preventing inadequate performance in education. Experience with this new format reveals that it is interpreted more in terms of process than in terms of level and content. It also appears to generate unintended bureaucracy. This situation was recently recognised by the parties involved and resulted in proposals for both short term improvements within the current legislation and improvements which will come into effect with the new legislation. For the longer term the possibility of quality assurance at the level of institutions will be investigated. A white paper to this end will be published this summer.

The system of obligatory quality assurance of all programmes is one of the most severe ones known. On one hand it improved the quality of education; on the other hand NVAO and higher education institutes (and government) now join hands to get rid of bureaucracy.

226 Evidence of the quality of Dutch tertiary education is found in several international university rankings¹²⁰. The overall quality of Dutch higher education in international perspective may be described as 'consistent, just under first rank'. Dutch institutes of higher education do not measure up to some Ivy League universities in the USA, for example. In some areas, they do perform in the first rank in a European context (10 of 13 universities in the European top 100, 12 of 13 appear in World top 500¹²¹). And, moreover, the differences between universities are relatively small; the quality assurance system ensures that *all* institutes provide a respectable level of quality.

227 Another aspect of quality to be discussed is efficiency. This may be assessed by reviewing the 'graduation ratio': the relationship between the number of graduates and the number of enrolments in a specific cohort. In the HBO sector about 40% of those enrolled graduate within four years (the nominal length of any HBO programme), and about 60% graduate within six years. Universities have fewer graduates: only 10% of those enrolled are awarded their degree within the nominal period, and about 40% within two years after the nominal period (rising to 50% one year later).¹²² Differences in efficiency are considerable, especially in the university sector: the field of healthcare provides a higher graduation ratio than average (65% graduates within the nominal period plus two years), the fields of technology, law and languages/culture have the lowest graduation ratio (40-45% graduate within the nominal period + 2 years). Since the mid-nineties these numbers have risen gradually, especially in the university sector. This is probably partly due to stricter regulation in the field of financial student support.

228 The performance of the publicly funded higher education institutions is monitored, not only by compiling peer review data, but also by compiling various other data provided by the institutes. Since 2005 data per institute are compiled and made available publicly in a brochure *Kennis in Kaart*, which could be translated as, Knowledge mapped out. This is an instrument for government and institutions, who jointly compile it, to show performances of the Dutch higher education institutions.

¹²⁰ International comparisons usually focus on universities with a research component; therefore hogescholen are usually not listed in these rankings.

¹²¹ Source: Shanghai Jiao Tong University, Institute of Higher Education, *Academic Ranking of World Universities 2004*.

¹²² Source: Ministerie van OCW (Ministry of Education), *Kennis in Kaart 2005*.

9.3 Relevant documents

ASSR/Ivlos	Foreign peer reviewers about the quality and added value of Dutch research schools.	2006
Bologna working group	Bologna process stocktaking	2005
CHEPS	Kosten per student	2004
Choice	Keuzegids hoger onderwijs	yearly in october
CHEPS (e.v.a.)	Evenwicht zonder sturing; wegen voor nieuw hoger onderwijs en wetenschap deel 1	2005
CHEPS	Research Prestatiemeting; een internationale vergelijking	2005
EIM	Kern van de kenniseconomie Een sterkte-zwakteanalyse van vier opleidingen in het Nederlandse hoger onderwijs	2004
HBO-raad	Brancheverslag HBO	2005
Inspectie van het Onderwijs	Onderwijsverslag 2003-2004	2005
Ministerie van OCW	Kennis in kaart 2004, 2005	2004
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	Prestatieagenda OCW HBO-raad	2005
Minister van onderwijs	koers op kwaliteit	2004
Merit	The Brain-Drain - Emigration Flows for Qualified Scientists	
nvaio	Site van de NVAO	
Nederlandse federatie van universitair medische centra	Onderzoek onderzocht	2005
SEO	Buitenlandse beoordelaars over de kwaliteit en meerwaarde van de Nederlandse onderzoekscholen	2005
sjanghai jiao tong university	Top 500 world universities	2005
times	Times higher education supplement; world university rankings	2004
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004
VSNU/Quanu	Standaard evaluatie protocol	

10.1 Situation

229 Like many western European countries the Netherlands have always been very internationally oriented; both in interest in foreign cultures and the subsequent mobility of the Dutch abroad, and in the willingness to allow foreign cultures and people to come in. In tertiary education and research this also has been the case for decennia. Data are presented on a number of subjects so that the position of the Netherlands in this respect can be discussed:

- Position of the Netherlands higher education in international comparison.
- International mobility.
- Comparability and recognition of qualifications.
- International orientation of institutes in the HE field.

Position of the Netherlands in international comparison

230 Science has no borders. International competition for talent is keen and the content of courses is, to a considerable extent based on knowledge of the international scientific community. International comparisons of the quality of institutes and courses are based on the quality of research programmes. Because of the fact that research is best developed in the universities (and of course other research institutes), the international position is primarily based on the position of universities. The general picture can be derived from a number of publications containing international comparison like “Science and Technology indicators 2003” and “EU key figures 2002”. The score of the Netherlands is good to excellent. The number of scientific publications per million inhabitants is 1021 and quite above the average score of 673 for the EU total. When one considers the impact of scientific productions the Netherlands is among the world top¹²³. In terms of the number of application for patents the score for the Netherlands is considered to be good.¹²⁴ When looking at the rankings, such as the Academic Ranking of World Universities 2005¹²⁵ or the Times Higher Education Supplement (2004)¹²⁶ the position of Dutch institutes is good. Many of our universities are found in the top 200, however there is no presence in the absolute top. The input figures for the tertiary education system reveal a modest score. The number of researchers per 1000 inhabitants is 5.2 whereas countries like Germany and France (6.6) Japan (9.1), Sweden (10.1) and Finland (13.7) have (much) higher numbers. The total annual investment in education is just below EU average¹²⁷ and investment in research is well below OECD average¹²⁸. The more general picture is, that, in comparison to OECD or EU countries, investment is relatively modest but the output is good and in some cases excellent.

International mobility

231 The mobility of students (and teachers) is one of the most visible aspects of international orientation of higher education institutes. Mobility can be considered from two sides; the number of students coming into the country and the number of Dutch students going abroad. The figures quoted the number of foreigners among all students are taken from the OECD database and the most recent year is 1999. These figures indicate the number of foreign nationalities among students in the Netherlands. The numbers of foreign students is well below OECD level and is a fraction of the figures shown by countries such the UK, Belgium and Germany¹²⁹. More recent (and detailed) figures have been found in another source: the Bison monitor published by Nuffic. They show that the average percentage of foreigners has

¹²³ This score is based on a citation score.

¹²⁴ There are 279 applications per million inhabitants with an EU average at 165. Only Sweden, Finland and Germany have a higher score (within Europe).

¹²⁵ Highest position 41 (Utrecht).

¹²⁶ Highest position 64 (Rotterdam).

¹²⁷ As a percentage of the gross national product.

¹²⁸ The average score for OECD countries is 2.33% of the gross national product. The score for the Netherlands is 1.94%.

¹²⁹ Third European report on science and technology indicators 2003 page 232.

grown from 2.98% in 1999 to 4.04% in 2003. The number of foreign students in universities is higher (5.6%) than in hogescholen (3.17%). Both figures have grown steadily over the reported years¹³⁰. These figures are based on the registration by the IB groep. Only students who have officially registered for a full year course in the academic year concerned (registration date in autumn) are counted. Apart from this registered mobility there is other mobility; Erasmus students and other exchange students. Considering these figures the total number of foreign students in the Netherlands comes to a total of 7.16%¹³¹. There are more recent indications, however, that the number in hogescholen has dropped and the number in universities has stabilised over the last two years. Among PhDs we see a growing number of foreigners, from the EU but also from Asia and the Americas. There are no exact figures but there are clear indications that the number of foreign PhD students is 20% now; and this is especially high in science, technology and economics¹³². The number of Dutch students going abroad is not given on a yearly basis. Estimations indicate that about 6% of the hogeschool students and 6.6% of the university student participate in some kind of mobility per year. This leads to quite large numbers of students who have some kind of foreign experience before graduation (25.9% of hogeschool graduates and 39.2% of university graduates). In other words it is quite common for students to gain some sort of foreign experience during their study.

In a report on international mobility of knowledge workers it is shown that about 25% of the knowledge workers at universities are foreign but the percentage on hogescholen is far lower; 3%. Looking at the knowledge workers at universities it is clearly stated that international experience is quite common. 38% of all knowledge workers at universities have stayed for a period in a foreign country in the last 5 years. In more than 60% these were European countries (Germany, France, UK and others) and in 40% of these cases this was the USA¹³³.

Comparability and recognition of qualifications

232 In order to participate in internationalisation there are various items to be considered. One of the key elements is comparability of tertiary education systems. The Netherlands participates fully in the Bologna process by implementing the two cycle system of bachelor and master courses in higher education and by introducing the ECTS/DS system¹³⁴. Last year 90% of all the old courses in higher education were adapted to new bachelor or master courses. This process will continue. In the academic year 2005-2006 practically all new students will enter higher education in new bachelor courses. This was recognised at the Conference of Ministers in Bergen¹³⁵ last May.

233 Another important prerequisite for this process of recognition is a developed and implemented system of quality assurance. The sector itself has a long history of quality assurance. In 2004 a newly evolved system was introduced in which accreditation is the key word. More information is presented in chapter 9.

234 The third element is the recognition of credits and degrees. Here again the Netherlands participates fully in the Bologna process.

International orientation of institutes in tertiary education

235 Looking at the websites of Dutch universities and hogescholen a department of internationalisation and information in English will nearly always be found. The entire system seems to stress the importance of international orientation of content and curricula and the mobility of students. The Nuffic assists the institutes in their policy and practice in internationalisation. No systematic study of international ac-

¹³⁰ Bison Monitor page 49.

¹³¹ Bison monitor page 53.

¹³² EIM has conducted an internet survey among PhD students in the Netherlands with a large response (over 2700). 20% of the respondents chose the English version of the questionnaire.

¹³³ RvB Internationale mobiliteit van kenniswerkers IOV Nuffic. Some people go to more than one country; therefore total don't sum up to 100%

¹³⁴ European Credit Transfer and accumulation System with Diploma Supplement

¹³⁵ The report of a working group "Bologna stocktaking process" page 90 Bologna scorecard Netherlands.

tivities has yet been found, however. International activities are an integral part of the activities of HE institutes. In the figures on which the 2004 HOOP (national policy document) is based it is evident that there are considerable differences between institutes concerning the number of foreign students¹³⁶. Whether or not this is a result of the international orientation of institutes is not clear. One of the more visible aspects of international orientation is the aspect of language. Dutch is clearly a very small language in the world and in order to attract foreign students courses should be taught in English. Of course, the Netherlands are not in the position to compete with English speaking countries like the USA, the UK and Australia. But with more than 1000 courses in English the Netherlands are one of the leading nations¹³⁷. And that number is growing.

10.2 Policy

236 National policy makers are very much aware of the importance of internationalisation. The 1999 Lisbon declaration is the beacon for the international ambitions. In 2010 the European economy must be the most powerful in the world. Knowledge is considered to be a key aspect of this development. The quality of this knowledge, therefore the quality of education and research should be optimised. Participation in higher education should be increased. The Netherlands have the ambition to be among the advanced countries within Europe. This ambition is very clearly stated in the 2004 HOOP document. The Netherlands should be participating in the international top in higher education and research in order to attract the best students and the best staff. The Dutch higher education system is, therefore, an essential condition for the international economic competition of the Netherlands. The higher education and research institutions in the Netherlands should be facilitated to have the best students and the best personnel in the market

237 Dutch policy was most recently presented in the 2004 document “Koers op kwaliteit; internationaliseringsbrief hoger onderwijs” and the state of the art of the developments were presented in a letter to the parliament on June 13, 2005. There are 4 major themes in the policy of internationalisation

- Strengthening European higher education.
- Mainstreaming internationalisation within institutes.
- Gaining a position at the top.
- Brain circulation.

Strengthening the European higher education

238 The Netherlands participates fully in the Bologna process and will continue to do so. The Netherlands also participates in achieving better international cooperation on quality assurance policy. The Dutch system of quality assurance is already international but there is a need and a desire for further international tuning of activities.

Mainstreaming internationalisation within institutes

239 In the last decade the attention for internationalisation at the institutes grew. Still many institutes are regionally, not even nationally, oriented let alone internationally oriented. This should change in coming years. Instead of an additional aspect of institutional policy of institutes, internationalisation should be the mainstream. Institutes should be able to establish courses for joint degrees with foreign institutes. The law (WHW) will be changed in order to make this possible, and the national procedures of accreditation will be made comparable to those of other accrediting agencies. The expectation is that the introduction of the bachelor master system will increase the possibilities of international mobility. The length of master courses is a topic of interest; there is evidence of some international variety in this respect. Foreign master courses are very often 2 years while many Dutch courses are 1 year. This may need attention in the coming years.

In practice master programmes for medical doctors, veterinary surgeons and pharmacists have a study load of 180 ECTS (3 years). Master programmes for teachers at higher secondary level (1st degree teach-

¹³⁶ Kennis in kaart 2004 gegevensbasis HOOP page 85.

¹³⁷ Nuffic Bison monitor 2003 page 55. An earlier Bison monitor showed the number of 600.

ers) vary in study load from 120-180 ECTS. In the fields of science and technology, dentistry and philosophy master programmes have a study load of 120 ECTS. Recently master programmes specifically oriented at a research career have been introduced; they also have a study load of 120 ECTS. Other master programmes have a study load of 60 ECTS. There is however the possibility of flexibility for the institutes.

240 Institutes should be facilitated in both attracting top quality foreign (and domestic) students as well as sending their students abroad. Obstacles to attracting students and personnel from abroad (such as difficulties in obtaining residence permits, accommodation and work permits) need attention.

Gaining a position at the top

241 In some disciplines Dutch institutes are world top and the ambition is to be world top in more disciplines. Public policy is directed towards establishing several centres of excellence in specific areas especially with international students as the target group. But apart from actually being world top, establishing a reputation as a leading and therefore interesting nation in terms of education and research is equally important. The image of the Netherlands in this respect is not prominent. National policy is directed towards improving this. Communication strategies will be improved and as the English did almost a decade ago, a brand mark for the Netherlands will be developed. It goes without saying that the institutes as well as the ministries (Economic Affairs, Education and Agriculture), research institutes, the business community and Nuffic will be involved.

Other drawbacks for the Netherlands may be tuitions fees which are relatively high compared to other European countries and the immigration requirements.

242 The Netherlands have established so called NESO's (Netherlands Educational Support Office) in five countries. NESO's provide information about Dutch tertiary education in the country where they are located. It has become clear that more countries are interesting for the Netherlands whether they are prominent in terms of innovation and scientific status or in terms of developing potential. Therefore Dutch presence of the Netherlands is required in many more countries. The NESO's as an instrument for promotion and cooperation will be evaluated in relation to the work of Embassies (Ministry of Foreign Affairs) and trade support offices (Ministry of Economic Affairs).

Brain circulation

243 The mobility of top students (and staff) is one of the central elements of education policy. Thanks to initiatives like the NESO's and a great diversity of grant systems a growing number of mobile students and postgraduates (incoming and outgoing) have been registered. The position of Dutch institutes will be strengthened. Therefore in the coming years institutes will be given the opportunity to attract top quality by offering "kennisbeurzen" (knowledge grants). A substantial amount (estimated € 20 million on a yearly basis) will be made available for this purpose. At this moment there is a considerable diversity of grant systems. The Nuffic website shows large numbers of private and public grants. In the years to come this diversity in public grants will be changed into a larger and more streamlined programme for incoming (80% of the budget) and outgoing (20%) students: the Huygens Scholarship Programme. The budget for this program will be € 5 million.

10.3 Results

244 The results of the policy so far were reported in a Ministerial letter to Parliament last summer¹³⁸. With respect to the topic of brain circulation The Huygens Scholarship Programme was installed to encourage brain circulation. It is administered by Nuffic and the first incoming students will be welcomed next year. A start has been made with increasing the number of Netherlands Educational Support Offices. Mid 2005 there were three offices in China, Taiwan and Indonesia. Later that year new offices will be opened in India and Vietnam. Preparations have been made to open offices in Thailand, Malaysia, Brazil, Russia and Mexico in coming years.

¹³⁸ 13 June 2005 Internationalisering hoger onderwijs Bergen communiqué en stand van zaken, internationaliseringsbrief.

The development of centres of excellence is in full speed. Universities and hogescholen have been invited to prepare proposals within the programme of “ruim baan voor talent”. Progress has been made on the subject of “knowledge grants”. Institutes are invited to participate but it is too early to tell whether or not this will be a success.

10.4 Conclusion and critical remarks.

245 The following conclusions can be drawn.

- So far the Netherlands had a relatively modest success in the process of internationalisation and the extent of student mobility. The number of foreign students is relatively low.
- The government has recognised this fact and has proposed a number of policy instruments to change the situation.
- With over 1000 courses given in English the Dutch institutes are very much involved in attracting foreign students.
- The Dutch system of tertiary education, although of high quality, is little known to foreigners and there is not a strong ‘corporate image’. The government is aware of this problem and procedures have been drawn up to encourage promoting the system.
- The policy of concentrating grant programmes and increasing the number of Netherlands Education Support Offices will probably be a good way of achieving these goals. Obviously these NESO’s should be working for and be in close contact with the HE institutes in the Netherlands. The HE institutes are the primary actors in this respect and should be facilitated by the NESO’s and the central government in order to be successful in the international competition for students and personnel.
- The Netherlands are participating fully in the Bologna process and both government and institutes have worked hard to adapt the old courses to meet the requirements of the new bachelor and master courses.
- The Netherlands have a long history of quality assurance, giving it a head start in the Bologna process.

246 Some critical remarks:

- The facts and figures of international mobility are documented in the BISON monitor. After analysing these figures, their meaning appears hard to specify. Little effort is made to relate the figures to policies of central government and the policies of the individual institutes. The monitor is therefore not sufficient as an evaluation of internationalisation policy.
- The fact that, in the future, institutes will not be publicly funded for non EU students as they are for EU students might be an obstacle for international mobility. Institutes are free to charge students tuition fees; it is not known to what extent they will do this, or will use the new instrument of knowledge grants for this purpose. This process should be monitored carefully.
- Price might be an obstacle for international mobility. Although in total the price per student per year is relatively low, tuition fees are present and might be an obstacle for incoming students. Many of our neighbouring countries don’t have tuition fees which obviously is attractive for them.
- There are complains about the difficulties students encounter coming into the country. Restrictions in obtaining residence permits and longer and more expensive administrative procedures are obstacles for foreigners wishing to enter the country or to extend their stay¹³⁹. This all has changed for the worse in recent years with. The IND, responsible for procedures of admittance to the Netherlands, is the public organisation about which most complaints have been received and the number of complaints is rising¹⁴⁰. Complaints have been noticed from within the HE institutes. Whether or not this is a clear threat to the mobility of students cannot be specified on the basis of the current information. However the noises heard are more than enough reason to take notice.
- Old courses have been changed into new bachelor and master courses. The development of master courses however is still very much in progress. Many master courses are provided in the English

¹³⁹ The price of a permit is € 433 (autumn 2005), and has risen over the last years.

¹⁴⁰ Jaarverslag nationale ombudsman page 17.

language. It is largely unknown whether or not these courses will be popular among Dutch and foreign students. The VSNU is monitoring this process carefully.

10.5 Relevant documents

Adviesraad voor het Wetenschaps- en Technologiebeleid	Academia in the 21st century. An analysis of trends and perspectives in higher education and research	2004
Bologna working group on qualifications	Qualifications	2005
Bologna working group	Bologna process stocktaking	2005
Centraal Plan Bureau	Nederlands onderwijs en onderzoek in internationaal perspectief	2005
Centraal Plan Bureau	The market for higher education	1999
CHEPS	Sta niet met je rug naar de grens, eindrapport evaluatie Regeling stimulering grensoverschrijdende samenwerking hoger onderwijs 1997-2000,	2002
CHEPS	Positioneringsinstrumenten Eindrapport Evaluatie NESO en DELTA 2003	2003
CHEPS (e.v.a.)	Evenwicht zonder sturing; wegen voor nieuw hoger onderwijs en wetenschap deel 1	2005
EIM	Kern van de kenniseconomie Een sterkte-zwakteanalyse van vier opleidingen in het Nederlandse hoger onderwijs	2004
Europese ministers van onderwijs	the European higher education area- achieving the goals	2005
Ministerie van Economische zaken	De Innovatiebrief	2003
Ministerie van OCW	Kennis in kaart 2004, 2005	2004
Ministerie van OCW	Zonder kenniswerkers geen kenniseconomie. Achtergronddocument bij kabinetsnota	2004
Ministerie van OCW	Naar een nieuwe Wet op het hoger onderwijs en onderzoek	2005
Ministerie van OCW	HOOP, Hoger Onderwijs en Onderzoek Plan 2004	2004
minister van onderwijs	brief internationalisering hoger onderwijs	2005
Minister van onderwijs	koers op kwaliteit	2004
Ministerie van OCW	Onderwijs voor wereldburgers	2001
Ministerie van OCW	Kennis; geven en nemen. Internationalisering van het onderwijs in Nederland	1999
Ministerie van OCW	Onbegrensd talent internationalisering van onderwijs	1997
Ministerie van OCW	Actieplan onbegrensd talent	1998
Merit	The Brain-Drain - Emigration Flows for Qualified Scientists	
Nuffic	Bison monitor van internationale mobiliteit in het onderwijs 2003	
Nuffic	The education system in the Netherlands	2004
OECD	Education at a glance 2005	2005
OECD	Innovation Policy and Performance: A Cross-Country Comparison	2004
Onderwijsraad	Hoger onderwijs: meer kenniswerkers en betere kennisbenutting	2004
Onderwijsraad	Bekostiging hoger onderwijs	2003
Nationale ombudsman	Jaarverslag nationale ombudsman 2004	2005
Research voor Beleid	Evaluatie Regeling stimulering van internationale samenwerking van hogescholen 1997-2000	2004

Research voor Beleid	De internationale mobiliteit van kenniswerkers	2004
sjanghai jiao tong university	Top 500 world universities	2005
times	Times higher education supplement; world university rankings	2004
VSNU	Alliantie; Branchejaarverslag universiteiten 2004	2004
VSNU	Ontwikkeling bachelor en master ingeschrevenen per hoop gebied en instelling 2000-04	2005

11 CONCLUSION

247 The main conclusion of this review is that the Netherlands have an elaborated and well balanced system of institutes who perform well under the given circumstances. Good value for money is one of the main characteristics of the entire system. In international benchmarks of institutes Dutch universities rarely reach the top but perform well on a broad scale of disciplines and institutes. The research output in terms of citations the Netherlands are at the top on a global scale. A growing number of students is participating in tertiary education and given the inflow from secondary education the situation is optimal. Although financial input in the tertiary system is modest, the output and quality is quite good. The system has been able to absorb the growing number of students, in general and in terms of gender and diversity. The growing number of female students has led to an optimal situation of nearly full participation of women and a 50-50 relation in participation. In terms of diversity the system has been able to almost double the number of non-western students in a period of 7 years. This progress, although considerable, is only the beginning of the road to optimising the position of non-western students in tertiary education. The layback in relation to Dutch students is still considerable.

248 There is however still some reason for concern. The results in terms of the number of students that actually graduate and the speed by which they reach graduation should be better. This is more a problem for male than for female students. Probably correlated with that is the fact that intensity of studying should improve. The average time spending of a student in tertiary education is 29 hours at universities and 35 hours in hogescholen and altering this figure could improve results in terms of quality and speed.

249 The labour market situation of graduates from the tertiary system is quite good. Although the economic situation of the last few years shows a growing percentage of unemployment among graduates, the figure however is well below 5% and that is lower than other levels of education. There are however some concerns about the supply of graduates in specific disciplines. The supply of graduates from science and technology is far below the OECD average and a growing number of employees in this field are from foreign origin. Universities, research institutes and international businesses recruit their workforce on a global scale, partly due to insufficient supply within the Dutch borders. Policy is directed toward changing this situation and a specially established platform is working on this by stimulating the interest in science and technology at all levels of education. It is too early to tell whether or not this initiative will be successful.

In the fields of public services, health care and in (primary and secondary) education, the demand of workers is expected to become larger than the supply (as it was in the period until 2002). In these fields, government concern is transformed into action with different results. The number of trainees for teaching in primary education has risen due to investments in advertising. The number of medical students has risen spectacularly due to government investments. But the number of teachers in secondary education as well as the number of (specialised) nurses is a major concern for the near future.

250 There is a growing awareness of the importance of innovation within the ambition of being a prominent knowledge society. The transfer of knowledge from universities, hogescholen and research institutes, is to be improved. The main observation is that the quality of knowledge is good but the utilisation of this knowledge within companies is not optimal. In the last five years a number of initiatives have been taken, both on a governmental level and in individual institutes, to improve the relations with the professional world. Knowledge vouchers have been a success and a lot of firms have been using these vouchers for "buying" knowledge from knowledge institutes. Another subsidy regime by the Ministry of Economic Affairs aiming at the improvement of investments in R&D seems to be very efficient. Knowledge circles and lectors (hogeschool) have increased over the last decade, intensifying the relations between institutes and companies. Practically all individual institutes have taken initiatives to improve the relation with companies, by establishing special information centres for entrepreneurs and incubator facilities for innovative starters. But there is still a lot of work to do. Central government, by installing the innovation platform, has emphasized that innovation is a major challenge for the future. Knowledge institutes are a central partner in this ambition.

251 Dutch policy is directed to enlarge the autonomy of institutes and to strengthen the position of students. The new law that is prepared at this moment will facilitate all that. The new system of learning rights will combine the pressure on students to graduate in time and focus spending of public money on the actual education process of a student. It also strengthens the position of students because they will be the ones to express their demand for educational services. This demand-driven focus on students will thus be expanded but limits will be set. The professionals will continue to play an important role in the supply-side of the educational system to ensure the cohesion of the curriculum. Involvement of employers will ensure the relevance to the labour market. Thus the egalitarian landscape of higher education is supposed to change into a diverse landscape, especially geared to fostering excellence.

252 The Netherlands are very eager to improve the international position of the tertiary education system. The new bachelor master structure has been introduced in 2002 and the system is nearly completely implemented. In terms of quality assurance and other criteria the Netherlands are participating strongly in the Bologna movement. Apart from that, the Netherlands have started a major improvement in positioning the Dutch system on the world market of higher education. Quality itself is an important advocate but instruments like the Netherlands Educational Support Office and a well balanced system of grants are important tools to improve this situation. The institutes have improved international access to the programmes by raising the number of English spoken courses by more than thousand.

253 Quality assurance is a regular feature of the Dutch Higher Education system. Quality assurance of research is handled by the universities in interaction with the KNAW (Royal Academy of Science) and NWO (Research Council). All research is peer reviewed at regular intervals. The results of the peer reviews are input at the level of university management. Together with the competitive division of research council funds, there is adequate steering on quality of research.

254 Regarding quality assurance of education the system of obligatory quality assurance of all programmes is one of the most severe ones in Europe. On one hand it improves the quality of education; on the other hand the generation of unintended emphasis on procedures and data, instead of levels and content was recently recognised and NVAO and higher education institutes (and government) now join hands to get rid of this bureaucracy.

255 Apart from the NVAO, which checks the quality of programmes, there is an inspectorate of higher education. The inspectorate is an independent part of the ministry. Its task is to check if institutes abide with rules and regulations, and to oversee the functioning of the system. The minister uses it for researching situations in higher education when it receives signals of unwanted situations throughout the years. The inspectorate proposes its own work plan.

Furthermore the separate financial department of OCW, CFI, is responsible for execution of payment to the educational institutions and the required account. Moreover, the accountancy division of the ministry checks whether the expenditure of both ministry and institutions complies with the regulations.

This shows the number of actors involved with surveillance and control. The inspectorate, CFI and the accountancy division recently joined hands in “integrated control”.

A recurrent policy issue is a proper balance between autonomy and freedom of education on the one hand and necessary information, accountability and control on the other.

Thus far quality assurance results were also used to fill the database providing information on study programmes. It would be good to preserve this asset.

Annex I Executive summary

Key facts on the Higher Education System in the Netherlands (2004)

The higher Education system in the Netherlands is based on a three-cycle degree system, consisting of a bachelor, master and PhD. Until 2002, the first two cycles at research universities were combined in a single integrated cycle. The three-cycle system was officially introduced in the Netherlands at the beginning of the academic year 2002-2003, but degrees from the former, integrated system can be awarded until 2007-2009.

The Netherlands has a binary system of higher education, which means there are two types of programmes: research oriented education (wetenschappelijk onderwijs, WO), traditionally offered by research universities, and professional higher education, (hoger beroepsonderwijs, HBO), traditionally offered by hogescholen, or universities of professional education.

In the document the abbreviations WO or universities and HBO are used.

Kind of institute	Nr of institutes	Students enrolled
Universities (full research univ) (WO)	12 + 1 agricultural (under ministry of agriculture) + 1 Open University	197.900
Hogescholen (universities of professional education)	43	345.400
Privately funded providing h.e	62	Estimated 60.000-70.000

- HBO bachelor degree after 4 x 60 ECTS (4 years) after successful completion of 5 years general secondary education (havo).
- WO bachelor degree after 3 x 60 ECTS (3 years), after successful completion of 6 years general secondary education (vwo).
- Master degree after successful completion of programmes of 60 – 120 (sometimes 180) ECTS dependent on subject and profile.

In vocational education there is level MBO IV (senior secondary vocational education). It gives access to HBO, and sometimes exemptions for subjects in the first year of HBO, dependent on the subjects. On the basis of such exemptions, the level of students having graduated from MBO IV could be interpreted as just having reached the level of higher education.

In general

- Hogescholen are publicly funded and educate up to bachelor, incidentally up to master degree.
- WO funding also includes fundamental research; education includes the doctoral level (PhD).
- Average hours per week spent on study by full-time enrolled students HBO 35 hrs, WO 29 hrs.
- Completion rate average 65%
- Duration of study average HBO ca 4,5 year WO ca 6 years (up to master in previous one tier structure)

In 2002/2003 the Netherlands introduced the Bachelor – Master structure.

Quality assurance of education is at the level of programmes.

Via internal evaluation, external peer reviews and accreditation on the basis of the results of these. Accreditation is required of new programmes and of existing programmes every 6 years. Accreditation of a programme is a prerequisite for registration of programmes.

Students enrolled at registered programmes are eligible for public grants and loans. Each student receives a basic grant and a public transport card and is entitled to a loan (interest rate of public lending of

money some 2.5%). Means tested (parents income) are additional grants with the basic grant. The grant need to be refunded to the government in case the student has not completed the programme.

Research funding is partly via block grants/lump sum, partly via competitive proposals to the National research council. Only WO is eligible for funding via the research council.

Quality assurance of research is done via peer reviews organised by the Royal Dutch Academy of Science, in a 6 year cycle.

HBO research funding is via lecturers that lead a team referred to as “knowledge circle”. Research at hogescholen focuses on new application of existing knowledge in co-operation with industry. The research should be demand-driven and short-term applicable. This policy has started in 2004.

Expenditures on education per participant; MBO € 5.300, HBO € 5.100, WO € 5.000. (MBO number of students enrolled in 2004 is 161.800)

Regional development and role of tertiary education in research and innovation

In view of regional development and innovation and in response to and co-operation with industry (SME in particular) 11 short HE programmes will start in September 2006 in hogescholen, leading to an Associate Degree. From there progression to a Bachelor degree is possible.

Incubators etc are functioning.

A policy issue is the “knowledge paradox”. The research output, in terms of citations is at the top on a global scale. The quality of research is good. However, there is a gap between knowledge development and its use - or the possibility to use it – within companies.

Achieving equity in and through tertiary education

Publicly funded HE-institutes have to admit all that qualify by successful completion of the previous level of education. All enrolled students up to 30 years of age are eligible for student funding, plus means tested additional funding.

Female – male ratio in students is 1:1; in higher education staff males are dominant in the senior posts, especially in WO. (There are 5.5% females in governing boards).

Progression onto higher education from minority groups and lowest income groups is monitored. The transfer of minority groups from general secondary education onto higher education is relatively high, but recent data tend to reveal that their success rate is relatively low, which is an issue for further study.

Funding (figures x 1,000,000)¹⁴¹

Expenditures on grants and loans € 3,077.0, revenues € 386.0, overhead € 90.7

Operating expenses 12 universities total € 4,475.2,

Revenues € 4,502.8 of which

Government grants (including research)	€ 3,049.4
Tuition fees	€ 247.1
Revenues from contract work	€ 801.1
Other revenues	€ 405.2

Expenditure other research institutes (government funded) € 813.3 of which ca € 300.0 annually is distributed to universities by NWO (Research funding council) in competition

Operating expenses 43 hogescholen € 2,298.4 Revenues € 2,369.7 of which:
government grants € 1,606.4
tuition fees € 423.9

¹⁴¹ OCW Key Figures 2000 - 2004

revenues from contract work	€ 163.2
other revenues	€ 176.2

More females in governance and senior staff is an issue in WO.

Some argue for more funding of higher education. The debate is from where and how, thus the thinking is geared to finding new balances between public and private funding.

Planning, governing and regulating the system

The goal of the Netherlands is to have a system in which every Dutch student who finished secondary education can progress to higher education and obtain a qualification. The qualification is to be relevant for society, including employers. Only for medical programmes the number of places is limited by the government. Students wishing to enrol in such programmes are largely selected by weighed lottery. Potential students can make an informed choice. Since Jan 1st 2006 also from a database in which data on quality of programmes are made accessible (www.studiekeuze123.nl).

Policy development takes place via open debate with stakeholders: branch organisations of HBO- and WO -institutions, students and employers.

Self steering instruments are applied where possible (formula funding, quality assurance via accreditation of programmes).

Higher education institutes have autonomy for

- spending of formula funding received from government
- personnel
- buildings

The new legislation furthers horizontal accountability to stakeholders and profiling of higher education institutes. Movements are allowed and intended:

- Towards greater diversification within the binary system.
- From education at a comparable level and content in all universities to profiling of universities, also in combination or competition with hogescholen.
- From good levels of education and research in all universities to excellence in some more than at present.
- From accountable to the government to also the obligation to taking care of employers and students (make it more demand driven).

The government stimulates to foster excellence in various ways. One of these is pilots being allowed, subsidized and in progress (since September 2005) in which universities may select students before entrance to higher education (legally Higher Education Institutes are obliged to admit all students who wish to register for a set fee). These pilots (ca 20 programmes) offer programmes with added value, which implies intensified education and a more demanding curriculum. The universities are allowed to ask a higher fee for the excellence route.

Because of employers demand short programmes in he will be offered from September 2006 onward. HBO 120 ECTS, graduates obtain the Associate Degree and will have the possibility of progression onto a Bachelor degree.

Ongoing policy debates on:

- 1 Value for money and more money from public or private sources? It is considered fair that each Dutch citizen is facilitated to obtain a qualification in higher education. Up to the present this holds for the Bachelor and the Master. Graduates will earn relative more so it is considered fair that they invest privately in their education. Students going for second bachelors or masters should pay privately, hence the legislative proposal for student learning entitlements.
- 2 Degree titles. A WO-graduate, or rather a student trained in connection with research, is entitled to the degree of ba/ma of arts/science; whereas HBO-graduates, trained in connection to a profession, are not entitled to add such a suffix to their degree.

- 3 Most efficient providers “Open bestel”. Question is whether publicly funded higher education institutes are the best providers, and would it be possible to provide public funding following a student, even if the programme is provided by a privately funded institution. Experiments are in preparation. (Most publicly FUNDED higher education institutes are privately FOUNDED.)

Internationalisation and globalisation

It is an intrinsic part of teaching and research. The government provides for additional grant schemes, mainly to attract excellent students from abroad.

Policy emphasis since the Lisbon goals is on transferring from an equal level of education throughout all institutes to furthering excellence and profiles in institutes.

Research masters have been introduced (120 ECTS in WO).

Annex II List of relevant organizations and their websites

- Adviesraad voor Wetenschap en Technologiebeleid (AWT) Advisory Council of Science and Technology Policy www.awt.nl
- Algemene Onderwijs Bond (AOB) (in English Trade union for employees in educational institutes) www.aob.nl
- BVE-raad (council of institutes in vocational education) www.bveraad.nl
- Centraal Plan Bureau (CPB) (In English; Central Planning Agency) www.cpb.nl
- Centraal Bureau voor de Statistiek (CBS) (in English; Central Bureau for Statistics) www.cbs.nl
- ECHO (Center for diversity policy) www.echo-net.nl
- HBO-raad (council of hogescholen) www.HBO-raad.nl
- Informatie beheer groep (IB-groep) www.ib-groep.nl
- Innovatieplatform (Innovation platform) www.innovatieplatform.nl
- Inspectie van het onderwijs (education inspectorate) www.owinsp.nl
- Koninklijke Nederlandse Akademie van Wetenschappen KNAW) (in English; Royal Netherlands Academy of Arts and Sciences) www.knaw.nl
- Ministerie van Onderwijs, Cultuur en Wetenschappen (OCW). (in English; Ministry of Education, Culture and Science) www.minocw.nl
- Ministerie van Landbouw, Natuurbeheer en Visserij (LNV) (in English; Ministry of Agriculture, Nature and Food Quality, Nature and Food Quality www.minlnv.nl
- Ministerie van Economische Zaken (EZ) (in English; Ministry of Economic Affairs) www.minez.nl
- MKB-Nederland (Dutch employers organisation for small and medium sized enterprises) www.mkb.nl
- Mobiliteitsfonds HBO (social fund for the hogescholen) www.mobiliteitsfonds.nl
- Nederlandse Federatie van Universitaire Medische Centra (NFU) (council of academic medical institutes) www.nfu.nl
- Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO) (in English; Netherlands Organisation for Scientific Research) www.nwo.nl
- Nederlands Vlaams Accreditatie Orgaan (NVAO) (Accreditation Organisation of The Netherlands and Flanders) www.nvaio.net
- Nederlandse Organisatie voor internationale samenwerking in het hoger onderwijs (NUFFIC) (in English; Netherlands organisation for international cooperation in higher education) www.nuffic.nl
- Onderwijsbond CNV (Trade union) www.ocnv.nl
- Onderwijsraad (advisory board on education) www.onderwijsraad.nl
- PAEPON (consul of institutes non funded) www.paepon.nl
- Platform Bèta en Techniek (platform for science and technology) www.deltapunt.nl
- Sector Bestuur Onderwijsarbeidsmarkt (SBO) (Social fund for the entire education sector) www.sboinfo.nl
- Senter Novem, (Agency of the ministry of Economic Affairs) www.senternovem.nl
- Sociaal Economische Raad (SER) (in English; social economic counsel) www.ser.nl
- Sociaal Fonds voor de Kennisector (SoFoKLes) (social fund for universities, research institutes and academic medical centres www.sofokles.nl
- Vereniging van Samenwerkende Nederlandse Universiteiten (VSNU) (council of universities) www.vsnu.nl
- VNO-NCW (Dutch employers organisation for large enterprises) www.vno-ncw.nl

Annex III Flow of students between institutes

The following tables provide the number of students who remain within the tertiary education system but switch from one institute to another, both in absolute numbers and as a percentage of the total number of students in a specific year. The numbers are specified for universities and hogescholen separately.

Universities

Year	Total number of students	Change of institution in year Y+1	Relative number of changing students
1992	189715	1644	0,9%
1993	186883	1643	0,9%
1994	185023	1575	0,9%
1995	177805	1410	0,8%
1996	166376	1463	0,9%
1997	160850	1771	1,1%
1998	160759	1902	1,2%
1999	163303	1966	1,2%
2000	166704	2107	1,3%
2001	173506	2396	1,4%
2002	180350	2528	1,4%
2003	189796	2756	1,5%

HBO institutes

Year	Total number of students	Change of institution in year Y+1	Relative number of changing students
1992	258631	6401	2,5%
1993	266911	6325	2,4%
1994	270112	6998	2,6%
1995	270565	6797	2,5%
1996	274807	7444	2,7%
1997	279905	7573	2,7%
1998	288625	8032	2,8%
1999	303235	9277	3,1%
2000	312700	9658	3,1%
2001	321512	9982	3,1%
2002	322972	9891	3,1%
2003	335650	11097	3,3%

Source: *one number higher education 2004, version 2.3*

Definitions:

- Total number of students: the number of students registered on October 1.
- Change of institute in year Y+1: registered in institute X in year Y, registered in a different institute in year Y+1 and not registered in institute X in year Y+1.

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Annex V Summary of the Explanatory Memorandum on the Wet Hoger Onderwijs en Onderzoek (WHOO), Higher Education and Research Act

Introduction

The new Higher Education and Research Act will introduce a new form of governance for the higher education sector: the government will further distance itself to allow the institutions more room. In line with the increased autonomy that the institutions will have, most of the provisions regarding internal management structures have been deleted in this proposed bill. This room will, however, have limits. The focus is now on the (horizontal) accountability towards internal and external interested parties: students, professionals (teachers/scientists), employers, society. Therefore, these stakeholders will get a stronger position in this act. From 2007 onwards students will get learning entitlements, employers are more involved and the position of the professionals will be safeguarded. Furthermore the task of universities for professional education will be expanded with a duty to carry out applied research aimed at professional practice. These proposals will enhance the quality of higher education and research and make higher education institutions (HEI's) play an even more crucial role in the Dutch knowledge society.

Students

With the introduction of learning entitlements from 2007 onwards the funding¹⁴² that an institution receives will follow the student to a large degree. Hogescholen and universities will have to do their utmost to attract and retain students. This increase in competition for the student will result in more tailor made, and higher quality, programs. The bachelor's-master's system furthermore ensures that students have an extra moment to make an informed choice in the educational path they wish to follow. If a student desires to move on, this should entail the least possible amount of administration. The government is responsible for clear, accessible information on the various programmes available in higher education so that courses can be compared with one another. The institutions are obliged to provide such information.

The demand-driven focus on students will thus be expanded but limits will be set.

The professionals will continue to play an important role in the supply-side of the educational system to ensure the cohesion of the curriculum. Involvement of employers will ensure the relevance to the labour market.

The contribution of students to higher education through participation in decision-making is crucial. A duty rests on the board to provide this participation in decision-making. But the central government does not prescribe detailed regulations and legislation; so that the content of the related responsibilities must be set down by the HEI's. The governing boards are obliged to keep the bodies involved in participation well informed. For decisions regarding the budget of the institution only a right of consultation is prescribed by law, for many other decisions there is the right of consent (the way students are informed about their rights and obligations, student surveys are organized as part of the internal system of quality assurance, etc). For participation in decision-making, no distinction is made between universities and hogescholen. Disputes will continue to be brought before a single independent tribunal. The supervisory board will monitor the entire process of participation in decision-making.

Institutions will gain more freedom through the reduction in the amount of regulations. To prevent the position of students from being adversely affected, students will be offered more legal protection. This means that there will be low-threshold internal complaints and disputes procedures that ensure diligent, transparent and unbiased treatment. Such treatment is in the first place aimed at finding practical solutions. The internal procedure must function independently and must be incorporated in the management regulations of the institution. If the internal disputes procedure does not function satisfactorily, there will be the possibility of appealing to an external, specialised judicial authority, the Higher Education Ap-

¹⁴² The new bill does not give access to public funding to new providers. In 2007 pilots will start to investigate which positive or negative effects will occur.

peals Tribunal. This tribunal acts swiftly, is directly accessible and treats all disputes arising from the act.

Higher education graduates have more to offer than an economic value alone. They should also play a role in social discussions and use their provocative and critical attitudes to direct social debate. Students move within a community of teachers, researchers and fellow students who shape and inspire them. For students this means that learning is a full-time activity and not a sideline. For this purpose the student support system will be enhanced to include the possibility of a loan from the government to pay their tuition fees. The amount of money they have to pay back will depend on their future income.

Professionals

If the Dutch higher education system desires to “deliver” high-quality graduates, the position of teachers and scientists (the professionals) must be secure. This position is safeguarded in the act in a number of ways.

First, the act contains a duty that the executive boards are to set conditions to ensure a sound educational and research environment. Moreover, the quality of teachers is given more weight in the accreditation procedure; programmes must be comparable to one another in this respect. Accreditation as a whole will focus more on the outcome of all the efforts and less on the process itself. For teachers, this means that the bureaucratic administration surrounding accreditation will be limited as far as possible. Furthermore, the key positions in education and research (professors, lecturers, examining boards and doctorate boards) will be regulated by law. Finally, the role of the examining boards will be strengthened.

The supervisory board will examine whether or not the position of the professional is sufficiently safeguarded and this will be set down in a governance code.

Employers

To guarantee close harmony between higher education and the labour market, the proposed bill sets down that the institutions are to consult regularly with the relevant sector or professional organisation about the content and relevance of the programmes concerned.

It is up to the institutions and their stakeholders to ensure an active contribution. A consultation structure imposed from the top down is not in harmony with the line of reasoning of this proposed bill which assumes horizontal accountability.

Higher Education Institutions

The Dutch higher education sector includes two forms of higher education: academic (WO) and professional (HBO) education. This new act continues this binary character of the Dutch system. But no distinction is made any more between universities (WO) and hogescholen as far as issues concerned not directly related to education and research (e.g.: governance, participation).

Due to the difference between hogescholen and universities, it is not possible to merge the two types completely. However, intensive cooperation between hogescholen and universities is possible. A merger of the legal entities that maintain the institutions is now already possible (a so-called management merger). This proposed bill allows for a far-reaching variant of this type of merger referred to as ‘management merger plus’. At the heart of this type of merger lies the aim of maintaining education and research within separate institutions while ensuring that the institutions concerned can act as a single institution in other respects. In this way, the institutions can themselves decide on the division of financial resources between them (with the exception of research funding). In addition, the choice could be made for a single executive board, a single supervisory board and a single participation in decision-making procedure. Students would, however, remain enrolled at one or the other institution and would receive their degree either from the university or from the hogeschool.

A university of professional education may submit a request for recognition as a university. Research funding is excluded although the *ius promovendi* (the right to confer doctorates) is acquired on recognition. Although this possibility is created by the proposed bill, the expectation is that not many such requests will actually be submitted. With their professionally-oriented character, hogescholen have their own nature and unique added value for society.

The proposal is to classify bachelor's and master's degrees into two types: *of science / of arts* and to add the subject to this title. University programmes will observe the first type and a subject may also be added. Degrees from hogescholen have the subject as the starting point and may include – and that's new – *of science / of arts* if the programme is sufficiently tied to research. This classification of degrees is a quality aspect which will be looked at during the accreditation process.

Institutions may provide programmes in cooperation with one another (joint degree). In this way, universities in the Netherlands can work together as well as with institutions abroad. The latter type of cooperation is an important tool for the further internationalisation of higher education. The NVAO will accredit such degrees in their entirety (at the programme level). Dutch quality standards will apply to the NVAO's assessment of international joint degrees.

Education

Participation in higher education continues to lag behind the labour market demand for graduates. Transfer rates from secondary education are almost at a maximum. In addition, the yield from Dutch higher education is moderate. Seen in a European perspective, the Netherlands occupies an average position regarding completion rates. If students were to make the correct choice straight away, premature leaving could be reduced. Finally, there is a need for top-talent – for people who excel in their field. Only in this way can the Netherlands develop the innovative strength it needs. The development of *honours programmes* at universities since the introduction of the bachelor's-master's structure is a good example of this. The expansion of participation in higher education must be found in the transfers from secondary education and the enrolment of employed and unemployed persons who can gain admission to higher education on the basis of their prior acquired educational competences.

To ensure the best match between student and programme:

- In some cases automatic admission will change in 'being considered as admissible'. This is the case for:
 - Students from senior secondary vocational education (MBO) who choose to follow an unrelated programme in a hogeschool.
 - Students who have completed the first year of a bachelor degree at a university of professional education (60 ECTS) and who wish to transfer to a university
- These categories of students have a significant higher percentage of premature leaving.
- Currently, a binding referral after the completion of the first year of a degree programme can be made. An additional possibility has been created in this act: a binding referral may be made during the first year, whereby the student is either accepted for a specific programme or not.

Further steps depend on the results of ongoing pilots with selection and fee-differentiation.

The demand from the labour market tends to focus on shortened programmes in hogescholen. This proposed bill contains a temporary provision for the awarding of degrees for such programmes: associate degrees. With effect from the 2006-2007 academic year a pilot will be conducted in this regard. The aim is to investigate whether or not this type of shortened programme will expand enrolment in higher education. The programmes are primarily aimed at attracting employed and unemployed people, and students from senior secondary vocational education.

The abovementioned demand-driven focus, the introduction of 'competences acquired elsewhere' and learning rights, and increasing internationalisation require the strengthening of examining boards. This proposed bill places emphasis on the substantive role of examining boards instead of on their procedural function. Examining boards must operate independently of executive boards. It is up to the management board to ensure this, by, for example, allowing an external expert to sit on the examining board. Whereas

in the past the drawing up of guidelines and assessment standards was an informal duty of examining boards, with this act, this will become a primary task.

The provisions regarding fraud will be amended. In serious cases like plagiarism, on the recommendation of the examining board, the student can be permanently excluded by the executive board.

Research

Hogescholen are more and more oriented towards practice-driven research. The task of hogescholen will be expanded with a duty to carry out design and development activities or applied research aimed at professional practice. Given that a sound quality assurance procedure has to be developed for such activities, hogescholen – like universities – will be given a duty to provide their research with such a procedure.

As far as research at universities is concerned, this proposed bill targets the focus in and cohesion of research:

- Once every four years, the universities will submit a strategic research plan to the Minister.
- This proposed bill lays the foundations for more performance-oriented research funding to encourage excellent (groups of) researchers.

The responsibility for quality assurance lies primarily with the institutions that cooperate in this area. In addition, doctorate programmes will form an integral part of quality assurance regarding research. To safeguard the quality of doctorate programs and the research environment, universities are obliged to have such programs periodically assessed by the Royal Netherlands Academy of Arts & Sciences (KNAW).

Governance, less regulation

In line with the increased autonomy that the institutions will have, most of the provisions regarding internal management structures have been deleted in this proposed bill. The government will distance itself to allow the institutions more room. Statutory work plans, the Higher Education and Research Plan (HOOP) and consultation obligations with the institutions will cease. The role of the government in employment conditions will similarly be scrapped.

The vertical supervision carried out from the Ministry will be of a supplementary nature and must be in proportion to the horizontal accountability. The Auditing Service, the education Inspectorate and the Central Funding of Institutions Agency (Cfi) will perform their duties and exercise their powers in cooperation with one another. As a final resort the Minister may take action regarding an institution. This can only take place if serious failures are observed.

This proposed bill obliges *all* publicly funded hogescholen and universities to strictly separate executive and supervisory boards; duties and authorities have to be clearly demarcated from those of the executive board. In the annual report, the supervisory board is accountable for its actions and the way in which it exercised supervision.

A publicly funded institution can be either publicly-run or privately-run. This proposed bill makes hardly any distinction between these two types. There are, however, certain differences in practice. For example, public institutions have to observe the General Administrative Law Act and the Public Service Act, while privately-run institutions are governed by private law. The proposed bill assumes a status under private law. Public institutions therefore have the right to change their colours and become privately governed institutions. This status is important for several reasons including when institutions desire to merge; a public institution cannot merge with a privately-run institution.

The participation bodies do have the right to consultation regarding plans for cooperation and merger. In addition, the Ministry will introduce a merger test for education institutions. The criteria for such a test have not yet been determined.

The current accreditation system has been in place for some years. In 2004 the Netherlands-Flemish Accreditation Organisation (NVAO) issued its first accreditations. The NVAO assesses all new and exist-

ing higher education programmes. In the near future, measures will be taken to reduce the amount of regulations. At present, work is being done throughout the higher education system to reorganise the range of programmes on offer in order to create broader programmes. This will mean that fewer accreditations will be necessary. In case of inadequate performance the reinstatement term is currently extremely limited and this will be extended. The order of first performing a quality test (NVAO) and then a macro-efficiency test¹⁴³ (Ministry of Education) will be reversed, because the first test is more burdensome.

Once each programme has been accredited at least once, in 2009 the system could be modified, thus reducing the burden on the current system. To this end, in the long term, the feasibility of full accreditation, applicable to an institution as a whole, will be looked at. The prerequisites for such an accreditation system would include at least an irreproachable level of service regarding quality, and an internal system of quality assurance that has proven its worth. This form of accreditation could if necessary be awarded conditionally. The institution would, in that case, remain obliged to have its programmes regularly assessed by external experts. Moreover, NVAO could at any time continue to assess separate programmes, selectively and unannounced. If an institution with full accreditation fails to meet the conditions in the interim, the original conditions (namely accreditation per programme) would again go into effect.

This act contains responsibilities aimed at the outcome rather than at the process. It offers a framework and allows the institutions the freedom to achieve well-defined objectives without prescribing the way in which these objectives should be achieved (duties of care). In this way, the Dutch higher education sector will be better able to respond to social developments without the need of detailed amendments to the act.

Institutions will gain more freedom through the reduction in the amount of regulations. The number of articles in the WHOO is less than 40% of the number of articles in the WHW.

Conclusion

The time is right for a new Higher Education and Research Act. The current act has existed for 15 years and has been amended 90 times. Cohesion has consequently been weakened, and readability reduced. Therefore, with the 91st amendment, a clean sheet is being proposed. A sheet on which a new act is written which clearly sets out relationships and responsibilities. An act which offers cohesion for higher education today – and in the future – through its checks and balances.

The proposed bill was drawn up in interaction and close consultation with the outside world. Various subjects of the act were discussed with students, teachers, experts, administrators and umbrella organisations (including the Higher Professional Education Council, the Association of Universities in the Netherlands, the Platform for Officially Recognized Private Educational Institutions in the Netherlands (PAEPON), ISO and LSVb (Dutch National Unions of Students), the Dutch Federation of Small and Medium-sized Enterprises (MKB-Nederland) and the Confederation of Netherlands Industry and Employers (VNO-NCW).

¹⁴³ Is the introduction of a new programme efficient given the existing (related) programmes at other institutions?