OECD THEMATIC REVIEW OF TERTIARY EDUCATION

COUNTRY BACKGROUND REPORT FOR SWEDEN

Swedish National Agency for Higher Education
June 29, 2006

PREFACE

This background report on the Swedish tertiary education system has been prepared on behalf of the Swedish Government by the Swedish National Agency for Higher Education. The report has been written by a working group within the Agency. The following persons at the Swedish National Agency for Higher Education have contributed to the text: Gunnar Enequist (Chapter 10), Marie Kahlroth (Chapter 5, compilation of statistical data for Chapters 5 and 7), Helena Mähler Lejon (Chapters 1, 2, 3, 7, 8, 10), Maria Lönn (Chapters 4 and 5), Per-Gunnar Rosengren (Chapters 6 and 7) and Staffan Wahlén (Chapter 9). A number of other members of the Agency's staff, as well as officials in the Ministry of Education, Research and Culture have contributed by providing facts and advice and reviewing drafts of the text. The project manager for the report and National Coordinator for the Swedish contribution to the OECD review was Helena Mähler Lejon. Most of the text was written in 2005 and therefore mainly reflects the situation at that time.

A National Advisory Group has supported the writing of the report in various ways. The National Advisory Group contained the following members: Kristoffer Burstedt (Swedish National Union of Students), Lena Eriksson (Ministry of Education, Research and Culture), Carl Jacobsson, (Swedish Research Council), Marie Kahlroth, Torsten Kälvemark, Britta Lövgren (all Swedish National Agency for Higher Education), Inge-Bert Täljedal (Umeå University, representing the Association of Swedish Higher Education, SUHF). Carin Callerholm replaced Lena Eriksson from September 2005 as representative of the Ministry of Education, Research and Culture. In addition, Lena Lindell, of the Swedish Agency for Advanced Vocational Education, has provided facts and advice on Advanced Vocational Education. An overview of research regarding tertiary education in Sweden is annexed to the report. The research overview was written by Susan Marton, assistant professor at Karlstad University.

A hearing was held on the 30 September, 2005 on the conclusions of the report with participants from organisations, agencies, etc. concerned with, or with an interest in, tertiary education. The list of organisations invited is annexed to the report. These parties have also been given the opportunity to comment on the full text of the report. Several of the organisations also submitted their comments and views on the report. The following participated in the hearing:

Hans Ahréns	Swedish Agency for Economic and Regional Growth
Karin Arvemo-Notstrand	Statistics Sweden
Ruth Bourke Berglund	Swedish Net University Agency
Kristoffer Burstedt	Swedish National Union of Students (SFS), member of National Advisory Group
Carin Callerholm	Ministry of Education, Research and Culture, member of National Advisory Group
Anna Dahlström	Swedish Institute
Gunnar Enequist	Swedish National Agency for Higher Education
Håkan Forsberg	Swedish National Agency for Higher Education
Ann Fritzell	Swedish Association of University Teachers, SULF
Karin Granevi	International Programme Office for Education and Training
Carl Jacobsson	Swedish Research Council, member of National Advisory Group
Peter Johansson	Confederation of Swedish Enterprise
Marie Kahlroth	Swedish National Agency for Higher Education, member of National Advisory Group
Bengt Karlsson	Association of Swedish Higher Education, SUHF
Staffan Karlsson	Swedish Research Council
Torsten Kälvemark	Swedish National Agency for Higher Education, member of National Advisory Group
Lena Lindell	Swedish Agency for Advanced Vocational Education

Kristina Lutz	Swedish National Union of Students (SFS)
Maria Lönn	Swedish National Agency for Higher Education
Britta Lövgren	Swedish National Agency for Higher Education, member of National Advisory Group
Susan Marton	Author of research overview
Karin Morild	The Swedish Confederation of Professional Employees, TCO
Helena Mähler Lejon	Swedish National Agency for Higher Education, National Coordinator
Per-Gunnar Rosengren	Swedish National Agency for Higher Education
Peter Schilling	SISTER (Swedish Institute for Studies in Education and Research)
Katarina Sjölander	Ministry of Industry, Employment and Communications
Agneta Stark	Dalarna University College
Lennart Ståhle	Swedish National Agency for Higher Education
Inge-Bert Täljedal	Umeå University, Member of National Advisory Group
Staffan Wahlén	Swedish National Agency for Higher Education
Margot Wojdas	Swedish National Agency for Higher Education
Eva Åkesson	Lund University

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EXECUTIVE SUMMARY

1. The national context of tertiary education

1. Sweden has a population of 9 million, unevenly distributed over an area of 450,000 square kilometres. The country is highly dependant on international trade, with exports amounting to a large portion of GDP. Important industries include those based on raw materials, as well as the engineering and high technology sectors. In international comparison, taxes are high and the public sector is large. The country is a parliamentary democracy. The national assembly is called the Riksdag. Sweden is a member of the European Union since 1995.

2. In international perspective, the Swedish labour market has been characterised by a high level of participation among both women and men and low unemployment. After a severe economic recession in the early 1990s and a short recession in the early 2000s, economic growth has picked up while interest and inflation rates remain low. However, unemployment levels remain high, from a Swedish perspective.

3. The average age of the population is rising. Population forecasts predict a shift in the age structure, with an impending rapid rise in the share of people aged over 65. Of relevance to tertiary education is the fact that the number of people in the age groups when many decide to start university studies is predicted to rise, peaking in 2010.

4. Sweden has increasingly become a country of immigration. Today around 16% of the country's population is made up of individuals with a foreign background.

2. Overall description of the tertiary education system

5. In 1977, the Swedish system was transformed from a binary system of higher education to a formally unitary one comprising both academic, vocational and longer and shorter professional programmes. In the later part of the 20th and early 21st century higher education has expanded significantly and new institutions have been founded throughout Sweden. The last 15 years have seen a large increase in the number of students as well.

6. In Sweden, state agencies take on many of the tasks that in many other countries rest with central government ministries. Swedish ministries are mainly responsible for determining policy while major reviews and analyses, as well as a number of other tasks, are generally undertaken by the agencies under the authority of the ministries.

7. State higher education institutions are formally government agencies subject to the Government. They are part of the public, central government administration, in terms of both organisation and function, but with additional sector-specific legislation aiming, among other things, to preserve academic freedom. Higher education in Sweden, apart from doctoral studies, is almost exclusively state financed.

8. Swedish tertiary education is provided mainly in the higher education sector, which comprises universities and university colleges. Today, there are 14 state universities, 22 state university colleges and 3 private institutions in Sweden, as well as a number of smaller independent institutions. Tertiary education is also provided in Advanced Vocational Education, a form of vocational postsecondary education designed and carried out in close co-operation between enterprises and course providers.

9. The main difference between universities and university colleges is linked to entitlement to award doctoral degrees. Swedish universities are financed by the state and have a general right to award Doctorates. Non-university institutions may receive accreditation in specific broad subject areas.

10. Diplomas from all recognised higher education institutions have equal official value, and the basic principle is that students (with adequate qualifications) from all parts of the Swedish system of higher education should be able to go on to doctoral studies. In the Swedish higher education system all degrees are regarded as final qualifications, even though there is a possibility to continue studying.

3. The tertiary education system and the labour market

11. Decision making in Swedish HE is largely decentralised to the institutions. In general this also applies to the quantitative planning of the education they offer. Though their educational choices, students are able to influence the funding, and in the longer term, the quantitative development of most courses and programmes. The responsibilities for making the "right" choices in regard to labour market needs are essentially delegated to the HEI's and individual students. Government directives to HEI's in this regard are either very general – there is a requirement to collaborate with the surrounding community and to take into account both student and labour market demand in planning programmes – or detailed in terms of target numbers for a few professional degrees.

12. In the last few years, labour market outcomes have reappeared as a topic in the HE debate – not least because of indications of increasing unemployment for higher education graduates and imbalances on the labour market for graduates, in terms of supply and demand in different fields.

13. In general, graduates from HE have a better footing in the labour market than those with lower qualifications. However, rising unemployment among HE graduates, also on the PhD level, has caused debate in the last few years. There is also evidence of imbalances between the supply of and demand for graduates in several professional fields and also in different regions of the country.

14. Advanced Vocational Education is intended to correspond to labour market. The direction and scope of the courses are determined on the basis of appraisal of future demand on the labour market.

15. HEI's are required to offer contract education, which may be purchased by organisations for their employees. There are a number of shorter vocational programmes in HE, courses organised for specific target groups (frequently with a focus on improving the individual's employment prospects).

16. At most institutions the labour market factor is considered – although to a varying extent – when programmes are planned. Many HEI's work actively with interested social partners and local and regional authorities to improve their offerings in order, for instance, to meet labour market needs. HEI's are required to provide study guidance to its students and many also provide career guidance. Comprehensive surveys by HEI's of how graduates experience the relevance of their education in the labour market or whether graduates find work in their chosen field have so far not been common.

4. The regional role of tertiary education

17. There is a distinct regional dimension to higher education in Sweden. There has been a significant expansion of study places outside the traditional university regions. Higher education is also ascribed a significant role in the development of Swedish society in a range of respects, by local, regional and national authorities as well as by local business communities.

18. All higher education institutions have the same national role and the same right to apply for research funding. In addition to this, all the higher education institutions play an important role in their regions and many of them consider it necessary to be both regional, national and international actors, even though the weight given to these different roles may vary at the different institutions.

19. What effects investment in HE in the regions has had is not completely clear. For example the rate of transfer to higher education varies from region to region perhaps somewhat more than should be expected given the way the expansion of university places has been allocated. Nor is there clear empirical evidence of the impact of higher education institutions on economic growth.

20. None of the funding allocated to the higher education institutions is earmarked for their regional role. The finance available consists of project funding that can be sought from public authorities and foundations. For instance some of these organisations offered relatively large amounts of funding at the end of the 1990s for the development of the regional roles of the new higher education institutions. It should also be pointed out that Sweden's membership of the EU – and the access this offered to the structural funds – in the mid-1990s has provided many higher education institutions with even more possibilities of acquiring resources for their regional work.

5. The role of tertiary education in research and innovation

21. Sweden invests about 4 per cent of its GDP in research. Most of the research and development activities take place in industry, but nearly all of the publicly funded research goes on in the higher education institutions. Autonomous research institutes exist to only a limited extent. This means that in addition to carrying out their own research and offering postgraduate programmes, the higher education institutions also undertake commissioned research and enquiries.

22. In recent years there have been major changes in the conditions on which the higher education institutions carry out research. There are higher education institutions with their own research resources in each county. These are expected to contribute to regional growth and otherwise cooperate with their surrounding communities.

23. The resources have been spread over a larger number of higher education institutions as a result of the foundation of the new university colleges. The revenues for research of the smaller higher education institutions have increased a great deal. At the older universities the growth has been more moderate. Representatives of some HEI's claim that this is an unfortunate dispersion of resources, whereas others maintain that there should be a link between the size of student populations and research resources. The Association of Swedish Higher Education, together with a number of research funding bodies, has proposed that part of the direct state allocation to research be allocated to HEI's on the basis of the number of students.

24. Another development is that new sources of funding have emerged while at the same time direct state funding has not increased to any great extent. On average more than half of the total resources for research and postgraduate programmes come from different external funding agencies. The institutions that specialise in medicine and technology derive a very large proportion of their resources from external sources. The Government's stance is that an increasing proportion of state funding for research should be allocated on the basis of peer review which means, given the current funding system, that it is not allocated directly to the higher education institutions but channelled through the research councils. Representatives of the higher education institutions maintain that this development is unfortunate as it restricts the scope they are allowed for their own strategic ventures. Others claim that this system leads to the most efficient use of research resources.

25. In Sweden, as in many other countries, the Government ascribes a central role in economic development policy to the HEI's. They are considered to make a major contribution to the development of knowledge and economic growth, and, as such, occupy a central place in the knowledge and innovation system. Government directives to the higher education institutions stipulate that they are to ensure in different ways that their activities contribute to the development of knowledge and economic growth.

26. The participation of the higher education institutions in the knowledge and innovation system constitutes an important part of the requirement in the Higher Education Act that the institutions should cooperate with their surrounding communities. In very general terms, the purpose of HEI participation in the knowledge and innovation system can be described as to enable the launch of companies and the transfer of knowledge between HEI's and the public and commercial sectors. In

the Swedish system, as in many other countries, the state and other actors encourage the role of the HEI's in this respect in various ways and through many different programmes.

27. In order to commercialise research results and create companies that can provide services to make it possible to take advantage of the expertise of their academic staff, certain higher education institutions have what are known as "holding companies". In addition there are a number of programmes operated by public agencies – among them Vinnova (The Swedish Governmental Agency for Innovation Systems) – that are intended to increase the practical application of the results of the higher education institutions' research.

28. One question that arouses discussion at the moment is what is called the "teachers' privilege", or in other words the fact that teachers in higher education own the patent rights to their inventions. The issue has been subject to review but no decision has yet been taken.

6. Achieving equity in and through tertiary education

29. An important part of Swedish education policy is to avoid "dead-ends" in education. It should be possible to go on to higher education from all other forms of education. The Higher Education Act lays down that the Swedish HEI's are to actively encourage and broaden recruitment to higher education.

30. The number of students in Swedish higher education has increased significantly over the last 15 years. There are large differences between different parts of Sweden in enrolment in higher education. At municipality level in particular and notably between the urban and the rural areas, there are sometimes considerable differences in the proportion of 18–25-year-olds enrolling in HE.

31. The proportion of women in higher education has increased constantly in the post-war period, and 60% of all undergraduate/graduate students were women in 2004. In doctoral studies, 47% of the total number of students were women the same year.

32. The expansion of higher education in Sweden has brought widened participation in socioeconomic terms, but large differences in the transfer rate to HE still persist. Since 1993/94 the proportion of students with a working class background has increased from 18 to 24% of all beginners (age 18–34), whereas the proportion of students whose parents are higher officials has decreased from 33 to 28%.

33. As a whole, students with foreign background are not underrepresented in higher education, although there are significant variations between groups with different backgrounds.

34. Adult education (Komvux) is an integral part of lifelong learning policies. It is mainly arranged by municipalities and can be offered at ISCED levels 1 to 4. There are also other types of education preparing for studies in the tertiary sector allowing persons to enter into higher studies later in life or to alter the area of their professional careers. Examples of such forms that provide eligibility are folk high schools, flexible learning (a mixture of computer based and distance learning), bridging programmes as college year programmes, foundation year.

35. Admission standards and procedures are nationally regulated. All courses and programmes have numerus clausus. Selection is normally conducted through the use of grades or the SweSat (Scholastic Assessment Test). Starting in the autumn semester of 2007, it will be possible for the HEI to use alternative selection criteria for admissions to 20% of places.

36. In Sweden, there has been a comprehensive public system for study assistance in place since 1965. The study assistance system offers grants and loans. The amount is designed to cover living costs as well as study related costs. The financial situation of a student's parents, spouse or cohabitant does not affect his or her possibilities of receiving study assistance. The system is administered by a government agency (CSN) and the cost of the system is funded through the state budget.

7. Resourcing the tertiary education system

37. The expansion of higher education in Sweden has resulted in a steady demand for more staff. Since 1985 the number of employees, including doctoral students with appointments, has risen by more than 60%.

38. Slightly more than half of all teaching and research staff (excluding doctoral students) have a PhD. This figure reflects the fact that junior lecturers, among whom the proportion with PhD's is small, make up a large proportion of the teaching staff, especially in some subjects. Also, the proportion of teachers with PhD's varies between subject areas and between different categories of institutions.

39. Two studies from 2003 attempt to identify the future need for teaching and research staff in Swedish HE. According to the analyses there will be no risk of large across-the-board shortages of academic staff. However, this situation is predicted by both studies to vary between subject areas.

40. Institutions are required to offer basic faculty development courses to their teaching staff, and today each institution has a local faculty development programme intended to improve the quality of teaching and learning and in some cases administrative and leadership qualities as well. There are also other measures at national level that have been initiated to improve the quality of teaching. The workload of academic teachers is often the subject of debate. Teachers often complain of a heavy teaching workload, long working hours and limited opportunities to carry out research. But on the other hand teachers are able to regulate their own work and time, and many teachers are quite content with their situation at work, according to a study.

41. Higher education and research in Sweden, as a whole, is financed predominantly by public funds, mainly via direct allocations from the state to the institutions. However, the proportion allocated directly in relation to other funding sources differs for undergraduate and graduate studies on the one hand and for research and doctoral studies on the other. In total, over 85% of the revenues for higher education excluding research and doctoral studies consist of direct state allocations. The proportion of the funding received by the HEI's for research and doctoral studies from direct state allocations is substantially lower. The total revenues of the HEI's have risen by 21% since 1997.

42. As in many other countries, the overall funding of higher education is the subject of debate. While the expansion of HE excluding doctoral studies has led to greater state expenditure on the higher education sector as a whole, per capita funding for HE excluding doctoral studies has decreased in real terms.

8. Planning, governing and regulating the system

43. Like all the other sections of the public administration, higher education in Sweden is subject to management by objectives and results. State higher education institutions in Sweden are formally Government agencies, subject to the same general body of legislation as other agencies, but with a complementary set of sector-specific laws and regulations designed, among other things, to safeguard academic freedom.

44. Decision making in HE is decentralised, with a relatively high degree of powers and responsibilities having been delegated to the institutions. The Government decides on objectives and specifies the required results, while it is the responsibility of the institutions to ensure that the activities are carried out in the best possible way. There is a substantial amount of freedom for the institutions to decide on the use of their resources and organisation of their activities as well as their educational profile. The institutions are required to report back to the Government in various ways.

45. The freedom of research is stipulated in the HE Law.

46. The Swedish HE system is unitary and contains few highly specialised institutions. There is a national credit system. The same degree awarded at different institutions has equal official value and there are no formal obstacles to prevent students from transferring to other institutions. When applying to a HEI, students are entitled by national legislation to receive credit for courses or programmes that they have completed at another institution.

47. Higher education institutions are encouraged by the Government to take an active part in the development of society and they play an important role in continuing education and lifelong learning. There are numerous examples of cooperation with other education providers, including upper-secondary schools.

48. Information and study counselling is provided on different levels, including upper-secondary schools, HEI's, municipal adult education and in folk high schools. The main responsibility for information on HE lies with the individual HEI's. The Swedish National Agency for Higher Education produces general information for students in Sweden about advanced study. As regards AVE, the Swedish Agency for Advanced Vocational Education is responsible for general information while marketing the individual courses is the responsibility of each provider.

9. Assuring and improving the quality of tertiary education

49. The institutions of higher education have the basic responsibility for assuring the quality of their provision. In doing that, they have to take into account the interests of several groups of stakeholders including the academic community, students, employers and the Government.

50. In this context external quality assurance is a necessary element for development, control and information. The Swedish National Agency for Higher Education is responsible for these activities.

51. External quality assurance in Sweden has several ingredients, all of them based on peer review:

- Quality audit, in which the quality assurance and enhancement activities of the institutions were evaluated between 1995 and 2002. It is foreseen to become part of a new evaluation model introduced from 2007.
- Programme and subject evaluation, which covers all programmes and subjects leading to a degree, including Ph.D. programmes.
- Accreditation of master's degrees and professional degrees. The Swedish National Agency for Higher Education also evaluates university colleges applying for full or partial university status, but the Government makes the final decision.

52. The quality audits have contributed to raising awareness of quality issues among the top management of higher education institutions, but the effects at the departmental level have been more difficult to assess. The subject and programme evaluations have had a more profound impact on the quality of the provision.

53. The tasks of the Agency also include higher education statistics, studies on higher education, legal supervision and information. It is thus possible to combine these tasks to make special studies on, for example, the working conditions of undergraduate and postgraduate students and academic teachers as well as on specific themes, such as academic freedom or internationalisation. Evaluation of research is not, however, the responsibility of the Agency.

54. Although the number of students has risen considerably over the last 15 years, there is no evidence of systematic deterioration of the quality of the provision. However, many claim that there is a widening gap between top students and the less successful ones. There is also a debate about the decline in funding for teaching and research and, as a consequence, about the deterioration of the teacher-student ratio.

55. The future of quality assurance of higher education in Sweden is linked with the Bologna process and the Standards and Guidelines for Quality Assurance in the European Higher Education Area. This will affect the development of a revised model of quality assurance which will come into effect in 2007.

10. Internationalisation

56. At the national level, Sweden participates in international educational collaboration and networks. Also, Swedish HEI's are involved in a large number of networks, partnerships and exchanges. It is taken for granted that students and teachers should be offered the possibility of exchanges with other countries. This is underpinned by the system of financial aid for students. Swedish students can use their Swedish study loans and grants to study all over the world.

57. There is a clear trend that more and more international students are seeking places at HEI's in Sweden. Higher education institutions are developing more and more courses and degree programmes taught in English. The European Bologna Process has had increasing impact on Swedish higher education policy.

58. The extensive EU exchange programmes, for example the Erasmus programme, provide significant support for internationalisation. There are also national programmes, for example the Linnaeus-Palme programme and the Visby programme.

59. The threshold facing some groups of students wishing to study abroad may be high. This raises the need for "internationalisation at home". As only a small proportion of Swedish students spend some period of study abroad, according to the Swedish Government the most important internationalisation measures must be adopted on campus.

60. A special commissioner has proposed that fees be charged for students from countries outside the EU/EEA. This issue is being considered by the Government but no decision has yet (May 2006) been taken.

11. Concluding discussion

61. Tertiary education in Sweden has expanded substantially, not least in terms of students, and gone through many transformations since 1990. Among the most important changes are the introduction of a decentralised system of governance for higher education and a stringent quality evaluation system, reformed research funding, and the establishment of a new form of tertiary education outside the HE system. The chapter lists the most salient issues and challenges in the higher education debate:

- Effects of decentralisation
- Effects of the funding system for HE (excluding doctoral studies)
- Gender equality
- Adapting to the Bologna Process
- HE and the labour market
- Expansion in relation to quality
- Funding higher education and research
- Student rights and their financial situation
- Educational choices of students
- Diversity and widening participation
- Internationalisation

62. Work is currently (June 2006) underway with implementation of a number of important changes as a consequence of the Bologna Process. This is a major reform which will affect most aspects of the activities of the higher education institutions.

63. The chapter also contains an analysis by the Swedish National Agency for Higher Education of strengths and weaknesses of the Swedish HE system.

1 THE NATIONAL CONTEXT OF TERTIARY EDUCATION

1.1 The economic, social and cultural background

64. Area-wise, Sweden is one of the largest European countries, with an area of 450,000 square kilometres. The distance between the extreme northern and southern points is almost 1,600 km, and the substantial distances along the north-south axis result in great variations in ecological conditions. Sweden's inhabitants total 9 million, or on average 20 inhabitants per square kilometre. However, the population is very unevenly distributed across the country (Figure 1.1. in Annex 1).

65. As an industrialised country with a small population, Sweden is highly dependent on international trade. Exports are very important to the economy (equivalent to 44 % of GDP in 2003). Traditional industries based on raw materials such as wood, iron ore, mining, paper, and pulp are still very important in Sweden, although the engineering and high technology sectors have become increasingly significant. Aviation and automotive manufacturing are two significant industrial areas. Telecommunications as well as pharmaceutical and medical research are other important sectors. The services sector has grown in importance.

66. In international comparison, Sweden has a large public sector and high taxes. Tax financed consumption and capital spending amount to 31 % of GDP, and the public sector redistributes another 24 % in the form of transfer payments such as pensions and child and housing allowances. The social security system is comprehensive and financed mainly via taxes and employer payroll fees. (Fact sheet "The Swedish Economy" www.sweden.se) Public services are either essentially tax funded and free of charge to the user (for example primary, upper secondary, and higher education), or funded through a combination of state subsidies and (often comparatively low) user fees, for example health care or child day care.

67. Sweden is a parliamentary democracy. The head of state, whose duties are mainly ceremonial, is the King, Carl XVI Gustaf. The national assembly is called the Riksdag. A distinguishing feature of Swedish politics is the traditionally strong position of the Social Democratic Party and its long periods in Government, with only few interruptions, since the 1930s. At the latest election, in 2002, the Social Democratic Party again formed the Government, with parliamentary support from the Left Party and the Greens.

68. Sweden became a member of the European Union in 1995 but has not joined the European Monetary Union. In a public referendum in 2003 a decision was taken to remain outside the Euro zone and to keep the national currency, the krona (SEK)[1].

1.2 Regional and local administration

69. Sweden is divided for administrative purposes into 21 counties (*län*), 18 county councils[2] (*landsting*), and 2 regions (*regioner*) at the regional level. At the local level there are 290 municipalities (*kommuner*). Political representation takes place at all levels. Decision makers in county councils and regions as well as in municipalities are elected directly by the local voters. The county administrative boards (*länsstyrelser*) are the regional representatives of the state, and function as a link between the national and regional level. The most important area of responsibility of the county councils is health care. The municipalities are responsible, among other things, for social services, care

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[1] The exchange rate is currently (June 2006) approx. 9.20 SEK/Euro. (Bank of Sweden average rate in June 2006, www.riksbanken.se)

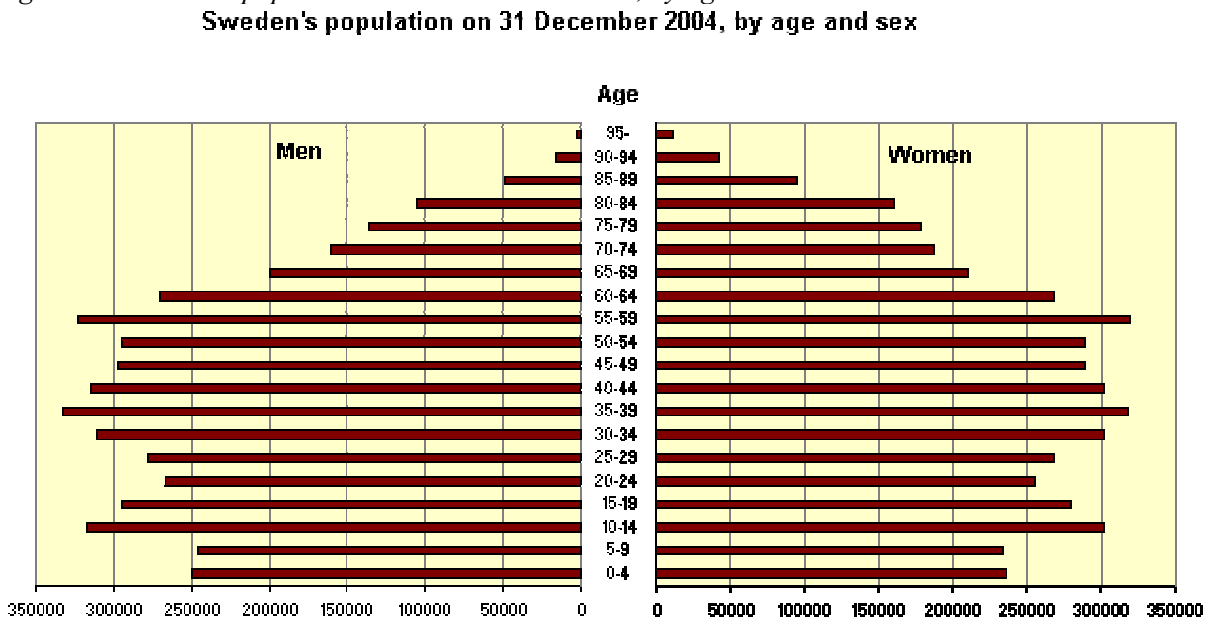
[2] In addition, one municipality has the responsibilities of a county council (*Gotlands kommun*). Counties and county councils may partly overlap geographically but have different responsibilities.

of the elderly and the disabled, child care, state schools, public health and environmental protection, and rescue services. (www.skl.se, www.regeringen.se)

1.3 The Swedish population

70. Sweden's inhabitants number just above 9 millions. The annual growth rate of the population was 0.37% in 2003. According to prognoses, the population will grow by 0.42% on average in the coming decade, resulting in a population of around 9.44 millions in 2015 (SCB, 2005b) The average age of the inhabitants is rising, and annual population forecasts predict that this trend will continue. By 2015 the number of people aged over 65[3] is predicted to have grown by 25%, while the size of other age cohorts will remain largely unchanged. This shift in the age structure of the country is predicted by many to lead to economic difficulties since fewer working people will have to support a larger number of pensioners, as well as because of a projected higher demand for health care and social services. The figure below shows the age structure of the population on December 31, 2004 for men and women.

Figure 1.1.Sweden's population on 31 December 2004, by age and sex



Source: Figure from Statistics Sweden (www.scb.se)

71. The Swedish population is very unevenly distributed throughout the country. There are large regional disparities in overall economic development as well as an ongoing relocation of the population towards cities and more densely populated areas. Figure 1.1. in the Annex illustrates the population density in different parts of the country.

72. Of relevance for higher education is the fact that the number of people in the age groups when many decide to start university studies is predicted to rise again after a decline in the last decade. The number 20-year-olds will increase by 30% compared to the situation today, peaking in 2010. This peak will then be followed by rapid decline until 2020, when this age group will again be approximately the same size as today. (Högskoleverket 2004:16 R.) A graph showing the number of 20-year-olds illustrates this development.

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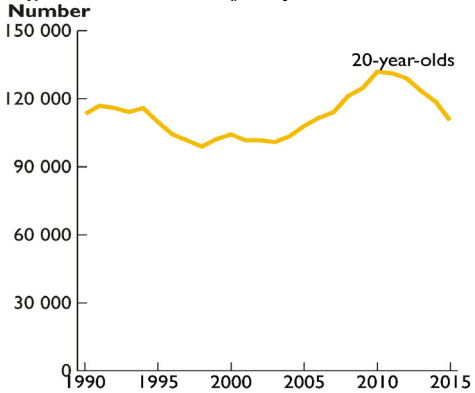
[3] The general age of retirement in Sweden is 65, although employees have the right to continue working until 67. The actual average age of retirement is lower than 65, however, and has been calculated at around 62 in 2000 (SCB, 2002, Den äldre arbetskraften. Prognosinstitutet, Temarapport 2002:1)

Figure 1.2. Number of 20-year olds



Source: Graph from Högskoleverket 2004:16 R, p. 15.

73. The level of education in the population has risen in the post-war period, as a consequence of an overall expansion of the education system, both at primary, upper secondary and tertiary level. The levels of education of different age groups in 2004 are shown in Table 1.1. in Annex 1.

1.3.1 Immigration and cultural diversity

74. Sweden has increasingly become a country of immigration. During the earlier parts of the post-war period, immigration consisted mainly of people from the Nordic countries and Central and Southern Europe. During the last few decades, immigration has been dominated by people from different parts of Asia (especially the Middle East), together with a large influx of refugees from the Balkans during the 1990s. Also, since the mid-1980s, the character of immigration has changed from labour immigration to mainly refugee immigration and the immigration of close relatives.

75. The immigrant population has increased, and today around 16 % of Sweden's population is made up of individuals with a foreign background (foreign-born or born in Sweden with two foreign-born parents). (SCB, 2004b). In 2004, 12.2% of the population had been born abroad (www.scb.se).

Table .1.1. Region of birth of the Swedish population, 2003.

Region/country of birth	Number of inhabitants			
	1990	**1994**	**2000**	**2004**
Sweden	7,800,185	7,894,326	7,887,325	7,911,130
Nordic countries except Sweden	319,082	298,844	279,631	277,103
Europe except Nordic countries	220,806	297,899	330,018	392,637
North America	19,087	21,563	24,312	26,515
South America	44,230	47,506	50,853	55,488
Africa	27,343	44,961	55,138	65,249
Asia	150,487	200,322	253,024	272,279
Oceania	1,866	2,232	2,981	3,517
Other (Soviet Union and Unknown)	7,544	8,728	7,841	7,474
Total foreign-born	790,445	922,055	1,003,798	1,100,262
Total population in Sweden	8,590,630	8,816,381	8 882 792	9,011,398

Source: Tables 1.3 in SCB (2004a), 1.1.2 in SCB (2005e), 1.3 in SCB (1994). Data on total population in Sweden from SCB. Sweden's population (in one year cohorts) 1860-2004. Data at www.scb.se.

76. There are five officially designated national minorities in Sweden. They are the Sami, Swedish Finns, Tornedalers, Roma, and Jews. In addition Sami, Finnish, Meänkieli (Tornedal Finnish), Romani Chib, and Yiddish have been officially designated as minority languages. Laws have been passed to enable individuals to use Sami, Finnish and Meänkieli in contacts with administrative authorities in certain geographic areas where the language is commonly used. Compulsory and upper-secondary schools are required to provide mother-tongue language training to pupils from the national minorities as well as to pupils with foreign backgrounds (although this requirement is stronger for mother tongue

training in Sami, Meänkieli and Romani Chib). In addition to the designated minority languages, schools also provide mother-tongue training in a significant number of immigrant languages.

1.4 Developments on the labour market and in the economy

77. The Swedish labour market, in international comparison, has traditionally been characterised by a high level of participation and low unemployment. Sweden also has a comparatively high participation of women in the labour force. In 2003, 74.3% in all (72.8% of women and 75.6% of men) of those of working age were in gainful employment, in comparison to the OECD average total of 64.9%, 55.3% women and 74.4% men. (OECD 2005, OECD Fact book: Economic, Environmental and social statistics.).

78. As in many OECD countries the demand for labour in Sweden has decreased in manufacturing industry and agriculture, but has instead increased in the service sector. The demand for formal qualifications has risen from the 1970´s as a response to a general increase in the level of difficulty and responsibility in the workplace. (le Grand et al., 2002)

79. In the 1950s and 1960s, Sweden experienced rapid economic growth. Social reforms were implemented and the public sector grew. In the early 1970s, Sweden was one of the richest countries in the world, based on GDP per capita, but the same decade was eventually to see a significant fall in the economic growth rate. In recent decades growth rates have been lower. In the early 1990s Sweden went through a severe recession, with declining GDP and rising unemployment. This had a lasting impact on national finances and, because of the cutbacks it necessitated, on the public sector.

80. The economy recovered during the latter half of the 1990s, and unemployment decreased. After a short depression in the early 2000s, economic growth has picked up during 2004 while interest rates are still very low, as is the inflation rate.

Table 1.2. GDP per capita and unemployment rates 1990–2004

	1990	1994	2000	2002	2004
GDP per capita (fixed prices, 2000 base year), SEK	210,495	204,743	247,404	253,420	264,038
Yearly average unemployment rate (per cent of labour force 16–64 years of age)	1.6	8.0	4.7	4.0	5.5

Source: SCB (Statistics Sweden) data on GDP and unemployment, www.scb.se.

81. Despite these positive macroeconomic developments, so far there has been no corresponding increase in the demand for labour, and unemployment levels are still high (from a Swedish perspective). The average open[4] unemployment rate in 2004 was 5.5% of the population aged 16–64. (Data from Statistics Sweden, SCB) This persistent unemployment affects, among others, young academics, who have experienced increasing unemployment during the last few years.

82. There is also political debate about the number of people who are neither working nor considered to be unemployed. The debate is mostly centred on the numbers of people on sickness benefit and in early retirement programs, which have been increasing in recent years. Reducing unemployment and the number of people on sickness benefits are among the issues which are given highest priority today by the Government.

1.

[4] In a discussion of unemployment levels it should be noted that Swedish labour market policy contains an important element of activities for the unemployed in the form of what are called labour market programmes. Participants in such programmes are not included in the open unemployment figures. In April 2005 the proportion of participants in labour market programmes was a further 2.9% in addition to 5.0% in open unemployment, according to data from the National Labour Market Administration. (AMS press release May 11, 2005)

2 OVERALL DESCRIPTION OF THE TERTIARY EDUCATION SYSTEM

2.1 Introduction

2.1.1 The Swedish educational system

83. The Swedish educational system consists of a compulsory comprehensive nine-year school (7–16 age group), a three-year upper-secondary school with pre-academic as well as vocational programmes[5], and a unitary higher education sector that includes academic, professional and vocational programmes.[6] There is also a specific sector, the folk high schools, that provides adult education at all levels, ranging from basic school qualifications to vocational programmes, some of which can be described as offering an alternative to higher education (for example journalism). In addition, municipal adult education (*komvux*) offers education at compulsory and upper-secondary school level for those lacking these qualifications as well as vocational training for adults . A schematic overview of the education system is found in Figure 2.1. in the Annex.

84. Advanced Vocational Education (AVE, *Kvalificerad yrkesutbildning*) is a form of vocational postsecondary education designed and carried out in close co-operation between enterprises and course providers (higher education, upper-secondary schools, municipal adult education and companies).

85. The main distinguishing feature of HE from other forms of education is that HE is based on science or art and on tested experience.

2.1.2 Scope of the report

86. Tertiary education as defined in the OECD guidelines [7] in Sweden is predominantly provided by the institutions of higher education. In some cases tertiary education is provided by other actors in partnership with higher education institutions or vice versa, for example some vocationally oriented programmes or programmes intended to provide an introduction to further university study. Advanced Vocational Education is classified as ISCED 4C or 5B, depending on the duration of the programme.

87. This report concentrates mainly on education provided in higher education institutions. Advanced Vocational Education is not a part of the higher education system and is described separately, where relevant. The Swedish National Police Academy and the education and training provided by and for the Swedish Armed Forces are not described in this report. The folk high school sector and municipal adult education are described when relevant for tertiary education.

2.1.3 Remarks on terminology

88. Higher education in Sweden today is provided by *högskolan,* a noun denoting the unitary higher education sector as well as the two subcategories of higher education institutions, university colleges and universities. The two categories are referred to collectively in the text as “higher education

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[5] The Swedish public school system comprises compulsory and noncompulsory schooling. Compulsory schooling includes regular compulsory schools, Sami schools, special schools, and programs for pupils with learning disabilities. Non-compulsory schooling includes induction (pre-school) classes, upper-secondary schools, upper-secondary schools for pupils with learning disabilities, municipal adult education, and adult education for adults with learning disabilities. All education offered by the state school system is free. There is usually no charge to students or their parents for teaching materials, school meals, health services or transport. (text from Skolverket, The Swedish School System, p. 1., www.skolverket.se)

[6] In addition, the Military Academy and the Swedish National Police Academy – which are not part of the higher education system – provide professional training in their respective fields.

[7] At ISCED 5+ level and, in some cases, ISCED 4x of the type outlined in the OECD guidelines

institutions", or "HEI's", when no further distinction is necessary. "Higher education" or "HE" is used in this text as a general term to indicate education provided by higher education institutions.

89. The term "tertiary education" is used to denote both higher education and Advanced Vocational Education.

90. Higher education is formally divided into two parts: *grundläggande högskoleutbildning* and *forskarutbildning*. The term *grundläggande högskoleutbildning* roughly corresponds to the concepts of undergraduate and graduate studies. It denotes all higher education not leading to a postgraduate qualification, that is, everything from short professional degrees to advanced academic programmes (Master's-level). In this report, *grundläggande högskoleutbildning* is referred to as "higher education except doctoral studies" or "undergraduate and graduate studies". *Forskarutbildning* corresponds to postgraduate education or doctoral studies. It signifies education leading to a Doctorate/PhD or to an "intermediate" postgraduate degree, the Licentiate.

91. It should be noted that implementation of a three-cycle structure has been proposed in Swedish HE as a result of the European Bologna Process.

92. The term *basic research* in the report refers to what is also called pure or fundamental research. The term *teacher* refers to teaching staff in HE as defined in the Higher Education Ordinance.

2.1.4 Brief historic background of Swedish higher education

93. Higher education in Sweden has a long history. The country's first university was founded in 1477 in Uppsala in central Sweden, with the main task initially of training clergy for the church. During the 17th century higher education was expanded to meet a growing demand for government officials to represent Sweden in contacts with other countries, and in 1668 Sweden's second university was founded in Lund, in the southernmost part of the country, with the aim of integrating the newly acquired Danish provinces.

94. In the 19th century vocational programmes evolved into institutions for vocational training at an academic level, among them in technology and medicine. In this context, for instance, The Karolinska Institute (for medicine) and the Royal Institute of Technology in Stockholm were established. Simultaneously universities developed on the basis of a German, "Humboldtian" philosophy, which was to become the guiding principle for Swedish HE until well into the 20th century. Today there is also a strong American influence. At the end of the 19th century private "university colleges" were founded in Sweden's capital, Stockholm, and in the country's second largest city, Göteborg.

95. The early years of the 20th century saw a growth of vocational and professional programmes and specialised institutions, for example teacher-training colleges and colleges for social workers. Between 1940 and 1975 there was also a major expansion of research at the higher education institutions. New research organisations were developed and specific research posts established.

96. In 1977, the Swedish system was transformed from a binary system of higher education to a formally unitary one comprising both academic, vocational and longer and shorter professional programmes. In the later part of the 20th and early 21st century higher education has expanded significantly and new institutions have been founded throughout Sweden. Several reforms have been implemented, for instance of the governance and funding systems A comprehensive English-language history of systemic changes in Swedish higher education can be found in Bauer et al. (1999).

97. Equal access to education has long been one of the pillars of the Swedish welfare state. Education from primary school to higher education is mainly tax financed and free of charge to the student[8]. All

1.

[8] In higher education the only exception to the no-fees practice is contract education, which is paid for in full by the commissioning organisation.

students in HE have access to a study support system based on maintenance loans and grants. Students in Sweden are considered to be adults and are formally regarded as independent of their parents. Consequently, study support systems are based on the student's own income and do not take parental income into account (see Chapter 6).

2.2 Purposes, goals and objectives of the tertiary education system

98. The overriding goals and objectives for tertiary education are determined by the Government and Riksdag. Hence, national policy goals and objectives may vary with the government in power. The higher education institutions are public agencies.

99. In Sweden, political decisions and directives are usually preceded by an extensive process in which the Government commissions an official enquiry, either by a national state agency or by an independent special commissioner. The resulting proposals are then referred to relevant organisations, agencies, and other interested parties to enable extensive consultation. The views expressed are taken into account when a Government proposal is prepared although there is no formal requirement to follow the recommendations of those consulted.

100. Activities at Sweden's higher education institutions are governed by the Higher Education Act and the Higher Education Ordinance. The Act lays down broad objectives for Swedish higher education, which are supplemented by programme-specific goals in a Degree Ordinance. Policy objectives are also elaborated in Government Bills and proposals. The annual appropriation directives (see Chapter 8.2) specify the Government's expectations of the HE sector during a specific period, and in educational directives the Government lays down certain specific objectives and required results for each individual HEI. For example, the educational directives specify quantitative targets over a four-year period, and planning parameters for the subsequent four years. No economic incentives are linked to these targets.

101. The national goals and objectives for HE are deliberately formulated on a general, as opposed to specific, level. The main responsibility for interpreting them, balancing the various goals against each other, and transforming them into concrete measures, lies with the individual HEI's. However, the institutions are required to report back to the Government on their results.

2.2.1 General goals and policy objectives of higher education

102. The Government's general, overriding goal for Swedish education policy is that "Sweden shall be a leading knowledge nation characterised by high quality education and lifelong learning for growth and justice"[9] In addition, education and research form the foundation for attaining the European Union's goal of making the Union the world's "most competitive and dynamic knowledge-based economy" by 2010[10]. For research policy the goal is that Sweden should be a "leading research nation" where research is conducted with high scientific quality" as well as "one of the world's most research intensive countries". (Forskning för ett bättre liv, prop. 2004/05:80, p. 9).

103. As regards both higher education and research the Government wants increased quality and international competitiveness and higher education to cater to both student demand for education and labour market needs. (Appropriation directive for the fiscal year 2005 concerning general regulations for higher education). There is also a regional dimension: the Government wants to create "at least one strong institution in each county to serve as a centre for renewal and dynamic development in the region" (Budgetpropositionen för 2003, p. 38f).

104. Broad objectives are laid down for higher education in the Higher Education Act. The Act states that the activities of all institutions are to be characterised by high quality and close links between

1.

[9] Budgetpropositionen för 2003, prop. 2002/03:1, p. 29.
[10] Budgetpropositionen för 2004, prop. 2003/04:1, p. 33

research and education. In addition to providing education and carrying out research and development, the institutions are obliged to cooperate with the surrounding community and provide information about their activities. In their activities, the institutions must always observe and promote equality between women and men as well as actively promote the equal treatment of students. The institutions are to advance the understanding of other countries and of international conditions. In addition, the institutions are required to promote and broaden recruitment to higher education actively.

105. Higher education is to provide the students with knowledge and skills, according to the Higher Education Act. Furthermore, the students should acquire a capacity for independent and critical judgement and an ability to solve problems independently and to follow the development of knowledge in their field. Their education is also to develop their ability to exchange information at an academic level. Doctoral education, in addition to the above, is to provide the student with the knowledge and skills necessary for independent research. HE legislation also lays down that students are entitled to influence and participate in the development of their programmes. Students also have the right to representation in decision making bodies at different levels in the HEI's.

106. Changes have been introduced in the goals and objectives of HE since the major reform in 1993 (see below). The reform emphasised meeting student demand as the most important basis for the planning of the educational offerings in HE. Today labour market issues are growing in importance in the HE policy debate, and one objective stated in the appropriation directives is that programmes offered are to be adapted to both student demand and labour market requirements. Other changes since 1990 include the introduction into the Higher Education Act of the requirements for HEI's to collaborate with the surrounding community (1997) and to continually pay regard to gender equality (1992). In 2000 the HE Act was amended to include the right of students to influence quality development at their HEI's. In the same year, the right of students to participate in HEI decision making bodies was reintroduced into the Act (although students in Swedish HE have had this right, both legally and in practice for a long time). Also, a new law[11] has been enacted on the equal treatment of students in higher education, irrespective of gender, ethnicity, religion or other creed, sexual orientation, and disability.

2.2.1.1 Policy objectives in the higher education policy bills of 2001 and 2005

107. As in many other countries, increasing weight is being placed in Sweden on education as one instrument for reaching various objectives in society. The Government and Riksdag frequently emphasise that education and research are vital for the development of society in a range of areas.

108. Higher education is seen as a tool for social change and should be open to everyone alike, irrespective of background, ethnicity, place of residence, gender or disability. The university sector should, in its composition, reflect the composition of the population. In order to provide Sweden with a competent labour force for a changing labour market, recruitment must be broadened and new routes offered into higher education. The Government emphasises that it sees a socially and ethnically skewed recruitment to higher education as a misuse of human competence, experience, and talent.

109. In the recent Government bill on higher education, *Ny värld, ny högskola* ("New world, new university", 2004/05:162), the international openness of Swedish HE is emphasised. The global attractiveness and competitiveness of Swedish HE should be strengthened, and the Government presents an internationalisation strategy (see Chapter 10).

2.2.2 Quantitative goals of higher education

110. There are also several goals at a national level which are of a more quantitative nature. The Government's target is that 50% of those born in any given year are to have embarked on university level education by the age of 25. This naturally has implications for the number of study places offered in higher education.

1.

[11] Lag (2001:1286) om likabehandling av studenter i högskolan

111. At the institution level, the Government's appropriation directives contain a number of specific quantitative targets relating directly to the students and staff of the institution in question. Each institution gets an "educational assignment" for undergraduate education which mainly states:

- the maximum total remuneration for annual full-time students and annual performance
- the minimum number of degrees to be awarded during a four-year period regarding specific professional degrees (currently for the period 2005–2008 in engineering, nursing and various teacher's degrees).
- the minimum number of full-time equivalent students in a specific field of education (currently in technology and natural sciences)
- the maximum number of students studying the fine arts and media.

112. Targets are also set for degrees and student numbers in certain fields, on the basis of an appraisal of needs on the labour market. The Swedish National Agency for Higher Education has a commission from the Government to yearly report about the current and projected supply and demand on the labour market for HE graduates (for details, please see Chapter 3).

113. The Government wants an increase in the number of women teachers and researchers in HE. Individual goals for each institution in this respect are detailed in their respective appropriation directives. The goals specify, for example, what proportion of new professors hired are to be women.

114. Individual institutions are expected to reach the different goals within their regular funding allocation.

2.2.3 Goals and policy of Advanced Vocational Education

115. The goals and objectives of Advanced Vocational Education (AVE) are laid down in a separate Government Bill. The major objective of AVE is to provide staff with appropriate educational qualifications in areas needed by the labour market. Programmes are to provide advanced theoretical and practical knowledge and skills required to work independently and in cooperation with others in today's modern workplaces. Courses are to be characterised by theoretical depth as well as a firm links with the workplace. They are to be organised jointly and in cooperation by different providers of education and the workplace, and are to contribute to putting an end to traditional gender-based educational and vocational choices, as well as to counteract socially skewed recruitment to education. The direction and scope of the courses are to be determined on the basis of appraisal of future demand on the labour market (see Chapter 3 for further information). (*Kvalificerad yrkesutbildning*, Government bill 2000/01:63)

2.3 The tertiary education system

2.3.1 *Higher education institutions*

116. As indicated above, Swedish tertiary education is provided mainly in the higher education sector, which comprises universities and university colleges. Today there are 14 state universities, 22 state university colleges, 3 private institutions with undergraduate as well as postgraduate education[12], and a number of smaller private institutions (for details on the private institutions, please consult Annex 2). The HEI's range from large "classic" broad universities to specialised institutions of different size in, for example, teacher training, the fine arts or agricultural sciences. A map of Sweden showing the 39 institutions and t heir locations can be found below. Table 2:2 in Annex 2 contains some basic data on each institution.

1.

[12] The Chalmers Institute of Technology, Jönköping University College, and the Stockholm School of Economics.

Figure 2.1. Map of 39 Swedish HEI's. Many institutions also have branches in cities other than those shown by the map.

117. The higher education institutions are either state-run, or independent but partly funded by the state. Postgraduate degrees may be awarded by universities and by higher education institutions that have been authorised to award these degrees in a specific area or areas. Advanced Vocational Education is provided in partnership between different actors (among them, companies and higher education institutions) and thus does not form its own institutional sector.

2.3.1.1 Accreditation and authorisation to award degrees

118. The main difference between universities and university colleges is linked to entitlement to award doctoral degrees. Swedish *universities* are financed by the state and have a *general* right to award Doctorates. This also means that the universities have the right to choose for

themselves in which subjects they wish to provide doctoral studies. Non-university institutions may receive accreditation in specific "area/s of research" (*vetenskapsområde/n*), entitling them to award postgraduate degrees within that broad subject area.[13] Institutions without entitlement to award postgraduate degrees may provide doctoral studies only in co-operation with an institution that is entitled.

119. The "area of research" concept has been in use since 1999 and is primarily a structure for the allocation of research funding (including funding for doctoral studies) to HEI's. There are four such areas of research: humanities/social sciences, medicine, natural sciences, and engineering sciences. A fifth area, outside the formal "area of research" system, consists of the agriculture-related subjects at the Swedish University of Agricultural Sciences. Accreditation of areas of research is granted by the Government upon application by the HEI concerned and after appraisal by the Swedish National Agency for Higher Education.

120. Universities and university colleges entitled to award doctoral degrees in a certain area of research also have the right to award all general degrees (see Annex 2 for a list of Swedish HE degrees). Other state university colleges have a general right to award all degrees, except master's degrees with a major subject (*magisterexamen med ämnesdjup)*. Both universities and university colleges have to apply to the Swedish National Agency for Higher Education for the right to award the latter degree as well as professional degrees. The National Agency appraises the ability of the HEI to provide qualitative education in the subject concerned, and decides on this right. Only a few university colleges do not have the right to award these master's degrees in any subject.

121. Private institutions are not generally entitled to award degrees but have to apply to the Government for the right to award specific degrees. The Government makes a decision after appraisal by the Swedish National Agency for Higher Education.

2.3.2 Degrees in higher education

122. The Higher Education Ordinance lays down which degrees may be awarded in Swedish higher education. Higher education except doctoral studies is provided in the form of courses of different length, which may be linked together to constitute programmes with varying levels of individual choice. Students may also themselves combine different courses for the award of a degree. The extent of a study programme or a course is measured in credits. One credit corresponds to one week of full-time study, and an academic year normally consists of 40 credits, usually divided into two semesters. One credit corresponds to 1.5 ECTS (European Credit Transfer System) credits.

123. Swedish higher education is currently formally divided into *grundläggande högskoleutbildning*, which roughly corresponds to the concepts of undergraduate and graduate studies, and *forskarutbildning*, which corresponds to doctoral (PhD) studies. The recognised degrees in *grundläggande högskoleutbildning* that Swedish HEI's may award are divided into general and professional degrees. Goals for each degree are laid down in national legislation (the Degree Ordinance). Two degrees are presently offered at the postgraduate level: the Doctorate and the Licentiate. A schematic list of Swedish degrees is found in Table 2.3 in Annex 2.

124. The degree system will change into a three-cycle system from 2007 along the lines of the European Bologna Process (see below).

125. Diplomas from all recognised higher education institutions have equal official value, and the basic principle is that students (with adequate qualifications) from all parts of the Swedish system of higher education should be able to go on to doctoral studies. In the Swedish higher

1.

[13] Five university colleges are accredited for an area of research: Blekinge Institute of Technology – technology, University College of Malmö – medicine, University College of Kalmar – natural science, University College of Mälardalen – technology, University College of Jönköping – humanities and social sciences.

education system, all degrees are regarded as final qualifications, even though there is a possibility to continue studying.

2.3.2.1 General and professional degrees

126. For general degrees the goals reflect the required *level* of the subject studies that form part of the degree, but it is up to the student to choose the direction of studies. General degrees may be geared towards a specific subject, or in some cases, towards a profession (although it is not a designated professional degree). For the general degrees *magister* (4 years) and *kandidat* (3 years), a thesis or degree project is required[14]. Most of the professional degrees are considered to be regulated degrees according to Swedish and/or European Community legislation. In many cases, there are established professional degrees when programmes lead to a regulated profession such as medicine or nursing, but such degrees may also be stipulated in other areas of study that lead to a specific career, or, in some cases, for reasons of tradition. The goals for professional degrees aim to reflect skills and knowledge required for professional practice, for example in medicine or engineering.

2.3.3 Advanced Vocational Education

127. The relatively recently established Advanced Vocational Education is a new form of postsecondary education but has not resulted in a separate institutional sector. The AVE courses are based on close co-operation between enterprises and various course providers (higher education, upper-secondary schools, municipal adult education and companies). One third of the programme is to be spent at a workplace "involving the advanced application of theoretical knowledge".

128. The Swedish Agency for Advanced Vocational Education is responsible for reviewing and deciding on applications from providers to arrange a programme, and thus receive state funds. AVE courses are intended to correspond to real needs on the labour market. However, there are no restrictions in terms of the sectors in which AVE is to be provided.

129. AVE education is post-secondary, in the sense that completed upper-secondary education or equivalent knowledge is required for eligibility. The subject matter is taken from professional contexts, courses in higher education, upper secondary, supplementary and advanced courses. The aim is that the courses should combine practical orientation with in-depth theoretical knowledge.

130. Students are entitled to study grants and loans from the national student aid system. Students are also entitled to influence their education and should always be represented in the management group that each programme is required to set up.

2.3.3.1 The AVE degree

131. The courses last between 1–3 years and confer 40–120 AVE credit points (not to be confused with the credit system in higher education). 1 point corresponds to one week's full-time study. The most common duration is 80 points or 2 years of full-time study. A course consisting of at least 40 points results in an Advanced Vocational Degree (*kvalificerad yrkesexamen*). (www.ky.se) AVE degrees can be awarded only by providers who have received accreditation by the Swedish Agency for Advanced Vocational Education.

2.4 Major changes during the last decade

132. The last 15 years have seen important changes in the Swedish higher education system. The 1990s and the early 2000s were characterised by a policy of expansion of higher education by several consecutive governments. One of the causes was a perception that Sweden was lagging behind

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[14] In the 2005 Government Bill on higher education (*Ny värld – ny högskola*), a new degree at the second or graduate level is proposed, the Master's Degree.

other comparable countries in the proportion of the population entering higher education. The wish to widen participation has been another driving force behind the expansion. Dramatic increases in student numbers were one consequence, as will be described later in this chapter. In addition, this expansion, which mainly took place at the smaller and medium-sized institutions, has affected the institutional landscape. Since 1990, three new university colleges have been established. A number of institutions have been awarded university status. A number of other institutions have been granted the right to award doctoral degrees in one of the four areas of research (medicine, humanities/social sciences, technology, and natural sciences).

2.4.1 From central planning to governance by objectives and results

133. Higher education in Sweden today is based to a considerable extent on a HE reform in 1977. The reform brought a number of postsecondary educational programmes together and incorporated them in the expanded HE system. The central political authorities were made responsible for decisions of a more general nature, while the scope for local decision making at HEI's was widened. This decentralisation was most marked in the area of financial management, which replaced the earlier focus on types of cost by a system closer to management by objectives. (Sarbäck, 2003, Swedish National Report to the OECD/IMHE, p. 7)

134. Between 1977 and 1993, the central government level was responsible for determining the balance between different education sectors as regards resources, as well as determining a framework for the quantitative planning of specific educational programmes. Funding was distributed under many different headings and the scope and direction of the activities of higher education institutions governed through the allocation of study places and funding.

135. "In 1988, a Government bill proposed general guidelines for a new central government budget and control system, giving more responsibilities to individual authorities and agencies and introducing three-year budget periods. The bill marked the start of extensive development work on the central government budget and control system." (quote from Sarbäck, 2003, p.7)

136. In 1993, a major HE reform introduced a system of governance by goals and results. The reform gave HEI's a relatively high degree of freedom to decide on the organisation of programmes, their educational offerings, institutional organisation, and internal resource allocation. A central element in the reform was a remodelling of how state funding to higher education (except research and doctoral studies) was to be allocated to individual institutions. Funding is now based on the institutions' performance in terms of the number of full-time equivalent students and their attainment, instead of on a traditional system of funding based on expenditure. Institutions have significant freedom to allocate the funds internally as they see fit.

137. An underlying objective of the reforms in the early 1990s was to strengthen Sweden as a knowledge nation. Among the more direct aims was to increase the quality of the education by increasing the freedom of students, teachers, and institutions, but also by emphasising their own responsibilities. Another important aim was to increase the efficiency of the use of resources in higher education.

138. The freedom of students to choose their education and an adaptation of the higher education offered to student demand were pillars of the reform. Courses that could be combined into programmes were introduced as the basis for the new system of study. A Degree Ordinance was established to define goals and the main directions for the recognised higher education degrees, replacing the earlier centrally determined study programmes.

139. A prerequisite for the reform in 1993 was extensive quality development work that would take place at the higher education institutions and at national level. Since 2001, the quality of higher education, including postgraduate education, is regularly evaluated by the Swedish National Agency for Higher Education. (see Chapter 9)..

2.4.2 Reforming doctoral studies

140. Recent years have witnessed one major reform concerning doctoral studies in 1998. It consisted of legislative changes that, in practice, made guaranteed financing during the entire postgraduate study period a prerequisite for admission. The bottom line is that admissions are to be adapted to the resources available, and only as many doctoral students as can be offered supervision and acceptable conditions of study are to be admitted. In addition, increased emphasis was placed on the efficiency of postgraduate studies. One of the main reasons for the reform was the fact that in some subjects more postgraduate students were being admitted than could be offered "acceptable conditions" in terms of study financing, supervision, etc. This could lead to prolongation of periods of study or dropouts (Zetterberg, 1994). Another rationale was the ambition to reduce the time required to earn a postgraduate degree by making it financially possible for students to pursue their studies full-time or nearly full-time. Unless the prospective student can be offered funding by the HEI, the admission process currently has to include an assessment of whether the prospective student has secured some other form of funding, and only those who have done so may be admitted.

141. Graduate schools[15] have existed in Swedish HE since the 1980s, and there are many such schools either within a HEI or run by HEI's in collaboration with, for example, other institutions or private enterprises (Högskoleverket 2001:12 R). In 2001, 16 National Graduate Schools were established by the Government. The rationale for this decision was to test different models of research training in order to promote recruitment to postgraduate studies and to increase their efficiency. Each of these schools has a host institution and several partner institutions. The host institution bears the main responsibility for the programmes, coordination, and mission statement of the school. One of the aims of this form of organization is for the National Graduate Schools to promote co-operation among different higher education institutions and different research environments, especially among higher education institutions without entitlement to award postgraduate degrees and those that may. The schools had over 500 active doctoral students (out of a total number of over 19,000 in the country) in the autumn semester of 2004. (Högskoleverket 2005:26 R)

2.4.3 Students' right to participate in decision making in higher education

142. In Swedish higher education, student influence is seen as an important factor in the development of quality, and there is a long tradition of formalised student influence. In the late 1960s students were already given the right to participate in decision-making boards at different levels of the HEI's. Students' rights have gradually been strengthened and clarified, through the introduction of new legislation. Since 2000, students are entitled by law to influence the education offered at the HEI. The HEI's are also required to enable students to evaluate the courses in which they have been participating, as well as to make the results available to students. The national quality evaluations show that the formal student influence works well and that course evaluations are carried out, but also that the results are not always fed back to students as required. In addition, students are entitled to participate in the evaluation panels used in the national quality evaluations mentioned above. It should be noted that membership of a student union is compulsory to HE students in Sweden.

2.4.4 Reduced per capita student funding

143. The expansion of higher education outlined above is regarded, by students and the Government, as a positive influence on the quality of higher education. The growth in student numbers has contributed to diversifying the student group and the introduction of a multitude of perspectives into higher education. However, there is also criticism of the funding situation of the HEI's. Despite the large increase of funds to higher education *as a sector*, in real terms the resources *per student* have

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[15] Usually a graduate school is characterised by a clear organisation for doctoral studies, enhanced supervision, collaboration between subjects and/or institutions on courses and seminars, multidisciplinarity and networks. (Högskoleverket 2000:2 R)

declined[16]. This is mainly due to cutbacks in the national budget in the 1990s. (Högskoleverket 2004:16R.). A dearth of economic resources at the HEI's is reflected in virtually all of the evaluation reports carried out at national level. Straitened finances have resulted in growing student-teacher ratios[17] and heavy teaching workloads, giving teachers less time to pursue their own research. Another obvious result is fewer hours of instruction (Högskoleverket 2004:15R).

2.4.5 New paths to higher education

144. The Government places strong emphasis on widening participation in HE. Part of this policy is to open new paths to higher studies. Starting in the autumn semester of 2003, applicants are allowed to cite accreditation of prior and experimental learning as the basis of eligibility for a higher education course or programmes. So far, however, few applicants have invoked this eligibility.

145. Another new measure designed to broaden the recruitment to higher education is the "alternative selection" possibility. This means that the higher education institutions can choose to admit persons to 10% of the study places on the basis of other qualifications than upper-secondary grades and results from the Swedish Scholastic Assessment Test. For example, a HEI can choose a combination of entrance examination and personal interviews to admit students to 10% of the places[18]. However, this possibility has been used in only a few programmes.

146. The Government sees a clear need for more shorter professional or vocational programmes in higher education. As a consequence, a new vocational degree (*yrkeshögskoleexamen*) was introduced in 2003. This is a two-year degree and it is intended that programmes will correspond to clearly defined and long-term needs on the labour market. Also, new introductory programmes have been introduced, intended to improve students' qualifications and provide eligibility for further university studies.

147. It is the Government's policy goal that higher education should become more flexible and easily available both geographically and in terms of age. Distance education, especially via the Internet, has a long tradition in Sweden and has grown rapidly since the mid-1990s. In 2002 a Swedish Net University was inaugurated in order to support and promote the provision of information technology (IT) supported distance HE. The objective is to widen access to HE and encourage lifelong learning. One of it's the Net University's tasks is to coordinate the IT based distance courses offered by Swedish HEI's. Thus it is not a HEI in itself but a collaboration between HEI's. The Net University also has an internet portal presenting the IT supported distance education offered by the HEI's. In the autumn of 2004, 38,000 students - or more than one-tenth of the total student population – were taking one or more courses offered through the Net University (Högskoleverket 2005:26R).

148. Also, numerous municipal "learning centres" have sprung up around the country. These centres assist students with student counselling, for example, access to library services and computers, etc. They provide services not least to many distance students in municipalities situated far from university campuses. (Myndigheten för Sveriges nätuniversitet, *Nätuniversitetet 2003*)

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[16] However, funding for the humanities and social sciences, the two subject areas with the lowest per capita funding, was enhanced in 2002 and 2003 as part of a special measure. Nursing was another subject area similarly enhanced in 2003. In the 2006 Budget Bill (Government Bill 2005/06:1) further reinforcements of per capita funding are proposed in a number of subject areas.

[17] Between 1989/90 and 1997/98, for example, the number of students increased by 83 % and the number of teachers by 17 %. (Högskoleverket, 2000:12). The number of students per staff member with teaching and research duties is still increasing, but at a much lower rate. (Högskoleverket, 2004:16R)

[18] In the latest HE Bill (Ny värld – ny högskola) the Government has proposed that this possibility be extended to 20% of the places.

2.4.6 The introduction of Advanced Vocational Education

149. Advanced Vocational Education (AVE) (*Kvalificerad yrkesutbildning, KY*) was launched as a pilot project in 1996 but was made permanent in 2002. It is a form of post-secondary education intended to correspond to labour market needs and designed and carried out in close co-operation with workplaces. AVE is described in more detail later in this report.

2.4.7 Sweden and the Bologna Process

150. Sweden is an active participant in the Bologna process since 1999. Many of the measures are in place, such as recognition structures and a mandatory Diploma Supplement, and the use of ECTS credits is increasing.[19] The introduction of a new degree structure along the Bologna lines is still to be implemented, but the Government has made a proposal to this effect in the recent HE policy bill (*Ny värld – ny högskola*). The Government proposes in the bill that higher education – and degrees – will be divided into three cycles: undergraduate, graduate, and postgraduate level. The undergraduate level is to build on knowledge acquired in upper-secondary school and comprise 2–3-year general degrees as well as shorter professional degrees. Education at the graduate level is to build on first-level higher education and is to be characterised by specialisation. A new general Master's Degree (*masterexamen*) is to be introduced at this level, consisting of two years of full-time study. Education at the third or doctoral level is to build on knowledge acquired in second level higher education. As is the case at present, a doctorate would require four years of full-time study. However, a student admitted to third level education after taking a Master's Degree may be entitled to credit at the third level for parts of the Master's programme, thereby shortening the time required for completion of the doctorate. Following a decision by the Riksdag in early 2006, the new degree structure may be in place from 2007/08.

151. Sweden's participation in the Bologna Process is also likely to have an impact on the continued development of quality assurance in HE in Sweden (see Chapter 9).

2.4.8 Developments in funding university research

152. In 2000, the Riksdag decided to establish a new organisation for state research funding intended to facilitate cooperation. As a result, major restructuring took place of the public agencies responsible for research funding in 2001. The areas of responsibility of several research councils and other research financing agencies were concentrated to four new agencies. Three new research councils were created. The majority of the members of the boards of the research councils are elected by the research community. Among the three councils, the Swedish Research Council (*Vetenskapsrådet*) has the task of funding basic research of the highest scientific quality within all fields of research. The other two research councils are mission oriented – the Swedish Research Council for Working Life and Social Research *(Forskningsrådet för arbetsliv och socialvetenskap*, *FAS*), and the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (*Forskningsrådet för miljö, areella näringar och samhällsbyggnad*, *FORMAS*). In addition, a new agency, the Swedish Agency for Innovation Systems (*Verket för innovationssystem*, *VINNOVA*) was created to finance research and development in support of innovation systems and sustainable development and growth. There are also a number of other national agencies and private foundations that fund research in specific areas, including a number of research foundations that were set up in 1994 using public funds.

153. Research in higher education (including doctoral studies), is increasingly acquiring funding from external sources rather than the direct research allocations or grants provided by the

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[19] Swedish HEI's traditionally have the right to choose for themselves which grading system they want to use. Institutions have long experience of working with the ECTS system in the framework of student exchange, and a number of HEI's have already introduced the ECTS credit system alongside the national system (see section 2.5.), but it will be introduced nation-wide in 2007.

Government to the higher education institutions. In 1981 two-thirds of the costs for research and doctoral studies were financed by direct grants. As the higher education sector grew, the share of the total funding made up of these direct grants constantly declined. In 1994, direct grants financed 55% of the research at universities and university colleges, and in 2003, that share had decreased to 45%. However, indirectly the overall state contribution to university research is much larger since funding is channelled instead through research councils and other government agencies and public research foundations. Thus, in total about 80% of university research comes from public funds. Private funds now finance a greater share of research in higher education than before.

154. In the 2005 Government Bill on Research (*Forskning för ett bättre liv*), new special funding for "Centres of Excellence" was announced (see Chapter 5 in this report). For Sweden, this is a new way of allocating research funds in that the funding is applied for by the central management of the HEI and not by individual researchers and also that funds are not allocated to a specific project, but rather to a specific group of researchers. The funding is to be allocated by the research councils and VINNOVA.

155. Another development is that since 1997 all higher education institutions have been granted permanent research funding of varying size, a development which also includes funding to the institutions lacking entitlement to award doctoral degrees.

2.5 Data on the tertiary education system[20]

2.5.1 The size of the student body in higher education except doctoral studies

156. As stated earlier in this report, the number of students in higher education increased dramatically during the late 20th century. In the last fifteen years the student body has doubled. In the fall semester of 2004, the number of individual students enrolled in undergraduate and graduate studies was 337,400, which constituted a slight decrease for the first time in 15 years. The number of full-time equivalent (FTE) students in HE for the first time exceeded 300,000 in 2004. This constituted a small increase compared to previous years – less than 1% – but nevertheless constitutes a break in the trend of rapid expansion. It can be noted that the Government wants to continue the policy of expanding HE in order to accommodate the growing cohorts of young people. To this effect, it has proposed that 15,000 new undergraduate and graduate study places be created until 2007. (Budget Bill for 2006, 2005/06:1).

157. The largest number of students is found in programmes and courses in the social sciences, including law and economics/business studies, and in the humanities. Please refer to Tables 2.4, 2.5, and 2.6 in the Annex for details.

158. The number of students awarded HE degrees is increasing steadily: in 10 years the number of degrees awarded per year has increased by 50%. Over 52,300 persons were awarded a degree in the academic year 2003/04. The number of degrees awarded in the different fields is shown in Annex 2. It should be noted, however, that the number of degrees awarded during one year is not equal to the number of graduates. Many students take more than one degree, often using the possibilities of pooling their credits for different degrees (for example, credits required for a professional degree can also be used to take a general degree. In 2003/04, 38,700 persons were awarded a degree for the first time. (Högskoleverket 2005:26R)

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[20] Unless otherwise stated, this section is based on the Swedish National Agency for Higher Education's Annual Report 2005 (Högskoleverket 2005:26R)

2.5.2 Participation in higher education

159. The Government's long-term target is for 50% of those born in any given year to have embarked on university level studies by the age of 25. In 2004, just below 44% of those reaching 25 that year had started higher education, plus approximately another 2% who began HE abroad without any previous studies in Swedish HE.[21]

160. Swedish students are older on average than in many other countries. In 2002/03 half of the beginner students were younger than 21, and two-thirds were younger than 24. However, over a tenth of beginners were older than 35 when they started HE for the first time. Of the total student body, one-half were older than 25, one-tenth older than 40, and 3% older than 50. There has been a relatively large increase in the number of older students in the last few years. In part, this can be explained by the so-called Adult Education Initiative, a Government initiative giving older adults the possibility to acquire eligibility for higher studies. (Högskoleverket 2005:26 R)

161. Today more women than men participate in higher education (se Figure 2.2. in Annex 2). Of the total number of beginners in the academic year 2002/03, 58% were women and 42% men. In the student population as a whole, 60% are women. There are gender differences in the choice of subject, however. Many women and men still tend to choose their education along "traditional" gender lines, such as women forming the overwhelming majority of students in nursing programmes and men in engineering (Högskoleverket 2005-07-12).

2.5.3 Doctoral students

162. The expansion of Swedish higher education is also clearly visible in doctoral studies. During the past ten years, the number of postgraduate enrolments has increased by nearly 40%, although with great variations between subjects. In medicine and engineering, the two subject areas with the largest growth, the increase amounted to 67% and 57%, respectively (see also Table 2.7 in the Annex). The number of postgraduate degrees awarded more than doubled during the decade; mainly Doctorates, which increased by 114% to 2,677 between 1993 and 2003. The number of Licentiate degrees has remained rather constant at around 1,000 for the last five years.

163. Nevertheless, between 2003 and 2004, the number of doctoral enrolments declined by 20%, from 3,800 in 2003 to 2,900 in 2004. There are several possible explanations for this. In part, it could be a question of adapting the number of postgraduate students to the available resources. In some cases resources have also been redistributed from doctoral studies to the postdoctoral stage to enable the creation of more postdoctoral posts.

164. The number of women enrolled has increased significantly more than for men during the decade, and the gender distribution among students beginning postgraduate study has now become virtually even, with 50.3% women and 49.7% men in 2004. There are, however, great variations between subjects, with the greatest share of women beginning in medicine (61%), and the smallest in engineering (30%). In the humanities, social sciences and natural sciences, the gender distribution is more even. Among all postgraduate students (not just beginners), there were 9,100 women and 10,100 men in 2004.

165. The rates of transfer from undergraduate/graduate to doctoral studies is dependent on the subject studied at undergraduate/graduate level. Among those with an undergraduate/graduate degree from the academic years 1995/96–1999/00, on average 7.1% had begun a postgraduate programme in 2003/04. Among those with an undergraduate/graduate science degree, 34.9% had

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[21] The objective laid down by the Government refers to the actual transfer to higher education up to and including the age of 25. Another indicator used by the Swedish National Agency for Higher Education consists of an aggregate of the proportions of beginners in HE in each cohort between 19-25. This figure, which is higher, was 47.3% in 2003/04.

transferred. Nursing graduates with 2.6%, together with teaching graduates with 1.6%, had the lowest transfer rates. (Högskoleverket 2005:26R)

2.5.4 Students in Advanced Vocational Education (AVE

166. The number of students in Advanced Vocational Education has expanded rapidly from less than 1,000 in 1996 to 20,900 in 2004. The largest sectors in 2004 were IT, business/economy/trade, technology and manufacturing, health care, and tourism. Please refer to Table 2.8. in Annex 2 for details.

2.6 Governance and regulation of tertiary education[22]

2.6.1 Legislative framework

167. Except for the private institutions, Swedish HEI's are formally government agencies under the jurisdiction of the Government and Riksdag. As such, they are subject to the general body of regulations that apply in the same way to other government agencies (see Annex 2, Higher education institutions as agencies). In order to safeguard academic autonomy and accommodate the specific features of higher education, there is also a special regulatory framework for state higher education, laid down in the Higher Education Act and the Higher Education Ordinance. The independent, or private, HEI's are not formally bound by these statutes (except for their obligation to follow the principles in the first chapter of the Higher Education Act). However, they have to comply with the quality requirements to retain their entitlement to award recognised higher education degrees and to receive state funding for their programmes. There is a separate Act and Ordinance for the private institutions[23], enumerating their obligations and the degrees they are entitled to award. The Swedish state provides most of the funding to the private institutions for their HE courses and programmes.

168. The current Higher Education Act and Ordinance came into force in 1993. The Act is a brief document providing a framework for higher education in terms of objectives, outlines for the organisation and distribution of responsibilities within higher education institutions, as well as some general provisions on staff and the rights of students. The Higher Education Ordinance prescribes broad outlines that apply, for example, to access and admission to undergraduate and postgraduate studies, programme and credit structure, organisational framework, staffing and career structure. A Degree Ordinance, specifying which degrees may be awarded in Swedish higher education, is annexed to the Higher Education Ordinance.

169. Advanced Vocational Education is governed by its own Law and Ordinance[24].

2.6.2 Governance of higher education

170. Much of the decision making in higher education, especially concerning day-to-day operation, has been decentralised to the institutions. This is a consequence of reforms in the 1990s that changed the division of roles between the institutions and political bodies. Today's system of governance is based on objectives and results. The Riksdag and Government decide on objectives and specify the results required, and it is the responsibility of the higher education institutions to ensure that activities are carried out in the best possible manner. The system is described in detail in the Annex to this chapter. While management by objectives and results leads to delegation of responsibilities and a reduction in the amount of detailed control of the institutions' activities, it also

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[22] This section is based on the Swedish National Report (2003) to the Joint OECD/IMHE – Hefce Project on Financial Management and Governance of Higher Education Institutions. The author of the report is Staffan Sarbäck, Luleå University.

[23] *Lag* (1993:792) *om tillstånd att utfärda vissa examina* and *Förordning om tillstånd att utfärda vissa examina* (1993:956).

[24] *Lag* (2001:239) *om kvalificerad yrkesutbildning* and *Förordning* (2001:1131) *om kvalificerad yrkesutbildning*

leads to an increase in the requirements to report results. (Sarbäck [2003], Swedish National Report to OECD/IMHE, 2003).

171. The higher education institutions enjoy considerable freedom within the framework of the regulations and parameters laid down by the Riksdag and Government. Chapter 8 describes in greater detail the institutions' right to make independent decisions.

2.6.2.1 Funding tertiary education

172. Higher education in Sweden, apart from doctoral studies, is almost exclusively state financed (with the exception of contract education, which is paid by the commissioner). Tuition fees for individual students are currently not permitted at any level in the system. The central political authorities – the Government and Riksdag – are responsible for decisions on the overall level of funding and on the distribution of funding to individual institutions.

173. As described earlier, in the 1990s major changes were implemented intended to reduce detailed Government control over the everyday operations of higher education institutions. The introduction of a performance based funding system for HE except for doctoral studies was an important part of this development. Funding takes the form of state grants, the level of which depends on the subject, and these are calculated on the basis of a combination of student numbers and performance. The system is described in detail in Chapter 7.

174. Advanced Vocational Education (AVE) is mostly state financed, with the exception of the workplace learning component which is financed by the workplace in question. Approved providers of AVE receive funding as a set amount per student from the Swedish Agency for AVE. AVE funding is described in Chapter 7.

175. State funding for research and doctoral programmes comes partly through research funds allocated directly to the HEI's and partly through funds allocated via state research funding bodies, upon application. Research funding is described in detail in Chapter 5.

2.6.3 Important agencies and policy actors

176. In Sweden, state agencies take on many of the tasks that in many other countries rest with central government ministries. Swedish ministries are mainly responsible for determining policy while major reviews and analyses, as well as a number of other tasks, are generally undertaken by the agencies under the authority of the ministries.

177. As regards tertiary education, the overall responsibility lies with the Ministry of Education, Research and Culture (except for the Swedish University of Agricultural Sciences which is accountable to the Ministry of Agriculture). The Ministry of Education, Research and Culture is responsible for funding proposals for tertiary education in the Budget Bill. State higher education institutions are part of the public, central government administration, in terms of both organisation and function. They are formally government agencies subject to the Government. In the Swedish system there is no intermediate or "buffer" agency between the Government and the HEI's. Apart from the HEI's, there are a number of public agencies with relevance for tertiary education, as well as some non-state actors. The most important ones are enumerated below.

2.6.3.1 National agencies under the aegis of the Ministry of Education, Research and Culture, with relevance for tertiary education

178. Established in 1995, the **Swedish National Agency for Higher Education** (*Högskoleverket*) is a central government agency for issues concerning higher education in Sweden. Among its chief tasks are the evaluation of the quality of higher education, including doctoral studies, in Sweden and provision of different types of accreditation of higher education institutions (see above). Another of the agency's tasks is to undertake research and analyses relating to higher education in Sweden, as well as to produce national HE statistics. The agency also supervises the

higher education institutions' compliance with the laws and regulations that apply to higher education. In addition, the Swedish National Agency for Higher Education evaluates foreign higher education qualifications and provides information about HE in Sweden for a Swedish audience.

179. The **National Agency for Services to Universities and University Colleges** (*Verket för högskoleservice*) is a contracting agency in the educational sector whose chief task is to provide services and support to HEI's. Such services include: coordinating admission to educational programmes at universities and university colleges; procurement support for HEI's and other national authorities, and the management of different education administration systems.

180. **The Swedish Agency for Networks and Cooperation in Higher Education** (*Myndigheten för nätverk och samarbete i högre utbildning*) has tasks in promoting widening participation and pedagogical development. It also has tasks related to changes in the structure of higher education and degrees which are a consequence of Sweden's adaptation to the Bologna Process. The agency formerly operated under the name of the Swedish Net University Agency, and still retains the tasks it had then in connection with the Swedish Net University. In cooperation with the HEI's, the agency thus promotes the development of internet-based distance higher education in Sweden. Among its other tasks, the agency runs and develops a web-based platform in which the Swedish Net University and its courses are presented. However, it is the HEI's themselves that develop and offer the courses.

181. The **International Programme Office** (*Internationella programkontoret*) administers EU and national programmes for international mobility in schools and adult education, higher education, and working life. It informs about and markets the programmes, evaluates and disseminates results of the various activities.

182. The **Swedish Agency of Advanced Vocational Education** (*Myndigheten för kvalificerad yrkesutbildning*) is the central authority for Advanced Vocational Education (AVE). It is responsible for drawing up guidelines contributing to development, approving applications from providers wishing to offer AVE programmes, allocating grants and supervising and monitoring AVE courses.

183. The **Swedish National Board of Student Aid** (*Centrala studiestödsnämnden, CSN*) is the national agency responsible for the Swedish financial aid for students.

2.6.3.2 Other agencies with relevance for tertiary education

184. The **Swedish National Audit Office** (*Riksrevisionen*) is an independent authority under the Riksdag. It scrutinizes the annual and interim reports of the national authorities and agencies, including the higher education institutions, and audits the activities of the state.

185. The **Swedish Institute** (*Svenska institutet*) is responsible for information abroad about Sweden, including marketing of and information to foreign students on higher education in Sweden. It organises exchanges and funds certain international cooperation in the spheres of education and research, for instance, and funds scholarships for incoming students and researchers.

2.6.3.3 Research funding bodies

186. The **Swedish Research Council** (*Vetenskapsrådet*) is a government agency under the Ministry of Education, Research and Culture. The main task of the council is to fund basic research of the highest scientific quality in all fields of research. Other important research funding bodies are the Swedish Research Council for Working Life and Social Research, **FAS,** the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, **FORMAS,** and the Swedish Agency for Innovation Systems, **VINNOVA**, which are mission-oriented. There are also a number of **foundations** financing research (see Table 2.1. in the Annex).

2.6.3.4 Other actors

187. There are also several important non-state policy actors. The former Rectors' Conference, the **Association of Swedish Higher Education** (*Sveriges universitets- och högskoleförbund, SUHF*), is an organisation for co-operation between HEI's on a voluntary basis, to which all universities and university colleges in Sweden belong. The **Swedish National Union of Students** (*Sveriges förenade studentkårer, SFS*) is an association of 68 student unions at Swedish HEI's, representing 310,000 students. In addition, professional unions frequently take part in HE policy discussions. The **Swedish Confederation of Professional Employees** (TCO) is an umbrella organisation with 17 affiliated unions which, in turn, organise in total 1.3 million employees in different professional fields. **The Union of Civil Servants** (ST), one of the unions affiliated to the TCO, organises 97,000 white-collar employees in the government sector, 11,000 of whom work in higher education. The **Swedish Confederation of Professional Associations** (SACO) is another umbrella professional organisation. It comprises 25 independent unions which organise half a million academics or professionals with a HE degree**. The Swedish Association of University Teachers** (*Sveriges universitetslärarförbund, SULF*) is a member organisation of the SACO and organises university teachers, researchers and doctoral students, with a total of 20,000 members.

3 THE TERTIARY EDUCATION SYSTEM AND THE LABOUR MARKET

3.1 Introduction

188. As described earlier, decision making in Swedish HE is largely decentralised to the institutions. In general, this also applies to their quantitative planning. The internal allocation of study places, as well as decisions to start or end a programme or course, are essentially the responsibility of the institutions[25]. The funding system is based on the number of students and their results, which has posed financial problems for courses that do not attract sufficient numbers of students. Through their choices, students are able to influence the HEI's funding and thus – in the longer term – the quantitative development of most courses. While the Government requires the HEI's to plan their programmes with regard both to student demand and labour market needs, the incentives mainly encourage adapting to student wishes. Moreover, the responsibility for improving links with the labour market lies with the institutions. At the system level the linkage between labour market demand and the ways in which HE is planned is thus currently not very strong (but may vary between different HEI's).

189. During the last few years, labour market issues have resurfaced in the higher education policy debate. Part of the explanation for this renewed interest in the labour market can probably be found in indications that the labour market is increasingly difficult for HE graduates, also at doctoral level, in terms of rising unemployment. There also appears to be a growing awareness among policy makers of imbalances – shortages and surpluses of graduates – on the graduate labour market.

3.2 Forecasts and information about the labour market situation

190. *Statistics Sweden* (SCB) is responsible for analysing overall labour market supply and demand in a short, medium and long-term perspective, and to produce the official labour market statistics which are based on interviews with a sample of the Swedish population of working age. Statistics Sweden also studies how graduates fare on the labour market on an aggregate level by utilising Swedish statistical data records. *The National Labour Market Board* collects and disseminates unemployment data on the basis of the number of persons who are registered at employment exchanges and makes short and long term labour market forecasts on the basis of employers' labour needs.

191. The responsibility for collecting statistical data relating to higher education lies with the *Swedish National Agency for Higher Education*[26]. Every year, in cooperation with Statistics Sweden, the National Agency investigates labour market establishment for graduates from different disciplines and institutions. In 2004 The Agency was also asked by the Government to analyse trends and developments on the graduate labour market each year. The aim is to provide a reference source for the Government's overall educational directives to the HEI's, and to assist the institutions in planning what they offer with closer consideration of labour market needs.

192. A related issue is the possibilities for students to obtain information about labour market prospects for graduates from different programmes. While national information is compiled by the organisations above, as well as by professional unions, there is a lack of such information at the local HEI level. In general, institutions in Sweden only monitor the future careers of their alumni to a limited extent. (Högskoleverket, 2004:38R)

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[25] HEI's have to be accredited, on a general or degree-specific basis, (see Chapter 2) to award the relevant degree/s. When the right to award a professional degree is granted to a HEI, the decision is based on an assessment of quality.

[26] Most of the data is collected by Statistics Sweden at the behest of the National Agency.

3.3 The graduate labour market

193. Demographic developments in Sweden during the coming decade will lead to significant changes in the age structure of the labour market. While the working-age population will grow mainly in age groups where labour market participation is comparatively low (20–24 and 60–64), there is also an impending generation shift –especially in the public sector – as large groups born in the 1940s will have to be replaced as they retire. (Högskoleverket 2004:36 R)

194. The numbers graduating with a HE degree in 2003/04 totalled almost 47,000. Of these, close to 40,000 graduated from HE for the first time. (SCB 2005d) In addition a relatively large number leave HE each year without a degree[27], among them around 10,000 individuals who have at least three years of higher education – which in many circumstances may be comparable to a degree. Among those retiring the number of similarly qualified is substantially lower. Every year therefore the labour market receives a substantial increase in the number of graduates from higher education.

195. On average, the number of HE graduates is more than enough to fill positions made vacant by the retirement of graduates (supply and demand differs however in different vocational areas and the higher education institutions offer programmes in areas where there are both major shortages and major surpluses of labour). Considering the expansion of HE in last 15 years the proportion of those with advanced qualifications in the labour force will continue to increase for several decades. However, there are large differences between the professional categories. (Högskoleverket 2005:26R) Table 3.1. in the Annex shows the share of the population in different age groups by highest qualification. Tables 3.2 and 3.3 in Annex 3 show the increment of individuals with different levels of education between 1996–2010, as well as the recruitment needs on the labour market.

196. Gender distribution on the Swedish labour market is uneven. Out of the 30 largest professional groups (which together comprise half of the more than 4 million gainfully employed) only 4 groups have a gender distribution in the 40-60% interval (the interval normally used to indicate an "even" distribution). The norm is for a profession to be dominated by either men or women, for example in the large group of working in health and the social services, where 90% are women, or engineers and technicians, where 85% are men. It can be noted that many of the large professions dominated by women require higher education, while many of the male-dominated professions do not. (The data refer to 2003 and are found in the Statistics Sweden occupational register). This division into separate career paths for men and women can already be seen in upper-secondary school and is markedly visible in higher education (see Chapter 6). (Högskoleverket 2005-07-12)

3.3.1 The demand for graduates

197. As in many other countries, the qualifications required by employers have risen during the past decades, as a result of the restructuring of the Swedish economy towards what is called "more knowledge-intensive production". Sweden is not alone in noting a decrease in the proportion of jobs for which no specific qualifications are required, while the proportion requiring more advanced qualifications has grown. Moreover, the level of skills required for new jobs tends to rise as more advanced technology is adopted in the workplace. (Högskoleverket, 2004:36R). There are, however, researchers who claim that there is a growing proportion of "overqualified" workers in Sweden, as a result of a more rapid rise in the average level of education of employees than the average rise in the level of qualification required. Thus, it is argued, the proportion of highly qualified individuals in jobs below their qualification level has increased. (le Grand, et al. 2002 and 2004)

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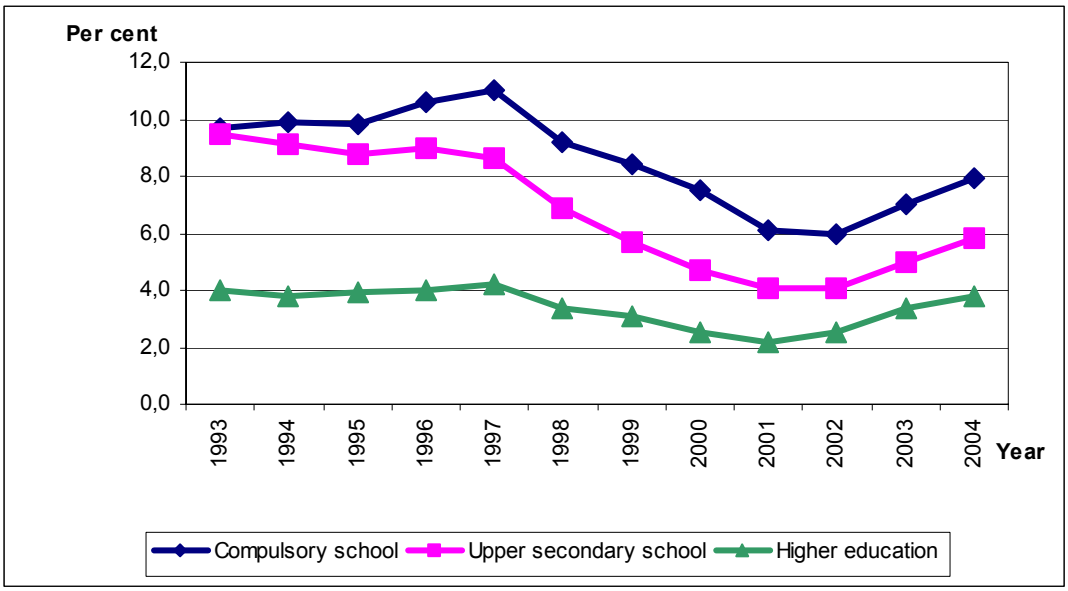
[27] In the Swedish system, students have to apply for award of their diploma and thus their degree. Thus students without degrees may nevertheless have the required credits. In addition a job offer may be one reason for quitting without taking a degree. Also, HE in Sweden provides great scope for lifelong learning.

3.3.1.1 The employment situation of HE graduates

198. In general, graduates from higher education have a better footing in the labour market than those with upper-secondary qualifications or only compulsory education. However, rising unemployment levels for HE graduates as well have given rise to debate in the last few years. In 2004 unemployment among all HE graduates (including those with PhD's) was 3.8%, as compared with 5.8% among upper-secondary graduates and 7.9% among those with only compulsory education (Data from Statistics Sweden, SCB). Tables 3.4. and 3.5. in Annex 3 shows the educational attainments of the population as well as the unemployment levels for the different educational categories between 1993–2004.

Figure 3.1. Unemployment on different levels of education, 1993–2004



Source: Graph from Högskoleverket 2005:26R, p. 84. Based on unemployment data from Statistics Sweden.

199. Rising unemployment levels for PhD's has recently emerged as an area of concern. According to a report by the Swedish Association for University Teachers, (Sveriges Universitetslärarförbund July 6, 2005), unemployment for holders of postgraduate degrees was 4.3% in 2004. It was claimed in the report that unemployment is especially high for younger graduates and in some subjects, reaching 12.7% in biology and also 10.4% in computer science in 2004. The Swedish Association for University Teachers argues that there are too few positions for new Doctors in higher education and that demand is low in private enterprises. See Table 3.6. and Graph 3.1. in Annex 3 for a comparison between unemployment among holders of undergraduate and postgraduate degrees.

3.3.1.2 Establishment on the labour market by HE graduates

200. A compilation of data, forecasts and analyses of the labour market for graduates from professional programmes shows imbalances between supply and demand in several areas. There are currently surpluses in engineering and information technology (although demand for those with master's degrees in engineering is expected to rise in a few years). A surplus is also foreseen in business/economics and journalism. Shortages are found in health care (physicians, dentists, and specialised nurses), teaching (especially pre-schooling and pre-school classes), and qualified social workers. There are also large regional imbalances, with some regions experiencing shortages of adequately qualified persons in a certain field, while there is a surplus in other regions. (Högskoleverket 2004:36R)

201. Data on the establishment of graduates on the labour market for 2003 show a small deterioration of 2% since the previous year. Within 12-18 months of graduation 78% of all HE

graduates were established on the labour market in 2003[28]. There are great variations in how well graduates from different areas fare on the labour market. For example, within 12 months of graduation, more than 90% of new physicians have a job in the field in which they were trained. Other groups with a strong footing in the labour market, according to this indicator, are nurses and engineers (despite the downturn on the engineering labour market in the last few years which is reflected in the analysis in the section above). Difficulties are experienced especially by those with degrees in the fine and applied arts. As can be seen in the table in Annex 3, graduates with bachelor's or master's degree in languages, the humanities, social sciences or natural sciences constitute other large categories with low "establishment rates". (Högskoleverket 2004:24 R) A similar study regarding the establishment of PhD's on the labour market shows that 85% were established within 3 years of the award of their degree. Within 10 years the figure was 90%. Naturally, there are variations also within the group of PhD's. (Högskoleverket 2006:7 R)

3.3.1.3 Employment situation of Advanced Vocational Education graduates

202. As stated earlier in this report, Advanced Vocational Education (AVE) is expressly aimed at providing education in areas of demand on the labour market. According to a study (Lindell, 2004), 80% of AVE graduates in 1999, 2000 and 2001 were employed within six months of graduation. Of these, 80% were employed in the field in which they were trained. This constituted a significant improvement of their employment situation, since 59% of those starting their AVE training in 1996–98 had been registered as unemployed in the preceding year. Around half of the respondents believed that their AVE degree had contributed to higher remuneration for their work, while one-third believed it had not. However, there is a declining trend in the success of AVE graduates in the labour market. In 2004, 69% were employed or had started their own business. (Myndigheten för kvalificerad yrkesutbildning, 2005)

3.3.2 Salary levels

203. In most countries it is assumed that HE graduates will on the whole receive higher salaries than those without a degree. In Sweden, this "university salary premium" in relation to long upper-secondary education has been calculated at around 5% annually for long programmes and between 0.8 and 4.2% for two-year programmes. However, the level of the premium may vary according to the methods of calculation used. The absence of fees and the relatively generous study support system may also affect the premium. Additionally, tax levels may affect the returns to the individuals. There are also significant variations between different fields of education. According to Wadensjö (1991, described in Ds 2002:47), medicine, civil engineering, business and economics, and lawyers earn the highest premium, while the lowest are found for graduates in the humanities, religious sciences, psychology, and mathematics/natural sciences. For some of the latter groups there may even be a negative premium in comparison with those with a technological upper-secondary education. In general, as well, longer programmes yield higher returns to the individual. (Studies discussed in Ds 2002:47, pp. 81–87). Please refer to Tables 3.7. and 3.8 in Annex 3 for details on average salary levels for different levels of education and specialisations.

204. There are no official data regarding differences between graduates from different institutions in this respect although several studies claim that such a link exists. According to a study by SACO, a professional union for academics, differences of this sort can be found, irrespective of individual characteristics such as age or specialisation, and have increased between 1990–1999 (Regnér & Gartell,. 2002). The authors see this mainly as the outcome of the variation in salary levels between different local labour markets and the choice of many students to stay in the community where they earned their degree. Another study, comparing siblings who graduated from different institutions, argues that varying teaching quality, in terms of the proportion of teachers with a doctorate, may offer one explanation of differences in earnings (Lindahl & Regnér, 2003).

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[28] Establishment on the labour market was defined as having income over a certain level, being employed according to the employment register, having no indication of unemployment, and not being defined as a student.

3.4 National policies for aligning demand and supply on the labour market for tertiary graduates

205. The Swedish decentralised system for governing HE applies also to labour market issues. The responsibilities for making the "right" choices in regard to labour market needs are essentially delegated to the "market", that is to the HEI's and individual students. The Government's directives to HEI's in this respect are either general – the requirement to collaborate with the surrounding community and to take into account both student and labour market demand in planning programmes – or very detailed in terms of target numbers for a few specific degrees.

206. The HEI's are required to collaborate with the surrounding community. This requirement, though very generally formulated, is intended, among other things, to contribute to aligning labour market supply with demand. The intent in this respect is for the HEI's to collaborate with employers and other interested parties in society and in doing so identify what skills are needed. (Högskoleverket 2004:38 R)

207. The Government sets targets for the HEI's with regard to the number of graduates to be produced in teaching, nursing, and engineering each year for a four-year period. The Government also sets targets for the number of full-time equivalent students in the natural sciences. Furthermore, the appropriation directives for HEI's entitled to award Doctorates contain targets for the number of such degrees to be awarded in different areas of research. No economic incentives are linked to these targets. There is also an upper limit to the number of state-funded study places in the fine arts. The educational targets and funding limits are set on the basis of assessments of labour market needs as well as of the overall economic situation of the HE sector.

3.4.1 Contract education

208. The Government also requires HEI's to offer contract education, which may be purchased by organisations for their employees. Contract education still accounts for a very small share – a few per cent – of the total offerings in higher education apart from doctoral studies in Sweden. Nearly all HEI's provide this kind of teaching in varying ways and extent. For employers, contract education provides a possibility to meet short-term skill needs by purchasing courses from HEI's for their employees. For institutions, contract education can serve as a source of labour market information. According to several HEI's, the demand for courses like this serves as guidance on how to develop programmes that can better meet the needs of the labour market. (Högskoleverket 2004:38 R)

3.4.2 Shorter employment-oriented courses in HE

209. In the HE sector there are a number of shorter, vocational courses, leading to national degrees (for example, the two-year *yrkeshögskoleexamen*). There are also specific courses organised, often for a limited period, for specific target groups (frequently with a focus on improving individual employment prospects) or aiming to provide eligibility for a certain programme of education (see Chapter 6). One example of the former is *särskild lärarutbildning*, a form of part-time teacher training for persons already working as teachers at a municipal school but who lack the formal qualification for a permanent appointment or who want to broaden their previous qualification.

3.4.3 Advanced Vocational Education and employers

210. AVE is an important element in the policy of attaining a better match between supply and demand on the labour market. It is expressly aimed at filling labour market needs and is characterised by the active participation of employers. An AVE programme can be initiated by employers with, for example, a sectoral organisation or an enterprise applying to the Swedish Agency for AVE to start a programme. It can also be initiated in cooperation between an educational organisation, such as a HEI, and a municipality or an educational enterprise with the required

competence. It should be noted that one-third of a programme like this should always comprise advanced workplace learning.

211. Irrespective of who initiated the programme, a prerequisite is that there is a real need on the labour market, and that employers take an active part. What constitutes need is assessed by the Swedish Agency for AVE, on the basis of statistical data, contacts with employer organisations, and other forms of input. Also, providers must be able to prove that there is a real labour market demand for their courses. Another distinguishing feature of AVE is its flexibility. Programmes are created, changed, or discontinued, depending on the development of the relevant commercial area. The existence of the programmes is therefore reviewed on a regular basis, and employer interest and the results and quality of the programmes determine whether programmes continue. (Myndigheten för kvalificerad yrkesutbildning, *Arbetslivet och den kvalificerade yrkesutbildningen*, fact sheet)

3.4.4 The work of higher education institutions with labour market issues

212. Many HEI's work actively with interested social partners to improve their offerings, in order, for instance, to meet labour market needs. At most institutions, the labour market factor is considered when programmes are planned. Most institutions make use of external input to some extent (for example from companies or national public agencies) in developing new programmes. Institutions also make use of the external members of their governing boards for this purpose, and/or work with various types of councils. About half of all institutions make use of business or programme councils to support the development of their courses. Institutions also use guest teachers (from both the public and commercial sector) and internships or workplace learning periods for students for the same reason.

213. There is also close cooperation between institutions and local or regional authorities, (for example in developing health care or social work programmes) as well as with other local employers. In some cases, hearings or conferences for prospective employers are arranged by HEI's. Institutions are also frequently involved in local or regional bodies where future skills requirements are discussed, for example within "regional skills councils", organs for dialogue between stakeholders in the region, with the aim of ameliorating shortages of skills in the region concerned. (Högskoleverket 2004:38)

214. Each HEI is required by the Higher Education Ordinance to provide study guidance for its students. Many also provide career guidance. Institutions provide these services both at the central administrative level and in individual departments. After graduation, there are no national career or job placement services specifically for graduates[29]. Unemployed graduates are expected to turn to an office of the national employment agency (the Swedish National Labour Market Administration). A development area in which many HEI's are currently involved concerns methods for systematic follow-up of their graduates on the labour market. Comprehensive surveys by HEI's of how graduates experience the relevance of their education in the labour market or whether graduates find work in their chosen field have not so far generally not been common. (Högskoleverket 2004:38) It can be noted that the extent of cooperation with employers to improve links with the labour market varies between different fields of education.

215. About one-third of institutions (almost all of the universities) have a career centre whose tasks vary (for example, they offer help to students to write their CV's and prepare for job interviews, mentorship programmes, allocation of trainee positions, and assistance to employers who wish to recruit from the institution). Labour market days are also arranged at more than half of the HEI's to allow students to meet future employers and find degree projects and internships. (Högskoleverket 2004:38)

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[29] However, in 2006 two professional unions together with a manpower agency launched employment services for their members.

3.4.5 Employers' view of the relevance of HE to the labour market

216. Employers have criticised the relevance of HE to the labour market. One organisation, the Confederation of Swedish Enterprise wants HE to be planned to a greater extent with the aim to achieve a better match between supply and demand. The Confederation is critical of the funding system to HE, which it claims does not provide incentives to raise quality or adapt programmes to labour market needs. Instead, the system should promote 1) education corresponding to the need of private enterprises as well as 2) a greater focus of education and division of responsibilities between HEI's. Also, HEI's should follow both up the relevance of their education to labour market needs and to what extent their students are employed after graduation. In order to complement HE there is also a need for more practical post-secondary vocational training that can be planned and offered in close collaboration with the social partners. (Svenskt Näringsliv 2006 and written information from the organisation)

217. Another employer organisation, the Federation of Private Enterprises claim that smaller enterprises have difficulties finding staff with the right qualifications (mainly vocationally oriented upper secondary school graduates). The organisation also finds that the enterprises increasingly demand staff with higher education, not only because of an actual rise in the level of qualifications needed, but also of the fact that employers think that the quality of upper secondary vocational programmes has decreased. (Företagarna 2006)

3.5 Sweden and the international labour market

218. There is no systematic collection of information on how the international labour market influences the national tertiary education system. At a national level measures are applied to make Swedish degrees more internationally comparable (see Chapter 2). The proposed reform of the degree system will, according to the Government, increase the possibilities for Swedish graduates to have their qualifications evaluated correctly in other countries and hence to increase their chances of employment and study abroad. (*Ny värld – ny högsko*la, Government Bill 2004/05:162).

219. Many Swedes study abroad, and some also work abroad for a shorter or longer periods. The HE system is increasingly internationalised, although much of the emphasis is still on mobility (primarily that of students). Besides going abroad to study, some students do an internship period at a workplace abroad as part of their programme, for example students in engineering, social care, nursing, and social sciences.

220. There are some examples of courses and programmes being created with an emphasis on "international" skills. Various programmes with a foreign language and international specialisation have been provided for many years (for example, business administration programmes with specialisation in a foreign language, and jurist-linguist programmes). Also, certain programmes are required to keep to EU/EEA standards. The basic standards for programmes in health care and other regulated professions are laid down in EC legislation and apply to all Member States. In addition, there has been a marked increase in offerings in English during the last few years, although this is perhaps more an adjustment to the needs of the growing numbers of foreign students in Sweden than a concession to the international labour market. (Högskoleverket 2005:1R.) As regards Advanced Vocational Education, these programmes have so far concentrated mainly on the national labour market.

4 THE REGIONAL ROLE OF TERTIARY EDUCATION

221. For decades, there has been a clear regional dimension to higher education policy in Sweden. Since the 1960s one aim of higher education policy has been to improve access to higher studies across the country. Higher education policy has, in turn, come to play an important role in other policy areas, not least where regional policy is concerned. New institutions have been established, and some university colleges outside the traditional university regions have received university status. The number of study places at institutions outside the traditional university regions has grown rapidly, and the amount of research funding allocated to many of the newer institutions has increased. (Högskoleverket 2004:16R).

4.1 The regions and tertiary education

222. In the second half of the 1960s, the number of students in HE increased sharply, necessitating expansion of the higher education system. Several university branches or subsidiaries were established which eventually became universities in their own right. Regional policy considerations became an explicit part of HE policy for the first time in the late 1960s, when a Government Committee proposed that both regional and educational policy considerations should be taken into account when deciding where to locate new HEI's. (Wikhall, 2001) Among the early motives for the regional expansion were increased access to higher education for larger segments of Sweden's inhabitants, as well as improvement of the provision of qualified personnel in poorly served regions. (SOU 1997:13; Cederlund, 2004)

223. In 1977 the structure of HE was altered, placing all postsecondary education in one unified sector. A number of university colleges, most of them vocationally oriented, formally became part of the HE sector. These "new" university colleges were not initially granted permanent research resources, which gave rise to criticism that their programmes would lack the basis in research that should characterise HE. (A permanent research allocation for university colleges as well was introduced in the mid-1990s.) Also, entirely new higher education institutions were established as a result of a more active regional policy, which also required several public agencies to relocate away from the capital. (Wikhall, 2001)

224. Since 1990 the Swedish HE system has been expanded and the number of HEI's has increased. New university colleges have been founded and a number of university colleges have been granted university status. Today there is at least one HEI in each county. The HE sector also comprises branches of existing institutions in other locations, and distance higher education. Moreover, many HEI's collaborate with municipal learning centres, which provide study support mainly for distance students such as access to study guidance, premises for study, and technical assistance such as internet access and videoconferencing. Learning centres may also offer possibilities for students to be examined there. Learning centres have been established in most municipalities (www.larcentra.se).

225. It can also be added that Swedish HEI's formed the Swedish Net University in 2002. The goal is to offer as many courses and programmes as possible in information technology (IT) based distance learning in order to increase the accessibility of higher education in both time and geographically and thereby contribute to widening participation. Currently (2005) about 2,600 courses and 100 programmes are offered through the Net University. (www.netuniversity.se)

226. Among local policy makers and businesses there is often a strong desire for "their" university college to acquire university status. One reason is the expectation that a university is likely to attract more capital investment to a region than a university college. (Cederlund, 2004) At the moment applications for university status have been submitted to the Government by several university colleges. Currently, however, the Government has indicated that it favours the promotion of collaboration and division of labour between institutions instead of creating more universities (Government Bill 2005/06:1).

227. All Swedish HEI's formally have the same national role and all have the same right to apply for research funding (given that they are universities or accredited for a research area). In addition, all institutions have an important role in their own region. Many HEI's also consider it necessary to act both regionally, nationally and internationally, although the balance between them may vary between different HEI's. Institutions with extensive research activities and large research resources naturally find it easier to make an imprint on a national or international arena. In several parts of Sweden, smaller institutions have initiated collaboration projects in order to increase their visibility outside their own region.

4.1.1 The regional distribution of tertiary education today

228. There has been a rather significant geographical redistribution of study places since the late 1980s. In the early 1990s, 8 out of 10 students were registered in six major urban areas. In the late 1990s this figure was 6 out of 10. The distribution of study places now corresponds relatively closely to the size of the population in each county. (Högskoleverket 2004:16 R, pp. 23)

229. As the newer institutions have expanded, their offerings have become more varied. In particular the number of study places in engineering has grown, and these programmes are now offered in many locations. Also a large proportion – approx. 40% – of general degrees awarded (bachelor's and master's) are now awarded by the newer institutions. Despite these changes, however, the differences in focus of the programmes offered are still considerable. In several of the counties with the most recently established institutions, programmes in nursing and teaching still comprise a larger than average share of the places offered. (Högskoleverket, 2005:26R)

230. Despite the regional redistribution there are still major disparities between different counties of Sweden in the transfer rate to higher education of young people (up to 26 years of age). These differences are even more pronounced at municipality level. In the academic year 2003/04 the transfer rate varied from more than 7 out of 10 in some municipalities to less than 3 out of 10 in others. There is a clear connection between the transfer rate and the level of parental education. Municipalities where the share of HE graduates in the age groups around 50 is high show a higher transfer rate among the young. Part of the explanation is also to be found in the social structure of the municipalities: for example the type and level of education that is relevant to the local labour market and also the career examples that are available for young people to relate to. The school results of pupils (which are affected by the social structure) provide another explanatory factor. (Högskoleverket 2005-03-22)

231. Advanced Vocational Education (AVE) has become an increasingly important part of tertiary education, with close to 20,900 students in 2004. AVE programmes are not connected to specific institutions or cities, but take place where labour market needs arise.

4.2 HE as an instrument for growth: governmental policies for the regional role of tertiary education

232. The contribution of higher education to growth and economic development came to the fore in the early 1990s. The rate of increase in the number of students during the 1990s was especially high at the small and medium sized university colleges, the outcome of government policy aiming to disperse higher education throughout the country. Special emphasis on continued expansion was to be given to certain regions with a disproportionately low proportion of study places or where transformation of the industrial structure had resulted in difficulties, and at least half of the study places were to go to science and technology courses. (*En politik för arbete, trygghet och utveckling*, Government bill 1995/96:25) The allocation of 30,000 new study places in the 1990s was thus partly based on a will to reduce regional imbalances in the educational level of the population, stimulate industry by providing science and technology graduates, and to promote equal access for students as

well as contacts between HE and the surrounding community. (*Budgetproposition för 1997*. Government bill 1996/97:1)

233. During the last decade HEI's have increasingly been expected by policy makers to play an active role in the community. A clear signal to this effect is the introduction in 1997 of the broad requirement in national HE legislation to collaborate with the surrounding community. Although broad in its formulation, this requirement is nevertheless a clear signal from policy makers that all HEI's should be open to and contribute to the community even in areas outside their education and research commitments. There is a clear will from the Government that the HEI's should collaborate not only with trade and industry, but with the entire community, including local and regional authorities, public bodies, the general public, etc. How the HEI's collaborate with the surrounding community by taking an active part in the knowledge and innovation system is described in chapter 5. In the most recent Government bill on regional policy (*En politik för tillväxt och livskraft i hela landet*, Government bill 2001/02:4) it is stressed that measures in several policy areas, among them educational policy, often play a significant role in regional development.

234. To provide coherent strategies in the regions programmes are created in various sectors, including education, such as regional growth programmes and the EU structural fund programmes. The regional growth programmes are drawn up by regional partnerships, which include HEI's, and involve analysis of the region's growth potential, a programme for growth and written agreements between the partners that will implement and fund it. Since 2001 the appropriation directives issued to the HEI's lay down that they are to participate in the work on regional growth programmes (*Regleringsbrev för universitet och högskolor, Gemensamma bestämmelser 2001-05*). Like many other HEI's in the EU, the Swedish institutions take part in both objective programmes and in community initiatives financed by the structural funds. Especially HEI's in the northern and western part of Sweden have the possibility to apply for funding.

235. During the 1990s expansion of HE, widened participation was also promoted as a more general instrument of regional growth policy. Higher education, research and development, technology diffusion, etc., became priorities as "knowledge" and "competence" became catchwords of the 1990s. In addition, economic growth (not least as a requirement for continued development of the welfare state) is increasingly considered a primary goal of national policy in most policy areas. The regional expansion of higher education is linked to this goal. (Wikhall, 2001) Another motive is transformation of regional identity in a broad sense, i.e. socially, economically and culturally. (Westlund, 2004; Wikhall, 2001) Many HEI's emphasise that their role extends beyond the region – they have a national as well as international role.

236. Advanced Vocational Education (AVE) has a regional component. According to the quality criteria laid down by the Swedish Agency for AVE, applications from providers to arrange AVE should contain an assessment of the need on the regional labour market. Also, the Swedish Agency for AVE participates in the work on the regional development programmes where long-term provision of labour and qualifications are concerned.(Myndigheten för kvalificerad yrkesutbildning, 2005)

4.3 Effects of regionalisation

237. In considering the actual effects of the establishment of a HEI in a region, there is no empirical evidence that provides a clear-cut causal link between the existence of a HEI and the impact on economic growth expected by many of the proponents of regionalisation. The establishment of a HEI in a region does not necessarily contribute to the region's economic growth in any wider sense. In addition, it is hard to measure the effects on growth since the correlation is complex and many other factors may be of importance. Regions differ from one another, and specific local and regional conditions influence the impact of higher education on regional development. It is also difficult to measure the indirect effects of HE in a region reliably, for example on entrepreneurship. As in other

countries, however, the establishment of a HEI has been shown to have both direct and indirect effects on employment. (Westlund 2004; SOU 1997:13)

238. Impact on access and recruitment is more clearly visible. Regional establishment has had some positive effects as regards recruitment to HE; not surprisingly, in regions with increased access to HE the proportion opting to go on to HE has grown. This has contributed to a slight reduction of the regional disparities in the transfer rate to HE (even though there are still significant differences, as stated earlier). Also, and not surprisingly, increased access to HE has contributed to a rise in the level of education in the population, although, in regions where the local labour market is favourable and offers many alternatives individuals are less inclined to embark on advanced studies. (Wikhall, 2001) Higher education institutions may also have other effects on their surrounding community, for example, they can be said to have an important socio-cultural function. (Westlund 2004, SOU 1997:13)

239. Another consequence of the regionalisation of higher education and university research is that today state resources for both higher education and research are allocated to a larger number of institutions. For this reason, regionalisation has resulted in criticism from mainly the older/larger universities. Their main argument is that the rapid expansion has resulted in a dilution of the limited funds over too many institutions, resulting in a weaker situation across the board and making it harder to create or maintain international competitiveness in education and research. The older/larger universities claim that entrepreneurship and quality in research are best served by concentrating the resources available to fewer institutions that have large and comprehensive research environments (i.e. primarily their own institutions). Regional policy should not outweigh competence and efficiency in resource allocation decisions, according to this line of reasoning. (Cederlund, 2004)

240. National evaluations have shown that there are no general quality differences between older and newer HEI's. Nevertheless, the National Agency for Higher Education, in its subject and programme evaluations, highlights a number of recurring problems. One is that education in some subjects is spread too thinly over the country, in being offered by many HEI's but with few students in each location. This can result in a dearth of resources as well as in local research environments that are too restricted. (Högskoleverket 2005:20 R)

4.4 Funding for regional engagement

241. There are no specific arrangements in the HE funding system to reward institutions financially for regional engagement. However, a not insignificant amount of funding with this effect is channelled instead through various public agencies and foundations. A number of projects have been implemented to provide financial incentives to increase the economic benefits of the HEI's to society. Examples are projects by the Swedish Business Development Agency (Nutek) and by the Knowledge Foundation[30] (KK-stiftelsen), which provide project funding for collaboration with trade and industry (often locally or regionally). During 1998–2002 these two bodies together provided substantial support to the newer university colleges in order to develop their collaboration with the commercial sector. Another state agency, the Swedish Agency for Innovation Systems (VINNOVA), has provided funding for research in so-called triple helix constellations, that is activities (mainly within applied research) carried out in collaboration between HEI's, other public authorities, and the commercial sector.

242. A further example of distribution of funding through a third party was a temporary committee, Samverkansdelegationen (the Delegation for Regional Cooperation). This committee was a Government initiative and was to distribute funds for regional cooperation during 2002–2004. The aim

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[30] One of the tasks of the foundation is to support research at smaller and medium-sized university colleges and new universities, within special profile areas. Even though these activities may have a regional effect, this is not one of the foundation's primary objectives.

was to support cooperation projects between HEI's and local and regional authorities, in order to create sustainable growth in the regions and at the same time promote recruitment to higher education. Local businesses also participated. The Delegation had at its disposal SEK 150 million allocated to fund projects.

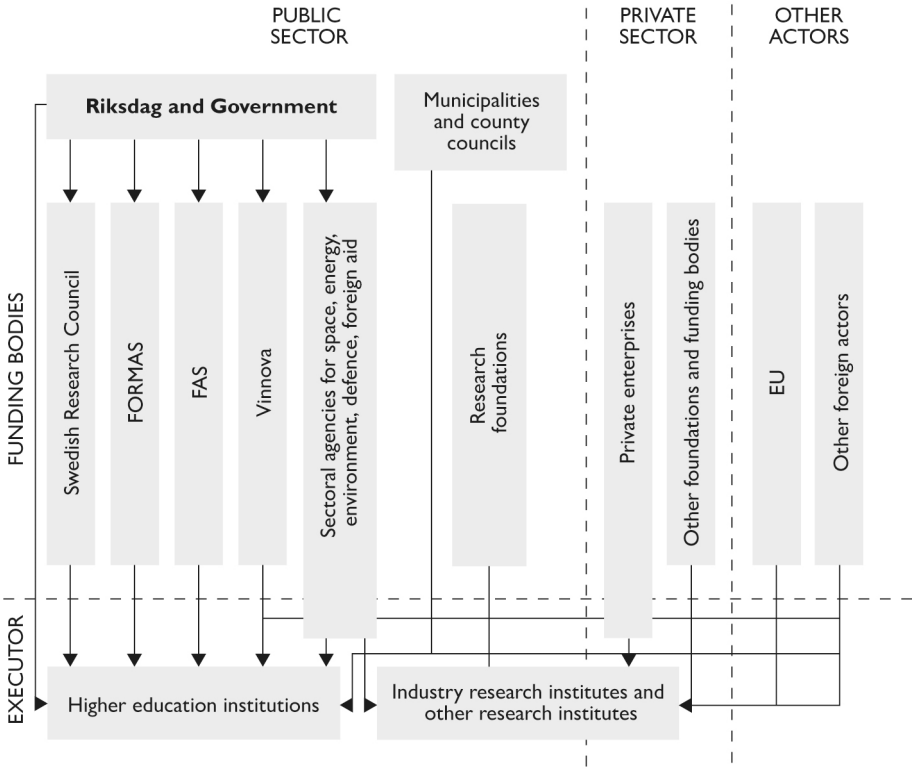
243. Finally, it should be noted that Sweden's membership in the European Union has enabled Swedish HEI's to apply for funding from the EU Structural Funds for research projects that contribute to regional development.

5 THE ROLE OF TERTIARY EDUCATION IN RESEARCH AND INNOVATION[31]

5.1 Introduction

244. Sweden is one of countries that invest most in research and development, when calculated as a proportion of the GDP. Annex 5 shows how this figure has developed since 1991. The bulk of research and development in Sweden is funded and undertaken by the commercial sector. However, most of the publicly funded research is carried out by researchers at HEI's, which distinguishes Sweden from many other countries. The research institute sector is small and diverse. There are a number of state (and non-state) research institutes and other agencies that undertake research but, with the exception of defence research, this research constitutes a small proportion compared with the research going on at HEI's. The research system is described in Figure 5.1. The commercial sector is concerned mainly with development work while the HEI's concentrate primarily on pure research.

Figure 5.1. The Swedish research system in brief



Source: Figure from Forskning för ett bättre liv. Government Bill 2004/05:80.

245. In 2003 total expenditure on R&D undertaken in Sweden amounted to SEK 97.1 billion. Expenditure in the commercial sector on research accounted for 74% of the total amount devoted to R&D. The HEI's accounted for 22% and the rest of the public sector (research institutes and other bodies carrying out research) for 3%. Figure 5.2 below shows the allocation of expenditure on R&D in Sweden in 2003. (SCB, 2005c) The proportion of research undertaken in the HEI's has been rather constant since 1995, with a reduction only in 2001, see table 5.1. in Annex 5.

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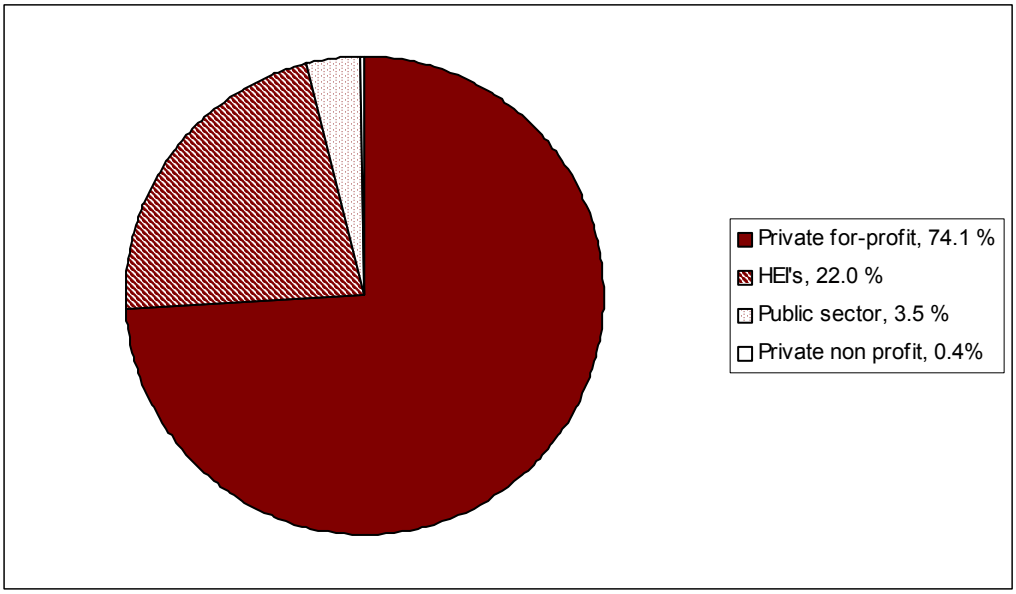
[31] The term "university research" used in this chapter denotes research carried out at both universities and university colleges.

Figure 5.2. Distribution of R&D expenditure in Sweden, 2003



Source: SCB

246. Since 2001 the commercial sector has reduced expenditure on R&D, while these activities have increased at the HEI's. This means that, in current prices, on the whole investment in R&D has remained constant from 2001 to 2003. In fixed prices the Swedish investments in R&D decreased in 2003 for the first time since the early 1990s. As the GDP has risen, the proportion accounted for by R&D has declined from 4.3% in 2001 to 4.0% in 2003. Despite the slight reduction in the proportion devoted to R&D, Sweden still has a leading position internationally with only Israel spending a greater proportion of the GDP on R&D. (SCB, UF SM 0501, 2005) See Table 5.2. in Annex 5 for the development of R&D expenditure as share of GDP between 1991–2003.

5.2 Funding for research at higher education institutions

247. In 2004 the revenues[32] of the HEI's for research and doctoral studies amounted to SEK 23.5 billion. Most of this was devoted to research (just over 90% of the revenues)[33]. The description of research funding provided below refers to revenues for research and doctoral studies as a whole.

248. Just under 46% of the funding for research and doctoral studies comes from government grants that go directly to the HEI's. The remaining funds come from several different kinds of sources, mainly public ones. There are major differences in the proportions of external funding received by different types of institution. The major, research oriented universities receive a considerably larger share of external funding – in some cases up to 80% of their funding. There are also major differences between different disciplines. In technology, for instance, two-thirds of the research is funded externally, while the corresponding figure for the humanities is about one-third (*Forskning för ett bättre liv*. Government Bill 2004/05:80).

5.2.1 Major research funding bodies

249. In 2000 the Riksdag took the decision to amalgamate a number of state research funding bodies and establish three new research councils: the Swedish Research Council (*Vetenskapsrådet*), which includes three Scientific Councils (humanities and social sciences, medicine

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[32] In Statistics Sweden data on the commercial sector *expenditure* is used to measure the exent of R&D whereas in HE *revenues* are assessed instead.

[33] The major element in postgraduate programmes is classified as research. Taught courses are estimated by Statistics Sweden to account for just over 8% of the total revenues for research and doctoral studies.

and the natural and engineering sciences); the Swedish Council for Working Life and Social Research (*FAS*); and the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (*FORMAS*).

250. The three councils play an important role in the allocation of public funds for research. The largest is the Swedish Research Council. In 2005 the Research Council had at its disposal SEK 2.5 billion to distribute to basic research in all areas of research, the Swedish Research Council for Working Life and Social Research[34] had 0.3 billion, and the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning[35] had SEK 0.5 billion in 2005. Another large research funding agency is the Swedish Agency for Innovation Systems (*Vinnova*), which had at its disposal SEK 1.1 billion for funding problem-oriented research and development in support of the innovation system and sustainable development and growth (such as technology, transport, and working life).

251. The public research funding system also comprises several other agencies that fund R&D as well as the research foundations that were set up in 1993 and 1994 using public funds. These foundations have their own endowments and do not receive additional funds from the state, but the Government appoints their boards. In addition to the public funding bodies, several other private foundations make important contributions to funding research at HEI's.

5.2.2 Allocation of funds to research in higher education

252. The Government is responsible for the general distribution of appropriations to areas of research and for the distribution of funds to each institution directly. Within this framework the institutions are then free to determine both the allocation of funding to different subjects and funds are to be used. The funding is accompanied by a directive on the number of PhD's to be awarded in each research area. Targets are set but no funding is withdrawn if they are not attained.

253. Some of the government funding for the HEI's is channelled through the research councils. Recently the Government has permitted a larger share of state funding to be allocated in competition and after quality appraisal by the research councils. Table 5.1 below shows that the proportion of revenues for research and doctoral studies from the research councils has risen from 9% to 11% since 1997. The Government's aim is to maintain a very high standard of research (*Forskning för ett bättre liv.* Government Bill 2004/05:80). In its bill entitled *Forskning för ett bättre liv* the Government proposes that a considerable proportion of the increment in research funding (a total of SEK 2.34 billion) should be allocated competitively and that the quality of applications should be appraised by peer review. In keeping with this policy SEK 0.3 billion of this funding was earmarked for applications from HEI's. Funding for Centres of Excellence from 2006 and onwards will be allocated by the Swedish Research Council, FAS, Formas and Vinnova according to a new system. The focus on Centres of Excellence is to augment and reinforce the endeavours to set their own priorities and establish profiles expected of the HEI's. The Government therefore feels that applications for this support should come from the institutions and not from individual researchers or research teams. Accordingly, just under a quarter of the increased resources will be allocated directly to the HEI's.

254. In addition to the research councils there are a number of agencies that fund research to which researchers in higher education can apply for funding. The majority of them finance research for a specific purpose. Among these agencies are the Swedish International Development Agency (SIDA), the Swedish National Institute of Public Health, and the Swedish Defence Research Agency. .

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[34] *Forskningsrådet för arbetsliv och socialvetenskap*, FAS

[35] *Forskningsrådet för miljö, areella näringar och samhällsbyggnad*, FORMAS

5.2.2.1 Allocation of funds in percentage terms

255. In 2004 28% of the revenues of the HEI's for research and doctoral studies came from *research councils*, *other government agencies* and *research foundations*. Local authorities and county councils also fund a small proportion (3%) of the research at HEI's. In some cases regional authorities (local authorities and county councils) earmark funds to support the development of research at HEI's in their proximity. *International organisations* (EU) and other *foreign sources* provided 6% of the revenues for research in 2004. Private foundations and other non-profit organisations funded 10% of the research and doctoral studies at HEI's in 2004. There are a few large private foundations and numerous smaller ones. Several universities also have their own foundations which they administer and whose revenues can be used for research. Table 5.1 shows the allocation of funding and how it has developed since 1997.

Table 5.1. Distribution of funding (%) to research and doctoral studies at HEI's, 1997–2004

Distribution	1997	1998	1999	2000	2001	2002	2003	2004
Direct university funds	51%	50%	48%	47%	47%	45%	45%	46%
Research Councils	9%	9%	9%	8%	9%	10%	11%	11%
Government agencies	15%	14%	14%	14%	12%	12%	12%	12%
Public Research Foundations	3%	4%	5%	6%	6%	5%	5%	4%
Local authorities and county councils	2%	2%	2%	3%	3%	3%	3%	3%
EU	2%	3%	3%	2%	2%	3%	3%	3%
Foreign companies	1%	1%	1%	1%	2%	1%	1%	1%
International non-profit organizations	0%	1%	1%	1%	1%	1%	1%	1%
Swedish non-profit organizations	9%	9%	11%	10%	10%	11%	10%	10%
Swedish companies	5%	5%	4%	5%	5%	5%	5%	5%
Other funds[36]	3%	2%	2%	3%	4%	3%	3%	3%
	100%	100%	100%	100%	100%	100%	100%	100%

Source: Högskoleverket

256. Private companies fund about 5% of the research at HEI's. In addition to the project funding paid to the institutions there is also some degree of indirect funding, for instance through guest/adjunct professorships, "industrial" PhD studentships or providing facilities for research. However there is no information on how extensive this is. All in all SEK 4.8 billion comes from private funding (including financial revenues). This corresponds to 20% of research revenues. Public funding (including the EU) accounts for 80% of research revenues.

5.2.3 Developments in research funding to higher education institutions

257. In fixed prices (the government expenditure index overall, index year 2004) revenues for research and doctoral studies at HEI's in Sweden has risen by 21% since 1997 (the fixed prices have been calculated using the overall government expenditure index. Detailed information is presented in Annex 5. The same figures are also given there in current terms) since 1997[37]. Up till the end of 2002 these revenues rose consistently, but this growth has waned and revenues in 2004 were at roughly the same level as for 2002. During 1998, 2000 and 2002 there were relatively substantial rises (around 5%), which is largely due to the considerable growth in the funds available to the foundations, both private and public. Table 5.2 below displays developments from 1997-2004.

258. Direct government funding has risen since 1997 by 9%, other public funding by 31%, revenues from private companies, foundations and organisations has risen by 33% and revenues from international organisations and other foreign sources by 68%.

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[36] Other funds consist of revenues that have not been possible to classify and financial revenues. In differentiating between private and public funding these have been classified as private.

[37] A new accounting model was introduced on July 1, 1993 and the data for the first years are uncertain. The budget year for 1995/96 was 18 months long as from 1997 onwards the budget year was made to coincide with the calendar year. For this reason, developments are accounted for from 1997.

Table 5.2. Total revenues for research and doctoral studies in the HE sector 1997-2004, Million SEK

Fixed prices	1997	2004	Change	Change, %
Direct university funds	9 838	10 687	850	9%
Central government	5 166	6 542	1 376	27%
Local authorities and county councils	330	675	344	104%
Funds from international agencies and other foreign sources	794	1 335	542	68%
Private firms and non-profit organizations	3 185	4 225	1 040	33%
Total	19 313	23 464	4 151	21%

Source: Swedish National Agency for Higher Education

259. The proportion of direct government funding declined from 51% in 1997 to 46% in 2004. In 1981 two thirds of the revenues for research came from direct government appropriations. The proportion of other public funding has also declined, whereas the proportion from private and foreign sources has risen. See Table 5.3 in Annex 5 for details on the distribution of funding for research and doctoral studies at HEI's 1997–2004.

260. There has been a major change in the funding of research over the last 25 years. As can be seen above, the share of direct allocation now stands for less than half of the total revenues for research, something that representatives of HEI's see as an unfortunate development. They claim that the institutions' scope for strategic ventures has decreased considerably since revenues come from so many different sources. There is also a debate about whether or not the risk of undue external influence on research may increase as a consequence of researchers being too dependent on external sources (some of which, according to this line of reasoning, may have their own agendas).

5.2.3.1 Increased funding to newer institutions

261. When the majority of the smaller university colleges were founded in 1977, the opinion of the Government of the day was that the fragmentation of resources that would result from providing each new institution with its own research funding could have an unfortunate impact on research activities. (*Reformering av högskoleutbildningen*, Government bill 1975:9, p. 426). Subsequent Governments have come to the conclusion that all HEI's are to have permanent resources for research, and this was introduced in 1997. The increase in direct government funding that has taken place since 1997 has mainly gone to the university colleges and the new universities. This development has given rise to a great deal of debate in the higher education sector. Some representatives of the HEI's generally argue along the lines of the Government of 1977, while others claim that there should be a relationship between the number of students and research funds. The Association of Swedish Higher Education, together with a number of research councils and other funding bodies, proposed in a joint memorandum addressed to the Swedish Government in 2003 that the direct state allocation to research be increased and that part of it be related to the number of undergraduate and graduate students at each institution (SUHF et al., 2003).

262. Nowadays the added research resources are divided among a considerably larger number of HEI's than before. Of the total increase in resources, about 60% has gone to the old universities while the rest has gone to the new universities and the other smaller institutions, which has led to a greater increase for them in relative terms. This means that the share of revenues for research and doctoral studies going to the old universities has declined from 96% in 1997 to 89% in 2004.

263. In the mid-1990s a number of research foundations were created using public funds. These provided a significant increase in the resources for research and doctoral studies at HEI's in Sweden, especially for the university colleges and new universities. One of the foundations, the

Knowledge Foundation, has the task of funding the development of research in the university colleges and new universities and another (The Foundation for Baltic and East European Studies) was established specifically to fund research at a new HEI to be established in the southern Stockholm region.

5.2.3.2 Other developments

264. In 1999 the concept of areas of research (*vetenskapsområden*) was introduced for the allocation of direct government funding for research and doctoral studies to HEI's. Previously these appropriations had been allocated to eleven faculties, which were now replaced by four areas of research (Humanities and Social Sciences, Natural Sciences, Technology, and Medicine). The Government considered it important to make it easier for the HEI's to set their own priorities for their research funding and to offer them greater scope for interdisciplinary collaboration.

265. During the 1990s the HEI's doubled the number of degrees awarded in postgraduate programmes without the allocation of any extra resources to the higher education sector. The 1998 reform of postgraduate education introduced objectives for these degrees that confirmed these high standards as regards the number of degrees. This means that much of the direct government funding is linked to postgraduate programmes and financing students. In order to fund research, therefore, the HEI's are obliged to apply for funding from other sources to a greater extent than previously.

5.2.4 The balance between teaching and research

266. In 2003 the revenues of the HEI's totalled SEK 43.5 billion (Högskoleverket, 2004:16R). Of this amount, SEK 21.4 billion[38], i.e. 49 % was for research (SCB, 2004d). The distribution of revenues provides one indication of the balance between teaching (at undergraduate, graduate and postgraduate level) and research.

267. Another way of indicating the balance between teaching and research is offered by the way in which staff divide their time. In 2003 the HEI's in Sweden employed 66,500, including PhD students with studentships (SCB 2004d)[39]. Expressed as full-time equivalents this corresponds to 51,600, of whom 19,500, i.e. 38%, were undertaking research.

268. Departmental staff devote about 75% of their time to teaching and research. In 2003, 45% of their working hours were spent on research and 28% on teaching. The remaining time is used for administration and other activities that are not directly related to teaching and research.

269. There are however major variations between the different institutions. At the old universities a greater proportion of the time is spent on research than at the university colleges and new universities. This is natural as most of the university colleges were founded to offer mainly undergraduate teaching and were not allocated permanent research resources until 1997. Gradually, however, research has come to play a greater role in their activities. Research now accounts for about 30% of the activities of the new universities and the university colleges entitled to award PhD's. In 1999 the corresponding figure at these institutions was about 20%. The proportion of working hours devoted to research varies from institution to institution and is highest at the institutions specialising in technology, medicine and agricultural sciences. At the oldest universities as well more than 50% of the time was devoted to R&D in 2003.

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[38] Research does not include expenditure on the teaching involved in postgraduate programmes. The total revenues for research including postgraduate programmes in 2003 amounted to SEK 23 billion, which corresponds to 53% of revenues in total.

[39] This information is based on questionnaires to the HEI's, while the information on staff in Chapter 7 is based on short-term wage statistics.

5.3 Methods and policies used to allocate research funding

270. The allocation of state research funds to tertiary education as a sector is the result of political priorities set by the Government and Riksdag. The direct funding for research and doctoral studies is allocated separately from funding for other forms of higher education. It is the Government and Riksdag that decide on the distribution of funding to the institutions and to the areas of research at the institutions. The distribution of the government grants for research is based on the historical allocation, and is hence not based on any formulas. The distribution to each institution only changes when the Government makes new decisions and priorities (see, for instance, 5.2.3.1). The funding is then delivered as a lump sum to each of the areas of research at every institution concerned. Each institution with no area of research receives an unspecified research allocation. Within these frameworks, institutions have substantial freedom to allocate funding internally according to their own priorities.

271. The freedom of research is laid down in national legislation. Nevertheless, research is governed at a general level through the financial priorities and legal and policy framework provided by the political authorities. Research in specific areas may be encouraged through the allocation of state funds to specific state research funding bodies (the funding bodies have different areas of responsibility), and/or by earmarking such funds for specific purposes. For example, the recent Government Bill on Research (*Forskning för ett bättre liv*, Government bill 20004/05:80) announces increased funding to research in fields that the Government considers especially vital to the further development of the country. In the Bill, medicine and technology as well as sustainable development are areas thus in focus. In its bill the Government places some emphasis on basic research by allocating substantial funds to the Swedish Research Council responsible for funding for basic research, but also on research and development in support of the innovation system by allocating funds to the Swedish Agency for Innovation Systems (Vinnova). In addition, the bill announces an increment of SEK 521 million to the direct research allocation to the HEI's.

272. Furthermore, the political authorities indicate through their funding decisions how they wish activities to be carried out. For example, the Government wants the HEI's to focus more on their areas of strength in both education and research. To this effect it has announced special funding for "Centres of Excellence", to be allocated by the research councils upon application from HEI's and after peer review by international experts. The Government wants to promote cutting edge research by providing long term support to internationally competitive research environments. In addition, in the research policy bill "Research for a Better Life" (Government bill 2004/05:80) the Government announces a concentration of efforts in areas that "can lead to social development and business growth". Special initiatives are proposed in research in medicine, technology and sustainable development.

5.3.1 Evaluation of the quality and effectiveness of research

273. Quality assessment is a continuous feature of university research. Firstly, a growing share of the funds for university research is today allocated on the basis of competition via, for example, the research councils and research foundations. This means that the research involved has to undergo stringent quality assessment in order to receive funding. The Government takes the view that allocation of a considerable proportion of the research funds to HE should be subject to the approval of the national research funding agencies. The scrutiny of applications by these bodies is seen as one way of guaranteeing the high quality of research (Sarbäck, Swedish National Report to OECD/IMHE-Hefce).

274. Quality indicators frequently play a role in the higher education institutions' internal allocation of the research funds received directly from the state. Various indicators are used to determine the allocation of funds to individual departments, among them quality measures, even if the basis for the allocation may vary between different faculties or areas of research. According to a report by the Swedish Research Council (Vetenskapsrådet, 2003a), many faculties use the allocation of direct

funding to steer research activities. It appears that the direct funding is frequently allocated on the basis of external funding, i.e. departments attracting a great deal of external funding receive a larger share of the direct state funding. Another frequently used indicator in the internal allocation of resources is the number of doctoral degrees awarded. However, the Research Council remarks that it is not always clear whether ensuring top quality research is the aim that characterises internal resource allocation.

275. There are also subject-specific quality evaluations of research at Swedish HEI's that are carried out on a national level. Swedish research councils carry out such evaluations regularly, using expert panels that visit the research environments. The aim of the evaluations is to make an overall assessment of the state of research in the specific subject and also to assess individual groups of researchers. However, the evaluation results of a specific research environment do not automatically have an impact on the chances of being awarded research funding, since all applications are appraised on the basis of the quality of the application. Nevertheless, evaluation results can play an important role as a quality indicator when these appraisals are made.

276. Another quality indicator that is used is the relative number of scientific publications and citations. This has been used to indicate the position of Swedish research as a whole (for example, in the recent Government Bill on Research, *Forskning för ett bättre liv*), but is not used by central state authorities to evaluate or compare individual institutions. A few individual faculties also use publications as one factor when deciding how to allocate funding internally. The reporting requirements of the HEI's to the Government include an obligation to account regularly for its researchers' publications in internationally recognised scientific journals or other refereed publications (this does not affect funding). (Regleringsbrev för budgetåret 2005 avseende Gemensamma bestämmelser för universitet och högskolor)

277. Other research organisations apart from HEI's may receive government research funding, under some conditions. State research institutes and government agencies whose tasks include research receive an appropriation directly from the Government/Riksdag but are also able to compete for external funds, for example from research funding bodies. In appraising applications from private research organisations, the state research councils generally require some degree of state involvement in the organisation applying. For example, the Swedish Research Council requires organisations applying for funds to be linked to HEI's. However, private companies may receive research funds from other state agencies and foundations supporting research, such as Vinnova or the Knowledge Foundation.

5.4 Higher education institutions in the knowledge and innovation system

278. In Sweden, as in many other countries, the Government ascribes a central role in economic development policy to the HEI's. They are considered to make a major contribution to the development of knowledge and economic growth, and, as such, occupy a central place in the knowledge and innovation system.

279. The degree of societal relevance required or expected of the activities of higher education institutions has varied over the years. Since 1997, the Higher Education Act has stipulated that in addition to the tasks of education and research, "[t]he institutions of higher education shall also cooperate with the surrounding community and give information about their activities". The Government has defined these requirements in both the bill proposing the legislative amendments and in a number of bills in subsequent years. The main points in these bills, regarding the role and responsibilities of the higher education institutions in the knowledge and innovation system, include:

- One of the tasks of research is to provide answers to questions of social importance.
- The higher education institutions are responsible for ensuring the conditions that will enable benefit to be derived from the knowledge generated by research. In practice this means that

the higher education institutions should provide counselling on issues relating to patents, for instance, or commercial law, at least at an overall level.

- HEI's with holding companies should use them to facilitate the commercialisation of research findings and ideas
- Cooperation with the surrounding community should become an integral element in research and teaching programmes.
- The higher education institutions are seen as important participants in regional growth agreements[40].

280. The HEI's are required by the Government to develop strategies and action plans for their cooperation with the community, and also to account for the measures that have been adopted as a result. Since 2003, the institutions have been required to report every four years to the Government on their cooperation with the surrounding community, and also to provide an account of how this cooperation is evaluated and monitored.

281. The Government has also taken measures aimed at supporting the role of the HEI's in the community at large. For instance, the Delegation for Regional Cooperation – a public agency with a short-term mandate – was set up to support regional cooperation between HEI's and the public and commercial sectors, with the specific objective of promoting economic growth in the regions[41]. Also, since the beginning of 2005, *Innovationsbron AB*, a state owned company, has provided seed capital opportunities for start-ups[42].

5.4.1 The role of higher education institutions in the knowledge and innovation system[43]

282. The participation of the higher education institutions in the knowledge and innovation system constitutes an important part of the HE Act's requirement that the institutions should cooperate with their surrounding communities. In very general terms, the purpose of HEI participation in the knowledge and innovation system can be described as to enable the launch of companies and the transfer of knowledge between HEI's and the public and commercial sectors. In the Swedish system, as in many other countries, the state and other actors encourage the role of the HEI's in this respect in various ways and through many different programmes.

5.4.2 Activities to support the launch of companies

283. There are many forms of incubator programmes aimed to support the launch of companies. One example is the *Drivhuset* foundation[44]. Another activity to support the launch of companies is a three-year program intended to increase entrepreneurship in education, launched by the Government in 2005. The program is administrated by *NUTEK* (the Swedish Business Development Agency), and the Agency has to its disposal SEK 45 million for activities in the area of higher education.

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[40] The regional growth programmes are one element in the overall government strategy that economic policy measures are to be based on the conditions that prevail in the region concerned.

[41] It will cease to operate during the first half of 2005.

[42] All activities of the Technology Transfer foundations were integrated into Innovationsbron AB.

[43]This section is based on an evaluation by the Swedish National Agency for Higher Education of the cooperation of the Swedish HEI's with the surrounding community *Högskolan samverkar* . An English short version of the report *Higher Education and Cooperation with the Surrounding Community.* (Report series 2005:24 R) can be found at http://www.hsv.se/english

[44] The aim of the "Drivhuset" ("*Hothouse"*), an incubator foundation, is to enable students to undertake projects, launch companies and develop their ideas while they are studying. Incubator programmes funded by *Drivhuset* can be found at about ten Swedish universities and university colleges.

284. In the launch of companies, assistance can also be offered with innovation, commercial counselling and support on intellectual property issues. If the HEI has a holding company, the company can, for instance, provide initial seed capital, the funding required during the early phase of developing ideas with growth potential[45]. Since the beginning of 2005, the state owned company *Innovationsbron AB* provides seed capital opportunities for start-ups. *The Venture Cup* business plan competition, which is held in many countries, may also be able to provide support[46]. Venture capital and important contacts can be provided through *business and research parks* and the *Connect network*[47].

5.4.3 Activities to support the transfer of knowledge

285. Fora and networks (with the participation of, for instance, local authorities, the commercial sector, and HEI's) can be established to support the transfer of knowledge. Staff exchange between the HEI's and the public or commercial sector can also support the transfer of knowledge. Other methods include the creation of *industrial postgraduate studentships* and industrial graduate schools, and the appointment of consulting teachers in HE. One source of finance is *The Knowledge Foundation,* which provides funding for industrial graduate schools at larger companies as well as industrial postgraduate studentships in small and medium size companies.

286. There are also various forms of strategic partnerships between industry and HEI's. Examples are *Centres of Excellence*, *Competence Centre Programmes,* and *Knowledge Platforms*. The latter three are programmes run by *Vinnova* (Swedish Agency for Innovation and Systems) as an important facilitator, and in 2005 Vinnova's budget for these programs and related activities is about SEK 1,100 million. Vinnova also runs a program aiming at professionalizing how HEI's take part in innovation and knowledge transfer.

287. Knowledge transfer can take place through commercial development and enhanced expertise, in the form of licence agreements or the further development of concepts outside the higher education institutions at research institutes.

5.4.4 Challenges to the role of the HEI's in the knowledge and innovation system

288. There are challenges to the role of the higher education institutions in the Swedish knowledge and innovation system. According to reviews (Högskoleverket, 2004:38R, p. 73ff; Riksrevisionen 2005, p. 7–10) most of the higher education institutions do not have a "holistic" approach to the knowledge and innovation system, and pay too little attention to the question as a whole. The emphasis is often placed on supporting the launch of companies, and less effort is given to knowledge transfer. In particular collaboration between HEI's and small and medium size companies is frequently seen as a field for improvement. Several HEI's have not, for example, developed professional structures and organisations for stimulating the commercialisation of research results.

289. One explanation of this situation is that the Government has not allocated any substantial funding for all the activities involved. Seed financing has, for example, been very limited in Sweden for a long time, and the holding companies are also regarded as underfunded. A recurring opinion from several reviews is that the roles and the responsibilities are not explicit and this vagueness is seen as a weakness in the system. (Högskoleverket 2004:38, pp. 73; Ds 2004:36)

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[45] The Government has created holding companies at 14 HEI's.

[46] Venture Cup is a business plan competition intended to stimulate the creation of new, innovative companies with a potential for growth in Sweden and which will therefore contribute to the practical application of ideas and knowledge. Venture Cup also offers an extensive range of activities and services.

[47] Connect Sweden is a project intended to link entrepreneurs with the resources required for commercialisation such as funding. It operates under the aegis of the Royal Swedish Academy of Engineering Sciences, the Swedish Industrial Development Fund and the Confederation of Swedish Enterprise.

290. For the individual researcher there are also barriers to taking an active part in commercialisation or working outside academia. For example, higher education institutions often have no incentive system in which commercial activities are considered as a qualification in an academic career. The obstacles to individual researchers taking an active part in commercialisation are a common subject of debate. (Högskoleverket 2004:38, pp. 73; Riksrevisionen 2005, p. 7-10; Vinnova 2004, p. 53; Vinnova 2003, p. 13)

5.4.5 Knowledge transfer and innovation – a central theme of the research policy bill

291. One central theme of the recent research policy bill (*Forskning för ett bättre liv*, Government bill 2004/05:80,. p. 140-177) is the transfer of knowledge between higher education institutions and the commercial sector. The Government ascribes a central position in economic growth to the HEI's as it has in many previous research policy bills. Several programmes and measures in the bill aim at enhancing their role in the knowledge and innovation system. Measures proposed to this end include extra resources to the holding companies, appointment of a special negotiator with instructions to propose a more effective holding company structure at higher education institutions, and a commission to the higher education institutions to develop action plans to improve commercialisation of research results and ideas and knowledge transfer. The bill also stresses that postgraduate programmes should prepare students for careers in both higher education and the labour market elsewhere. It also underlines the importance of increased collaboration between the research institutes and the HEI's.

5.4.6 Legal framework for intellectual property rights is about to change

292. In Sweden, as well as in other countries, many inventions derive from academic research. At present inventions by HE employees belong to those making them and not to their employers, the HEI's. If no special arrangements are made, the HEI's receive no share of the profits from an invention made by an employee. Thus, in the current system there are few incentives for the HEI's to take action to commercialise research results.

293. As shown above, this "teacher's privilege" grants teachers at HEI's property rights to their inventions and research findings. The legislation and collective agreements that regulate the possibilities that university teachers have to commercialise their inventions and research findings are not, however, unambiguous. Both the Higher Education Act (1992:1434) and the Act on Public Employment (1994:260) clearly stipulate that no employees may have secondary occupations that can disturb confidence in their impartiality while discharging their duties or in the HEI itself. The Higher Education Act also lays down that any secondary occupation must be kept distinct from the work undertaken by a teacher in the course of employment. This means for instance that no teacher may use the resources of a HEI for the work required by their secondary occupation. Collective agreements in this area also contain regulations prohibiting secondary occupations that conflict with their ordinary duties or compete with commissioned courses offered by the HEI. (*Högskolelagen; Högskoleförordningen; Lagen om offentlig anställning*)

294. The Government wants to provide greater financial incentives for the HEI's to commercialise research results and participate actively in the knowledge and innovation system. Hence they must receive a share of the profits from commercialisation of research results. The Government therefore initiated an enquiry into the future of teachers' intellectual property rights (*Rätten till resultaten av högskoleforskningen*, dir. 2004:106). The enquiry proposed two alternative solutions which both assume an obligation on the part of HEI researchers to report any patentable inventions to their employer/HEI: the "mandatory reporting alternative" and the "takeover alternative". According to the former, teachers and other researchers are to report patentable inventions to their employer/HEI, if these inventions can be attributed to the research activities conducted at the HEI in question. According to the latter alternative, the employer will be entitled, in return for compensation, to acquire all rights to reported inventions associated with the employee's employment. (SOU 2005:95) No decision has yet (June 2006) been taken on this matter.

295. In response to previous enquiries, many HEI's have stated that they want to keep the current legislation in force. The main reasons advanced are that they lack the resources and expertise to participate more actively in the knowledge and innovation system.

296. A related issue concerns regulations about secrecy. In Sweden, the general rule is that, as in all other state agencies, all documents within the higher education institutions, including research results, are in the public domain. The only exceptions apply to information subject to secrecy or to commissioned research, but neither of these apply to the majority of research results. (Vinnova 2003, p. 38 and pp. 138; *Forskning för ett bättre liv*, Government bill 2004/05:80. p. 160-164).

6 ACHIEVING EQUITY IN AND THROUGH TERTIARY EDUCATION

6.1 Introduction

297. Education has been a vehicle for social change for Swedish governments ever since the Second World War. The main idea of that time and also today is that public education should be for everyone, and that different social classes should meet in the school system. (Broady et al. in SOU 2000:39). An important part of Swedish education policy is to avoid "dead-ends" in education. It should be possible to go on to higher education from all other forms of education. A distinct feature of the Swedish education system, for example, is that upper-secondary education is intended to prepare for both higher studies and working life.

298. The Government considers education to be wealth generating and to contribute to social mobility and economic growth. Education is seen as "one of the most important policy tools for the increase of equality and to counter segregation in society" (Budgetpropositionen för 2005, p. 35. prop 2004/05:01). In the 2001 higher education policy bill, "The Open University" (Government Bill 2001/02:15), the focus was on increasing diversity in higher education: "[t]he policy of the Swedish Government is that all people should have access to knowledge and development regardless of background, ethnicity, place of residence or disability. Swedish higher education must reflect the growing diversity in society." (p.18) In the bill, the Government presented measures to widen participation in socioeconomic as well as in ethnic terms. The bill reinforced a long-standing focus in Swedish higher education policy, namely to widen participation and increase enrolment.

6.2 Composition of the Swedish student body

299. The number of students in Swedish higher education has increased significantly over the last 15 years. Sweden is now coming close to the Government's goal that 50% of those born in any given year shall have embarked on university level studies by the age of 25. In the academic year of 2003/04 just below 44% of the cohort born in 1978 enrolled in HE (see section 2.6.2. for more information on the transfer rates). However, in the same year the increase in the number of students also ceased. In the fall semester of 2004, 337,400 students or 1% less than the previous academic year were registered – the first recorded decrease in 15 years. (SCB, 2005d)

300. As mentioned in Chapter 2, Swedish students are on average older than in many other European countries. Close to half of the students are older than 25, one-fifth are older than 30, one-tenth older than 40, and 4% older than 50. Nevertheless, the largest age group is still that of 22–23-year-olds.

301. Some 19,200 persons are active doctoral students. Around 7% of those who graduate from undergraduate programmes transfer to doctoral studies. (Högskoleverket 2005:26 R)

6.2.1 Gender

302. The proportion of women in higher education has increased constantly in the post-war period, and 60% of all undergraduate/graduate students were women in 2004. In doctoral studies, 47% of the total number of students were women the same year. In 2004, for the first time more women than men began doctoral studies. (Högskoleverket 2005:26R) It can be noted that women, relative to men, also have better results in compulsory school and apply to and complete programmes that offer preparation for advanced studies in upper-secondary school to a greater extent. (Gustafsson et al., 2000)

303. The gender distribution is very uneven between subjects and programmes in HE, with a predominance of women, for example, in nursing, veterinary sciences, and midwifery; and of men in

engineering programmes for instance. Only one-quarter of the undergraduate/graduate students are in courses with an even gender distribution (with no fewer than 40% and no more than 60% of the same gender). (Högskoleverket 2005-07-12)

6.2.2 Socio-economic background

304. The expansion of higher education in Sweden has brought widened participation in socioeconomic terms, but large differences in the transfer rate to HE still persist. Since 1993/94 the proportion of students with a working class background has increased from 18 to 24% of all beginners (age 18–34), whereas the proportion of students whose parents are senior salaried employees has decreased from 33 to 28%. The relative share of these groups in the population aged 18–34 remained relatively unchanged in the period: 34% and 20%, respectively. (SCB 2004f) Persons with a working-class background are thus still underrepresented as a whole in higher education.

305. It is clear that socioeconomic background affects the propensity to embark on higher education. Depending on gender, educational background, and the parents' education, the proportion of 25-year-olds having enrolled in HE by the age of 25 varies between 6-94%. (SCB, 2005a) See Tables 6.1 and 6.2 in Annex 6

306. There are also significant differences between HE programmes. The proportion of young people with working class backgrounds is higher in shorter programmes leading to vocational degrees in, for example, health care and teaching, while students from white collar backgrounds are overrepresented in long programmes such as medicine or law. (SCB 2004f) See Annex 6 for a graph (Graph 6.1) showing the socioeconomic representation on a selection of professional programmes as well as tables (6.3, 6.4) showing the representation of different social groups among beginners in HE and in doctoral studies.

307. The socioeconomic bias is clearly visible in doctoral studies as well. Students with working class backgrounds are underrepresented among enrolments to doctoral studies. In 2002/03 this group made up 12% of these enrolments. Of the beginners, 74% had a white-collar background. Of graduates from long programmes in HE, 11% of the persons with a working class background had embarked on postgraduate education within 5 years following the first degree, as compared to 15% of those whose parents are senior salaried employees. (Högskoleverket 2005:26R)

6.2.3 Ethnic background

308. The relationship between ethnicity and enrolment is complex. Variations in enrolment for different ethnic groups may coincide with variations in socioeconomic status and vice versa. As a whole, students with foreign backgrounds[48] are not underrepresented in terms of enrolment. In the academic year of 2003/04 almost 17% - or 11,500 – of the beginners in HE had a foreign background (not counting exchange and guest students). In the population as a whole, slightly more than 15% of the corresponding age groups have a foreign background. It is likely that the socioeconomic factors that explain differences in enrolment can also explain differences in enrolment between ethnic groups, i.e. educational background and attitudes towards education of parents and other close relatives. (Högskoleverket 2005:26R)

309. Students with foreign backgrounds are also well represented in doctoral programmes: in 2002/03, 16% of those enrolling in doctoral studies had this background. Another 9% were guest doctoral students from abroad.

310. In this context it can be noted that the number of foreign guest and exchange students at other levels has increased markedly during the last decade. In 2003/04 foreign guest and exchange students represented 15% of all beginners. (Högskoleverket 2005:26R)

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[48] Born abroad or having two parents born abroad (Statistics Sweden definition)

311. Among the beginners with foreign backgrounds, representation was higher for the group born in Sweden with both parents born abroad than for those born abroad themselves. See table 6.6 in Annex 6. (SCB 2004c)

312. There are large variations among different ethnic groups in the proportions enrolling in HE. For example, few of African origin attend a HEI, whereas those with backgrounds from Poland, Bosnia and Iran are well represented. (For details please refer to Table 6.3 in Annex 6.) The highest proportion of students with foreign backgrounds can be found in natural sciences, medicine and odontology. The highest proportion by program can be found in degree programs leading to university diplomas in engineering (bachelor of science in engineering) and in master's programmes in law with 19% and 18%, respectively. (SCB 2004c)

6.2.4 Students with disabilities

313. HEI have intensified their endeavours to facilitate the participation of students with disabilities in higher education over the last decade. Each HEI must reserve 0.3 % of the funding allocated for HE except doctoral studies, to provide support required in the learning situation (for example, sign language interpretation and help with taking notes). The state contributes additional funding for expenses not covered by the ear-marked funds. In 2004 the cost of this support was almost SEK 67 million, of which around 70% went to cover the costs of sign language interpretation.

314. The HEI employ staff to coordinate measures to benefit disabled students. In 2004, 4,500 students contacted these officials and of this number, 3,500 were granted compensatory support. The number of students receiving assistance has risen from around 1000 in 1997, mainly due to an increase in the number of students with writing and reading difficulties and dyslexia. (Högskoleverket 2005:26R) In addition, the Swedish Scholastic Assessment Test has been modified in order to enable candidates with dyslexia and visual impairments to take it. .

6.2.5 Regional disparities

315. There are large differences between different parts of Sweden in enrolment in higher education. At municipality level in particular and notably between the urban and the rural areas, there are sometimes considerable differences in the proportion of 18–25-year-olds enrolling in HE on aggregate. In 2004 this varied from over three-quarters in the municipalities with the highest rate, to just over one-quarter in those with the lowest.

316. There are also disparities in the transfer rate between the genders which are clearly visible in a regional perspective. In almost all municipalities, women have a higher transfer rate than men, in some municipalities more than twice as high. (Högskoleverket 2005-03-22)

6.2.6 Composition of the student body in Advanced Vocational Education

317. There is evidence that AVE recruits from non-academic families to a greater extent than higher education, although no comprehensive study has been made. As regards foreign background, 11% of AVE students have backgrounds from countries outside the Nordic countries. (Information from the Swedish Agency for AVE). The average age of AVE students is 28, and most students have worked for many years prior to their studies. The gender balance was even in 2004. (Myndigheten för kvalificerad yrkesutbildning, 2005)

6.3 Policies for the advancement of equity goals

318. The Higher Education Act (1992:1434) lays down that the Swedish HEI's are to actively encourage and broaden recruitment to higher education. The Act also states that equality

between men and women is always to be borne in mind and encouraged in the operations of the HEI's. The Act on Equal Treatment of Students in Higher Education (*Lagen (2001:1286) om likabehandling av studenter i högskolan)* stipulates that the HEI's are to implement purposeful measures to actively promote equal rights for students and applicants, irrespective of their gender, ethnicity, religion or other creed, sexual orientation or functional disabilities.

319. Sweden is to a large extent sparsely populated, except for the urban areas on the west and east coasts and in the southern parts. Physical distance is therefore an important concern in relation to accessibility and recruitment. During the last 15 years the number of HEI's has increased, and there is now at least one HEI in every county. Although educational offerings may differ between institutions, this increase in accessibility has meant much for participation.

320. There are no specific targets in tertiary education for different social or ethnic groups. The Government has however, repeatedly stressed the importance of widening participation in HE by different groups in society, and two university colleges (Malmö and Södertörn), were set up with the specific aim of widening participation in higher education.

6.3.1 Measures at the HEI's to increase social and ethnic diversity

321. All higher education institutions perform various activities in order to increase diversity. Examples include "student ambassadors" who visit local upper-secondary schools to meet pupils and encourage them to enrol in higher education or who invite them to the university. Many institutions have also altered the courses and programmes offered to make them more appropriate for non-traditional students or have started new courses in order to recruit students from these groups.

322. In 1999 the Swedish National Agency for Higher Education evaluated the endeavours of the HEI's in the three areas of student influence, gender equality, and ethnic and social diversity (Högskoleverket 2000:8R). In social and ethnic diversity, this evaluation found the work to be often ambitious but to depend too highly on committed individual teachers and students. Short professional programmes and engineering programmes were often successful in this area. Subsequently, the Government ordered a special committee on social and ethnic diversity in higher education. In the 2001 Government bill on HE (*Den öppna högskolan*), the Government adopted some of the measures proposed by the special committee. Each HEI is obliged to adopt a plan outlining its work on widening participation. The plans must be based on criteria that can be monitored. In the bill, the Swedish National Agency for Higher Education was instructed to produce key data on the social and ethnic composition of the student body at the HEI's.

323. The Swedish National Agency for Higher Education also carried out a follow-up of the thematic evaluation in 2003 (Högskoleverket 2003:31R). This found that the HEI's had produced ambitious plans but that they were not as concrete as hoped for and that the work needed to be integrated into their regular activities to avoid dependence on committed individuals. However, attitudes towards this work had become more positive and the student organizations were often very involved.

6.3.2 National policies

6.3.2.1 Upper secondary school

324. The upper-secondary school has the task of preparing for both further study and the labour market. This means that all programmes, including those with a vocational orientation, give basic eligibility for HE.

325. The upper-secondary school offers 17 national programmes. All programmes have a common core of subjects, some of which very clearly relate to admission criteria for higher education. The two largest programmes in absolute numbers and in terms of the number of pupils who graduate and are eligible for HE are the natural sciences and social sciences programmes. The majority of

graduates from these programmes enrol in HE. The proportion enrolling in HE from programmes with vocational orientation is lower, but has risen during the last decade.

326. Upper secondary school leaving qualifications may also be earned in adult education programmes intended for those above the age of 19. Students who do not qualify to enter upper-secondary school or who drop out of upper-secondary school are offered remedial education in the form of an individual upper-secondary programme.

327. More than 80% of those who enrol in HE have taken programmes in the upper-secondary school. About 10% have participated in adult education (see below), and the remainder have diplomas from folk high schools (see below) or from upper-secondary education abroad. A large proportion of beginners in HE come directly from the upper-secondary school. (Högskoleverket 2004:16R)

6.3.2.2 Adult education

328. Adult education (*Komvux*) is an integral part of lifelong learning policies in Sweden and has a long tradition. It is mainly arranged by municipalities and can be offered at ISCED levels 1 to 4. The courses offered depend on the needs of the students and range from courses for illiterates through upper-secondary school courses to vocational courses. In 2003/04, adult education had 226,800 students (data from Skolverket). It is common for students to engage in adult education before enrolling in HE, in order to improve their qualifications. In the academic year of 2002/03 as many as 48% had studied in adult education before enrolling in HE. (Högskoleverket 2004:16 R).

329. In 1997 the Government presented "The Initiative on Adult Education" which primarily enabled adults without upper-secondary qualification to study in adult education, in order to raise their qualifications both for labour market purposes and further study. The initiative was launched as a response to high unemployment rates and a falling GDP during the early 1990s, but was also strongly motivated by the idea of lifelong learning. Between 1997 and 2002, a total of around 800,000 adults were offered education at upper-secondary level (SCB 2004g). The initiative was intended to actively coordinate and interact with other policy areas, such as labour market policy, policies for trade and industry and social and youth policy.

6.3.2.3 "Folkbildning" and folk high schools

330. A possibly unique feature for the Nordic countries is the nationwide network of adult education courses known as "folkbildning" (popular education). This form of adult education offers opportunities that range from short courses provided either as evening or daytime classes, as "study circles" or as entire programmes. The same term is used for programmes given at "folk high schools" (*folkhögskolor*). These range from general courses providing basic eligibility for HE to more advanced courses in journalism and the fine arts, for example. There are at present 148 such schools in Sweden and the bulk of their funding comes from the Government. The schools primarily target students with little formal education and mainly recruit people from non-traditional backgrounds. Some also move on to higher education. About 15,000 students per semester attend the general course at the folk high schools. (Folkbildningsrådet, 2005) There is a national grading system and students who apply for higher education are assessed in a particular quota group.

6.3.2.4 Flexible learning

331. The possibility of enrolling in HE courses that are taught and examined on a flexible basis is another important factor for increasing access. In 2003/04, 77,000 Swedish students studied in distance HE. It is common for students to take both distance courses and traditional courses, and distance students are often older than campus students. The majority of these courses are short, and few entire programmes may be taken through distance study alone. (Högskoleverket 2005:26R)

332. Another initiative aimed at widening access to HE and encouraging lifelong learning is the Swedish Net University. This was set up by the Government in 2002 in order to support and

promote the provision of information technology (IT) supported distance HE. The Net University consists of the courses and programmes notified to the Swedish Net University Agency by the HEI's. Thus it is not a HEI in itself but collaboration between many Swedish HEI's. The Net University also has an internet portal presenting the IT supported distance education offered by the HEI's. The number of courses offered through this portal has increased rapidly, boosted by the extra funding initially allocated to these courses by the Government. During the fall semester of 2003, 5% of all HE courses were offered via the Net University, and in the academic year of 2003/04 about 38,000 students took such courses. (Högskoleverket 2005:26R).

333. In order to support distance-learning students, most municipalities in Sweden have set up "learning centres", where students may follow distance courses and receive various types of study assistance, such as access to computers and student counselling.

334. Advanced Vocational Education is required by the Government to promote flexibility in learning and there are thus some possibilities of part-time study or distance learning. (Information from the Swedish Agency for Advanced Vocational Education)

6.3.2.5 The Special Committee on Recruitment

335. The Special Committee on Recruitment to Higher Education was a government initiative for the period of 2002–04. Its mission was to increase the activities by HEI's intended to widen participation. The committee sponsored around 100 projects in three broad categories: raising aspirations before school, promoting bridging courses and activities providing support to students within higher education. (Rekryteringsdelegationen, 2004)

6.3.2.6 College year programmes

336. Since 2002 HEI's have been allowed to offer bridging programmes ("college year programmes"). These are one-year programmes that aim to broaden recruitment to higher education. They are typically offered in partnership between a HEI and adult education or a folk high school. The intention is to provide students with eligibility for enrolment and at the same time allow them to familiarize themselves with higher education. Participants study at upper-secondary level for 20 weeks in order to acquire eligibility. For the remaining 20 weeks they are given the opportunity to try out advanced study, mainly in courses aiming to prepare them for further study such as study technique, Swedish language training, theory of science, etc. In many cases institutions offer some kind of guaranteed study place for further HE study.

337. The college year has so far had little impact on the overall admission pattern. Participants are still relatively few: in the academic year of 2003/04, 20 universities and university colleges offered college years to some 400 participants. After the college year a good half of the overall number of participants, and two-thirds of those that graduate, transfer to a regular HE programme or course. Most of the HEI's arranging the college year received supplementary funding from the Special Committee on Recruitment. (Högskoleverket 2005:23 R)

6.3.2.7 Foundation year (preliminary programmes to provide eligibility)

338. Another measure designed to widen participation, to eliminate dead ends, and to increase recruitment of students to certain courses, consists of the "foundation year". These courses are offered in adult education or by an HEI in collaboration with adult education. They are intended for those who want to achieve specific eligibility for enrolment to a given course or programme and are most common in the fields of engineering and natural science. Foundation year courses were introduced in 1992/93 in these fields, but in 2003 institutions were allowed to organize foundation year courses in other fields, as well, provided there is otherwise insufficient student interest and a labour market demand.

339. In 2003/04 3,569 students were registered on a foundation year. The transfer rate from the foundation year to a programme of higher education is high; around two-thirds of those who

participated in a foundation year in 2002/03 had entered a programme a year later. At the outset of the foundation year system women were in majority, but today more men than women are enrolled in foundation year programmes. They have been important for the recruitment of women but also for students from homes without academic traditions. In addition to the foundation year, HEI's also offer introductory semesters or courses that are an integrated part of a programme and are aimed at students who are partly eligible. (Högskoleverket 2005:22R)

6.3.3 Higher education for labour market needs

340. Education has long been central to government labour market policies, for a long time, however, mostly at the secondary or post-secondary levels. Increased importance is now also being placed on HE in this context. The Government requires the HEI's to take the needs of the labour market (as well as student demand) into account when planning their educational offerings. In order to counter unemployment, special programmes have been created in higher education aimed at improving the employment situation of the individual, to alleviate shortages on the labour market, and/or to stimulate a general enhancement of skills.

341. One example is a temporary teacher training programme, which is aimed at those already working as teachers but who lack formal qualifications. It involves employers (municipalities), HEI's, and the Government. The programme admitted students for the last time in 2005, although it may be continued in 2006.The goal is to produce 4,000 qualified teachers by 2006. The Government recently decided to launch a similar project for teachers in vocational upper-secondary programmes during the period 2005 to 2008.

6.4 Advanced Vocational Education (AVE)

342. As stated earlier in this report, Advanced Vocational Education is designed to fill real needs on the labour market. One-third of the time is spent in workplace learning. Courses are based on close co-operation between enterprises and course providers (which include HEI's, upper-secondary schools, municipal adult education and companies). The courses are open both to those who come directly from upper-secondary school and those who are already employed and wish to develop their skills within a defined area. According to a follow up study in 2003, 69% of those who finished that year were employed or ran a business and about 5% studied in HE. (Högskoleverket 2005:26R)

343. According to the Swedish Agency for Advanced Vocational Education, the broad range of programmes offered, the possibilities to receive study grants and loans from the state student aid system, as well as the defined focus and relatively short duration of studies give adults the possibility for further studies without any major social or economic sacrifice. This, in turn, promotes equality, according to the Agency. Also, the AVE Agency gives priority to courses that counteract gender stereotypes in educational choice. AVE providers are required to show in their applications for state funds how they intend to deal with this issue, and it is also an issue in the follow-up/quality review of each course. There are also possibilities for providers to receive extra funds for disabled students. (Myndigheten för kvalificerad yrkesutbildning, 2005)

6.5 National admission guidelines to higher education

344. Admission standards and procedures are nationally regulated, in order to prevent HEI's from imposing excessively exclusive eligibility requirements and also to create a transparent system to safeguard students and their legal rights. Student unions have also stressed the importance of similar eligibility requirements for similar programmes across the country. For programmes and courses that require previous higher education (i.e. not for beginners), the HEI's decide on admission guidelines. The national guidelines apply to new enrolments only. All courses and programmes have numerus clausus (the number of students is always fixed).

6.5.1 Basic and special eligibility

345. The main admissions principles are laid down in the Higher Education Ordinance and in regulations issued by the Swedish National Agency for Higher Education. The Higher Education Ordinance makes a distinction between eligibility for certain subjects and programmes on the one hand and selection procedures on the other. An applicant must have a pass grade in 90% of the credits that make up an upper-secondary programme in order to have basic eligibility for higher education. In addition most programmes and courses also have a special eligibility requirement.

346. Special eligibility is based on a fixed number (about 44) of nationally decided combinations of course requirements, expressed as courses in upper-secondary school. These special requirements are mandatory for all HEI's offering national degrees. An institution may only amend the previous knowledge listed in the special requirements after obtaining a permit from the Swedish National Agency for Higher Education and after demonstrating that the national requirement is insufficient or does not correspond to the nature of the programme.

347. A HEI may select one of the national special requirements for programmes leading to a general degree or for a course. According to the Higher Education Ordinance the course requirements that are given nationally or locally must be "absolutely necessary" in order for students to complete the course successfully. With this regulation the Government wants to avoid any unnecessary exclusion and at the same time ensure quality.

348. In the recent policy bill on higher education (2004/05:162) the Government proposes review of the courses included in basic and special requirements.

6.5.2 Other ways of acquiring eligibility

349. Completing an upper-secondary school programme is not the only way of becoming eligible. Eligibility can be acquired through study in adult education, at folk high schools or a college year. Also, an applicant without any of these qualifications may have basic eligibility for HE if he or she is 25 or over, has 4 years of work experience and adequate skills in Swedish and English. If admission to a programme is based on selection, an applicant may take the Swedish Scholastic Assessment Test (see below) to be able to compete without school-leaving qualifications.

350. In 2003 the Government introduced changes in the Higher Education Ordinance in order to accommodate applicants who fulfil the requirements of previous knowledge but have no formal proof of their competence. This accreditation of prior and experimental learning has only been available for a few years but it seems to offer a new possibility for non-traditional applicants. At the same time many of these applicants have turned out to be eligible anyway as they are 25 years of age and have 4 years working experience. (Högskoleverket 2005:21R)

6.5.3 Selection

351. If more applicants than places are available, a selection process becomes necessary. National legislation stipulates that no less than one-third of the places available on any course or programme must be assigned to applicants on the basis of their results in the Scholastic Assessment Test (SweSAT)[49], no less than one-third to applicants on the basis of school-leaving grades while allocation of the remaining third can be decided at the local level – either to on the basis of school-leaving results or the SweSAT or a mix of both. If a choice has to be made between two applicants

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[49] The Swedish Scholastic Assessment Test has been in place as a test for selection for more than 25 years in Sweden with some revisions. The test is voluntary for the students and maybe taken by anyone after paying a fee of 350 SEK. The test may be repeated an indefinite number of times and the best result may be used for an application. A test result is valid for a period of five years. The policy behind the test is that it should offer a second chance for applicants wishing to enter tertiary education.

with equal merits, the Higher Education Ordinance requires the admission of the applicant of the underrepresented gender (in the programme in question).

352. A HEI may also use other criteria for selection, if permission is granted from the Swedish National Agency for Higher Education. For example, an institution may apply for the use of admissions tests. Typical examples are programmes in architecture and medicine, where some HEI's want to test the applicants for skills that may not be indicated by grades or the SweSAT.

353. In its new bill the Government also intends to award extra merit to applicants with upper-secondary school grades in mathematics and languages in order to stimulate studies in those subjects. The specific regulations around this will be announced after the bill is enacted in the Riksdag. However, selection is not always necessary in Swedish education because competition varies between different institutions and programmes. Some programmes therefore have to devote some effort to recruiting students whereas some receive more applicants than they can possibly admit. As in many other countries, competition for programmes in medicine, veterinary science and some engineering qualifications is very fierce with 7-10 applicants per place (autumn 2005). The competition is between applicants who all have the maximum grade point average. The Government proposes in its new bill (2004/05:162) to enable HEI's who wish to base selection between equally qualified applicants on the SweSAT and interviews to do so from the autumn semester of 2006.

6.5.3.1 "Supplementation"

354. The grading system in upper-secondary education is based on predetermined criteria and goals and not relative placements. It is therefore possible to improve the grade point average by attaining higher grades from upper-secondary school courses in adult education. Many graduates from upper-secondary school therefore enrol in adult education, and this strategy has exerted upward pressure on the grades needed to compete in the selection process, although it is still unclear to what extent. One effect of this strategy is that graduates from upper-secondary school delay enrolment in higher education for a few years. In the academic year of 2002/03 as many as 48% had studied in adult education before enrolling in HE. (Högskoleverket 2004:16R)

355. A recent study (Cliffordson, 2004) shows that taking a course for the second time like this does not raise the predictive validity of the grades. Cliffordson refers to this phenomenon as "supplementation". On the one hand, supplementation enables individuals to improve their chances of enrolment in a programme of their choice by raising their grades. On the other, it intensifies competition and can be considered a waste of public resources, since students repeat courses they have already passed. (SOU 2004:29) In order to reduce supplementation the Government has introduced clearer guidelines on the priorities to be given to applicants to municipal adult education.

6.5.3.2 Selection and widening participation

356. There are no specific selection procedures for different groups, for example for applicants from low-income families, different school categories or adults. However, all else being equal, persons of the underrepresented sex may be selected.

357. It is possible to compete in the selection to HE courses and programmes on the basis of results in the Swedish Scholastic Assessment Test. The test is given twice a year and is designed, among other things, to offer a "second chance", for example for people with no school-leaving qualifications or only low grades by allowing them to meet enrolment standards.

6.5.3.3 Alternative selection processes

358. Since 2003 HEI's have been allowed to use alternative selection processes for 10% of the places available. Starting in the autumn semester of 2007, it will be possible for the HEI to use alternative selection criteria for admissions to 20% of places. Such local selection has awarded extra merits on the basis of gender, ethnicity, membership of underprivileged groups, and participation in a college year (see 6.3.8). Alternative selection processes have also involved forms of assessment which

are relatively uncommon in Sweden, such as personal letters and interviews. So far, alternative selection has affected few students: 489 students were admitted in 2004, most of them on the basis of quotas. (Högskoleverket 2005:21R).

359. The attitude towards alternative selection has been cautious, since the legislation is unclear about the extent to which formal merits may be disregarded in order to favour applicants from one group over another. Appeal was made against a decision by Uppsala University to admit students with foreign backgrounds to 10% of the places on its law programme, at – it can be argued – the expense of Swedish students with higher grades, and the court ruled against it. The university was fined, but appealed against the verdict. In September 2005 no appeal hearing had yet been held.

360. In its new bill (2004/05:162) the Government expresses its opposition to affirmative action in admission policy and procedures: admission is to be based on merit or any other circumstance of objective educational relevance. For example ethnic background cannot replace merit or be combined with other merits.

6.5.4 Admissions to and eligibility requirements for Advanced Vocational Education

361. AVE courses are open both to individuals coming directly from upper-secondary school and to people who are already employed and wish to develop their skills within a defined area. The entry requirement is the general eligibility demanded by the regulations for higher education, but these requirements can be modified to attract the appropriate students for a specific programme. There are possibilities to receive accreditation for work experience. Selection procedures may vary between programmes and providers; from the use of upper-secondary grades to interviews. Providers have to account for their admissions procedures to the Swedish Agency for AVE. (Myndigheten för kvalificerad yrkesutbildning, 2005

6.6 The costs of studying and equity

6.6.1 A comprehensive study assistance system

362. As stated earlier, a pillar of the Swedish system is that education is free of charge, and no tuition fees are required in any area of higher education (with the exception of contract higher education). In addition, Sweden has had a comprehensive public system for study assistance since 1965. The chief goal of the educational system is that each citizen should have access to high quality education regardless of gender, social or economic background, place of residence, etc. The system is designed to reduce the importance of these factors. It is also an important instrument for lifelong learning policies. The study assistance system offers grants and loans not only to students in tertiary education but also at other levels of education (for example upper-secondary and adult education). The system is administered by a government agency (CSN) and the cost of the system is covered through the state budget.

363. Study assistance consists of a grant and a loan. The amount is designed to cover living costs as well as study related costs. In 2005 the following monthly funding levels applied: grant SEK 2,376 , maximum loan SEK 4,540, a total of SEK 6,916 per month (about € 730). There are possibilities to apply for extra loans to cover certain extra expenses (for example older students, students with children or students with some types of extra costs for their education). The financial situation of the parents, spouses or cohabitants of students does not affect their possibilities of receiving study assistance. However, there is a ceiling to the amount they may earn without reducing the amount of grant and loan (49,625 SEK for 20 weeks full-time studies in 2006). (www.csn.se)

364. The study loan is an annuity loan with a maximum repayment period of 25 years, or up until the year in which the borrower is 60. The annual amount repayable depends on the total amount borrowed, current interest rates and the length of the repayment period. The loan system is state-

funded with special safeguards for the students. For instance, it is possible to apply for a reduction of the annual repayment amounting to 5 % of the borrower's annual income. In addition, at the age of 68 outstanding debts will be written off.

365. Almost one million Swedes study each year with financial assistance from CSN: about 40,000 at primary level, 650,000 at upper-secondary level and over 300,000 at post-secondary level (www.csn.se). In 2005 there were nearly 338,000 individuals receiving study assistance for studies at post-secondary level. About 78 per cent of them were also taking study loans.

6.6.1.1 Standard of living vs. fiscal balance

366. One issue that has continued to surface in connection with student loans has been the standard of living that the system enables. Sweden's National Union of Students has criticized the low standard of living that they claim is imposed on students by the system. At the outset the system was designed mainly for a homogenous group of younger students, whereas the student body today has become more heterogeneous, both in terms of age and background. As the proportion of older students and students with children to support has grown, for example, the economic conditions offered by the system have been subject to closer scrutiny. Continuing rises in the cost of housing, particularly in the urban areas, mean that an increasing number of students have to take up jobs on the side. There is also growing concern about the total burden of debt for the individual. While higher education generally leads to higher incomes this is not true for everyone. Some receive less well paid jobs or are unemployed after graduating, while at the same time they have debts from both secondary and tertiary education. In some cases these individuals have also launched on higher education relatively late in life.

367. The other aspect of the argument is the cost of the system to the public purse, which comprises subsidies paid in the form of grants and the cost of interest on outstanding loans. If loans are not repaid they also generate costs. In the system before 2001, when loans were written off at the age of 65 (the normal retirement age), most smaller loans were repaid in full, but larger loans above SEK 300,000 (which constituted a major part of the outstanding debt) were often not paid in full. Projections in 1998 indicated that in 30-40 years these write-offs would constitute a considerable burden on the public purse. In the present system outstanding debts are written off at the age of 67.

368. The system has been revised several times, most recently in 2000. The latest revision involved strict limitation of the maximum duration of support to 240 weeks or the equivalent to 6 years[50] and while the grant was increased repayment terms were tightened. The revision was undertaken in response to the rapid expansion of the HE system but also to the increasing complexity of the system following revision of the grants and loans system for previously unemployed older students. As mentioned above, fiscal prudence was also central. The Government thought it necessary to tighten the terms for repayment and to prevent students with large debts from remaining in HE for too long a time (as they could never repay their debts anyway).

369. In 2005 the Government proposed changes to the system in the form of extra grants for students with children, raising the age limit for study assistance from 50 to 54 years and the possibility of exempting students over 40 from the age limit (if there were special grounds). (*Förstärkning av studiestödet*. Government Bill 2004/05:111)

6.6.2 Student aid and lifelong learning

370. The new system for student aid (see Annex 6 for details) therefore can be said to put greater pressure on the importance of finding "the right" programme at the outset, and renders a more

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[50] In the previous system there was a similar limit, but in practice students were also able to get extensions for one or two semesters. The possibilities of dispensation have been strictly limited in the new system. Also studies in upper-secondaryeducation with student aid, for example adult education and college year or foundation year programmes must be included in the 240 weeks.

tentative strategy less favourable. At the same time a large "market" for education, with a variety of programs and courses, has been created. The strict enforcement of the 240 weeks rule also creates difficulties for programmes in medicine, pharmaceutics, dentistry and the veterinary sciences which require long periods of study and for which competition is so fierce that students often have to spend some semesters raising their grades before applying. (see above, section 6.5.2.1.)

371. This amendment has only been in force for a few years and it is therefore difficult to determine its long-term consequences. One concern voiced by many HEI's, student organisations and professional unions is that in today's rapidly changing society it will become necessary to engage in education continuously. The new system may therefore prove counterproductive as 240 weeks may prove inadequate for the education demanded during an entire career. On the other hand the Government claims that fiscal prudence requires some sort of limitation on the use of public funds. (Högskoleverket 2002:18 R).

6.7 Tertiary education and social mobility

372. Social segregation in education does not start in tertiary education, but can be traced back to previous levels of education. One example is that in the cohort of children born in 1980, about 60% of the children whose parents were senior salaried employees chose an academic upper-secondary education while the share of children from working class homes was less than 25%. The social background of beginners in a number of professional programmes in HE is illustrated in Graph 6.1 in Annex 6. (Högskoleverket 2004:16R)

373. Due to the relatively recent launch of Advanced Vocational Education, there are no comprehensive data regarding its role in social mobility. However, a study (Lindell, 2004) shows that, although the employment effects were positive for many AVE graduates, only one-third of a sample of AVE students felt that their education had resulted in a salary increase. The author regards this as an issue of concern, since most students have to take study loans to finance their studies.

6.7.1 Long term movement towards more equitable distribution

374. A major study on equity in Swedish education was presented in 1993 (SOU 1993:85). In the study, the authors Erikson and Jonsson presented evidence on the relationship between social background and recruitment to higher studies. Their findings showed that in a historical perspective, differences between socio-economic groups have been reduced over the course of the 20th century. But as a whole, socio-economically favoured groups continue to be overrepresented in higher education. The socio-economic groups that were the most disadvantaged at the outset of the century have, however, increased their representation to a large extent. This development is not surprising as more types of education have been made compulsory over time, but lower socio-economic groups have also increased their share of tertiary education.

375. The largest social movement towards more equitable distribution of education was during the 1930s, '40s, and '50s but it seems to have levelled out from the 1960s, according to the authors. They found little evidence of change during the period from 1960 to the early 1990s in the relationship between the most well-represented and the most underrepresented social groups, except among women. For women, the relationship between background and transition to prestigious educational programmes like engineering, medicine, law and agriculture has decreased.

376. The study identifies three key factors for the transition to tertiary education: socio-economic group as identified by parental occupation, level of education at home, and the economic situation at home. Parental level of education is the most important factor as it affects all levels of the

education system and it has a somewhat larger effect than socio-economic origin. It is also the most significant for transition to tertiary studies, according to Erikson and Jonsson[51].

6.7.2 Evidence from the 1990s

377. Subsequent research has shown that socio-economic differences have continued to decline during the 1990s, but that it is vital to allow for the length of the programmes and the age of the students when enrolling in HE. Andersson, Gustafsson and Hansen (2000) show that for programs which are three years or shorter a perceptible decline in socio-economic underrepresentation has occurred for students born between 1972 and 1977 who enrolled at the age of 19 and 20. Also, socio-economic underrepresentation has declined notably in programs longer than three years. However, in programs of four and a half years or longer there is no discernible decline in social underrepresentation, except for enrolments at the age of 19 where the tendency is for underrepresentation to decrease. See discussion and tables 6.6. and 6.7 in Annex 6.

378. Andersson et al. also construct "odds quotas" that are adjusted for study results from grades from upper-secondary education and for test scores on the SweSAT. As it is possible to repeat the SweSAT they also allow for multiple test taking. The authors find that social background has mainly indirect influence through grades from upper-secondary school, and particularly for transition at the age of 19, 20 and 21. Grades have a considerable impact on transition to tertiary education, but their importance lessens with the age of the person awarded the grades. Results on the SweSAT also have a considerable impact on transition, but the impact does not decrease with age as grades do.

379. According to Andersson et al., the somewhat declining importance of social background in transition to higher education cannot be explained by the expansion of higher education, as defined by geographical expansion and an increasing number of available courses and programs. The expansion of higher education has instead been accompanied by an increase in demand, with increased competition, according to the authors (p. 201). Andersson et al. instead find it more likely that the socio-economic underrepresentation in upper-secondary school has decreased, which in turn has affected transition to higher education since students to a large part are recruited from upper-secondary education. The authors find that transition to academic upper-secondary programmes has become easier for groups of lower socio-economic status due to smaller cohorts from 1972 and onwards, and thus less intense competition. Also, in 1994 the upper-secondary school system in Sweden was reformed, with the deliberate aim of making higher studies feasible for more pupils by reducing differences between students because of results and social background. The main programmes leading to university studies did become more heterogeneous after the reform, although it seems that the decrease in the importance of socio-economic background occurred before the implementation of the reform.

380. It is important to identify other explanations as well. In particular the difficult labour market in Sweden during the 1990s affected the choice between work and education. Findings from Erikson and Jonsson (1994) indicate that results from previous education influence to only a small degree the decision to continue to higher education. Andersson, Gustafsson and Hansen conclude, on the contrary, that results play a smaller role for persons from higher socio-economic groups compared to persons from lower ones, where good results are more important. During the 1990s, however, conditions on the labour market have meant that paid employment has only partly been an alternative to education, which may have made good study results less important for students from lower socio-economic groups. In a forthcoming study (Berggren, C.) the author finds that during the recession from 1990 until its peak in terms of unemployment in 1993, more young students from the lower classes entered higher education. As the labour market recovered from the recession, men from lower

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[51] Erikson and Jonson and later Andersson et al. use a classification based on parents' occupation from Statistics Sweden. The categories are (I) higher officials in both private and public sector, (II) midranking officials, (III) officials with routine tasks, (IVab) entrepreneurs without academic qualifications, (IVcd) farmers and fishers in the primary sector, (VI) qualified labourers, (VII) unqualified labourers.

classes chose work instead of education whereas women from lower classes continued to increase their participation in higher education.

6.7.3 Persistent social patterns within higher education

381. Broady et al. (2002) conclude from an extensive study that the social patterns within Swedish tertiary education remain stable. Long programmes at prestigious institutions still enrol students from the higher socio-economic groups, as they did ten and twenty years ago, whereas enrolments to shorter programmes in engineering, nursing and teaching come from the lower socio-economic groups. It is also in these programmes that the gender differences are most significant. Men apply for engineering programmes, whereas women dominate programmes in nursing and teaching. This is a recurring pattern in all the years from which the authors have data; 1978, 1984, 1993 and 1998. (Broady et al, 2002)

382. Little material is available on the connection between social or ethnic background, gender and study results. The studies that are available point to small differences in terms of such connections. A study from 2002 (Högskoleverket 2002-11-18) estimate the differences as small, at the most 10% between groups, which must be viewed in relation to the fact that these groups also choose differently in upper secondary school and in tertiary education.

383. Students from higher socioeconomic groups do slightly better in higher education but also leave upper secondary school with higher grades. Women complete their studies on the whole to a larger extent than men (see sections 6.2.1, 6.2.2 and 6.2.3). It should be noted, however, that students younger than 24 years of age studying on programmes in HE leading to professional degrees (for example engineering, medicine, nursing, and most teaching programmes) complete their degrees to a larger extent than other groups. See Table 6.8. in Annex 6 for details on the educational attainments of different groups.

6.7.4 Social background and ethnic origin

384. Matti Similä presented a study in 1994 (Similä, 1994) on the relationship between social origin and ethnic background in Sweden. For second-generation immigrants, Similä found that socio-economic differences had a greater explanatory value than international cultural differences for the representation of different groups in higher education. Similä discusses different factors affecting how ethnic groups adapt to their new situation in Sweden and finds that there is a clear strategy among some groups to focus more on higher education. Similä also finds that several ethnic groups, when allowing for socio-economic background, have in fact higher representation than Swedes. According to Similä, immigrants from Poland, the Baltic countries, Greece and former Yugoslavia are more likely to enter tertiary education than Swedes. Also, immigrants from Latin America show about the same inclination as Swedes, whereas Danes are less likely than Swedes to enter into HE.

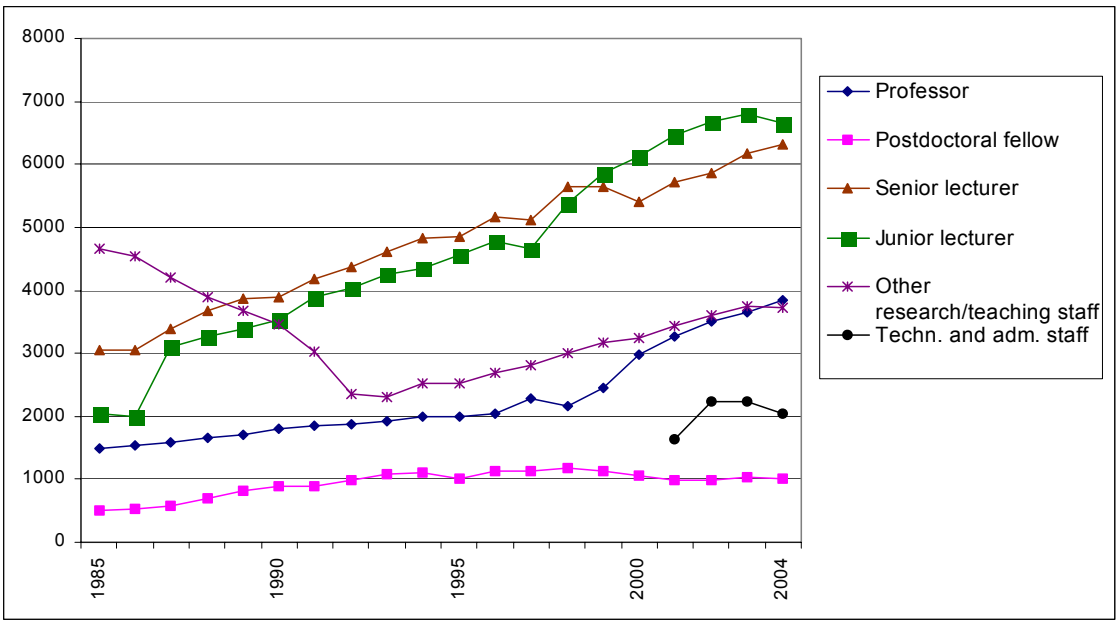
7 RESOURCING THE TERTIARY EDUCATION SYSTEM

7.1 Staff

385. In 2004, a total of about 52,300 full-time equivalents (63,600 individuals) were employed in the higher education sector (all employment categories). This number includes doctoral students with appointments[52]. If this group is excluded, the total number of employees was 43,200 (full-time equivalents). This constituted a slight decrease since the previous year, mainly of guest lecturers, part time teachers, and technical and administrative staff. The decline does not apply to more senior academic staff (professors and senior lecturers), whose numbers increased instead. About half of all employees in higher education (doctoral students excluded) are involved in research and teaching. In this category, junior and senior lecturers constitute the largest groups, as seen in the Annex. (SCB 2005f)

386. The expansion of higher education in Sweden has resulted in a steady demand for more staff. Since 1985 the number of employees, including doctoral students with appointments, has risen by more than 60%. The number of postgraduate students has increased more than other groups, but the increase in staff is almost 40% even when this category is excluded. It can be noted that the number of full professors has risen especially sharply since 1999, because of a reform that enabled the promotion of appropriately qualified senior lecturers to professorships.[53] The distribution and quantitative development of the different categories of teaching and research staff over time can be seen in figure 7.1. below and in Table 7.1.1 in Annex 7. (Högskoleverket 2005:26R)

Figure 7.1. Distribution of different categories of teaching and research staff, 1985–2004



Source: Swedish National Agency for Higher Education Statistical Database

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[52] About half of all doctoral students finance their postgraduate studies through appointment to a postgraduate studentship, a form of employment at the HEI. Doctoral students may also be employed in other positions in their institution, for example as junior lecturers or assistants. Doctoral students with other types of financing, such as postgraduate study grants or scholarships are not formally employed and are thus not included in the data on employees.

[53] It can also be noted that the sharp downturn in "other research and teaching staff" in the late 1980s–early 1990s is a consequence of a reform in 1986/87 that classified a number of different teaching and research posts as junior and senior lecturerships.

7.1.1 Categories of teaching and research staff

387. The following categories of teaching and research staff are employed in Swedish HE: *Professor* (professor including visiting professor); *Lektor* (senior lecturer, including visiting senior lecturer); *Adjunkt* (lecturer, including visiting lecturer); *Forskarassistent* (research assistant/postdoctoral fellow); *Timlärare* (part-time teacher) and *gästlärare* (guest teacher). Furthermore, in 2001, the position of *Biträdande lektor* (associate senior lecturer) was introduced[54]. A final staff category is "other teaching and research staff" (including, for example, temporary research posts), and technical and administrative staff whose duties mainly involve research. Frequently doctoral students also have some teaching duties.

7.1.1.1 Staff in Advanced Vocational Education

388. The responsibility for staffing programmes in AVE lies with the different providers. There are no centrally collected data on the number of teachers. An important part is played by the students' supervisors at the enterprises which host the workplace learning component of AVE. Teachers may also come from different backgrounds and work for AVE on temporary contracts. For example, university teachers teach parts of AVE programmes offered in HE.

7.1.1.2 Qualification requirements for academic staff in HE

389. The required qualifications for higher education teachers are laid down in national legislation. The keywords for most positions are academic skills (in artistic disciplines, the requirement is for artistic skills) and teaching skills, which are to be assessed equally. The only position for which the regulations explicitly require the applicant to have a PhD or a corresponding qualification is employment as a research assistant/postdoctoral fellow. Award of a PhD is not absolutely necessary for appointment as senior lecturers. The Higher Education Ordinance stipulates that alternative qualifications of importance for the subject area and duties associated with the position may be sufficient. Neither is the award of a PhD a formal requirement for appointment as a professor. Nevertheless, professorships require a high level of academic/artistic as well as pedagogical skills, and most professors (90%) have a Swedish PhD or a foreign equivalent. The corresponding figure in 2004 for research assistants/postdoctoral fellows was 93%, and for senior lecturers 86%. Research qualifications are not a prerequisite for appointment to a junior lectureship, and in 2004, 4% of junior lecturers had a PhD. Many junior lecturers with PhD's have been promoted to senior lectureships. (Högskoleverket 2005:26R)

390. Slightly more than half (52%) of all teaching and research staff (excluding doctoral students), have a PhD. This figure reflects the fact that junior lecturers, among whom the proportion with PhD's is small, make up a large proportion of the teaching staff, especially in some subjects. (Högskoleverket 2005:26R) Also, the proportion of teachers with PhD's varies between subject areas and between different categories of institutions. (SCB 2005f)

391. Increasing emphasis has been placed on the teaching skills of HE teachers in hiring and promotion. As a result of the Government bill *Den öppna högskolan* (Government bill 2001/02:15), in 2001 the Government decided that all junior and senior lecturers holding permanent positions must have basic pedagogical training. Such training also became mandatory for doctoral students.

7.1.1.3 Appointment and remuneration of teaching and research staff

392. The processes for and other procedures relating to the appointment and promotion of teaching and research staff are regulated in relatively great detail in the Higher Education Ordinance. These regulations cover, for example, general qualification requirements and general rules for the assessment of an applicant's qualifications. Further regulations can also be found in the local

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[54] This position was introduced in order to improve the possibilities of post-doctoral promotion. Like the post of research assistant/postdoctoral fellow, associate senior lectureships are intended mainly for PhD's who have completed their thesis within the previous five years. So far, however, the number of associate senior lecturers is very low.

employment ordinance which each HEI is required to draw up and publish. It is possible to appeal against a decision to appoint to the Board of Appeals for Higher Education.

393. When appointing teaching staff, research skills have traditionally been the chief criterion for evaluation and selection. In 1997 the Government introduced new legislation in order to promote consideration of teaching skills as an equally important factor. The Higher Education Ordinance now states that teaching skills must be evaluated with the same care as research skills when appointing professors and senior lecturers.

394. Salaries for HE teaching and research staff are based on performance and set individually for each employee. Salaries are negotiated and set locally at each HEI on the basis of a general agreement between the Swedish Agency for Government Employers (*Arbetsgivarverket*), acting on behalf of state employers, and national trade unions. The general agreement covers the general terms of employment and sometimes also the range for salary negotiations, either as an absolute amount or as a percentage. There are no government norms for how salaries are to be determined at the HEI's, but such norms have developed locally and the criteria may differ between institutions and faculties. (Fritzell) For instance, pedagogical and research ability, and leadership skills may be important criteria that could warrant higher wages.

7.1.1.4 Promoting academic staff

395. Since 1999 the Higher Education Ordinance has enabled the promotion of academic teachers to a higher position without – as was the case previously – having to wait for such a position to be declared vacant. One important aim of this reform was to create a clear career path for academic teachers. The regulations permit appropriately qualified junior lecturers and senior lecturers to apply for promotion in the same subject area and at the same higher education institution. Apart from the necessary qualifications, the applicant must also be (or be about to be) permanently employed at the institution. A suitably qualified senior lecturer is thus to be promoted to a permanent position as professor. Likewise, a suitably qualified junior lecturer is to be promoted to senior lecturer. In addition an appropriately qualified applicant for a position at a HEI as junior or senior lecturer is to be employed instead as senior lecturer or professor, where relevant. In appraising promotion to senior lecturer, qualifications other than a PhD may be taken into account if the applicant has demonstrated: 1) special teaching skills; 2) a capacity for leadership and development of the activities of the HEI; or 3) a particular aptitude in interacting with the community.

396. The reform has resulted in many promotions. An evaluation of the reform shows that the number of professors has increased and that the number of junior lecturers with PhD's decreased as a result of promotion of many in this group to senior lectureships. Very few junior lecturers without PhD's have been promoted. The evaluation also indicates a continuing difference in working conditions between promoted professors and professors appointed competitively. Promoted professors largely retain their previous workload. Pedagogical skills have come to play an important role for promotion, but the evaluation also shows that proven research ability is still a major requirement. (Högskoleverket 2002:2R; 2003:3R)

7.1.2 Staffing issues

397. A number of factors determine the need for teaching and research staff in the HE sector. In addition to coming retirements, the impending expansion of the younger age-cohorts, together with the policy goal that 50% of each cohort should begin higher education studies by the age of 25, will require an increase in the number of teachers. In addition, developments in the resources allocated for research and doctoral studies in future may affect the need for teachers. Moreover, there is a general desire to raise the proportion of teachers with research qualifications, not least because a high proportion of teachers with PhD's is frequently considered an indicator of quality.

398. It goes without saying that the number of new PhD's is a crucial factor for the supply of academic teachers and researchers. One issue addressed in this context is the throughput of doctoral

students. The working conditions of doctoral students have also attracted significant attention and been the focus of reform. Today the average time spent taking a PhD degree has decreased and only slightly exceeds the four-year norm (SOU 2004:27). One aspect affecting throughput can be found in the working conditions of doctoral students, including study financing[55]. Since 1998, the HEI's may only admit as many doctoral students as can be guaranteed funding and "otherwise acceptable conditions". One of the intentions of this reform was to enable students to graduate within the stipulated four years and increase the responsibility of the HEI's for their funding. (see Chapter 2)

399. As described in Chapter 2, doctoral studies have expanded more or less in parallel to the overall expansion of higher education. Considerable efforts have been made to ensure that a larger proportion of the population earn PhD's, not least because of the need that also exists outside HE for more persons with the highest academic qualification. A common problem, however, is that postdoctoral employment possibilities within Swedish HE are limited, for various reasons, and many young PhD's end up in tenuous positions such temporary research appointments at HEI's (SOU 2004:27, pp. 209–228). In recent years, new PhD's have also faced increased unemployment, but from a generally very low level. (Sveriges universitetslärarförbund, "Andelen forskare utan jobb har ökat med 30%")

400. Today, it can be argued that the Government's emphasis has shifted somewhat from continued rapid expansion of doctoral studies towards providing better postdoctoral employment opportunities. In mid-2005 the Government presented a research policy bill (*Forskning för ett bättre liv*. Government bill 2004/05:80) that proposed extra funding for research and doctoral studies. The Government wants the institutions to use the funds, among other things, to increase the number of postdoctoral positions and to reinforce doctoral studies. In the bill, the Government also emphasises that universities should plan better for the future as regards the supply of academic staff and career opportunities for new doctors.

7.1.2.1 The future supply of academic staff

401. The number of teachers and researchers due for retirement is expected to rise significantly in the next few years. Between 2003 and 2007 almost 3,200 individuals will reach retirement age. Between 2008 and 2012 this figure will rise to 4,700 to decline somewhat during the following years 2013-2017, to 4,100. In comparison, the number of retiring teachers in the 1990s was 1,200 per five-year period. These figures are based on the assumption that retirement will take place at the age of 65. However, the retirement age is flexible until age 67, which may have an effect on the situation. (Högskoleverket 2004:16R)

402. About 24,000 FTE (full-time equivalent) employees in Swedish HE are involved in teaching and research (2004). The number of PhD's awarded per year is about 2,700. Assuming that the proportion of those with PhD's opting for HE rather than other sectors of the labour market remains the same as today, this means that overall enough PhD's will graduate to replace the teachers and researchers with PhD's who are retiring. However, the situation varies between different subject areas. Again, according to the Swedish National Agency for Higher Education it is probable that the demand for staff with research qualifications will rise both in the HE sector and elsewhere.

403. Two studies (Högskoleverket 2003-11-16 and Vetenskapsrådet 2003b) attempt to identify the future need for teaching and research staff in Swedish HE. The analyses juxtapose the supply of PhD's to the numbers of teachers and researchers required by the higher education institutions, and come to basically similar conclusions. According to the analyses there will be no risk of large across-the-board shortages of academic staff. However, this situation is predicted by both studies to vary between subject areas. More information on these studies can be found in Annex 7.

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[55] See 7.2.3 for more details on study financing for doctoral students.

7.1.3 Working conditions of teachers

404. The main principle is that all academic staff should be involved in teaching, except for associate senior lecturers and research assistants/postdoctoral fellows, which are mainly intended to improve the holder's research qualifications. However, it is up to the HEI's to decide on the detailed duties under the guidance of a local collective agreement that regulates for instance the workloads for the different categories. In such local agreements, professors may normally devote about 50% of their time to research, senior lecturers 20-30%, and post-doctoral fellows 80-85%. Ultimately, though, it is up to the chair of each individual department to determine the annual allocation of work to each member of staff. (Fritzell, 2004)

405. Accordingly the amount of time they are able to devote to teaching and research varies significantly among the different categories of staff. According to a survey (Högskoleverket 2003:13 R, pp.20–21), junior and senior lecturers (categories with teaching as their main task) devote 72% and 60%, respectively, to teaching, while professors teach 49% of their time. Table 7.1.2 in Annex 7 shows the distribution of working time across the categories.

406. The expansion of Swedish HE has affected the working conditions of teachers. Student groups have become more heterogeneous, both in terms of prior knowledge, abilities and expectations. This also means changing working conditions for teachers and difficulties in finding the right teaching level. One consequence is a heavier workload for university teachers. The student-teacher ratio has also increased markedly in recent years, as staffing levels have not kept pace with the expansion. (Geschwind, 2004) This is something that has been criticised by the professional union of university teachers (SULF), for one. According to the union, time that should have been devoted to research and skills enhancement has been used instead for teaching (Sveriges universitetslärarförbund, 2002). The survey of teachers mentioned above (Högskoleverket 2003:13 R) confirms the picture of a heavy teaching workload and also points to long working hours. In the survey, many teachers were discontented with what they saw as limited opportunities to carry out research, due to lack of time or funding. But on the other hand teachers are able to regulate their own work and time, and many teachers are quite content with their situation at work.

407. It can be noted that the use of temporary positions for teachers/researchers is quite common in Swedish HE. National data show that approximately 35% of the teaching/research staff were employed on a temporary basis in 2003, not counting doctoral students with studentships who are by definition temporarily employed. (SCB data) According to a study by the teachers' union at a large Swedish university, in the same year close to 40% were employed on temporary positions. This report claimed that more women than men occupy temporary positions, and the difference is especially apparent in some fields. (Osbeck and Warfvinge, 2003).

7.1.4 Improving the quality of academic staff

408. Institutions are required to offer basic faculty development courses to their teaching staff, and today each institution has a local faculty development programme intended to improve the quality of teaching and learning and in some cases administrative and leadership qualities as well. Strategies and priorities may differ, but examples include courses on gender issues and doctoral thesis supervision, supervision of teacher training, leadership development, special projects aimed at developing the quality of teaching, and cooperation to this effect with other institutions.

409. One general stimulus to the improvement of teaching quality is offered by the quality evaluation programme carried out by the Swedish National Agency of Higher Education. A common response from institutions to criticisms in the evaluations is to enhance teaching by employing more teachers or allowing existing teachers to devote more time to enhancing their own qualifications, for example by undertaking doctoral studies. (Högskoleverket 2005:20 R)

410. There are also other measures at national level that have been initiated to improve the quality of teaching. The Council for the Renewal of Higher Education was established by the Riksdag in 1990. It has a Government mandate to support the development of teaching and learning in higher education, including doctoral studies. The council reviews applications from the HEI's for grants for projects aimed at educational development and teaching innovations. The Council also initiates working groups to provide temporary support for particular areas of higher education. It has granted around SEK 17 million annually over the last three years. However, as a consequence of the recent Government Higher Education Bill (2004/05:162) the Council will likely be terminated and its tasks transferred to a new state agency whose responsibilities also include, among other things, widening participation in HE.

411. The Swedish National Agency for Higher Education runs a management training program designed to facilitate management in higher education. The aim is to find appropriate ways and means of supporting and developing management and leadership at institutions of higher education. Target groups include deputy vice-chancellors, vice-chancellors, deans and university directors and programmes are also organized for other groups with central management positions at the HEI's. Mention can also be made of a network managed since 2000 by the Association of Swedish Higher Education (SUHF) that aims to encourage women to become candidates for elections to positions as Vice-Chancellors and Deans (of faculty).

7.2 Financing

412. Higher education and research in Sweden, as a whole, is financed predominantly by public funds, mainly via direct allocations from the state to the institutions. Table 7.2.1 and 7.2.2. below shows expenditure on HE as a proportion of total public spending on education 1997-2004 (Table 7.2.1. in the Annex shows the public expenditure on education as a percentage of total public expenditure). However, the proportion allocated directly in relation to other funding sources differs for undergraduate and graduate studies on the one hand and for research and doctoral studies on the other. In total, 86% of the revenues for higher education excluding research and doctoral studies consist of direct state allocations. The proportion of the funding received by the HEI's for research and doctoral studies from direct state allocations is substantially lower. As shown in Chapter 5, this share has decreased over the years and was 46% in 2004. The remainder of the funding comes from external sources, as they are called, which comprise both public and private funding agencies (for example research councils, public and private research foundations, as well as private enterprises). The proportion of funding allocated directly by the state to the entire sector (comprising both research and higher education) is 65%.

Table 7.2.1. Expenditure in higher education as a percentage of total public spending on education

1997	1998	1999	2000	2001	2001	2003	2004
21,4	20,5	20,9	21,1	21,1	21.1	21.7	21.7

Sources: Statistics Sweden, UF 12 SM 0201, Table from Statistics Sweden (www.scb.se), UF 0514

7.2.1.1 Developments in overall funding to HEI's (including research and doctoral studies)

413. In 2004, the overall revenues of the HEI's amounted to SEK 44.2 billion. Roughly half – 53% – was used for research and doctoral studies, and 47% for higher education excluding doctoral studies. Expenditure on the activities of the HEI's amounted to SEK 44.7 billion, meaning that the HEI's incurred a total deficit of half a billion SEK in 2004[56]. If expenditure for the state student loan/grant system (SEK 11.7 billion) and for the central agencies in higher education (SEK 700 million) is included, the total cost of the HE sector was SEK 57.1 billion. (Högskoleverket 2005:26R)

1.

[56] The deficit is covered by the balance of savings at the HEI's.

414. The total revenues of the HEI's have risen by 21% since 1997[57]. During the same period general university funding (state allocations to higher education excluding doctoral studies) has risen by 26%. One reason for this increase is that the funding of nursing education programmes was transferred from county councils to the state in 2002. Also, part of the rise is due to a transfer of the pension costs for HE staff to state funding for HE. In 2004 private funds financed a significantly larger share of education and research than in 1997. Table 7.2.2 below shows the overall distribution of income from different sources and the percentage change between 1997–2004. Details are available in Annex 7 (Tables 7.2.2 and 7.2.3).

Table 7.2.2. Total revenues in the higher education sector, million SEK (in fixed prices)

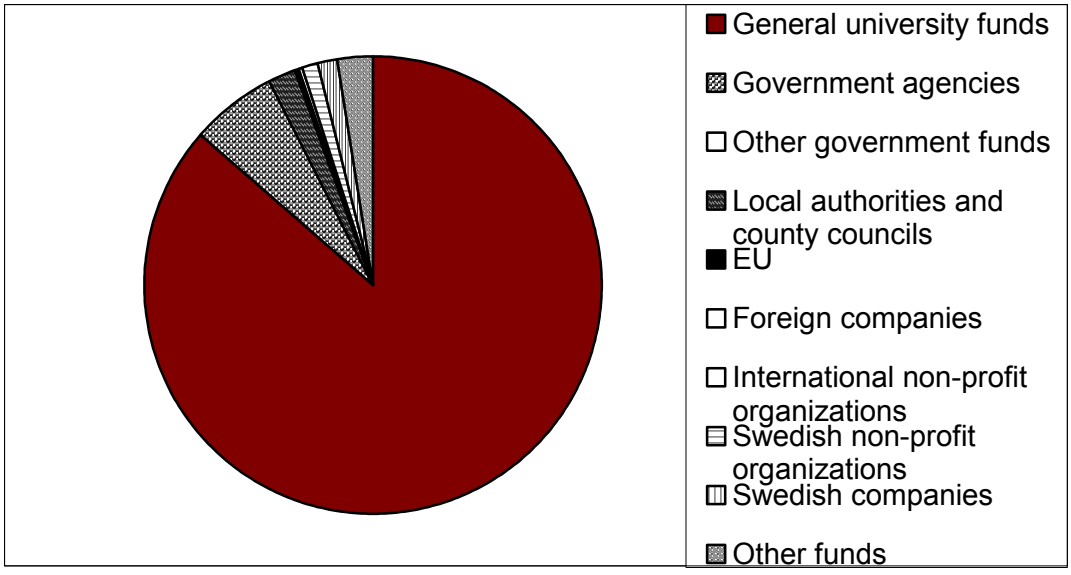
	1997	2004	Change, million SEK	Change, per cent
Direct allocation of state funding	22 704	28 516	5 812	26%
Central government agencies	7 142	7 879	737	10%
Local authorities	1 000	1 084	84	8%
Funds from international agencies and other foreign sources	825	1 442	617	75%
Private firms and non-profit organizations	2 840	4 072	1 233	43%
Other funds	1 921	1 174	-747	-39%
Total	36 432	44 168	7 736	21%

Source: Swedish National Agency for Higher Education

7.2.2 Sources of income for higher education excluding doctoral studies

415. As described above and shown in Figure 7.2.1 below, higher education excluding doctoral studies is almost entirely financed by direct allocations from the state. Details about the revenues are found in Annex 7. Tuition fees for individual students are not permitted. The only exception to the no-fees rule is contract education, for which the commissioning organisation pays a fee on a full-cost coverage basis and which cannot be commissioned by individuals.

Figure 7.2.1. Revenues for higher education except doctoral studies, 2004



Source: Swedish National Agency for Higher Education statistical database

1.

[57] A new accounting scheme was introduced on July 1, 1993, so that figures for the first year are uncertain. The 1995/96 budget year comprised 18 months as from 1997 the budget was adjusted to fit the calendar year. For this reason the development from 1997 is accounted for.

416. It can be noted that in January 2006 a special commissioner proposed that fees be introduced for students coming to study in Sweden from outside the EU/EEA area. At the same time the HE Act would be amended to guarantee the fundamental principle of freedom from fees for Swedish/EU students. The proposal is currently (June 2006) being considered. It has generated criticism, mainly from student organisations, which regard it as a first step towards fees for all. HEI's are divided in their opinion of the proposal. While some see the proposed fees as a potentially important funding source, others fear that fees will lower the attractiveness of their institution to foreign students.

417. Students usually cover their living costs and other expenses through the state study grant and loan system, which has been described in Chapter 6. Slightly less than half of the students also work part-time, according to a report by the Swedish National Union of Students. (SFS, 2005)

7.2.3 Funding mechanism for higher education except doctoral studies

418. Until 1977 state control of the activities and use of resources at the HEI's was very detailed and included, for instance, what programmes each HEI could offer, the number of students to be enrolled on individual programmes and the number of professors and senior lecturers that could be employed. The funding system for HE excluding doctoral studies contained many different items, including separate allocations for teaching staff wages and for the running costs of each disciplinary area at each HEI. In 1977 wages and other costs were integrated into a single allocation for each of five national disciplinary sectors], as well as for local and individual programmes. The decisions and financing for premises, equipment, etc were still centralised. The national authorities also determined the number of students for different programmes in the form of "planning frameworks" for each programme.

419. As part of a general reorientation of state agencies towards management by goals and objectives in the late 20th century, a major HE reform was implemented in 1993 (described in more detail in Chapter 8). This aimed to reduce the amount of detailed central state control over the activities of the HEI's and it increased the autonomy of the institutions in a number of respects. An important part of the reform was a new funding system for higher education excluding doctoral studies based on the quantitative performance of the HEI's. This system survives today and is essentially unchanged.

7.2.3.1 A funding mechanism based on performance

420. The main features of the current system are that funding is allocated to the institutions on the basis of the number of full-time equivalent (FTE) students and FTE study results[58]. The funding is dependent on the results of the HEI's for each financial year. Every institution is given an educational directive with goals that include the minimum number of FTE students. These goals are not linked to economic incentives.[59] (SOU 2005:48)

421. The funding allocation to each HEI consists of a ceiling figure, in some cases combined with funding for certain special assignments. The ceiling figure is determined by the Riksdag for each HEI. It indicates the highest possible allocation for FTE students together with FTE study results for which a HEI can qualify during one year. The total grant is calculated at the end of the financial year, when the numbers of students and their results have been accounted for. If an institution does not

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[58] One student enrolled on full time studies for one academic year equals one FTE student. One FTE study result is equal to one FTE student acquiring all the credits required during one year (40). Originally it was intended to allocate 60% of the total revenue for a specific field on the basis of FTE study results. Due to increases in the proportion based on the number of FTE students, the share based on FTE study results has decreased and today varies between 30% and 55%. (SOU 2005:48; Högskoleverket 2005:26R)

[59] However, in the late 1990s the HEI's were given special directives about increasing the number of FTE students in the fields of science and technology.

reach its ceiling, it does not receive the full funding. If an institution enrols more students than is allowed for by the ceiling amount, no additional compensation is paid. Thus fluctuations in the number of students directly affect the funding of the institution, even in the same year. In order to mitigate these effects, institutions are allowed to carry over 10% of the ceiling amount to the following years, for use in case it then attains less than the ceiling amount.

422. It is up to the governing board of the institution to distribute the funding internally according to the priorities it sets.

7.2.3.2 Unit revenues – differences between subject areas

423. As stated above, state funding to higher education is allocated per FTE student and FTE study result. The combined revenue for FTE student and FTE study results constitutes the per capita funding, or *unit revenue*. Programmes are made up of courses, which are classified, by the institutions themselves, as belonging to different fields of study. Different unit revenues apply to the different fields. The unit revenue levels are laid down annually by the Riksdag, according to general estimates of the costs associated with a specific field of study, and vary considerably between them.

424. In the original system there were six unit revenue levels, but during the years the system has been refined and today there are 15 such funding levels, of which some comprise two or more subject areas. The humanities and social sciences have the lowest revenue levels, while the fine arts have the highest. It can be noted that most of the study fields classified in this manner are small, for example in the fine arts where several different funding levels apply. Almost half of all FTE students are found instead in the humanities, social sciences, law, and theology, and close to one-third in the field of technology and natural sciences. The amounts (in SEK) that apply for each field in 2005 and the relative size of the different fields in 2004 are shown in Table 7.2.4 in the Annex.

425. These revenues are intended to cover all the costs, including premises and loan costs for fixed assets. The same level of revenue for a certain field applies to all HEI's that offer education in that field, regardless of any differences between individual HEI's in the costs that they incur.

426. There is no obligation for the HEI to follow the set unit revenues in their internal resource allocation. In practice, however, the unit revenue levels nevertheless play an important role in the internal funding decisions of the HEI's. (Högskoleverket 2005:26R)

7.2.3.3 Funding and quality

There are no links between the allocation of state funding to the institutions and the outcomes of national quality evaluation procedures. Quality indicators were originally intended to form part of the new funding system (*Frihet för kvalitet*. Government bill 1992/93:1), but no such indicators were ever developed. Quality requirements are included, however, in the Higher Education Act and quality is instead linked to the right to award degrees (see Chapter 9).

7.2.4 Funding of research and doctoral studies

427. As indicated above, the funding mechanisms, as well as the sources of funding, differs between higher education excluding doctoral studies on the one hand, and research and doctoral studies on the other. Detailed descriptions of the funding of research and doctoral studies, as well as sources of income can be found in Chapter 5.

428. Doctoral students have several alternative ways of financing their studies. Appointment to a postgraduate studentship – which is a form of employment and one of the most advantageous funding forms – is the most common. Financing can also take the form of some other appointment in HE (for example as an assistant or junior lecturer), a postgraduate study grant[60], employment outside

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[60] A grant paid by the individual HEI but whose size is determined by the Government. Not to be confused with the state grant and loan system for undergraduate/graduate students

HE with or without any links to the student's own research, or a scholarship. In 2004, about half of the doctoral students were appointed to postgraduate studentships, 12% had postgraduate study grants, 17% had other employment at the institutions, and 16% were financed through scholarships or employment outside HE. (Högskoleverket 2005:26 R) The absence of tuition fees in Swedish HE applies to doctoral studies as well as to other levels. Doctoral students with postgraduate study grants are entitled, on application, to appointment to a postgraduate studentship no later than the time when two years of full-time study remain before the award of their degree according to the individual study plan. (Higher Education Ordinance Chapter 5.4).

7.2.5 Funding Advanced Vocational Education

429. Those elements of Advanced Vocational Education offered outside the workplace are financed exclusively by state funds, channelled through the Swedish Agency for Advanced Vocational Education. However the private enterprises that host the compulsory workplace learning component account for around one-third of the total cost for AVE. So far, it is not possible to arrange AVE as contract education (i.e. against payment by a commissioning organisation), but the Swedish Agency for AVE has made a proposal to the Government to this effect.

430. State funding for AVE is allocated to approved providers by the Swedish Agency for Advanced Vocational Education. There is a set amount per full-time equivalent student which is sector dependent but there are also possibilities for a provider to receive a lower or higher amount. It is the provider that applies for the funds. Student fees are not permitted.

7.2.6 Problems and pressures in funding tertiary education and research

431. As in many other countries, the overall funding of higher education is the subject of debate. While the expansion of HE excluding doctoral studies has led to greater state expenditure on the higher education sector as a whole, per capita funding for HE excluding doctoral studies has decreased in real terms since 1994/95 (Högskoleverket 2005:26R, p. 75). Graph 7.2.1. in the Annex shows the development of costs in relation to unit revenues. Unit revenue levels were cut in the latter half of the 1990s as part of Government efforts to reduce public spending. In 2002–03 the fields of humanities/social sciences and health care were augmented by 7% and 15%, respectively. (Högskoleverket 2005:26R)

432. It can be noted that the Government is proposing enhancement of per capita funding for a number of subject areas (humanities, social sciences, theology, natural sciences, technology, and pharmacology) in the 2006 budget bill (Budgetpropositionen för 2006, prop. 2005/06:1).

433. The financial situation has been criticised not least by the institutions, the Swedish National Union of Students and the Association of Swedish Higher Education. There is also a discussion about the way in which the costs of the HEI's (for example, salaries) have increased more rapidly than the unit revenues they receive from the state.

434. The debate on research funding centres on what proportion should be made up of external funding vis-à-vis direct state allocation. While the Government sees the increasing share of funding from external sources as a guarantee of quality, many institutions would prefer to receive a larger share through the direct allocation. External funding is frequently allocated on a fixed term basis to individual research projects. Greater funding through direct allocation is considered to permit greater independence in research and also to make long term planning easier (arguments to this effect are found, for instance, in Sundquist, 2002).

7.2.6.1 Funding the expanding HE system

435. The significant expansion that Swedish HE has undergone in the last 15 years has been funded almost exclusively by state funds. Since 1993 it has been a basic principle in the Swedish system for funding HE that when a HEI is given an increased educational assignment (i.e. is instructed

to create more places), it is also given added resources (see sections 7.2.3.1 and 7.2.3.2 above). There is political unity on the principle that any expansion of HE is to be fully funded. However, there are different opinions on the need for further expansion of this kind.

7.2.6.2 The funding system for HE excluding doctoral studies

436. The funding system for higher education excluding doctoral studies is considered by many to function well on the whole, and there is broad acceptance among HEI's of its basic principles of institutional autonomy and of performance-based allocation. (SOU 2005:48) However, the system has mainly been developed and tested in a situation of across-the-board expansion of HE and does not appear to be working as well when the number of students is levelling out or decreasing.

437. One problem that has surfaced is the short-term nature of the performance-related funding system and thus its sensitivity to fluctuations in the number of students. An institution's revenues can decrease sharply from one year to another while it has little scope to adapt its costs as quickly, due, for example, to the long-term character of obligations to students and commitments regarding staff and premises. It has also proven difficult for the HEI's to build up a sufficiently large financial buffer during "good years". In addition, the funding system creates incentives for HEI's to increase their offer of programmes which are currently in demand among students, regardless of whether there is a need on the labour market. (SOU 2005:48) As a consequence of the need to attract students, it has been pointed out that HEI's tend to create shorter and more general courses which are attractive to larger numbers of students[61]. (Riksrevisionsverket, 2003) Critics of the system also claim that it does not provide incentives for raising the quality of the education or its labour market relevance (see for example section 3.4.5.).

438. The fact that the funding for higher education excluding doctoral studies is partly based on student performance (in terms of FTE credits) has given rise to criticism that it provides an incentive for the HEI's to increase the student numbers and pass rates. For example, the supreme audit institution of Sweden (the National Audit Office) sees the risk of HEI's lowering standards in order to pass more students. However, the National Audit Office points out that the data does not show that this has actually taken place. (Riksrevisionsverket 2003)

439. Small subjects, such as some modern languages, frequently experience financial problems since they do not attract adequate numbers of students to bear their own costs. A review of the situation of the small language subjects in 2002 recommended that the Government create a separate funding solution, in the shape of specific directives and allocations, for languages that attract few students in Swedish HE and that are considered indispensable. (Högskoleverket, 2003-01-14) In response to these problems, several HEI's have started to cooperate on dividing responsibilities for some languages.

440. A review of the funding system presented in 2005 (SOU 2005:48) has proposed amendments to the system that would reduce the HEI's' dependence on short-term student demand. In this proposal 65% of the total allocation would be performance-based (FTE students and FTE credits), and 35% would constitute a basic allocation, which the HEI would receive irrespective of its quantitative performance. Supplementary funding would be allocated for long-term special commitments, such as for certain language subjects. In addition, a special appropriation would be added to the funding for certain institutions in the fine arts and physical education.

1.

[61] Possibilities are offered in HE to study modern languages at beginners' level, even those that may be studied in upper-secondary schools (for example, French, German, and Italian). Normally courses in these languages in HE would require a level of previously acquired competence for admission. This issue has, in turn, given rise to a debate about the types and levels of programmes that should be offered in higher education and at other levels of the educational system.

7.2.6.3 Tertiary education and taxation

441. There are no special rules as regards education and taxation. Costs incurred by an organisation that commissions contract education are, for taxation purposes, deductible expenses provided that they are necessary costs for the running of the business. Individuals are given no possibilities of deducting educational costs from their personal taxation. Special rules apply, however, to the interest on state study loans. While individuals are normally entitled to deduct interest on loans from their taxable income, no such entitlement applies to the interest on state study loans.

7.2.7 Age-earnings profile: implications for funding

442. Sweden is considered by many to have a low "university salary premium". Even though graduates generally earn more in the course of their careers than those with only upper-secondary qualifications, the premium can be negative for some categories of employees, as has been pointed out by SACO, a professional union for graduate employees (Ljunglöv, 2004). However, with some exceptions, there has been relatively little debate about this issue over the years. One contributing reason may be that the cost of a degree is comparatively low for students in Sweden, because of the absence of fees and a relatively generous study support system.

8 PLANNING, GOVERNING AND REGULATING THE SYSTEM

8.1 Introduction – general philosophy of governance[62]

443. As a result of gradual changes towards greater decentralisation in the 1980s and reforms in the 1990s (most importantly, the reform of 1993 described in Chapter 2), decision making in Swedish higher education has become decentralised, with greater responsibilities and powers for the individual HEI's. The system has gone from central control to management by objectives and results. This means that the Government decides on objectives and specifies the required results, while it is the responsibility of the HEI's to ensure that activities are carried out in the best possible way. The system is intended to delegate responsibilities and reduce detailed control of higher education institutions while increasing the requirements to report results. In the Swedish National Report to OECD/IMHE – Hefce in 2004 (p. 21), the general idea of the system is described: "The idea, naturally, has not been for the central political authorities to renounce responsibility for the total supply of education but rather to adopt a means of governing at a more general level while raising the level of follow-up and reporting required. Objectives set by the Government and the degree of detail in these objectives are an expression of the division of roles between the central political authorities and the higher education sector. The dialogue between the Government/Ministry of Education and Science and the higher education institutions are vital to the success of a system of management by objectives and results."

444. Except for the private institutions (for more information on these HEI's, see Annex 2), Swedish HEI's are formally Government agencies under the jurisdiction of the Government and Riksdag. As such, they are subject to the same general regulations as apply to other government agencies and agencies, but there is also a specific body of laws and regulations governing the activities of the institutions. While preserving their academic freedom, the HEI's are also expected to comply with government policies and work towards national policy goals. The individual institutions are responsible for interpreting and transforming the national policy goals and objectives, which are deliberately formulated on a general level, into concrete measures. The main responsibility for this within the HEI's lies with the vice-chancellors and governing boards. The institutions are required to report back to the Government regarding their results.

8.1.1 "Checks and balances"

445. A number of "checks and balances" have been introduced in order to balance the increased autonomy of the institutions and safeguard the transparency and control over the use of tax funds required by the state. Such measures include the various accounts required (annual reports and operational reports, interim reports, budget documentation) and the quality evaluation system (see Chapter 9). The accounting requirements cover objectives laid down in the appropriation directives. These range from reports to be submitted every four years on measures directed at achieving certain political goals, to activities that are more measurable in quantitative terms. The annual reports of the HEI's are reviewed by the Swedish National Audit Office, which sets up a financial audit report. In addition, the institutions are required to conduct internal audits, under the instructions of the governing board. (Swedish National Report to OECD/IMHE-Hefce)

446. One of the major objectives of the reform in 1993 was to make the HEI's more autonomous in relation to the state. Increased autonomy was seen as one imperative factor in a reform aimed at strengthening the quality, independence and international competitiveness of Swedish HE as well as its efficient use of resources (*Frihet för kvalitet*. Government Bill 1992/93:1).

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[62] This section is based on the Swedish National Report (2003) to the Joint OECD/IMHE – Hefce Project on Financial Management and Governance of Higher Education Institutions. The author of the report is Staffan Sarbäck, Luleå University.

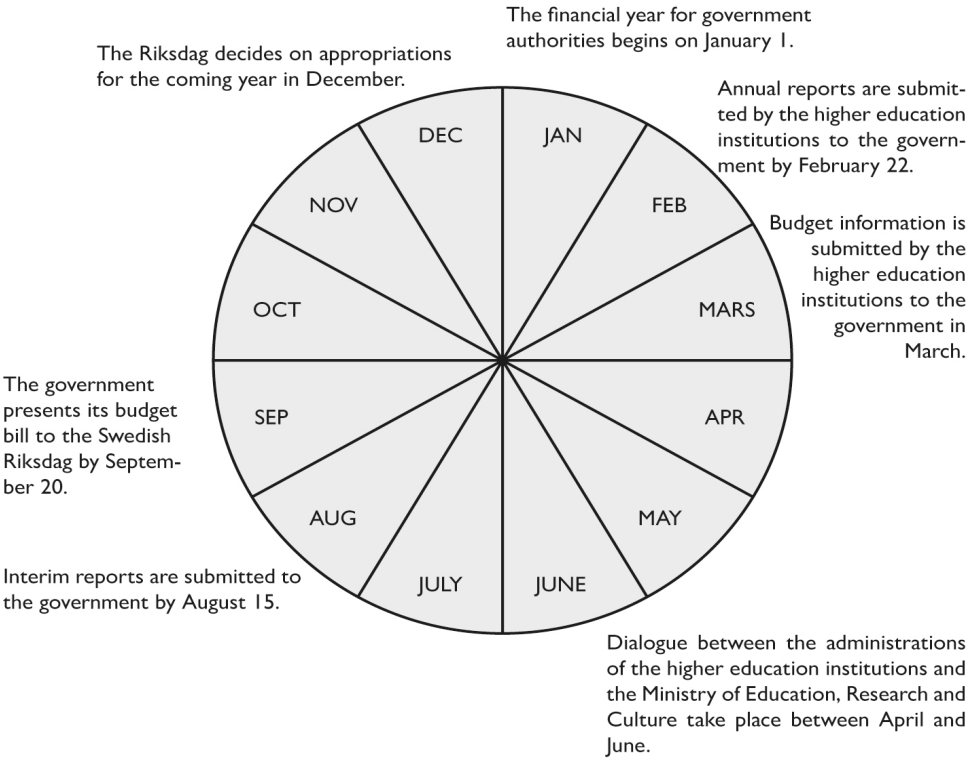
8.2 Governance of tertiary education

8.2.1 Governance of higher education excluding doctoral studies

447. The legal framework for HE in the shape of the HE Act and HE Ordinance forms the basis for governance of the sector. Overall governance of higher education excluding doctoral studies also takes place through the funding system (see Chapter 7). The governance of private/independent institutions is described in Annex 2.

448. Like other branches of the public administration in Sweden, higher education in Sweden is directed on the basis of objectives and results. This control is exercised within the framework of the annual state budget process. This can be described simply by saying that in December each year the Riksdag determines the appropriations for higher education institutions. The Government then issues directives to the institutions which are drawn up each December. In the February following the end of each operational year, the higher education institutions then report back to the Government by submitting their annual reports and the Government in its turn reports back to the Riksdag, for instance in the budget bill tabled during the autumn. See fig 8.1 below.

Figure 8.1. The budgetary year



8.2.1.1 Appropriation directives

449. A key document in the governance of HE is the annual appropriation directive, which specifies the Government's expectations of the HE sector during a specific period (four years). The directive consists of general regulations (containing educational policy goals for HE, reporting requirements for the HEI's, and special assignments) and an appendix for each state HEI. In order to provide an illustration, the Annex contains an example of an appropriation directive appendix for a university. Governance also takes place through quantitative targets in the form of educational directives to individual HEI's (in the appropriation directives). The directives specify quantitative targets for certain degrees and for the number of FTE students in certain fields over a four-year period, and planning parameters for the subsequent four years. The Government can also specify other tasks,

for example that an institution is to provide programmes in a specific field. There are no economic incentives linked to the targets.

450. The Government may invoke a range of methods in order to achieve a political objective. One example is given in the Swedish National Report to OECD/IMHE-Hefce concerning the political objective to promote broader recruitment:

- amending higher education legislation, in this case with a provision that HEI's should work actively to reach new groups;
- insertion of new objectives in the appropriation directives to the HEI's
- instructing the institutions to draw up action plans with measurable targets;
- specifying monitoring parameters such as key indicators;
- establishing temporary special projects with project funding (such as the project Rekryteringsdelegationen intended to support the work of the HEI's in widening participation);
- delegating responsibilities and relaxation of regulations. For example in this case the governing boards of each institution were given the right to decide on admission regulations for at most 10 % of the places in the programmes addressed to new students;
- establishing new structures (for example, a Swedish Net University has been established in order to coordinate the IT based educational offerings of the HEI's and thereby make HE more accessible at different times and in different places).

8.2.2 Governance of research and doctoral studies

451. The general principle of freedom of research for the individual researcher is stipulated in national legislation (Higher Education Act). The Act lays down the freedom to select research problems, develop research methods, and publish research results without restriction.

452. The control exercised by the Government and Riksdag is primarily concerned with the volume and general orientation of research. As opposed to other areas of higher education, the direct state allocation of funds for research and doctoral studies (i.e. state funding allocated directly to the HEI's), contains no performance-related component.

453. The central political control over doctoral studies is exercised by the approval of the entitlement of university colleges to award doctoral degrees in a special area of research and by setting special targets for the number of degrees. It may be noted that the objectives set by the Government for doctoral degrees presuppose external funding, public or private. The Government regards this a one way of increasing collaboration with society at large.

454. Naturally, the Government may, to some extent, govern research through its financial priorities and the framework it provides. For example, research in specific areas may be encouraged through the allocation of funds to state research funding bodies, or by earmarking such funds for a specific purpose. In the recent research policy bill (Forskning för ett bättre liv, Government Bill 2004/05:80), the Government has, for instance, announced significant measures in terms of increased funding to support research in fields that it considers especially vital to the further development of the country (the focus in the bill is on the medical and technological fields as well as sustainable development).

8.2.3 Governance and division of responsibilities in Advanced Vocational Education

455. Advanced Vocational Education (AVE) is governed through its own Law and Ordinance. The Swedish Agency for AVE plays a crucial role in the governance. It is responsible for evaluating and approving applications from providers to start an AVE programme. The Agency judges whether there is a need on the labour market for the different programmes as well as evaluating the quality of the proposed programmes. The goals for AVE differ from those for higher education in that the focus is on fulfilling labour market needs, rather than educating a certain number of students.

456. Many responsibilities, such as examining students and awarding qualifications, have been delegated to the AVE providers. They are required to adhere to the Law and Ordinance. They may not charge fees for their AVE programmes and are accountable to the Agency for AVE.

457. It is the Swedish Agency for AVE that approves course providers, according to set criteria, the chief of which is that there is a proven demand on the labour market for the proposed training. The Agency enters into an agreement with the provider in which their respective responsibilities are specified. For each AVE programme the establishment of a management group is required to shoulder ultimate responsibility for the programme. Compliance by the provider with the agreement, laws and regulations is monitored by the Agency. (Information from the Swedish Agency for AVE)

8.3 Decision making in tertiary education

458. In Sweden, the state bears the main responsibility for tertiary education. The Riksdag and Government decide on regulations and resource allocation as well as goals and guidelines. The overall responsibility for research and for education at all levels, lies mainly with the Government[63]. The responsible ministry within the Government is the Ministry of Education, Research and Culture[64], but in higher education much of the decision making has been decentralised to the higher education institutions.

8.3.1 Responsibilities of the HEI's

459. The Higher Education Act (Chapter 2, see Annex) regulates the general organisation of the state HEI's as regards decision making and general composition of the governing bodies at various levels. The highest decision making body of a HEI is the governing board. This is to supervise all matters relating to the higher education institution and is responsible for the way in which it discharges its obligations. The chairperson and other external members of the governing boards are appointed by the Government and together constitute the majority of the board. Teachers and students are entitled to full representation on the board. Other staff representatives are entitled to attend and to speak at meetings. Furthermore, the Higher Education Ordinance (Ch. 2) lays down the duties and rules of procedure of the board.

460. The external board members may represent local enterprises, local politics, government agencies, state and non-state organisations, etc. One aim of this diversity is to ensure that many different perspectives are taken into account in the work of the board.

461. Under the governing board, a Vice-Chancellor (who is also a member of the board) is charged with the management of the institution's activities. Previously the Vice-Chancellor was also chairperson of the governing board, but this was changed in 1998 so that instead the chairperson became an external member (one not employed at the HEI concerned). The chairperson is appointed by the Government. (Högskoleverket 2000:15 R)

462. Within the framework of national rules and regulations, overall policy goals, and concrete educational directives described above, the HEI's have a significant degree of freedom to decide on how to organise their activities and use their resources. Their responsibilities and powers include:

- How their operations are to be organised, the division into organisational units and
- The establishment of new professorships and the appointment of professors and

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[63] The Swedish Government practices collective decision making.

[64] The Swedish University of Agricultural Sciences (SLU) is accountable to the Ministry of Agriculture.

decision-making bodies (other than stipulated in the HE Act and Ordinance).
- The organisation of studies, structure and content of educational programmes.
- The undergraduate programmes and courses to be offered (depends on entitlement to award the degrees in question).
- The number of places in each programme or course
- Research methodologies and focus.
- The extent and nature of contract education.
- The award of degrees to individual students
- How to develop the quality of activities

other members of staff.

- How resources are to be allocated within the institution
- Postgraduate programmes: subjects on offer, enrolment, organisation, implementation (depends on entitlement to award postgraduate degrees)
- Salaries for all employees except the Vice-Chancellor/President.
- Premises and equipment.
- Annual budget and budgetary follow-up
- Focus and extent of contract activities in education and research
- Staff working conditions

463. The autonomy of the HEI's does not apply to the ownership of their facilities. State institutions may not own their facilities but may choose which landlord to rent them from. However HEI's often rent their facilities from a state enterprise, *Akademiska Hus*. The division of responsibilities as regards renovation and expansion of the premises are subject to the terms of the rental agreement. There is therefore no general model for decision making in this area.

8.3.2 Responsibilities of the Riksdag and Government

464. The Riksdag decides on the existence of state HEI's as well as on the establishment of new state institutions. The Riksdag also enacts legislation in the field of higher education and determines the principles for resource allocation to higher education and research. Decisions on the size and use of annual state funding for HEI's, national authorities and agencies, as well as for research councils, also rest with the Riksdag.

465. The Government has the right to initiate the issues on which the Riksdag decides. It is the Government that presents proposals to the Riksdag. Also, the Government controls the agencies and authorities by issuing the ordinances governing their activities. Annually the Government issues appropriation directives containing goals and instructions for the activities of the agencies (including the state HEI's). The Government decides on:

- Ordinances in the higher education field, for example the Higher Education Ordinance.
- The right of independent education providers to award specific degrees in higher education, after appraisal by the Swedish National Agency for Higher Education
- Contracts with independent providers of higher education
- Appointment of chairpersons of the governing boards of the institutions as well as the majority of the other board members
- Formal appointment of Vice-Chancellors (the HEI in question proposes the candidate), and determining their remuneration
- Whether a University College should become a university, after appraisal by the Swedish National Agency for Higher Education
- Whether a University College should be accredited in an area of research
- Budget items not specified by the Riksdag (this is a budget post that the Government can spend on specific projects)

466. The Government prescribes which national higher education degrees may be awarded, but the Swedish National Agency for Higher Education plays a central role by deciding which

institutions are allowed to award the different degrees[65]. In the case of independent providers, the decision is taken by the Government, after appraisal by the National Agency. Likewise, the Government decides, after appraisal by the Agency, on the accreditation of areas of research at University Colleges and on whether a University College is to be awarded university status.

8.4 Priorities in the expansion

467. The Swedish HE system has undergone significant expansion from the 1990s to the early 2000s. The size of the HE system as a whole is determined by Government policy in combination with the resources available. Over time the expansion has focused on different parts of the system, for example expansion of newer HEI's, institutions with high capacity in natural science and technology, or expansion of HEI's with a generally high capacity and therefore able to admit more students.

468. A Government long-term policy target affecting the number of study places is that 50 % of those born in any given year are to have embarked on university level studies by the age of 25. In some cases, developments on the labour market affect targets set by the Government for specific subject areas at the HEI's.

469. Likewise, the overall number of places in AVE is dependent on government policy and resources available. There are no quantitative goals as for higher education. The size of individual AVE courses is determined strictly on the basis of a judgement of needs on the labour market.

8.5 Linkages between tertiary education institutions

470. The Swedish system of higher education is unitary. The same degree awarded at different institutions has equal value, and there are no formal obstacles to prevent students from transferring to other institutions. National legislation lays down the right of students to accreditation of their previous studies on transfer to a new institution. In addition, students may apply to a postgraduate programme irrespective of where in Sweden their previous higher education qualifications were awarded. Programmes are made up of several clearly delineated modules or courses which confer a certain number of credits and which may also be taken independently. There are no centrally collected data on the transfer of students between programmes or institutions.

471. The Government has emphasised the importance of HEI's profiles and concentration on their areas of strength as well as cooperation with other institutions in order to increase their efficiency and quality. This is also a recommendation of most of the national quality evaluations. There are many examples of cooperation between institutions. In the sphere of doctoral studies, institutionalised cooperation takes place between institutions, for example in doctoral programmes offered jointly by institutions entitled to confer doctoral degrees and those that are not. Also, networks and cooperation agreements are being created between institutions with the same specialisations, in the same region or to enable certain subjects to be offered.

472. The Swedish system contains few highly specialised institutions. There are, in essence, two ways for an institution to grow. One is to expand with regard to the undergraduate student population. The other is to acquire the right to award doctoral degrees and thereby become a larger actor in research. Many – though not all – non-university institutions aspire to the title of university, which entitles them to award PhD's, and normally also attracts increased research resources from the state and a higher status in the perception of the surrounding community.

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[65] The Government decides on the degrees that may be awarded by the Swedish University of Agricultural Sciences (SLU).

473. The Swedish institutions have the freedom to decide on the profile of their educational offerings. One of the outcomes of the result-based funding system for higher education excluding doctoral studies is, however, an incentive for the institutions to expand in areas that are attractive to students. This has lead to a proliferation of certain courses that are currently popular. So far, few institutions have chosen to use their freedom in order to create their own profile instead and to concentrate on their areas of strength. This is shown by virtually all the quality evaluations carried out by the Swedish National Agency for Higher Education. However, recently several institutions have decided to focus more on these issues. Some have announced plans for more cooperation with other institutions, while others have decided to adopt profiles in specific areas or levels of education. (Högskoleverket 2005:20 R)

474. As regards Advanced Vocational Education, the decision not to create a separate institutional sector was deliberate. Instead AVE programmes are offered in cooperation between enterprises and various course providers in different combinations (higher education, upper-secondary schools, municipal adult education and companies specialised in education and training). AVE regulations require the participation of a higher education institution in the programmes, for example, when they are needed to provide a course that an AVE programme requires. There are certain possibilities for crediting of AVE courses in higher education, but this depends on the HEI and type of training in question. (information from the Swedish Agency for AVE)

8.5.1 System linkages

475. One of the main objectives of the overall Swedish system of education is that there should be no dead ends and that the lifelong learning of the population should be promoted. Neither an individual's background nor choices earlier in life should present an insurmountable obstacle if they wish to continue studying, for example in HE. This means, among other things, that all upper-secondary programmes, including the vocational ones, provide general eligibility for advanced study. It also means that it is possible to acquire eligibility for higher education in a number of other ways. Widening participation in HE is an important policy goal. Measures adopted with the aim of widening participation include new programmes with vocational content or courses designed to provide an introduction to higher study.

8.5.1.1 Tertiary education and other levels of study

476. Higher education institutions are required and encouraged by the Government to take an active part in the development of society, for example as regards widening participation, reducing obstacles to participation in higher education, and providing education for needs on the labour market. Higher education institutions also play a significant role in continuing education and lifelong learning.

477. Municipal adult education is frequently used by adults without an upper-secondary qualification to acquire eligibility but it is also used by upper-secondary school leavers who wish to improve their grades before applying to higher education. The folk high schools offer programmes that provide general eligibility and, in some cases, specific subject eligibility. Accreditation of prior and experimental learning and "alternative selection" are other "non-traditional" routes into higher education. A description of the HE admissions system is found in Chapter 6.

478. Higher education institutions have been enabled and are encouraged to provide shorter programmes with mainly vocational content that lead to national degrees and often have a clear target profession. In parallel, Advanced Vocational Education has been established with the explicit goal of fulfilling needs on the labour market. AVE is built on cooperation between different types of providers, such as companies, municipal adult education, and higher education institutions.

479. Moreover, specific courses are set up at HEI's, often for a limited period of time, for specific target groups (often with a focus on improving the employment prospects of the participants). One example is part-time teacher training for persons who are already teaching but lack the formal qualifications to work as a certified teacher or who want to extend their previous qualification. Other

courses are aimed at improving the employment prospects of foreign graduates and offer supplementary training (for example to be able to work in a profession that requires certification like teaching or medicine) and work placement.

480. Employers may purchase more or less tailored higher education courses for their employees as contract education and training. This type of education accounts for just a few per cent of the total undergraduate education offer by HEI's, but nearly all institutions provide it (although to varying degrees). There are also possibilities for individuals to pursue a postgraduate degree while remaining a salaried employee. (Högskoleverket 2004:38 R)

8.5.1.2 Bridging programmes

481. College year programmes (described in more detail in Chapter 6) are one-year programmes intended to broaden recruitment to higher education by providing eligibility for HE and at the same time allowing the participants to feel what advanced study is like. (Högskoleverket, 2005:23 R)

482. The "foundation year" programmes (*basår*) (described in more detail in Chapter 6) are another measure designed to widen participation, reduce dead ends and increase the recruitment of students to certain courses. HEI's may offer the foundation year in all fields of education, provided there are fewer applicants than places and a demand exists on the labour market. They are aimed at applicants who want to attain the eligibility required for studies in a specific subject. (Högskoleverket, 2005:22 R)

8.5.1.3 The relationship between HE and the upper-secondary school

483. The basis for the relationship between higher education and upper-secondary education is defined in the Higher Education Act, where it is stated that "Undergraduate education shall mainly build on the knowledge acquired by pupils in national programmes in upper-secondary school or corresponding knowledge." (HE Act, Ch. 1, paragraph 8) Until the early 1990s upper-secondary education offered either three-year programmes aimed at preparing for further study ("academic" upper-secondary programmes) or two-year programmes intended to provide preparation for working life ("vocational" programmes). An important reform of upper-secondary education was implemented between 1992–1994 with the major aim that all pupils who successfully completed an upper-secondary programme should have basic eligibility for higher study. This meant that the previous two-year vocational programmes were turned into three-year programmes and that certain subjects were made compulsory for all programmes, academic as well as vocational. Today all national programmes provide basic eligibility. The reform was an important part of Government policies to avoid dead ends in education and to widen participation in HE.

484. Many examples also exist of cooperation between HEI's and upper-secondary schools. Their objectives may include raising the interest of pupils for higher study in specific fields and widening participation in HE. For example, pupils may complete their final project at a HEI or participate in research projects. There are also a few examples of programmes at higher education level being provided in an upper-secondary school. Very occasionally these courses also confer HE credits for which the pupil receives credits on entering HE.

485. In the 2005 bill on higher education (*Ny värld – ny högskola*) the Government highlights cooperation between HE and the upper-secondary schools as one instrument for reduction of the socio-economic bias in recruitment. Stress is placed on the importance of cooperation by HEI's with upper-secondary schools from which a low proportion of students proceed to HE that could take the form of specific information measures, for instance.

8.5.1.4 Encouraging mobility within and between institutions

486. The mobility of students within and between higher education institutions is facilitated by the existence of a national credit system, as well as by a study organisation in which degree

programmes are composed of clearly defined course modules. Data regarding the mobility of students within or between Swedish HEI's are not regularly produced, but a study from 2001 (Högskoleverket 2001:28R) showed that there is a not insignificant degree of mobility in the national HE system. Around one-quarter of the students who graduated for the first time in 1999/2000 received their degree from an institution other than the one at which they first enrolled. The study identified a movement from smaller and medium-sized institutions to large universities and from broad, general institutions to those with a higher degree of specialisation. This picture is confirmed by more recent data.

487. The major element in the framework encouraging student mobility between different institutions is the right to transfer credits provided in the Higher Education Ordinance. A student at a HEI in Sweden, who has successfully completed a programme or course or has the corresponding knowledge and skills, is entitled to credit for this when applying to another institution.

488. It is the task of the individual HEI to judge applications for accreditation. The institutions are expected to be generous in crediting courses from other institutions. In 2001, student entitlement to accreditation was increased when a new provision was introduced, requiring a *substantial* difference between the programmes at the different institutions for credit to be denied.[66] The crediting HEI was also ascribed the burden of proof in showing that any difference between the programmes is in fact substantial and thus merits a denial of credit. Decisions to deny credit may be appealed to the Board of Appeals for Higher Education, a government agency responsible for reviewing appeals against decisions by Swedish HEI's and in Advanced Vocational Education. (Högskoleverket, 2004-05-18)

489. There are no explicit provisions in the legislation regarding accreditation of courses *within* a HEI. However, decisions by the Board of Appeals for Higher Education have in practice given students who have successfully completed part of a programme the right, in some circumstances, to transfer their credits to part of another programme or course at the same institution.

490. Providers of Advanced Vocational Education are required (by ordinance) to validate other studies or work experience relevant to the programme, if the knowledge or skills already acquired by an applicant correspond on the whole to those conferred in the programme to which he or she is applying.

8.5.2 Information to students about tertiary study

491. Information and study counselling for prospective and current students on opportunities in tertiary education is provided at several different levels. In upper-secondary schools, study guidance is provided by study and careers counsellors. Higher education institutions are required by national legislation to provide study guidance, and the service is usually available both at the central administrative level and in the individual departments. Study guidance is also available in municipal adult education and in folk high schools.

492. The main responsibility for information on the programmes offered in higher education, including doctoral studies, as well as on applications and admissions[67], and for marketing to prospective students lies with the individual HEI's. They produce their own information material and prospectuses regarding the programmes and courses they offer.

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[66] The same provision applies to students who have successfully completed a programme at a HEI in Denmark, Finland, Iceland or Norway or in an entity that is a party to the Lisbon Convention (Council of Europe Convention of 11 April 1997 on the Recognition of Qualifications concerning Higher Education in the European Region) and to students from *Nordiska högskolan för folkhälsovetenskap* .

[67] Even though admissions are the responsibility of the HEI's, admission procedures for programmes are usually implemented by a state agency (National Agency for Services to Universities and University Colleges, VHS) on behalf of the HEI's. This agency processes the applications and provides national coordination of admissions.

493. The Swedish National Agency for Higher Education is directed by the Government to continually produce general information for students in Sweden about advanced study (including studies abroad). The Agency collects and coordinates information from the Swedish HEI's and makes it generally available. As part of this work, the National Agency provides an extensive database through which all Swedish HE courses and programmes are searchable online (www.studera.nu) with links to the relevant homepages for programmes or courses at the institutions. The web site also provides information about credit transfer and study abroad. At present, the National Agency also produces general information aimed at prospective undergraduate students, containing information about studies in HE. The information material is distributed to study and careers counsellors at all upper-secondary schools as well as in municipal adult education and folk high schools. The Agency also produces an online Handbook for Postgraduate Students (www.hsv.se/doktorandhandboken)

494. Information on, and promotion of higher study in Sweden aimed at prospective students in other countries is produced by a government agency under the aegis of the Ministry for Foreign Affairs, the Swedish Institute. Information is published online (www.studyinsweden.se). For Internet-based distance education, an online database of such courses and programmes is provided by the National Net University Agency (www.netuniversity.se).

495. There is a similar division of responsibilities for Advanced Vocational Education. The Swedish Agency for Advanced Vocational Education is responsible for general information about this form of education and publishes information on all available AVE courses on the Internet. Marketing the individual courses is, however, the responsibility of each provider.

9 ASSURING AND IMPROVING THE QUALITY OF TERTIARY EDUCATION

9.1 Introduction

496. Universities and university colleges have the fundamental responsibility for the quality of their provision. Thus, they are expected to have their own quality assurance and enhancement programmes. This includes requirements regarding student evaluation of courses and programmes as well as other forms of internal evaluation of teaching and other activities. However, following a gradual decentralisation of powers to higher education institutions, the 1993 university reform introduced a national systematic external quality review model, effective from 1995. A further reason for this development was also the introduction of a new input-output-based system of allocating funds for undergraduate and graduate programmes and the need to assure the quality of educational provision (cf. Chapter 2).

497. An independent government agency, The Office of the University Chancellor, had been established as early as 1992, with the explicit brief of developing a system of quality assurance. In 1995 this task was handed over to a new agency, the Swedish Swedish National Agency for Higher Education, which was given a much broader mandate[68].

9.2 Key audiences and stakeholders of higher education

498. The cost of higher education, including doctoral studies and state funded research at the HEI's, amounts to about SEK 44.7 billion, or 1.76 % of the GDP (Högskoleverket 2005:26 R). Consequently, the Government (and the tax-payer) wants to know whether that money is well spent, and is thus a major stakeholder. Employers in business and industry have an interest in knowing the quality of provision and of graduates they may employ one day. Those who have the most direct concern regarding quality are the students. Students have a prominent place in both planning and implementation of higher education as members of the board of the Swedish National Agency for Higher Education, university boards, committees and other decision-making bodies in the HEI's. They also have the statutory right to express their opinions on the courses and must be informed of the results of evaluations. There are also other groups with an interest in higher education, for example professional unions.

499. Evidence of the quality of higher education provision is provided through the evaluation reports published by the National Agency. The results of all evaluations are thus always made public. They can be found in print and on the Agency website, with a summary and the full text of the report. There is also a website specifically aimed at students (www.studera.nu), in which the main points of each subject and programme evaluation are highlighted, and additional information on the subjects and programmes in question is provided.

9.3 External quality assurance of teaching and learning in higher education

500. In 1995, the Swedish National Agency for Higher Education had three different programmes in place concerned with reviews and accreditation of higher education provision: quality audits, accreditation and programme and subject evaluations. Each of them is described in some detail in the following.

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[68] For an overview of the role, mandate and size of the National Agency, please see Chapter 2.

9.3.1 Quality Audit

501. Quality audits were introduced in 1995 and for seven years functioned as the systematic, cyclical model covering all universities and university colleges. They were based on the assumption that quality assurance and enhancement are the responsibility of the institutions, but that they have to demonstrate the way in which they fulfil these obligations and the results of their efforts.

502. The basic audit model was that of self-evaluation by the institution followed by peer review involving a site-visit. During the visit, academic administrators, staff and students were interviewed in order to ascertain the efficiency and effects of the quality processes of the institution. The final result was a public report. The peers were Swedish and international academics and stakeholder representatives. A typical panel reviewing a university would consist of two Vice-Chancellors, one Registrar, one stakeholder representative from business or industry or public administration, and one student. It should be noted that student participation was considered essential from the very beginning and that it continues to be an important feature of all types of Swedish quality assurance. The audit was followed up one year after the publication of the report.

503. The aspects of quality assurance and development highlighted in the audit process included the management and organisation of quality work, quality assurance policies and strategies, participation of university staff and stakeholders in the processes, staff development, internationalisation, and gender equality.

504. The audits fulfilled an important function when they were introduced during the transition to a decentralised system of higher education. A general conclusion after seven years was that together with other measures they helped to raise awareness of quality issues among senior administrators and top management at higher education institutions, but that building up generally accepted systematic quality assurance and enhancement measures may take a considerable amount of time in universities and colleges. The impact of institutional audit at the departmental level is more difficult to assess (Wahlén, 2004). These audits were replaced in 2002 by a six-year programme of subject and programme assessment (please see below).

9.3.2 Accreditation

9.3.2.1 Accreditation of State-owned institutions

505. As described earlier, although Sweden has a unitary higher education system, there are essentially two kinds of institutions: universities and university colleges. There are also two main types of degrees, general degrees and professional degrees (enumerated in Annex 2). Universities have the right to award all general degrees, including PhD's. University colleges award Bachelor's degrees, and nearly all were given the right to award specialised Master's degrees in 2002. All higher education institutions have to be accredited by the Swedish National Agency for Higher Education for the right to award professional degrees. Today, most applications for accreditation concern the right to award professional degrees.

506. It is possible for a university college to apply for the right to award PhD's and receive public research funding in one or several "areas of research". Such accreditations have been granted in a number of cases. Furthermore, a number of university colleges have been granted full university status following accreditation procedures. Decisions in the case of "areas of research" and university status are made by the Government, following an evaluation procedure and on the advice of the National Agency.

9.3.2.2 Evaluation and accreditation of private higher education

507. Higher education is essentially provided by state-owned institutions. There are, however, three large private institutions, which enjoy considerable freedom with regard to the Higher Education Ordinance (see chapter 2). Further, a number of small institutions have been accredited the right to award Bachelors' and (in a few cases) Masters' degrees and different professional degrees.

Once they have been accredited, they are obliged to follow the principles laid down in the first chapter of the Higher Education Act, and are, among other things, subject to evaluation by the Swedish National Agency for Higher Education.

9.3.2.3 Accreditation by other organisations

508. Departments and programmes (e.g. business schools, engineering departments) at higher education institutions sometimes seek accreditation by other organisations, usually for the purpose of international recognition. Currently, this is not a major feature of Swedish higher education, but may grow in importance in a situation with increasing competition for students.

9.3.3 Accreditation processes

509. Like nearly all other evaluation processes for which the Agency is responsible, accreditation is based on peer review. The institution concerned initiates the process by submitting an application. The Agency appoints a panel of assessors who read the documentation, visit the institution to interview key staff and then prepare a report with a recommendation. The panel sometimes includes international experts. On the basis of the report, the Agency makes an accreditation decision, or, in the case of university status or "areas of research", advises the Government. The criteria for accreditation of programmes and subjects are based on requirements stated in the Higher Education Act and the Higher Education Ordinance and include:

- Qualifications of academic staff and staff development
- Aims, contents and organisation of programme
- Depth and scope of programme contents
- Creative and critical environment
- Relation to postgraduate education
- Evaluation and quality assurance
- Student participation in programme development
- International perspective
- Infrastructure
- Sustainability
- Finance and organisation

510. It should be noted that evaluation for accreditation concerns the preconditions for providing teaching in a certain subject or programme rather than the quality of the provision itself, since, by definition, the subject or programme cannot be offered at degree-level at the institution concerned until it has been accredited.

9.3.4 Programme and subject evaluation

511. External programme and subject evaluation has been a feature of the review of higher education in Sweden at least since the early 1990's. On a systematic level, however, a cyclical model was introduced in 2001 covering all degree programmes at all higher education institutions over a six-year period. All evaluations include postgraduate/doctoral programmes (where applicable). This makes it possible to compare teaching and learning processes in the same programme or subject across the country.

512. The substitution of programme and subject evaluation for quality audits was based on the need expressed by various stakeholders of higher education, notably students, to ensure that quality assurance procedures had an impact not only on central administrators but also on the provision of education throughout the system. Three fundamental aims were stated in the Government bill proposing the new system (*Studentinflytande och kvalitetsutveckling i högskolan,* Government Bill 1999/2000:28): development of the subjects and programmes; control of the extent to which subjects and programmes meet the requirements expressed in the Higher Education Act and Ordinance[69]; provision of information for prospective students and other major stakeholders. Consequently, the

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[69] This is a sort of accreditation. Those institutions which do not meet the requirements risk losing their right to award a degree in the specific subject/programme

public reports contain advice and recommendations for improvement, as well as, in relevant cases, a decision on the right to award the degree in question. The extent to which institutions follow the recommendations is seen in the follow-up studies three years after the event, or, in the case of an institution faced with the risk of losing its entitlement to award a degree for a specific programme, one year after the publication (see below).

513. The steps of the evaluation process are as follows:
1. Self-assessment by the entity under review. The writing of the self-assessment is supported by guidelines prepared by the Agency in consultation with the institutions.
2. An external panel of experts is appointed by the Agency following proposal by the HEI's. Each panel includes professors (Swedish and international), students and, whenever relevant, representatives of stakeholders.
3. Site-visits by the panel to all institutions teaching the subject/programme and a report submitted to the University Chancellor[70], who makes a decision on each institution's right to award the degree in question.
4. After three months a national conference is held with the participation of the institutions involved in the review. After another three years there is a follow-up procedure.

514. Evaluation criteria are developed for each programme on the basis of aspects resembling those of accreditation (as described in 9.3.2.3) and refer to prerequisites for providing the programme, educational processes and educational outcomes. The latter include the career paths of alumni, especially in the case of professionally oriented programmes. Please refer to Annex 9 for examples of quality aspects.

9.3.5 Student perspectives

515. It should be pointed out that student perspectives are very prominent in Swedish evaluation of higher education, but perhaps most clearly so in the programme and subject evaluations conducted by the Swedish National Agency for Higher Education, where they have at least two functions. First, undergraduate/graduate students and, where relevant, postgraduate students are represented on all assessment panels. Questionnaires to student panel members and interviews conducted with them indicate that they have appreciated the responsibilities involved, and feel that they have enjoyed the respect of the other panel members. Second, students are always interviewed during the site visits, and a reading of the reports confirms that their views are taken into account and are visible in the conclusions.

9.3.6 Effects of subject and programme evaluations

516. So far, after four years, more than 1,000 site visits have taken place. In 80 cases, most of them "small" subjects with few students and few staff, the right to award a degree has been questioned, and the institutions concerned have been given time to rectify weaknesses. Following that, a few institutions have decided to close down a programme. The vast majority of programmes criticised have been considerably improved and thus kept their degree-awarding entitlement. It may therefore be concluded that with a few exceptions the state of undergraduate/graduate and postgraduate education is satisfactory. The views of the foreign panel members largely support this view. Their general opinion is that given their context, Swedish programmes stand up well in comparison. The criticisms mainly concern structural differences between Sweden and other countries. This applies to the length of programmes. In the context of many other European countries, three years of study (180 ECTS) for a Bachelors' degree appears short. This difference, is, however, changing with the implementation of the Bologna Model. The critical remarks also concern the extent of the studies in a subject at undergraduate level, which is normally 90 ECTS for Bachelor's degrees in the first cycle and viewed by some international evaluators as too short. (Högskoleverket 2004:15 R). The costs of subject and programme evaluations are considerably higher than those of the audits. When

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[70] The formal title of the person who is Director General of the Swedish National Agency for Higher Education.

they were introduced, new project managers had to be hired by the Agency (the size of the Evaluation Department almost doubled), and the higher education institutions, too, incurred expenses both for the self-evaluations and for planning and follow-up processes at the central management level. On the other hand, stakeholders including students, political decision-makers and business and industry have expressed satisfaction with the way the assessments have been carried out.

517. In the reports, certain observations are repeated. They mainly concern the strained economic situation, the working conditions of the academic staff, the low numbers of classroom hours in many places, variations in the conditions for postgraduate students and the many small educational and research environments, primarily for postgraduate programmes. In order to deal with these problems the higher education institutions are repeatedly advised to profile themselves, cooperate and concentrate to a greater extent. In the last few years, institutions can be seen to follow this advice. Thus, mergers are being discussed, division of responsibilities among neighbouring universities are being considered and, in some cases, taking place. (Högskoleverket 2004:15 R)

9.3.7 Thematic evaluations

518. The Agency has developed a complementary form of evaluation/audit to assess the capability of higher education institutions to handle specific quality aspects and in order to find and disseminate examples of best practice. The focus is primarily on enhancement. So far five such evaluations of five such themes have been conducted:

- Gender equality
- Student influence
- Social and ethnic diversity
- Internationalisation
- Cooperation with the surrounding community

519. The thematic evaluations have been important in highlighting certain aspects of quality and effective in promoting them. In contrast to other forms of review in Sweden, they have partly resulted in ranking, in that the four or five institutions assessed to have the best structures, processes and results to further the specific themes have been named. Examples of best practice are published in a special report which is widely disseminated and a follow-up study is carried out three years after the evaluation.

9.3.8 Related studies

520. As mentioned above, the Agency produces studies and reports that are not strictly speaking evaluations, but have a bearing on the evaluations made. The most typical example is *The Student Mirror* (Högskoleverket 2002:21 R), a questionnaire-based survey of the views of students on various qualitative aspects of learning and personal development. The general results are that students have a very positive attitude towards their own institution but that higher education does not contribute to their involvement in societal development. They learn to analyse, but less often to think independently and along new lines. They do relatively little reading and writing and state that there is comparatively little oral communication in the teaching and learning situation. These results are used to give input into the programme and subject evaluations. A similar study has been conducted on the views of doctoral students (Högskoleverket 2003:28 R) and is now also being carried out in a co-operative international undertaking together with Catalonia, Finland and Ireland.

9.3.9 Evaluation of research

521. There is no overall evaluation system, such as that in the United Kingdom for instance. The research funding bodies carry out more or less comprehensive evaluations of research, often through international peer review. In addition, the scrutiny of applications for research funding may, indeed, be considered to constitute a form of continuous evaluation of Swedish research. (See also chapter 5). Evaluation of research is also initiated by and carried out by individual HEI's.

9.3.10 Evaluation and funding

522. There is no direct link between evaluation and the funding of higher education and research (other than the scrutiny of applications for research or teaching innovation, which, of course, may result in funding for research projects). One exception may be the review for accreditation of areas of research and for accreditation of university colleges for entitlement to university status, which, if positive, at least so far has resulted in increased funding for research and postgraduate education. The size of that appropriation is not, however, automatic. There has been some criticism of the lack of links between evaluation results and funding, for example, from the Swedish National Union of Students.

9.3.11 Quality evaluation in Advanced Vocational Education (AVE)

523. Quality supervision of Advanced Vocational Education is performed by the Swedish Agency for AVE through site visits by the Agency to each provider of AVE. One important quality criterion is a well functioning management group for the programme. Also, the provider must comply with the laws and regulations and show that they have a quality assurance system in place. In case of shortcomings the Agency gives the provider a chance to rectify the problems but can ultimately withdraw funding and the right to award AVE degrees. The results of Agency site visits are public documents but are not published in any special manner. In applications to start an AVE programmes there are several quality requirements that must be fulfilled. These requirements are enumerated in Annex 9.

9.4 Support for innovation in HE teaching and learning

524. The main concern of the Swedish National Agency for Higher Education is supervision of the development of higher education, and the Agency has no funds to support innovation in teaching and learning in HE. That function was previously fulfilled by the Council for Renewal of Higher Education, which gave grants for individual educational development projects, organised courses and seminars, organised projects on specific themes and published reports. However, in accordance with the most recent HE policy bill (2004/05:162) some of the Council's tasks (including the support for innovation in HE teaching and learning) were transferred to a new agency, the Agency for Networks and Cooperation in Higher Education, on 1 January 2006.

9.5 Expansion and the relationship between inputs and outputs

525. With regard to the relationship between the number of entrants into higher education and the number of degrees two things have to be emphasised. First, as a comparatively large number of students take up studies in the context of lifelong learning with the limited goal of completing only one or two courses, the number of degrees awarded is comparatively low. Secondly, in order to obtain their degree students have to fill in an application form, and are thus not automatically awarded a degree on fulfilment of the requirements. Even if this is a pure formality, a substantial number fulfil the requirements but do not bother to apply. Furthermore, some students are able to enter the labour market without completing their education. These, largely structural, factors account for the fact that the proportion who apply for a degree amounts to about 50% of those who enter higher education. The percentage is rising, however, and was 7% higher in 2004 compared to the previous year.

526. Of those who began their studies at age 24 or younger about three-quarters are awarded degrees. This is in keeping with most European countries. There are great variations between faculties. Programmes that lead to a degree required for professional practice have a high graduation rate. They include medicine, nursing and teacher training with success rates of 80–90% of entrants. Students who have chosen programmes or subjects leading to general degrees are less liable to be awarded a degree. This is partly due to the fact that many students move on to other studies and that in many cases they

find the subject area more interesting than the degree and thus establish themselves on the labour market before they have completed their studies. (Högskoleverket 2004:16 R)

9.5.1 Expansion and the quality of higher education

527. The total number of full-time equivalent undergraduate/graduate students in Swedish higher education has risen from 224,000 in 1994/95 to 300,000 in 2004 (Högskoleverket 2005:26 R). Also, several new higher education institutions have been created. Neither the audits nor the subject and programme evaluations carried out by the National Agency have demonstrated any systematic deterioration of the quality of the provision. Several of the evaluation reports, however, point out that there is a widening span between the top students and the less successful ones. There is also an ongoing debate about the relative decline in funding for teaching and research, and consequently about the worsening of the teacher-student ratio and the workload of academic staff.

528. The number of new doctoral students declined by 20% between 2003 and 2004. However, the productivity of doctoral studies is rising. The number of dissertations has risen by 80% in ten years (from about 1,500 to 2,700), and by two per cent between 2003 and 2004. This is related to the considerably improved conditions for studies and supervision introduced in the 1998 reform of doctoral education. Evaluations of doctoral programmes demonstrate no deterioration of quality.

9.6 Current trends and future developments in quality assurance of higher education

529. Quality assurance is one of the key features of the Bologna process. A document for quality assurance of HEI's and quality assurance agencies was prepared by the European Association for Quality Assurance in Higher Education (ENQA) in 2004–2005 and endorsed by the ministers of higher education in Bergen in May 2005 (ENQA, 2005, Standards and Guidelines for Quality Assurance in the European Higher Education Area). It is likely that the general model proposed in that document will have an impact on the continued development of quality assurance in Sweden, as the current six-year phase of programme and subject evaluation is coming to a close. In the light of experiences gained and the Bologna process a review of the system is now in progress and it is expected that a revised model will be introduced in 2007.

10 INTERNATIONALISATION[71]

10.1 Higher education in Sweden and international cooperation

530. The global context has become increasingly important for HE in Sweden. Swedish HEI's play an active international role and are involved in a large number of networks, partnerships and exchanges with their counterparts in other parts of the world, both in their teaching and their research. More and more international students seek places at HEI's in Sweden. At the national level as well, Sweden participates in international educational collaboration and networks and other activities intended to make HE in Sweden more international. This applies, for instance, to different educational partnerships between the Nordic countries and cooperation at both a European and global level (for instance through the EU programme for the quality assurance of education ENQA[72] and the ENIC and NARIC networks for academic recognition).

531. Sweden also participates in other forms of cooperation in the field of education, within the OECD and UNESCO for instance. An important development is the increased collaboration with countries on the other side of the Baltic Sea in the context of the Council of the Baltic Sea States and what is known as the Baltic 21 agenda[73]. State funding from Sweden has contributed to the increase of cooperation in this region.

10.1.1 Impact of internationalisation on higher education in Sweden

532. For many years internationalisation has had a major impact on HE in Sweden but it is primarily during the last 10-15 years that it has become really apparent. It is taken for granted today that students and teachers should be offered the possibility of exchanges with other countries. It is also becoming more and more obvious that courses and programmes should contain international elements and effective organisations for the induction of international students have been developed at the HEI's.

533. The European Bologna Process, intended to establish cooperation between the member states in creating a common structure for higher education, has had increasing impact on Swedish HE policy. In its latest HE bill *Ny värld – ny högskola* the Government proposes and evaluates the changes needed in the Swedish system of education and degree structure to contribute to making HE in Sweden comparable, attractive and internationally viable (See Chapter 2 for more information about measures intended to implement the Bologna Process in Sweden).

534. One clear effect of internationalisation is that more and more courses and degree programmes taught in English are being developed at HEI's in Sweden. Many institutions have drawn up master's programmes in English with the explicit intention of attracting international students. Programmes of this kind are rapidly growing in number and attract large numbers of applicants. (Högskoleverket 2005:1 R)

535. Course and programme development is also taking place at several Swedish HEI's in conjunction with institutions in other countries. At the moment, however, Swedish institutions are not permitted to award Joint Degrees with other institutions.

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[71] This chapter deals only with undergraduate, graduate and postgraduate studies. Extensive international contacts and cooperation take place, of course, in the context of research in HE as well.

[72] European Association for Quality Assurance

[73] This cooperation comprises, for instance, sustainable development objectives for the entire educational sector.

10.1.2 Internationalisation as an objective for higher education

536. The overall aim of the Government with regard to international cooperation in the educational sector as a whole is to increase mobility and international exchanges in all aspects of the educational system. (Budgetpropositionen för 2006, Government Bill 2005/06:1)

537. The task of HE in Sweden with regard to internationalisation is expressed in the Higher Education Act as follows: "The institutions of higher education should […] in their activities promote understanding of other countries and of international conditions." (Chapter 1.5)

538. The directives to the HEI's regarding internationalisation are formulated in these words: "Higher education institutions are to carry out the work of internationalisation actively in order to enhance the fundamental quality of undergraduate, graduate and postgraduate programmes and understanding of other countries and international circumstances. The institutions are to develop their monitoring of internationalisation measures. This goal also includes enhancing the international dimension in the programmes offered at the institution and in this work special attention is to be paid to educational programmes in the European Union". (Regleringsbrev för budgetåret 2005 avseende Gemensamma bestämmelser för universitet och högskolor m.m.)

539. The 2005 bill on HE (Ny värld – ny högskola) presents a national strategy for internationalisation. The aim of the strategy is to lay down the direction to be taken by internationalisation endeavours at national and institutional level. This strategy involves all parties involved in HE, but it is the HEI's that bear the prime responsibility for implementing the strategy and putting it into practice. The strategy includes the following overall goals:

1. Sweden is to be an attractive country for foreign students to study in.
2. Graduates from HE are to be attractive on the labour market both in Sweden and internationally.
3. HEI's are to actively implement internationalisation in order to enhance the quality of their programmes and understanding of other countries and international circumstances.
4. Obstacles to internationalisation are to be eliminated both nationally and internationally.
5. The monitoring of internationalisation at the HEI's is to be developed and improved.

540. Recently attention has also been focused on internationalisation in HE through the extensive survey and evaluation of the work of the HEI's in this area carried out by the Swedish National Agency for Higher Education in 2004 (Högskoleverket 2005:1 R). This comprised a total of 39 institutions.

10.2 Support for internationalisation

541. At the national level, the task of supporting the internationalisation of the HEI's has been divided between several government agencies. **The Swedish National Agency for Higher Education** is responsible for overall information to Swedish students about studying abroad and for monitoring the international scene. The responsibilities of the **International Programme Office for Education and Training** include EU exchange and cooperation programmes for students and teachers. **The Swedish Institute** (SI) is responsible among its other tasks for information about and the marketing of programmes in Sweden for international students and for awarding scholarships to Swedish and international students. The foundation **STINT** (the Swedish Foundation for International Cooperation in Research and Higher Education) is particularly involved with and supports internationalisation for teachers.

542. At institutional level the extensive EU exchange programmes provide significant support for internationalisation. Swedish students were allowed to participate in the Erasmus programme in 1992 and this had a major impact on the development of internationalisation. For the smaller HEI's in particular, it led to new experiences of international cooperation. Sweden's membership of the European Union in 1995 opened all of the union's educational programmes for

Swedish participation. Today most HEI's regard the Erasmus programme as the cornerstone of their internationalisation measures.

543. National programmes also exist that support the work of the HEI's. One of these is the Linnaeus-Palme programme established by the Government in 2000 to stimulate cooperation with developing countries. This programme concentrates in particular on mutual exchanges of students and teachers between developing countries and Sweden. Another example can be found in the Visby programme, which is intended to stimulate exchange and network activities with the Baltic region. This programme is managed by the Swedish Institute and supports projects and networks involving HEI's in Sweden, the Baltic States, northwest Russia, Belorussia and Ukraine, as well as exchanges for students, researchers, teachers and administrative staff. The Swedish Institute is also responsible for a number of scholarship schemes that offer Swedish students the opportunity to study and conduct field studies abroad and foreign students the chance of studying in Sweden.

544. One source of funding for internationalisation in HE comes from the appropriation for development aid. Within this framework SIDA (the Swedish International Development Cooperation Agency) provides support for various projects that focus on developing countries. Most support is given by SIDA to research. One form of support that applies directly to educational activities is granted for Minor Field Studies (MFS). This programme provides students with funding for field studies in preparation for degree theses and the like. In addition SIDA offers assistance to developing countries in the form of contract education at Swedish HEI's for which it pays.

545. At institutional level international offices (and similar functions) provide considerable support for internationalisation. Among their tasks are to provide induction for incoming international students and advance preparation for Swedish students travelling abroad. The Swedish students and their organisations play an important role in this work. The HEI's also offer courses in Swedish for international students and language training for Swedish students who will be taking part in exchanges.

10.2.1 Financing internationalisation

10.2.1.1 For students

546. A central element in the internationalisation process consists of the system of financial aid for students. In 1989 Swedish students were given greater scope to use their Swedish study loans and grants to study all over the world, provided that they choose an accredited institution. Previously these opportunities had been restricted to the Nordic countries. The amounts awarded are adapted to the cost levels of the host countries. Students may receive a supplementary loan for certain additional costs connected to their studies abroad, for example tuition fees, travel, and insurance. A more detailed description of the overall system of loans and grants is provided in Chapter 6.

10.2.1.2 For HEI's

547. Like all the other costs incurred by the HEI's, their expenditure on the internationalisation of teaching and research is to be covered by the normal appropriation (see Chapter 5 and 7 for a description of the system of resource allocation). Each institution decides how the funds are to be allocated and the amounts allotted to internationalisation vary greatly from institution to institution. (Högskoleverket 2005:1)

548. Since 2003 the HEI's have been permitted to arrange contract education paid for by international companies or organisations. These operations are relatively limited but several institutions consider that they have a great growth potential. (Högskoleverket 2004:25 R)

549. The Swedish Government's fundamental principle is that higher education should be free of charge. In its budget bill for 2006 the Government observes that today the demand for education at a global level exceeds the supply and that the pressure of applications from other countries to Swedish HE is considerable. The Government does not consider that there are adequate

reasons for offering foreign students unrestricted free education in Sweden at the expense of taxpayers. For this reason, a special commissioner was appointed to propose how fees can be charged for students from countries outside the EEA. (Budgetpropositionen för 2006, prop. 2005/06:1)The commissioner's proposal is currently (June 2006) being considered but no decision has yet been taken.

10.2.2 The organisation of internationalisation at the HEI's

550. As pointed out above, the HEI's are responsible for the work of internationalisation. One common feature is the existence of an international office (also mentioned above) that deals on the whole with the practical questions linked to internationalisation in particular student exchanges and information. The subject specific responsibility for internationalisation rests in most cases with departments or with faculty boards. Often teachers are directly responsible with administrative staff to support them. Many faculty boards and departments have special coordinating bodies in the form of international committees. Often overall responsibility for internationalisation is assigned to a Vice-Vice-Chancellor or Pro-Vice-Chancellor. (Högskoleverket 2005:1)

10.2.3 Information abroad on higher education in Sweden

551. The HEI's in Sweden themselves bear the main responsibility for marketing their programmes internationally and providing information about them. Many institutions have comprehensive websites in English presenting the programmes they offer and they also produce other information material addressed to foreign students.

552. Information is also provided about higher education in Sweden and marketing undertaken on a general, nationally coordinated basis. This is the responsibility of the Swedish Institute. The Government has also assigned the Institute responsibility for an Internet portal addressed mainly to potential students from abroad (www.studyinsweden.se) which presents collective information about studies in Sweden. The Institute also publishes overall information material and both presents Swedish HE at various international educational fairs and also coordinates participation by Swedish HEI's in these fairs. The Swedish Institute also works in cooperation with the HEI's to coordinate the marketing of Swedish contract education abroad.

553. There are no special economic incentives in Sweden to stimulate the active participation of the HEI's in international marketing and their active marketing measures in other countries have so far been relatively restricted. However information and marketing activities that have been undertaken have resulted in many new applications. (Högskoleverket 2004:25 R, 2005:1 R)

10.3 The contents of internationalisation

554. The internationalisation of programmes takes many forms, of which student and teacher exchanges are among the most important. Activities of this kind are often linked to some other form of cooperation between the Swedish HEI and its foreign counterpart. The evaluation of internationalisation conducted by the Swedish National Agency for Higher Education (Högskoleverket 2005:1R) observed a shift towards increasingly sophisticated and complex forms of cooperation, which are of a more strategic nature than previously. These partnerships often comprise both student and teacher exchange and joint development of courses and programmes as well as research.

10.3.1 Student mobility [74]

10.3.1.1 Outgoing Swedish students

555. During the academic year of 2003/04 the number of Swedish students abroad totalled 27,000[75]. This is a decline of 5% compared with the previous year but even so the total has been

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[74] Annex 10 contains data on incoming and outgoing students in undergraduate and graduate programmes.

relatively stable in recent years. The statistics for the years prior to 1997/98 are not totally comparable but it is clear that a major increase took place in the early 1990s. One important reason was the change that took place in the system of loans and grants in 1989 that gave Swedish students greater scope to apply for financial aid for studies abroad (see above). Table 10.1 in Annex 10 shows the numbers of students studying abroad with Swedish study assistance in total and in exchange programmes as well as their destinations.

556. Of the outgoing Swedish students in 2003/04, about 6,000 took part in exchange programmes. The number of Swedish exchange students has declined since the mid-1990s. The proportions of Swedish students participating in exchanges also vary greatly between the HEI's. There is no centrally collected data on the rate of return of Swedish students abroad to Sweden to enter the labour market.

557. Each HEI is required to assure the academic quality of exchanges. One stage in this process consists of monitoring and evaluating the agreements and the reports submitted by students. Most often this is the responsibility of the departments and their teachers and also of the international offices at the HEI's. (Högskoleverket 2005:1 R). Reports from participating students are also collected through a web site (www.stars.liu.se).

10.3.1.2 Incoming international students

558. While the numbers of outgoing Swedish students has declined in the early 2000s the number of incoming international students has been rising steadily since the early 1990s. In the academic year 2003/04 this totalled over 14,000. Of these students, about 9,000 were participating in exchange programmes, twice as many compared to 1996/97. See Tables 10.2 and 10.3 in Annex 10 for details on incoming free mover students and exchange students.

559. The possibilities for international (non-EU/EEA) students to stay on in Sweden after their studies to work are currently limited. This may change as a consequence of an ongoing review which has been instructed to propose a regulatory framework that will allow more extensive labour immigration from countries outside the EU/EEA. (SOU 2005:50)

10.3.2 Incoming and outgoing postgraduate students

560. During 2004 just over 900 postgraduate students travelled abroad to take part in a student exchange of at least three months. Somewhat fewer – just over 800 – came from other countries to Sweden for a corresponding exchange. Almost half of these exchanges take place with EU member-states. Just over one-fifth of the outgoing students went to study in the USA. (Högskoleverket 2005:26 R)

561. Evaluation of internationalisation in HE in Sweden (Högskoleverket 2005:1 R) reveals major differences between the conditions that apply for doctoral studies abroad in the various HEI's and also between subjects. Some institutions have ear-marked funds for each individual doctoral student, while others offer only limited funding for periods abroad so that competition is fierce. The differences between the various subjects are considerable: in medicine and technology study abroad is very common for postgraduate students whereas is occurs less often in other subjects like the humanities and social sciences.

10.3.3 Staff exchanges

562. The importance of enabling staff to take part in exchanges is a common view. This applies not least to the example they can set to raise the number of students participating in exchanges. However, teacher participation in long exchanges abroad (three months or more) has declined in recent

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[75] The figure for the total number studying abroad with study loans and grants from Sweden. The number studying abroad without such aid is considered to be very low and unlikely to affect this total significantly.

years. There are several explanations for this decline. One can be found in the economic limitations), because many subjects have few staff it can be difficult to find a substitute, or family obligations.

563. Participation in exchanges and other periods abroad for non-teaching staff is very restricted, even though there are examples of initiatives to encourage it. Where teachers are concerned, the proportion involved in short stays abroad is considerably larger than it is for longer periods. (Högskoleverket 2005:1 R)

10.3.4 On-campus internationalisation

564. The threshold facing some groups of students – for instance, older students who have already started families – wishing to spend a long period of study abroad may be high. This raises the need for on-campus internationalisation. (Högskoleverket 2005:1 R)

565. On-campus internationalisation, or internationalisation at home as it is often referred to, has become a central concept in the internationalisation of HE. Internationalisation is important for all the students, including those who do *not* travel to other countries. As only a small proportion of Swedish students spend some period of study abroad, according to the Swedish Government the most important internationalisation measures must be adopted on campus. (Budgetpropositionen för 2006, prop. 2005/06:1).

566. The evaluation conducted by the Swedish National Agency for Higher Education indicates that most HEI's have initiated internationalisation directed to all students and all members of the staff and some institutions are pioneers in this field. Examples include courses on international issues, the introduction of an international perspective in other syllabuses, programmes with guest lecturers from other countries, etc. The evaluation also showed that reading lists contain a great deal in English but very little in any other foreign language.

567. It has become increasingly obvious in recent years that there has been a decline in the interest to study any other foreign language but English. Several HEI's have had to discontinue programmes in major languages such as French, Spanish and German because applications were too few. (Högskoleverket 2005:1 R)

10.3.5 Student influence, diversity and gender equality in internationalisation

568. The Higher Education Act stipulates that students are entitled to exert an influence over the programmes offered in HE and that the HEI's are to endeavour to ensure that students play an active role in the development of courses. In addition the institutions are to actively encourage and widen recruitment to HE and in their operations must always take equality between women and men into account and promote it. The evaluation of internationalisation (Högskoleverket 2005:1 R) also examined how student influence, equality and diversity were dealt with in the internationalisation processes at the institutions. The evaluation was able to determine that in addition to the scope provided for student influence as laid down in the Higher Education Act and Ordinance, there were also a number of good examples of the use of student expertise and commitment by the institutions in their internationalisation. Where diversity and equality were concerned, however, the evaluation could detect some shortcomings in the awareness of the importance of incorporating these perspectives in internationalisation. On the whole the evaluation concluded that where internationalisation was concerned there was a lack of action plans and plans for skill enhancement as well diversity and gender equality objectives that could be monitored.

10.4 Strengths and weaknesses of internationalisation

569. According to the HEI's themselves (questionnaire responses presented in Högskoleverket 2005:1 R) there are both strengths and weakness in their work on internationalisation.

One-quarter of the HEI's view the low numbers going on exchange, among both students and staff, as a problem. Just over one-third report that participation in internationalisation is considered a qualification when teachers apply for senior posts or that other forms of incentive are lacking. The most frequently mentioned problem is, however, the shortage of student accommodation.

570. Among their strengths, more than half of the HEI's include their organisation for the induction of international students. Nearly as many indicate their networks and other forms of international contacts, for instance cooperation with partners abroad. Another strength, according to four of every ten institutions, is the wealth of courses and programmes offered in English. Finally one third refer to the strong international commitment of their staff as one of their strong points.

571. In the Swedish National Agency for Higher Education's evaluation, the views of the expert panel agree on the whole with the opinions of the HEI's. However, among the weaknesses should be added the lack of explicit strategies and measurable goals for internationalisation. To some extent these shortcoming are due in their turn to inadequate prior analysis of information and to follow-up and evaluation of internationalisation processes. Where strengths were concerned, the panel agreed with the HEI's view on the importance of staff commitment for successful outcomes. It was also claimed that both administrations as well as staff and students showed great commitment and worked extensively to create programmes with greater international content. (Högskoleverket 2005:1 R)

572. Another issue that has been become more important in recent years relates to the restrictions imposed by the regulations on residence and work permits for students from countries outside the EU/EEA. Students from all countries are entitled to work while they are pursuing their studies (but must prove that they can provide themselves with a minimum level of support if they are to be given a residence permit). However, the possibilities to stay on to work in Sweden after graduation are very limited for these students. At the moment this is one of the questions under review by the Committee on Labour Immigration to Sweden that has been set up by the Government (dir 2004:21).

11 CONCLUDING DISCUSSION

573. This chapter attempts to identify the most important issues in the HE debate and the main areas where strengths and weaknesses have been pointed out. It does not independently evaluate the system or assess Government policy. The chapter finishes by giving an analysis by the Swedish National Agency for Higher Education of strengths and weaknesses in the system.

11.1 The system today – expanding in size as well as responsibilities

574. Swedish higher education (HE) and research stands up in international comparisons in many respects. Sweden is among the top countries in the world in the funds spent on research and development, as a percentage of GDP[76]. However, relative to GDP, the amount of *public* funds devoted to research still puts Sweden high on the list of countries. Sweden is also among the OECD countries that spend most on tertiary education, relative to GDP. In addition, in HE, per capita funding of undergraduate/graduate students is among the highest in the OECD area. Relative to its size, the country also comes out well in different international comparisons of universities in terms of scholarly citations, especially in certain subjects (although this trend is on the decline).

575. Tertiary education in Sweden has expanded substantially and gone through many transformations and reforms since 1990:

- A dramatic increase of the number of students at all levels. The expansion in terms of study places has increased and widened access to higher education, both to larger segments of the population and geographically.
- There is today at least one HEI in each county.
- A new decentralised system of governance by objectives and results.
- A performance-based funding system for higher education (except doctoral studies), with significant possibilities for the institutions to allocate funds internally according to their own priorities.
- Reformed research funding and increased funding from external sources such as the research councils and research foundations.
- Permanent research funds for all HEI's.
- Collaboration with the surrounding community mandatory for the HEI's since 1997.
- A stringent external quality assurance system for higher education including doctoral studies, based on peer review and comprising all programmes and courses.
- Student influence in HE has been laid down by law.
- Gender equality in higher education has emerged as an increasingly important policy issue.
- Increased internationalisation and introduction of measures to make Swedish HE more internationally comparable.
- Advanced Vocational Education is a new form of tertiary education outside higher education, aimed specifically at meeting concrete needs on the labour market.
- A Swedish Net University has been established for coordinating information about the web-based courses offered by the Swedish HEI's.
- Increasing numbers of international students are present in Swedish HE.
- In the context of the Bologna Process many measures have been put in place. A reform of the HE degree structure along the Bologna lines is under implementation.

576. One aspect of the expansion that has taken place in Swedish HE is the widening role that HE is expected to play in society. The institutions are expected to contribute to various political goals, not least social equality and economic growth. Swedish HEI's have a special role as public bodies. As such, they are supposed to take into account, within the field in which they function, aspects such as international development, social and ethnic diversity, and sustainable development.

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[76] It can be noted that private enterprises account for the lion's share of the *total* funding to R&D in Sweden.

At the same time, they are expected to uphold classical academic values (such as academic freedom), and to work with widening participation, gender equality, student influence, and internationalisation. Various perspectives are expected to be present in the courses. The commercialisation of research findings is high on the agenda, and there is a discussion on how HEI's can develop their role in the innovation system. At the level of the individual HEI, the ultimate responsibility for balancing this diversity of obligations rests with the local governing board, a fact usually taken to justify appointment of the majority of board members by the Government and not by local staff and students.

11.2 Important issues in the higher education debate

11.2.1 Decentralisation

577. The principle of decentralised decision-making in the Swedish HE system is generally considered to provide flexibility and increased efficiency, especially as compared to the previous, more centrally directed system. However, some drawbacks have been pointed out. For example, the system is considered not to provide incentives for institutions to profile themselves, the lack of which may lead to increasing conformity within the system. Also, a system of governance by goals and results is dependent on reporting of results. In latter years, as the demands on the HEI's have grown, central political authorities have increased reporting requirements and extended the legislation governing the institutions.

578. The increasing reporting requirements have been criticised by HEI's. From their point of view, a transition to a greater degree of detailed control is undesirable. Also, many institutions would like to see a better match of goals and requirements to the individual institutions, rather than today's more general assignments.

11.2.2 Expansion and quality

579. A point in the report is the expansion of higher education that has taken place since 1990. Increased geographical access and widened socioeconomic and ethnic participation are among the positive results. Critics, for example politicians in opposition to the Government[77], point to what they see as a conflict between quantity and quality in the current policy. It is argued that expansion has become an end in itself and that insufficient attention has been paid to educational quality. In this context it should be pointed out that the centrally conducted evaluations have shown that quality in HE is generally satisfactory, and that there are no systematic quality differences between institutions in different parts of the country.

11.2.3 Funding higher education

580. Traditionally, education in Sweden is mainly tax-funded and free of charge to the student. In higher education, fees for students, at doctoral level as well, from non-EU/EEA countries are currently being reviewed. This is seen as a break with the no-fees tradition and has caused debate.

581. The level of government funding to the HEI's is a constant topic of discussion. The per capita student funding to the HEI's decreased during some years in the 1990s, as a result of efforts by the Government to reduce public spending in general. Institutions often claim that funding increases do not match rises in real costs, resulting in an ongoing undermining of per capita funding. Consequently, there are concerns, not least among students, that underfunding may have adverse effects on quality.

582. The current performance-based funding system is generally well accepted and there is relatively broad consensus that it provides flexibility and enables the HEI's to set their own financial

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[77] See Björklund et al.

priorities. Among the problems pointed out is that the system is sensitive to fluctuations in student demand. Another problem is that the emphasis on student demand may result in short-term solutions, for example as regards the programmes offered. Since the system encourages institutions to concentrate on courses that are popular among students, the risk of increasing conformity has been indicated. In addition, some fear that the design of the funding system may lead to a lowering of academic standards to enable more students to pass so that the revenue element linked to student achievement can be obtained. However, this presumption is not supported by data and evaluation results.

11.2.4 Funding research

583. The funding of research is also a topic of debate. According to sections of the HE community research is not sufficiently funded and the resources are spread too thinly. The increasing dependence of university research on external funds is also a topic of discussion in the sector. The Government sees competition-based allocation of state funds through the research councils as a factor promoting quality. Hence, it is the Government's policy that research funding should be allocated increasingly on the basis of competition. There are concerns in the research community that dependence on external funds may give rise to undue governance of research and spawn too many temporary contracts for teachers/researchers, both effects endangering the possibility of pursuing long-term and broad research goals. Many institutions would prefer to receive a larger share by direct allocation as this is seen as providing a better basis for long term planning, on the one hand, and profiling and improving the terms of employment for teachers/researchers, on the other.

11.2.5 Higher education and the labour market

584. The 'classic' issues of how the planning of HE should be affected by needs on the labour market and the difficulties of making accurate predictions of labour market needs have resurfaced in the Swedish HE debate. While rising graduate unemployment has prompted debate on alleged "overeducation", it can be noted that unemployment is currently relatively high (by Swedish standards) in the Swedish labour force as a whole. In general, HE graduates still run less risk of unemployment than those without a degree.

585. There are indications of matching problems on the labour market, and HE graduates – including newly graduated PhD's – are at the moment experiencing growing unemployment, especially in certain fields. It has been pointed out by some that postdoctoral careers – particularly in academia – are frequently indistinct and insecure. A large proportion of the positions open to new PhD's are short-term and many occupy such positions for many years following award of their PhD's.[78]

586. A lack of labour market follow up has been pointed out as a weakness in the Swedish system. Few institutions systematically follow up their alumni with regard to labour market success and relevance of their education. At the same time, there is an increasing awareness among HEI's of the importance of cooperating with employers in order to improve the links to the labour market.

11.2.6 Educational choices of students

587. In Sweden, higher education excluding doctoral studies is provided in the form of courses which may be linked together to form programmes with varying levels of individual choice, and students may themselves combine different courses for the award of a degree. While the system is seen as flexible and responsive to student choice, there are concerns (as in many other countries) that students do not choose to study certain subjects that are considered important, for example by the political authorities. An area often identified as problematic consists of the natural sciences and

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[78] The Government has announced increased funding for, among other things, postdoctoral positions at the HEI's in the recent research bill (*Forskning för ett bättre liv*).

engineering, for which the Government sets explicit goals. Also, modern languages (with a few exceptions, notably English) no longer appear as attractive as they once did. Part of the explanation is that many students have not studied these subjects in upper-secondary school to the level required to achieve eligibility for academic studies in the subjects.

11.2.7 Student rights and their financial situation

588. In the Swedish HE system, students generally have a strong position. They have the right to participate in decision-making bodies and to influence decisions pertaining to their programmes, something that generally works well, according to quality evaluations. However, the National Union of Students is critical of the fact that students are not entitled to the same protection as employees in higher education, for example as regards the working environment. Also, the position of doctoral students who are not appointed to a postgraduate studentship (for example those who finance their studies via a scholarship) needs to be strengthened, according to the student union, especially as regards security of their employment, legal rights, and entitlement to social benefits.

589. The Swedish system of student grants and loans can be said to be among the most generous study support systems in the world. Nevertheless, there is criticism, for example from the Swedish National Union of Students and professional unions, of what is seen as an undermining of students' economy due to the grant and loan amount not having kept up with increases in living costs, for example accommodation costs.

11.2.8 Gender equality in HE

590. A current challenge, which has emerged as an increasingly important political goal, is that of gender equality in higher education. Many programmes in HE, including doctoral studies, have an uneven or very uneven gender balance, and the educational choices of women and men diverge to a high degree, largely along traditional gender lines. While women today make up 60% of all undergraduate/graduate students and half of the new doctoral enrolments, this high proportion is not reflected in the higher echelons of the academic hierarchy. There is a debate about the "leaky pipeline", or "reverse pyramid", i.e. that men become increasingly overrepresented during the path to full professorship while at the same time the proportion of women gradually declines. In 2004, 84% of all full professors in Swedish HE were men. Women are slowly increasing their representation, though – for example in 1994 less than 8% of full professors were women.

11.2.9 Diversity and widening participation

591. Despite the increasing proportion of students with working class background in higher education, certain socioeconomic groups are still underrepresented. Also, educational choices differ between social groups, with those from the higher groups opting for longer and more prestigious programmes such as law or medicine, and those from the lower groups opting for shorter vocational programmes, for example in technology and health care. As regards ethnic diversity students with foreign background are generally not underrepresented in HE, although there are great variations between different groups.

592. Another feature that contributes to diversity in the student body is the comparatively high share of older students. The higher education system is open to all ages, and HE is one important field where lifelong learning takes place.

11.2.10 Reforms as a result of the Bologna Process

593. Sweden is a participant in the European Bologna Process. The Bologna process aims at enhancing mobility, employability and the attractiveness of European higher education. Two of the most important concrete objectives in the process concern changes in the degree structure and cooperation regarding quality assurance of HE. Many of the agreed measures are in place, and in 2005

the Swedish Government proposed changes in the degree structure to create a three-cycle structure along the Bologna lines. As regards quality assurance Sweden has already established an external quality assurance system and has submitted an application for accreditation by the European Association for Quality Assurance in Higher Education (ENQA). Although there has been some debate about details in the Swedish reform, in general the Swedish HE community has welcomed the reform along the lines of the Bologna process and many HEI's work actively on its implementation. However, the proposal to introduce a new 2-year Master's Degree has occasioned concern, primarily among those university colleges that will not receive the right to award the new degree by default. They see a risk that two categories of HEI's will develop, an "A-team" entitled to award the new degree and a "B-team" who may not.

594. Work is currently (June 2006) underway with implementation of a number of important changes as a consequence of the Bologna Process. This is a major reform which will affect most aspects of the activities of the higher education institutions.

11.2.11 Other issues regarding internationalisation

595. Another goal in the Government's higher education policy is to increase its internationalisation, and the Government has recently presented an internationalisation strategy. Today the Swedish system is attracting increasing numbers of foreign students. The programmes offered in English are increasing rapidly, and Swedish participation in international higher education networks expanding. A relatively large number of Swedes choose to study abroad, for an entire programme or for parts of their studies. The possibility of also receiving state grants and loans for studies abroad is a contributory factor. Even so, concerns have been raised that the number of Swedes studying abroad has fallen, and that most of the students prefer to study in English-speaking countries. In addition, few Swedes study in developing countries.

11.3 Future developments in higher education policy

596. The Swedish system has gone through a period of important change during the 1990s and early 21st century. There are a number of areas where changes are foreseen during the next few years. The Government has recently published two major bills, one on research and the other on higher education; the funding systems for higher education and research are under review, and the issue of fees for non-EU/EEA students is under consideration.

597. An overall trend is that the political authorities want higher education institutions to make more use of their autonomy and to think strategically in order to concentrate in their areas of strength and create their own profiles. Institutions should cooperate more in the provision of programmes, in order to raise quality and to avoid unnecessary duplication. Concentration of certain programmes to fewer locations is a solution that some institutions have adopted to solve problems that arise when research and education environments become too small.

598. As regards research, the Government wants to focus on raising the quality of research through "focused efforts and cooperation". Institutions should specialise and create high quality research environments and also through increased allocation of funding by the research councils on the basis of competition. Special attention, in terms of enhanced funding, will be given to areas which are seen as strategically important for the development of Swedish society and for Sweden's international competitiveness, namely medicine, technology together with the environment, and sustainable development. The HEI's are encouraged to make better plans to ensure their future supply of academic staff. In this context, funding has been announced to strengthen doctoral studies and create more postdoctoral positions.

599. Another development is an increased emphasis on labour market issues in relation to tertiary education. Possible future developments include expanded Advanced Vocational Education.

Also, the Government wants HEI's to offer more short vocational programmes. More demands may also be made of the HEI's by the Government to take labour market needs into overall account when planning what to offer.

600. The Government's ambition is to continue the policy of expanding HE and widening participation in HE. The target that half of an age cohort should have enrolled in higher education by the age of 25 is nearing attainment. However, as the younger age cohorts increase in size, there are challenges with regard to capacity and funding.

601. Finally several policy changes have been prompted by the increasing internationalisation of higher education. A new, three-cycle degree system will be introduced as part of developments in the context of the European Bologna process. The possibilities for foreign students to remain in Sweden to work after graduation – something that until now has generally not been allowed – may be improved according to a forthcoming proposal by a special commissioner.

11.4 Strengths and weaknesses

602. The Swedish National Agency for Higher Education has made the following independent analysis of the main strengths and weaknesses of the Swedish system. Many of the points are also elaborated in the section on the debate above. The points were discussed by the Governing Board of the Swedish National Agency for Higher Education on June 14, 2006, and the members of the Board were invited to submit their comments. The points are enumerated without order of importance.

11.4.1 Strengths

- There are no tuition fees for students.
- High participation, close to target 50%.
- Increased participation by underrepresented groups.
- As a group, persons with foreign background have the same participation rate as those with Swedish background.
- The national quality evaluations show that quality is generally good or satisfactory throughout the system.
- The quality evaluation system is well established and well-functioning and enjoys a high level of legitimacy in the HE sector. The system is also regarded as a good example internationally.
- There are several internationally very well respected research environments in Sweden.
- The governing system for higher education provides basic flexibility and autonomy for the HEI's, enabling them to conduct their activities without detailed directions from the state.
- The Swedish HE system is increasingly internationalised and attractive to foreign students. English is becoming more common as language of instruction.
- An important strength of the system is the formalised and relatively extensive right for students to exert influence over the affairs of the HEI's.
- The state study loan and grants system is comparatively generous from an international perspective and is well established.
- There are very extensive statistics and information covering most aspects of Swedish HE, enabling follow-up and studies on a broad range of topics.
- Study grants and loans are tied to the student and not dependent on parents' income.
- Gender equality is improving, at least as regards quantity. Challenges are increasingly being addressed.
- Lifelong learning is an important part of the HE system.

11.4.2 Weaknesses

- The governing and funding system for HE excluding doctoral studies, with its focus on quantity, includes no economic incentive to raise quality.
- There is a need for more national coordination with regard to the relationship between HE and the labour market in order to adapt better to the long-term need for HE graduates. HEI's need to follow up their former students in a more consistent manner.
- The tasks that the higher education institutions are expected to fulfil – in addition to the core tasks of teaching, research, and collaboration with the surrounding community – have been expanded without specific added resources. This may affect teaching and research negatively.
- National quality evaluations show that in virtually all the evaluated subjects/programmes there is a perceived lack of funds. Also, teachers claim to have very heavy workloads.
- The increase that has taken place in state resources to research has largely gone through the research councils. Direct research funding to the HEI's has increased only marginally. The imbalance between direct funding and external funding is reinforced by the co-financing requirements posed by an increasing number of external research funding bodies.
- Higher education teachers frequently complain that the previous knowledge of new students is insufficient.
- The fact that only a small proportion of full professors are women is a problem that needs to be addressed.
- In Swedish HE as a whole the proportion of teachers with Doctorates is too low – on average just over half of the teaching staff.

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En politik för arbete, trygghet och utveckling. Regeringens proposition 1995/96:25

En politik för tillväxt och livskraft i hela landet. Regeringens proposition 2001/02:4.

Ett reformerat studiestödssystem. Regeringens proposition 1999/2000:10

Forskning för ett bättre liv. Regeringens proposition 2004/05:80.

Frihet för kvalitet. Regeringens proposition 1992/93:1

Kvalificerad yrkesutbildning. Regeringens proposition 2000/01:63

Ny värld, ny högskola. Regeringens proposition 2004/05:162

Reformering av högskoleutbildningen. Regeringens proposition 1975:9.

Studentinflytande och kvalitetsutveckling i högskolan. Regeringens proposition 1999/2000:28. [Student influence and Quality Enhancement in Higher Education]

Vissa forskningsfrågor. Regeringens proposition 1998/99:94.

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Internet

Most of these web sites have an English version available through the addresses below.	
Association of Swedish Higher Education (Sveriges universitets- och högskoleförbund, SUHF)	www.suhf.se
Bank of Sweden Tercentenary Foundation (Riksdagens jubileumsfond)	www.rj.se
Foundation for Baltic and East European Studies (Östersjöstiftelsen)	www.ostersjostiftelsen.se
Foundation for Strategic Environmental Research, MISTRA (Stiftelsen för miljöstrategisk forskning)	www.mistra-research.se
International Programme Office for Education and Training (Internationella programkontoret)	www.programkontoret.se
The Knowledge Foundation (KK-stiftelsen)	www.kks.se
Lärcentra. Information web site on municipal learning centres	www.larcentra.se
Swedish Agency for Advanced Vocational Education (Myndigheten för kvalificerad yrkesutbildning)	www.ky.se
Swedish National Agency for Higher Education (Högskoleverket)	www.hsv.se
Swedish National Agency for Higher Education web site for national study information	www.studera.nu
National Agency for Services to Universities and University Colleges (Verket för Högskoleservice, VHS)	www.vhs.se
Swedish Agency for Innovation Systems (Verket för innovationssystem, VINNOVA)	www.vinnova.se
Swedish Agency for Networks and Cooperation in Higher Education	www.myndigheten.netuniversity.se
Swedish Association of Local Authorities and Regions (Sveriges kommuner och landsting)	www.skl.se
Swedish Association of University Teachers (Sveriges universitetslärarförbund, SULF)	www.sulf.se
Swedish Council for Working Life and Social Research (Forskningsrådet för arbetsliv och socialvetenskap, FAS)	www.fas.forskning.se

The Swedish Foundation for International Cooperation in Research and Higher Education (STINT)	www.stint.se
Swedish Foundation for Strategic Research (Stiftelsen för strategisk forskning)	www.stratresearch.se
Swedish Government and Government Offices (Regeringen och regeringskansliet)	www.regeringen.se In English: www.sweden.gov.se
Swedish Institute (Svenska institutet, SI)	www.si.se
Swedish Institute web site for study information aimed at prospective students abroad	www.studyinsweden.se
Swedish National Audit Office (Riksrevisionen)	www.riksrevisionen.se
Swedish National Board of Student Aid (Centrala studiestödsnämnden, CSN)	www.csn.se
Swedish Net University (Nätuniversitetet)	www.netuniversity.se www.myndigheten.netuniversity.se
Swedish Research Council (Vetenskapsrådet, VR)	www.vr.se
Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, (Forskningsrådet för miljö, areella näringar och samhällsbyggande, FORMAS)	www.formas.se
Vardal Foundation -for Health Care Sciences and Allergy Research (Vårdalstiftelsen	www.vardal.se

GLOSSARIES AND LISTS

List of acronyms and abbreviations

AMS	*Arbetsmarknadsstyrelsen*, Swedish National Labour Market Administration
AVE	See the entry for *KY*
CSN	*Centrala studiestödsnämnden*, Swedish National Board of Student Aid
ENQA	European Association for Quality Assurance
ECTS	European Credit Transfer System. Higher education. 1.5 ECTS credits correspond to 1 credit in the current Swedish national credit system for HE.
FAS	*Forskningsrådet för arbetsliv och socialvetenskap*, Swedish Council for Working Life and Social Research
FORMAS	*Forskningsrådet för miljö, areella näringar och samhällsbyggande*, Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning
FTE	Full-time equivalent
HE	Higher education
HEI	Higher education institution
KY	*Kvalificerad yrkesutbildning*, Advanced Vocational Education
MFS	Minor Field Study
SACO	*Sveriges Akademikers Centralorganisation*, Swedish Confederation of Professional Associations
SCB	*Statistiska Centralbyrån*, Statistics Sweden
SI	*Svenska Institutet*, Swedish Institute
SIDA	Swedish International Development Agency
SUHF	*Sveriges universitets- och högskoleförbund*, Association of Swedish Higher Education
SULF	*Sveriges universitetslärarförbund*, Swedish Association of University Teachers
SweSAT	Swedish Scholastic Assessment Test
ST	*Statstjänstemannaförbundet,* The Union of Civil Servants
TCO	*Tjänstemännens Centralorganisation,* The Swedish Confederation of Professional Employees
VHS	*Verket för högskoleservice*, National Agency for Services to Universities and University Colleges
VINNOVA	*Verket för innovationssystem*, Swedish Agency for Innovation Systems
VR	*Vetenskapsrådet*, Swedish Research Council

Glossary of Key Terms

Appropriation directive	A key document in the governance of HE. Annually specifies the Government's expectations of the HE sector during a specific period (four years). The directive consists of general regulations (containing educational policy goals for HE, reporting requirements for the HEI's, and special assignments) and an annex for each state HEI.
Arbetsmarknadsåtgärder	State labour market programmes, activities for the unemployed. Important element in Swedish labour market policy.
Centre of Excellence	Internationally competitive research environment at a HEI. Eligible for special appropriations "in order to promote cutting-edge research". The appropriations are to be distributed after open advertisement and peer review by international experts, (Government Bill 2004/05:80, English summary)
Contract education	Higher education paid for by an organisation or other entity that wishes to purchase an education for its employees. Individuals are not allowed to pay for education in this manner.
County	See the entry for *Län*
County council	See the entry for *Landsting*
Folkhögskola	"Folk high school". Institution for liberal liberal adult education which is non-formal and voluntary. Certain programmes at a folk high school give eligibility to HE.
Folk high school	See the entry above for *folkhögskola.*

Forskarutbildning	Postgraduate or doctoral studies
Grundläggande högskoleutbildning	Term roughly corresponding to the concepts of undergraduate and graduate studies. Denotes all higher education not leading to a postgraduate qualification. Generally referred to in the report as higher education excluding doctoral studies.
Higher Education	Education provided by higher education institutitons. The main distinguishing feature of HE from other forms of education is that HE is based on science or art and on tested experience.
Higher Education Act	See the entry for Högskolelagen
Higher Education Ordinance	See the entry for Högskoleförordningen
Högskola	-university college (one of two types of HE institutions in the unitary system) -noun denoting the unitary HE sector and the two subcategories of HE institutions
Högskoleförordningen	Higher Education Ordinance. An Ordinance is a legal document amendable by Government decision.
Högskolelagen	Higher Education Act. An Act is a legal document amendable by parliamentary decision.
Kommun	Municipality. Directly elected local government.
Landsting	County council. Directly elected regional government. Main area of responsibility is health care.
Län	County. See also the entry below for *Länsstyrelse*.
Länsstyrelse	County administrative board. Regional representative of the state. Function as a link between the national and regional level.
Municipality	See the entry for *kommun*
Regleringsbrev	Appropriation directive
Riksdag	Swedish Parliament
Tertiary education	In this report: higher education and Advanced Vocational Education
Universitet	University (one of two types of HE institutions in the unitary Swedish HE system). See also the entry for *Högskola*.
University	See the entry for *Universitet*
University College	See the entry for *Högskola*
Uppdragsutbildning	See the entry for Contract education.

List of Swedish agencies and organisations mentioned in the report

• Arbetsmarknadsstyrelsen	Swedish National Labour Market Administration
• Centrala Studiestödsnämnden (CSN)	Swedish National Board of Student Aid
• Forskningsrådet för arbetsliv och socialvetenskap (FAS)	Swedish Council for Working Life and Social Research
• Forskningsrådet för miljö, areella näringar och samhällsbyggande, (FORMAS)	Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning
• Högskoleverket	Swedish National Agency for Higher Education
• Försvarsmakten	Swedish Armed Forces
• Internationella programkontoret	International Programme Office
• Myndigheten för kvalificerad yrkesutbildning (KY-myndigheten)	Swedish Agency of Advanced Vocational Education
• Myndigheten för Sveriges Nätuniversitet	Swedish Net University Agency
• Myndigheten för nätverk och samarbete i högre utbildning	Swedish Agency for Networks and Cooperation in Higher Education
• Polishögskolan	Swedish National Policy Academy
• Riksdagen	Swedish Parliament
• Riksbanken	Bank of Sweden
• Riksrevisionen	The Swedish National Audit Office
• Rådet för högre utbildning	The Council for Renewal of Higher Education
• SACO, Sveriges Akademikers	Swedish Confederation of Professional Associations

Centralorganisation	
• Statistiska Centralbyrån	Statistics Sweden
• Statstjänstemannaförbundet	The Union of Civil Servants
• Sveriges universitets- och högskoleförbund (SUHF)	Association of Swedish Higher Education
• Sveriges universitetslärarförbund (SULF)	Swedish Association of University Teachers
• Sveriges förenade studentkårer (SFS)	Swedish National Union of Students
• Svenska Institutet	Swedish Institute
• Svenskt Näringsliv	The Confederation of Swedish Enterprise
• Tjänstemännens Centralorganisation (TCO)	The Swedish Confederation of Professional Employees
• Verket för Högskoleservice (VHS)	The National Agency for Services to Universities and University Colleges
• Verket för innovationssystem (Vinnova)	Swedish Agency for Innovation Systems
• Vetenskapsrådet (VR)	Swedish Research Council

OECD THEMATIC REVIEW OF TERTIARY EDUCATION

COUNTRY BACKGROUND REPORT FOR SWEDEN

Annexes to the Report

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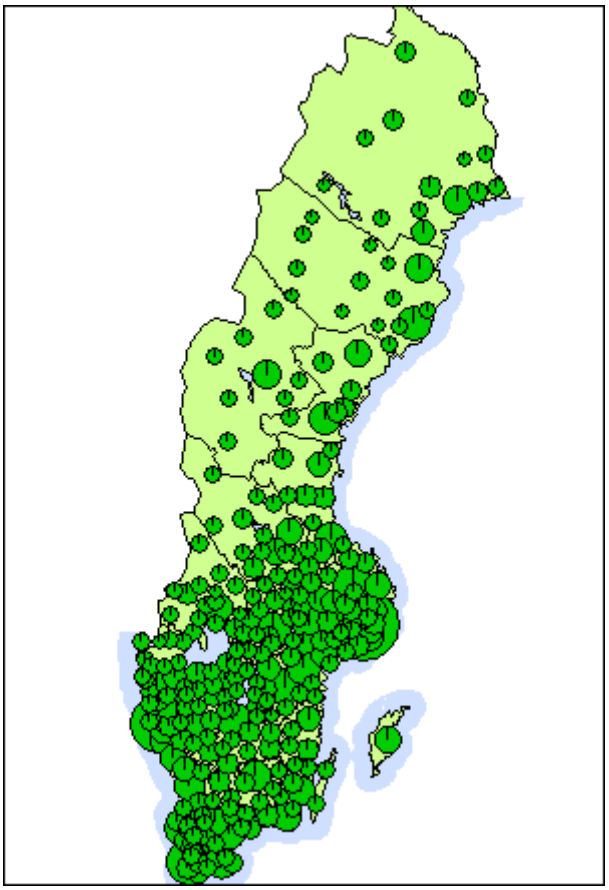
Annex Chapter 1

Figure 1.1. Population Density in Sweden, 2004



Source: SCB (Statistics Sweden)

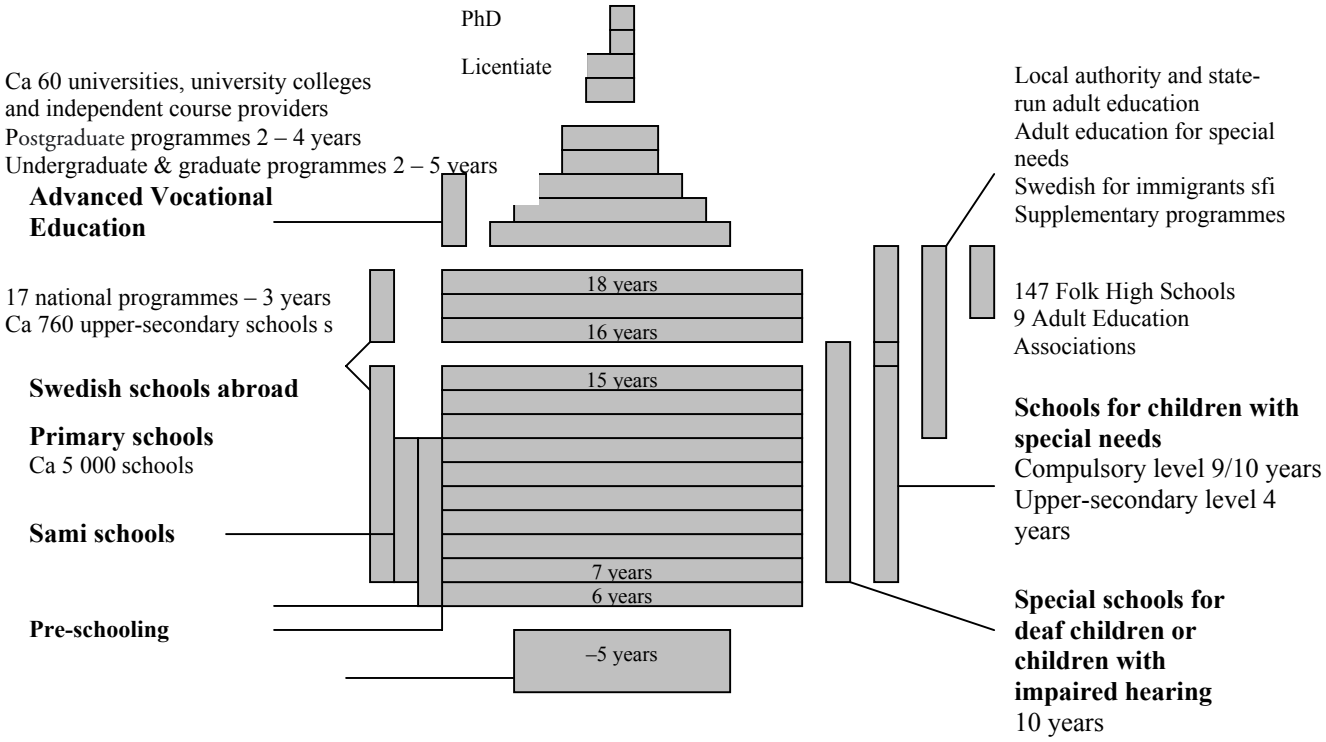
Table 1.1. Share of the population in different age groups with their highest qualification at upper secondary, post-secondary or postgraduate levels, 2004-01-01, per cent (educational levels below upper secondary have been left out of the table).

Age group	Upper secondary		Post-secondary		Post-graduate
	<2 years	3 years	<3 years	At least 3 years	
16–19	1	17	0	0	0
20–24	7	51	20	6	0
25–34	21	28	15	24	1
35–44	37	15	17	16	1
45–54	35	12	15	16	1
55–64	30	12	10	14	1
65–74	25	9	7	19	1
Total 16–74	26	19	13	14	1

Source: Statistics Sweden, Table *Utbildningsnivå för befolkningen 2004-01-01, 16-74 år.*

Annex Chapter 2

Figure 2.1. Swedish Educational System 2005



Private/independent institutions

In Sweden, there are 3 larger independent or private higher education institutions with the right to award postgraduate degrees, and a number of smaller private institutions. The latter category comprises 3 institutions providing undergraduate education in nursing, as well as a number of small institutions providing undergraduate education mainly in religious studies, psychotherapy and the fine arts/music. See Table 2.2. below for statistical data on the private institutions (in bold).

Swedish state HEI's are formally government agencies under the jurisdiction of the Government and Riksdag. As such, they are subject to the general body of regulations that apply in the same way to other government agencies (see below, Higher education institutions as agencies). In order to safeguard academic autonomy and accommodate the specific features of higher education, there is also a special regulatory framework for state higher education, laid down in the Higher Education Act and the Higher Education Ordinance. The independent, or private, HEI's are not formally bound by these statutes, except for their obligation to follow the principles in the first chapter of the Higher Education Act (an English translation of the Act is found on page 43 in the Annex). Also, they have to comply with the quality requirements (this includes an obligation to participate in quality evaluations) in order to retain their entitlement to award recognised higher education degrees and to receive state funding for their programmes.

Private institutions do not have any general entitlement to award higher education degrees but have to apply to the Government for the right to award specific degrees (see also section 2.3.1.1.). There is a separate Act and Ordinance for the private institutions (*Lag* (1993:792) *om tillstånd att utfärda vissa examina* and *Förordning om tillstånd att utfärda vissa examina* (1993:956).), enumerating their obligations and the degrees they are entitled to award.

The Swedish state provides most of the funding to the private institutions for their HE courses and programmes through the same funding mechanism as for state HEI's (see section 7.2.3.1). These institutions are governed through contracts with the Government which cover a specific period of time. The contracts have a similar function as the appropriation directives issued to state HEI's. They contain the obligations of the institution and of the Government and specify ceiling figures for undergraduate/graduate education (that is, the highest possible allocation for full-time equivalent students together with full-time equivalent study results for which a HEI can qualify during one year). The contracts also state that fees for individual students are not allowed. In addition, the contracts may set up targets for the award of certain specific degrees and contain certain goals related to, for example, gender equality and widening participation. The latter are goals that, for state HEI's, are enumerated in the HE Law and HE Ordinance.

Table 2.1. Major research foundations*

	HEI Expenditure (SEK million)			
	2001	**2002**	**2003**	**2004**
The Knowledge Foundation (KK-stiftelsen)	229	251	223	221
The Foundation for Strategic Environmental Research (Mistra)	159	143	143	133
Swedish Foundation for Strategic Research (Stiftelsen för strategisk forskning)	584	494	507	449
The Swedish Foundation for International Cooperation in Research and Higher Education (STINT)	52	46	47	38
The Vardal Foundation for Health Care Sciences and Allergy Research (Vårdalsstiftelsen)	58	58	42	23
The Foundation for Baltic and East European Studies (Östersjöstiftelsen)	112	133	138	132
The Bank of Sweden Tercentenary Foundation (Riksbankens jubileumsfond)	n/a	258	239	201
Knut och Alice Wallenbergs stiftelse	n/a	414	450	476
The Swedish Cancer Society (Cancerfonden)	n/a	250	260	253

Source: National Agency for Higher Education Statistical Database

*N.b.: this list is not exhaustive, i.e. there are also other foundations that support research, such as the Swedish Heart-Lung Foundation (*Hjärt- och lungfonden*) and the Diabetes Foundation (*Diabetesfonden*).

Table 2.2. Higher education institutions, number of students and teaching staff, 2004

Institution	Individual undergraduate students (autumn semester)	Full-time equivalent (FTE) undergraduate students	Active doctoral students (autumn semester)	Teaching staff, Full-time equivalents (October)
Total Sweden	337,415	302,562	19,260	24,080
Uppsala University	24,347	21,337	2,335	2,075
Lund University	30,520	27,970	3,045	2,505
Göteborg University	30,213	26,066	2,132	2,200
Stockholm University	26,217	24,204	1,669	1,692
Umeå University	19,286	16,744	1,230	1,738
Linköping University	19,597	18,227	1,250	1,332
Karolinska Institutet (medical university)	7,256	5,850	2,150	1,383
KTH – Royal Institute of Technology	14,195	12,367	1,715	1,157
Chalmers Institute of Technology*	**9,006**	**8,459**	**1,070**	**881**
Luleå University of Technology	9,944	8,479	516	618
Stockholm School of Economics*	**1,506**	**1,321**	**208**	**88**
SLU – Swedish University of Agricultural Sciences	3,832	3,340	683	1,148
Karlstad University	10,473	8,863	228	601
Mid-Sweden University	10,915	8,124	67	471
Växjö University	9,540	8,336	209	422
Örebro University	11,386	9,731	354	505
Blekinge Institute of Technology	4,755	3,120	87	191
University College of Jönköping*	**8,098**	**7,052**	**65**	**330**
University College of Kalmar	7,453	6,394	82	365
University College of Malmö	13,004	10,733	64	581
University College of Mälardalen	10,758	8,861	127	497
University College of Borås	6,031	5,329	-	310
Dalarna University College	5,949	5,218	-	339
University College of Gotland	2,921	1,973	-	90
University College of Gävle	8,146	6,311	-	407
University College of Halmstad	6,102	5,394	-	236
Kristianstad University College	7,172	5,622	-	322
University College of Skövde	5,048	4,307	-	188
University College of Trollhättan-Uddevalla	5,230	4,442	-	254
Stockholm University College	559	515	-	58

of Physical Education and Sports				
Stockholm Institute of Education	9,558	6,601	-	328
Södertörn University College	7,989	7,056	-	286
University College of Dance	237	139	-	23
Dramatiska institutet – University College of Film, Radio, Television and Theatre	161	151	-	24
Konstfack – University College of Arts, Crafts and Design	608	623	-	71
KKH – Royal University College of Fine Arts	242	216	-	29
KMH – Royal College of Music	660	556	-	88
Operahögskolan – University College of Opera	40	74	-	12
Teaterhögskolan i Stockholm - National Academy of Mime and Acting	159	69	-	18
Smaller private institutions	**3 105**	**2 630**	**-**	**220**

bold*= private institutions

Source: Högskoleverket 2005:26R

Table 2.3. Degrees in higher education*

Level	Type of degree	Degree	Description
Grundläggande högskoleutbildning	General degrees	Högskoleexamen (University Diploma)	Requires at least 80 credit points, equivalent to 2 years full-time study
		Kandidatexamen (Bachelor of)	Requires at least 120 credit points of which 60 in one subject, equivalent to 3 years full-time study. Students must have completed an independent thesis for at least 10 credit points.
		Magisterexamen med ämnesdjup (Master of)	Requires at least 160 credit points of which 80 in one subject, equivalent to 4 years of full-time study. In addition students are required to have completed an independent thesis for at least 20 credit points or two theses for at least 10 credit points each.
		Magisterexamen med ämnesbredd (Master of)	Students must already hold a general degree or professional degree comprising at least 120 credit points. This Master's degree requires an additional 40 credit points of specialisation including an independent thesis for at least 10 credit points.
	Professional degrees		
		Available for example in:	Currently 57 different professional degrees of varying length and level are enumerated in the

		engineering, medicine, nursing, law and the fine arts	Degree Ordinance
Forskarutbildning	Postgraduate degrees		
		Doktorsexamen (Doctorate)	The highest academic degree. Requires the accumulation of at least 160 credit points on the postgraduate level, of which the dissertation comprises at least 80.
		Licentiatexamen (Licentiate Degree)	Requires at least 80 credit points, of which at least 40 awarded for a thesis that meets high academic standards.

*It should be noted that the degree structure will change to a three-cycle structure as of 2007. See Chapter 2 in the report.

Table 2.4. Enrolled undergraduate students autumn semester 2004, by field, age and gender

Field	Total	Women		Men		Age distribution				Median age		
Professional programme Courses/other programmes		Number	% *Share*	Number	% *Share*	-21	22-24	25-29	30-34	Tot	W*	M*
Total Sweden	**337 415**	**202 600**	***60***	**134 815**	***40***	**17**	**28**	**23**	**11**	**25**	**26**	**25**
Programme conferring professional degree	***141 948***	***87 213***	***61***	***54 735***	***39***	***19***	***30***	***22***	***11***	***25***	***25***	***24***
Law and social sciences	14 617	10 843	*74*	3 774	*26*	15	30	26	13	25	25	25
Teaching	45 389	34 558	*76*	10 831	*24*	14	25	22	12	26	27	26
Natural Science	2 043	1 726	*84*	317	*16*	22	32	19	9	24	24	24
Technology	41 693	10 660	*26*	31 033	*74*	30	40	20	5	23	23	23
Agriculture and forestry	1 734	1 142	*66*	592	*34*	21	39	24	8	24	24	24
Medicine and odontology	7 700	4 833	*63*	2 867	*37*	13	31	30	10	25	25	25
Caring sciences	24 858	21 386	*86*	3 472	*14*	13	22	21	15	28	28	27
Fine and applied arts	2 470	1 338	*54*	1 132	*46*	9	29	44	14	25	25	26
Other	828	362	*44*	466	*56*	27	20	19	14	25	25	25
Courses/other programmes	***195 467***	***115 387***	***59***	***80 080***	***41***	***16***	***26***	***23***	***11***	***26***	***26***	***25***
Humanities and theology	55 271	34 869	*63*	20 402	*37*	21	27	22	10	25	25	25
Law and social sciences	104 315	61 134	*59*	43 181	*41*	16	28	23	11	25	26	25
Natural Science	26 676	12 898	*48*	13 778	*52*	19	28	24	11	25	25	25
Technology	23 339	8 174	*35*	15 165	*65*	12	31	27	11	25	25	25
Medicine and odontology	4 309	3 213	*75*	1 096	*25*	15	22	19	12	27	28	26
Caring sciences	8 539	7 705	*90*	834	*10*	5	11	14	13	37	37	32
Fine and applied arts	6 318	3 566	*56*	2 752	*44*	17	25	24	11	26	26	25
Other	2 914	2 149	*74*	765	*26*	20	28	22	9	25	25	24

Source: Statistics Sweden, www.scb.se

*W=Women

*M=Men

Table 2.5. Enrolled undergraduate students, by subject area. Academic years 1994/95, 1996/97, 1998/99, 2000/01, 2002/03 and 2003/04

Subject area	1994/95	1996/97	1998/99	2000/01	2002/03	2003/04	Change 1994/95–2003/04	
							Number	%
Net total *	**269,815**	**300,380**	**310,137**	**330,174**	**385,323**	**397,679**	**127,864**	**47.4**
Humanities and theology	79,811	87,683	84,264	87,874	103,343	106,950	27,139	34.0
Law and social sciences	144,809	158,238	161,221	179,822	212,458	214,637	69,828	48.2
Natural science	63,522	75,560	82,103	82,928	85,444	86,019	22,497	35.4
Technology	46,058	56,557	63,812	68,167	75,121	76,160	30,102	65.4
Medicine	10,525	13,273	16,472	18,162	26,372	29,591	19,066	181.1
Caring sciences	27,628	30,492	32,489	31,855	36,209	38,059	10,431	37.8
Fine and applied arts	9,326	10,272	10,794	12,342	16,139	15,690	6,364	68.2
Other	9,731	8,994	8,555	8,935	7,341	7,499	-2,232	-23.0

Source: National Agency for Higher Education Statistical Database

*Net total number of students. Numbers for subject areas may not add up since students may be enrolled in one or more subject areas during the same year.

Table 2.6. Degrees awarded in HE 1989/90–2003/04

Group of degrees	1989/90	1994/95	1998/99	2002/03	2003/04
Bachelor's degrees	1 081	3 707	7 981	11 269	12 501
Master's degrees	-	2 080	5 961	9 151	10 321
Master's degrees in Engineering	2 545	3 318	3 562	3 969	4 212
Diploma/Bachelor's degrees in Engineering etc.	725	1 855	1 855	3 082	3 145
Bachelor's degrees in Law	678	902	945	979	952
Teaching qualifications	6 173	8 463	7 320	7 881	8 377
Of which for children and young people	3 729	3 537	2 050	1 920	1 282
Compulsory school grades 1-7	439	2 239	2 157	1 632	1 894
Compulsory school grades 4-9	530	842	1 041	1579	1 770
Upper-secondary school	737	947	1 063	1 560	1 617
Medicine	714	776	863	833	763
Psychology	262	174	245	300	343
Physiotherapy	484	461	468	433	426
Nursing	3 614	2 398	3 221	3 620	4 031
Social care	561	580	406	440	325
Social work	786	794	848	1 091	1 145
Specialist nursing	-	-	-	1 274	1 338
Special education	133	365	450	590	609
Odontology	158	149	253	139	169
Applied technology	499	463	289	190	88
Earlier degrees	9 128	5 214	413	12	13
Miscellaneous	2 571	2 572	2 538	3 451	3 586
Total	30 112	34 271	37 618	48 704	52 344
Of which first degrees	25 475	28 741	30 327	36 863	38 658

Source: Table from Högskoleverket 2005:26, p.36.

Figure 2.2. Enrolled undergraduate students by gender, 1977/78 – 2003/04

Source: Statistics Sweden, www.scb.se

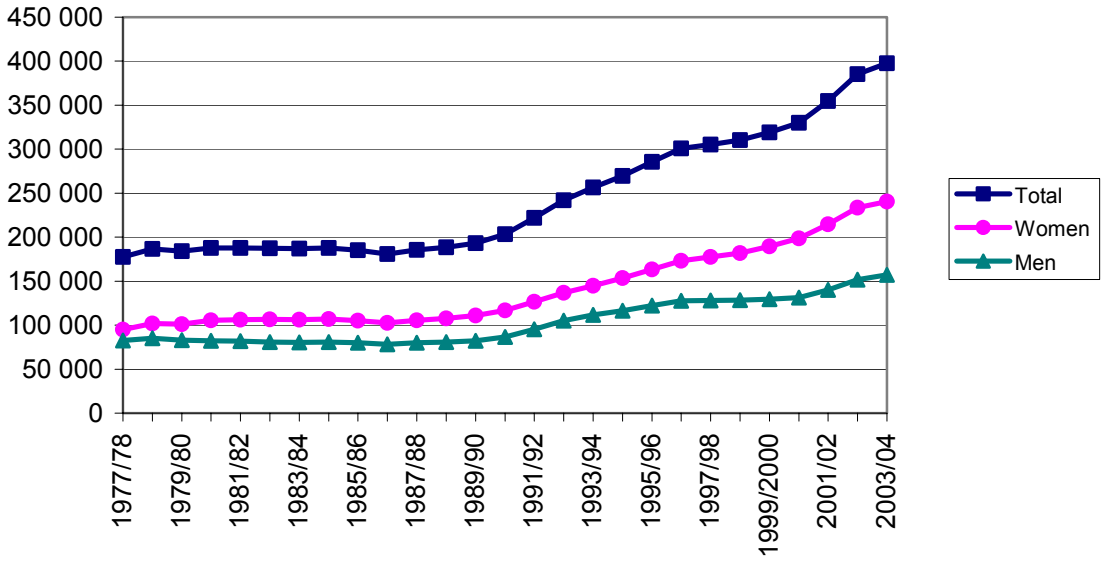


Table 2.7. Part time and full-time active doctoral students* by national research subject, activity rate, gender. Autumn semesters 1992–2002

	Activity rate	Sex						
			1992	1994	1996	1998	2000	2002
Pharmacology	Part time	Men	18	46	48	46	29	20
		Women	20	65	68	83	40	20
	Full-time	Men	39	12	6	3	16	33
		Women	38	17	10	7	43	55
Humanities and religious studies	Part time	Men	674	685	725	572	471	413
		Women	559	584	672	563	482	463
	Full-time	Men	545	572	661	765	648	548
		Women	412	432	560	714	677	646
Mathematics	Part time	Men	107	179	211	113	65	79
		Women	23	36	41	23	21	35
	Full-time	Men	136	67	64	171	236	233
		Women	22	18	15	39	47	72
Medicine	Part time	Men	832	886	1088	1281	1083	1071
		Women	428	546	803	1106	1133	1240
	Full-time	Men	1045	1005	687	853	807	823
		Women	807	871	691	1146	1264	1404
Natural science	Part time	Men	551	844	972	405	354	344
		Women	279	430	535	300	261	299
	Full-time	Men	1051	801	670	1197	1294	1322
		Women	511	419	440	789	877	923
Odontology	Part time	Men	86	85	71	62	48	53
		Women	66	75	67	61	48	49

	Full-time	Men	25	25	30	22	25	19
		Women	20	31	28	41	39	39
Jurisprudence/law	Part time	Men	53	50	42	38	30	35
		Women	38	29	36	30	28	35
	Full-time	Men	58	51	56	62	55	64
		Women	26	35	33	56	56	49
Social science	Part time	Men	839	937	1010	843	742	623
		Women	647	784	902	774	731	686
	Full-time	Men	670	731	712	930	904	920
		Women	361	411	522	736	792	907
Agriculture, silviculture and landscape planning	Part time	Men	119	157	160	143	108	56
		Women	65	104	99	84	77	78
	Full-time	Men	110	119	131	148	133	123
		Women	51	55	79	102	119	100
Technological science	Part time	Men	1090	1457	1773	1328	1075	1071
		Women	275	356	454	413	355	419
	Full-time	Men	1245	1071	935	1788	2114	2321
		Women	305	283	311	534	686	800
Veterinary medicine	Part time	Men	32	30	33	18	18	15
		Women	34	57	54	45	29	32
	Full-time	Men	24	21	21	16	18	19
		Women	17	17	22	25	50	53
Other research areas	Part time	Men	25	52	65	66	39	48
		Women	49	107	130	174	154	163
	Full-time	Men	26	0	0	0	27	48
		Women	57	12	27	40	73	145
Total			14,510	15,657	16,770	18,755	18,421	19,013

Source: Statistics Sweden statistical database (www.scb.se).

*Gross figures. This means that the same doctoral student may be counted more than once since some persons are active in more than one subject area during the same period.

Table 2.8. Students enrolled in Advanced Vocational Education (KY) by sector. 1997–2004

Industry	2004	2003	2002	2001	2000	1999	1998	1997
Construction	920	740	773	748	664	696	474	251
Economics, incl. insurance, commerce	3 545	2 249	2 292	1 864	1 939	1 727	1 377	623
IT incl. multimedia, printing industry	5 410	4 880	5 789	5 751	4 942	4 151	2 569	1 008
Agriculture, forestry, gardening	419	287	202	198	247	281	213	120
Food	99	92	68	75	94	110	115	71
Environment	231	177	245	338	347	319	246	145
Technology and manufacturing	2 953	2 521	2 198	2 410	2 519	2 334	1 782	966
Transport, incl. shipping	1 049	772	699	644	630	643	548	305
Wood industry	162	177	136	115	109	126	134	88
Tourism, incl. catering	1 840	1 350	1 407	1 476	1 428	1 381	1 125	565
Health care	2 432	1 497	843	651	545	436	244	102
Other	1 803	1 027	854	799	767	624	435	131

	20	15	15	15	14	12		
Total	863	769	506	069	231	828	9 262	4 375

Source: National Agency for Advanced Vocational Education

Management by objectives and results in the Swedish public administration

In the Swedish National Report to the Joint OECD/IMHE–HEFCE Project on Financial Management and Governance of Higher Education Institutions (November 2003, authored by Staffan Sarbäck), the system of management by objectives and results in Swedish public administration is described as follows (p. 13):

"Management by objectives and results is conducted within the framework of the annual central government budget process. Put simply, management occurs as follows:

- The Riksdag decides on central government expenditures and financial parameters for different purposes.
- The Government directs the authorities and agencies, including state universities and university colleges, on the basis of decisions made by the Riksdag. Formally, the Government exercises control by issuing appropriation directions, special government decisions, special ordinances (such as the Higher Education Ordinance) and assignments, and by its choice of managerial organisation and appointment of directors-general (vice-chancellors in the case of universities and university colleges) and members of the governing boards. An additional instrument is the informal dialogue between the Government Offices and the authorities and agencies.
- The authorities and agencies report back to the Government in their annual reports.
- The Government reports back to the Riksdag.
- The activities of the authorities and agencies are to be divided into operational domains. In each domain there are to be operational objectives, which are set by the Government."

Higher education institutions as agencies

The state higher education institutions are part of the public, central government administration, in terms of both organisation and function. Hence, state institutions of higher education are formally administrative agencies subject to the Government, which means that they are not able to enter into agreements outside their sphere of responsibility without prior authorisation, nor are they entitled to take legal action on their own behalf. They cannot, without the Government's decision, be registered as the owner of any foundation, company, etc., or establish such entities in their own name. They are required to follow directives issued by the Government and come under the supervision of authorities such as the National Agency for Higher Education, the Swedish National Audit Office and the Office of the Chancellor of Justice. The state universities and university colleges are thus not legal persons in their own right; along with other government authorities and agencies, they are all incorporated in the same legal person, i.e. the Swedish state.

In functional terms, institutions of higher education are responsible for the exercise of official authority in connection with admissions, examinations and personnel issues. In matters concerning the exercise of official authority with respect to individuals and the application of

law, it is their responsibility and indeed duty to make decisions independently under the law. This independence is written into Swedish constitutional law.

(text from National Report of Sweden to the Joint OECD/IMHE–HEFCE Project on Financial Management and Governance of Higher Education Institutions (November 2003, authored by Staffan Sarbäck), p. 12)

The Swedish Scholastic Assessment Test (SweSAT)

The Swedish Scholastic Assessment Test tests study skills. It measures the knowledge and skills that are important in higher education. The score attained on the Swedish Scholastic Assessment Test provides an indication of the ability to succeed in higher education.
The scores on the Scholastic Assessment Test are used in selecting applicants. At least one-third of the places in a programme are filled on the basis of these scores.

The Swedish Scholastic Assessment Test is held twice each year, in April and October. The enrolment fee is SEK 350 and about 75,000 people apply to take the test each year. The National Agency for Higher Education is responsible for the implementation and the development of the Scholastic Assessment Test. The practical administration of the test is arranged by the higher education institutions and it is offered in a number of places throughout Sweden. Text taken from National Agency for Higher Education website (www.hsv.se/eng)

Annex Chapter 3.

Table 3.1. Share of the population in different age groups by highest qualification, 2004-01-01, per cent

Age group	Total Population	No data on educational level		Pre-upper-secondary				Upper-secondary			
				Elementary school (older school form)		Compulsory compre-hensive school		Up to 2 years		3 years	
	Number	Number	%	Number	%	Number	%	Number	%	Number	%
Total 16-74	6 462 119	107 994	2	675 213	10	953 411	15	1 700 932	26	1 205 500	19
16–19	433 919	24 516	6	976	0	333 574	77	2 711	1	71 960	17
20–24	520 017	14 762	3	3 928	1	66 312	13	34 601	7	267 110	51
25–34	1 165 054	22 813	2	13 516	1	98 675	8	247 997	21	322 023	28
35–44	1 262 463	13 907	1	21 962	2	137 626	11	472 005	37	191 235	15
45–54	1 180 090	9 102	1	65 572	6	171 974	15	407 389	35	145 614	12
55–64	1 154 502	10 290	1	259 429	22	98 768	9	349 239	30	141 665	12
65–74	746 074	12 604	2	309 830	42	46 482	6	186 990	25	65 893	9

Age group	Post-secondary				Postgraduate	
	less than 3 years		at least 3 years			
	Number	%	Number	%	Number	%
Total 16-74	837 377	13	930 142	14	51 550	1
16–19	180	0	2	0	0	0
20–24	103 648	20	29 581	6	75	0
25–34	176 633	15	276 287	24	7 110	1
35–44	209 366	17	202 723	16	13 639	1
45–54	177 758	15	190 169	16	12 512	1
55–64	118 918	10	163 840	14	12 353	1
65–74	50 874	7	67 540	9	5 861	1

Source: Statistics Sweden, Utbildningsnivå för befolkningen 2004-01-01, 16-74 år

Table 3.2. Labour force increments 1996–2010, by level of education

Educational level	1996-00	2001-05	2006–10
Total	980,428	1,082,400	1,164,600
of which:			
pre-upper-secondary	136,795	125,100	134,300
Upper-secondary	509,136	549,600	573,700
post-secondary	308,784	386,600	434,300
level unknown	25,713	21,200	22,300

Source: Table D1 in SCB, 2004e

Table 3.3. Labour market recruitment needs 1996–2010, by level of education

Educational level	1996-2000	2001-2005	2006–2010
Total	759,339	897,700	1,002,200
of which:			
pre-upper-secondary	86,860	91,500	104,100
Upper-secondary	381,044	440,200	481,900
post-secondary	273,420	346,700	393,600
level unknown	18,015	19,300	22,500

Source: Table D2 in SCB, 2004e

Table 3.4. Proportion of graduates established on the labour market (per cent) 2003 as a proportion of graduates 2001/02.

	Number of graduates	% Share of established	% Change since 2002,
Physicians	704	94	2
Nurses	3 559	92	1
Bio-medical technicians	136	90	0
Dispensing chemists	77	90	-1
Master of nursing/medicine	294	88	0
Pharmacists	86	88	-4
Bachelors of nursing/medicine	398	83	-3
Social workers	919	83	2
Teachers	6 940	82	0
Masters of Engineering	3 045	81	-6
Degrees in social care	394	80	2
Dentists	132	79	4
Psychologist, psychotherapists	311	79	5
Lawyers	892	79	-2
Masters of behavioural science	424	78	0
Theology degrees	138	78	10
Dental hygienist	118	77	-2
Masters of economics	2 133	76	-5
Diplomas in/Bachelors of engineering	2 664	76	-6
Physiotherapists	387	76	-4
Masters of technology	765	74	-7
Bachelors of economics	1 246	74	-6
Occupational therapists	377	73	-3
Bachelors of technology	1 344	73	-7
Bachelors of behavioural science	862	72	2
Agronomist, rural management, horticulturists	180	72	-4
Masters of natural science	802	69	-2
Masters of social science	761	68	-4
Bachelors of natural science	191	62	-4
Architects	122	57	-16
Bachelors of social science	669	57	-9
Bachelors of arts	437	51	-1
Masters of arts	339	48	-2
Fine arts	180	38	5
Total	32 588	78	-2

Source: Table from Högskoleverket 2005:26R, p. 84.

Table 3.5. Unemployment by educational level, per cent

Year	Compulsory school	Upper-secondary school	Higher education
1993	9,7	9,5	4,0
1994	9,9	9,1	3,8
1995	9,8	8,8	3,9
1996	10,6	9,0	4,0
1997	11,0	8,6	4,2
1998	9,2	6,9	3,4
1999	8,4	5,7	3,1
2000	7,5	4,7	2,5
2001	6,1	4,1	2,2
2002	6,0	4,1	2,5
2003	7,0	5,0	3,4
2004	7,9	5,8	3,8

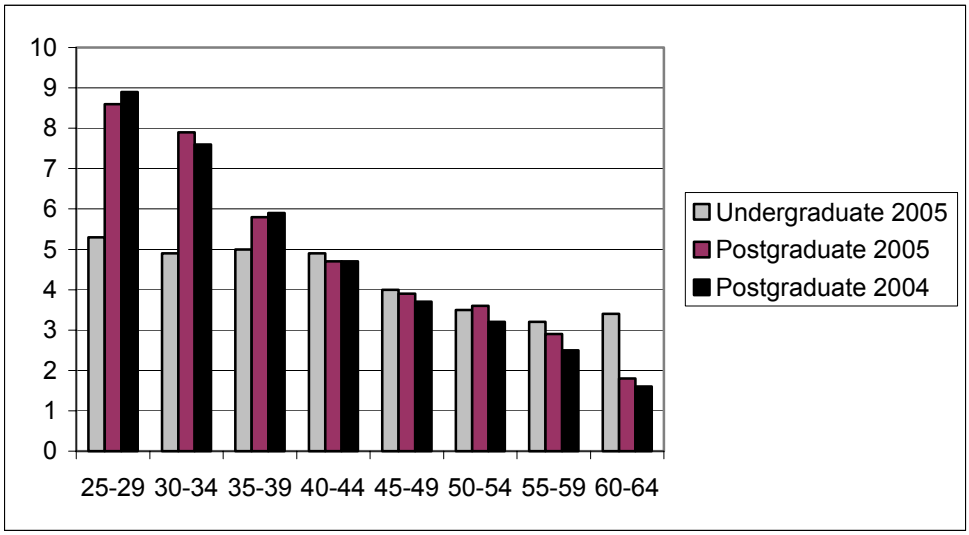
Source: Statistics Sweden, www.scb.se.

Table 3.6. Higher education graduates in open unemployment, per cent

Sex			Degree
	Undergraduate (at least 2 years), 2005	Postgraduate, 2005 (Licentiate and PhD)	Postgraduate, 2004 (Licentiate and PhD)
Men	5.4	4.1	3.8
Women	3.6	5.4	5.7
Total	4.4	4.5	4.3

Source: Table from Sveriges universitetslärarförbund, Forskarutbildad till arbetslöshet? 6 juli 2005. Based on data from National Labour Market Board (AMS) and Statistics Sweden)

Graph 3.1. Unemployment for undergraduate (2005) and postgraduate degree holders (2004 and 2005) by age, per cent



Source: Graph from Sveriges universitetslärarförbund, Forskarutbildad till arbetslöshet? 6 juli 2005.

Table 3.7. Average salary 2003, by gender and educational level*

Educational level*	Gender	Average salary (SEK)
1+2	Women	18,037
	Men	21,041
3	Women	18,908
	Men	22,000
4	Women	18,911
	Men	22,737
5	Women	22,059
	Men	27,188
6	Women	25,138
	Men	32,804
7	Women	33,867
	Men	40,064

Source: Statistics Sweden

*Educational level:
1 Pre-upper-secondary education, < 9 years
2 Pre-upper-secondary education, >= 9 years
3 Upper-secondary education, <= 2 years
4 Upper-secondary education, 3 years
5 Post-secondary education, < 3 years
6 Post-secondary education, >= 3 years
7 Postgraduate education

Table 3.8. Average salary 2003, by educational level and specialisation

Specialisation	Educational level (1–7)* Average salary, SEK					
	1+2	3	4	5	6	7
General	19 800	19 800	20 300	18 400	.	.
Education and teaching	.	20 300	19 200	21 000	23 500	33 000
Humanities and fine arts	.	20 500	17 500	21 200	23 300	30 200
Social sciences, law, commerce, administration,	.	20 800	22 600	25 700	31 900	35 500
Natural sciences, mathematics, computer science	.	20 900	21 000	26 900	27 700	34 800
Technology and manufacturing	.	21 900	23 000	27 400	33 200	38 800
Agriculture, forestry, animal health care	.	20 000	18 100	24 400	29 500	34 700
Health care, social care	.	18 800	18 000	23 000	28 200	45 300
Services	.	19 100	18 800	26 000	30 600	..
All specialisations	19 800	20 500	20 900	24 400	28 500	38 200

Source: Statistics Sweden

Annex Chapter 5

Table 5.1. The proportion of research undertaken in HEIs, 1995–2003

Year	Business enterprise sector	Higher Education sector	Government sector (excl HEIs)	Private non-profit sector	Total
1995	74,3%	21,9%	3,7%	0,2%	100,0%
1997	74,8%	21,5%	3,5%	0,1%	100,0%
1999	75,1%	21,4%	3,4%	0,1%	100,0%
2001	77,2%	19,8%	2,8%	0,1%	100,0%
2003	74,1%	22,0%	3,5%	0,4%	100,0%

Source: Statistics Sweden UF16 SM0501

Table 5.2. Development of R&D expenditure as share of GDP, 1991–2003

Year	Share %
1991	2,72
1993	3,17
1995	3,35
1997	3,55
1999	3,65
2001	4,27
2003	3,98

Source: Statistics Sweden (www.scb.se)

Table 5.3. Distribution of funding for research and doctoral studies at HEI's 1997–2004, million SEK

Current prices	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Direct university funds	7 988	8 437	8 525	9 232	9 547	10 080	10 420	10 687
Central government agencies	4 195	4 630	5 084	5 401	5 532	5 968	6 400	6 542
Regional government	268	301	426	545	538	594	628	675
Funds from international agencies and other foreign sources	645	751	832	905	1 004	1 181	1 294	1 335
Private firms and non-profit organizations	2 586	2 791	2 976	3 397	3 827	4 371	4 330	4 225
Total	15 682	16 912	17 844	19 479	20 448	22 195	23 072	23 464

Calculated in fixed prices using government expenditure index, total								
Index	*81,20*	*82,01*	*85,08*	*89,30*	*92,39*	*95,21*	*99,00*	*100,00*
Fixed prices	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Direct university funds	9 838	10 288	10 020	10 338	10 333	10 587	10 526	10 687
Central government agencies	5 166	5 646	5 976	6 048	5 988	6 269	6 465	6 542
Regional government	330	367	501	610	582	624	634	675
Funds from international agencies and other foreign sources	794	916	978	1 014	1 087	1 241	1 307	1 335

Private firms and non-profit organizations	3 185	3 404	3 498	3 804	4 143	4 591	4 373	4 225
Indexed total	19 313	20 621	20 973	21 813	22 133	23 311	23 305	23 464

Source. National Agency for Higher Education.

Annex Chapter 6

Table 6.1. Proportion of 25-year-olds enrolled in 2003 in higher education by the age of 25, by own upper-secondary education and educational level at home

Sex	**Proportion (%) having enrolled in HE, by educational level at home**					
Own upper-secondary education	Total in cohort	Pre-upper-secondary	Upper-secondary <2 years	<=2 years	Post-secondary <3 years	>=3 years
Total	*43*	*25*	*32*	*47*	*58*	*76*
NV/SP programmes	82	69	74	78	83	91
Other programmes	27	18	21	29	37	51
No upper-secondary ed.	16	8	11	18	26	43
Women	*49*	*33*	*40*	*55*	*66*	*82*
NV/SP programmes	84	72	77	81	86	94
Other programmes	36	26	29	40	49	62
No upper-secondary ed.	19	11	16	25	35	50
Men	*37*	*18*	*25*	*39*	*50*	*72*
NV/SP programmes	79	65	71	75	79	89
Other programmes	18	11	14	20	26	40
No upper-secondary ed.	13	6	7	13	19	38

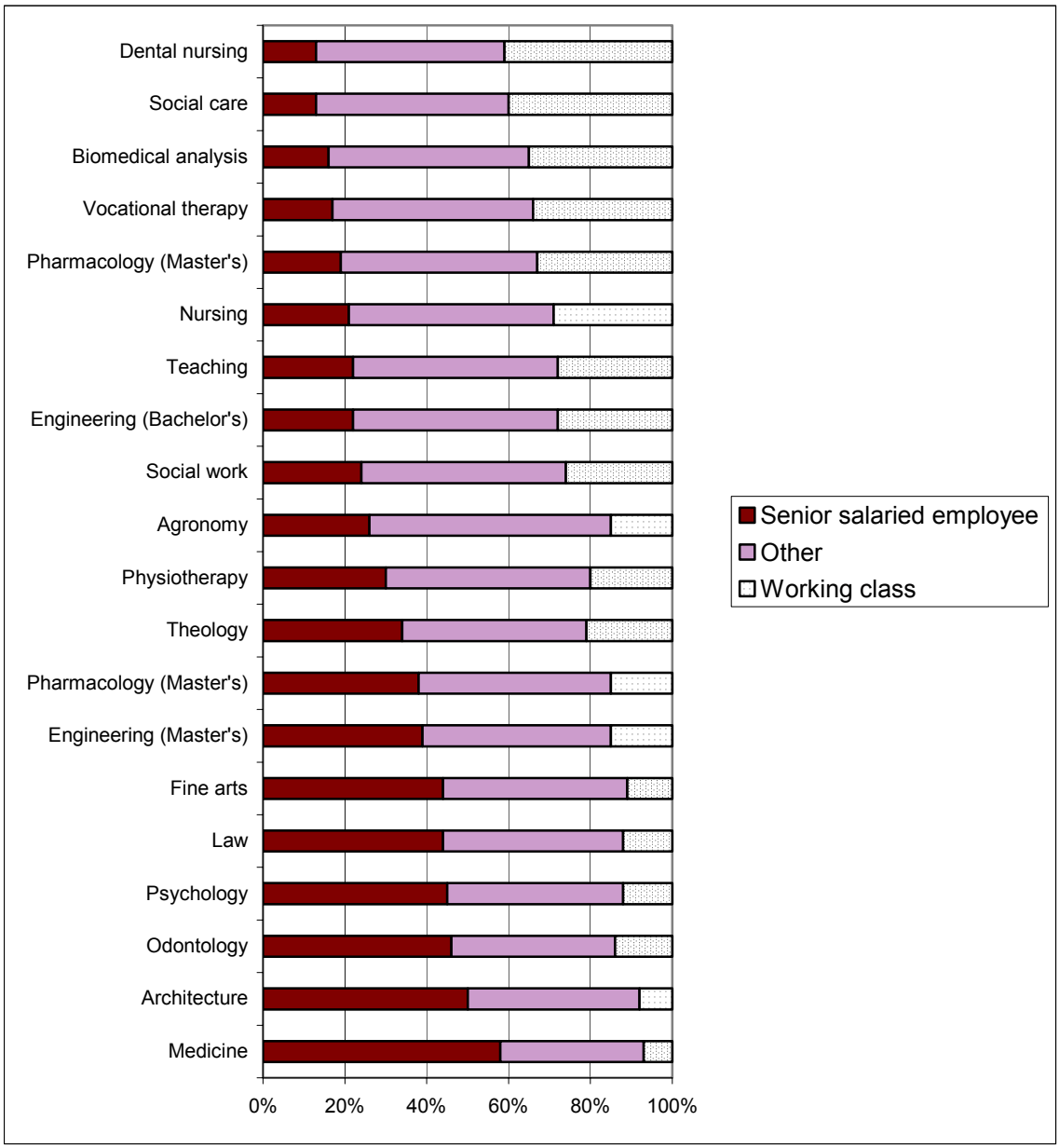
Source: Table 9, p.37 in Foss, E., 2005

Table 6.2. Proportion of the population aged 18-25 enrolled as first-year students in higher education excluding doctoral studies 1998/99-2003/04 (number of first year students aged 18-25 by background, relative to corresponding groups in the general population). Per cent.

	98/99	99/00	00/01	01/02	02/031	03/04
Swedish background						
- Born in Sweden with at least one parent born in Sweden	5,2	5,3	5,5	5,9	6,0	5,9
Foreign background						
- Born in Sweden with two parents born abroad	3,9	4,2	4,6	5,1	5,2	5,3
- Born abroad	3,1	3,3	4,1	4,4	4,7	4,6
Total	4,9	5,1	5,3	5,7	5,8	5,7

Source: Table 2A in SCB, 2004 c.

Graph 6.1. Social background of beginners in a number of professional programmes in higher education, 2003/04



Source: Table from Högskoleverket 2005:26 R, p. 28

Table 6.3. University entrants up to 34 years of age, by sex and social background

	Number of beginners	Social background (SEI), per cent of total with SEI classification							No SEI classification. %	
Ac. year		Senior Salaried employees	. Salaried employees	Junior salaried employees.	Farmers Self-employed	Skilled craftsmen	Unskilled labourers	Total SEI	Total	born in Sweden
1993/94	54 508	33	28	12	9	10	9	100	16	8
1994/95	55 569	32	28	12	9	10	9	100	17	7
1995/96	58 857	31	28	12	9	11	9	100	18	7
1996/97	58 540	30	28	12	9	11	9	100	20	7
1997/98	57 433	29	28	12	9	12	10	100	20	6
1998/99	59 528	29	28	12	9	12	10	100	21	6
1999/00	61 672	28	28	12	9	13	10	100	22	6
2000/01	63 261	28	28	12	9	13	10	100	23	6
2001/02	68 310	28	28	12	9	13	10	100	25	6
2002/03	71 784	27	28	12	9	14	11	100	27	6
2003/04	72 158	28	28	12	9	14	11	100	30	6

Source: Table 1A in SCB, 2004f.

Table 6.4. First time postgraduate students by age, sex and social background

	Number of beginners	Social background (SEI), per cent of total with SEI classification							No SEI classification. %	
Läsår		Senior Salaried employees	. Salaried employees	Junior salaried employees.	Farmers Self-employed	Skilled craftsmen	Unskilled labourers	Total SEI	Total	Born in Sweden
Total										
1993/94	1 921	49	24	9	6	5	6	100	30	9
1994/95	2 132	50	25	8	7	5	6	100	27	7
1995/96	2 223	50	24	9	7	5	5	100	27	6
1996/97	2 637	47	26	9	6	6	5	100	26	5
1997/98	2 983	47	26	10	7	5	5	100	29	5
1998/99	2 373	47	25	9	7	7	5	100	30	4
1999/00	2 465	47	26	9	6	6	6	100	29	4
2000/01	2 384	46	27	9	7	7	5	100	31	4
2001/02	2 628	45	27	8	7	9	5	100	31	4
2002/03	2 920	46	28	8	6	7	5	100	30	4

Source, Table 5A in SCB, 2004f

Table 6.5. Proportion of population aged 18-25 divided by ethnic background and proportions studying in higher education 2003/04.

The proportion is calculated as the number of undergraduate students with foreign background (18-25) by country and sex, in relation to corresponding groups in the general population. Per cent

Area Country (countries with more than 25 students in Sweden)	Population 18-25 years			Proportion of students (%)		
	Total	Women	Men	Total	Women	Men
Sweden	1 068 421	519 795	548 626	15	17	13
Nordic countries	41 578	20 815	20 763	10	13	8
Denmark	5 587	2 463	3 124	7	9	5
Finland	30 517	15 522	14 995	11	13	8
Iceland	898	440	458	18	19	17
Norway	5 196	2 687	2 509	11	13	10
EU15 excluding Denmark and Finland	16 906	7 595	9 311	11	13	10
Belgium	252	115	137	12	12	11
France	1 646	653	993	10	12	9
Greece	3 330	1 569	1 761	12	13	11
Italy	1 115	435	680	8	9	7
Netherlands	683	298	385	9	8	10
Portugal	637	309	328	10	12	8
Spain	1 393	633	760	8	9	8
Great Britain and N. Ireland	2 851	1 089	1 762	13	18	10
Germany	4 246	2 162	2 084	12	13	11
Austria	693	345	348	13	12	13
Other EU15 except Denmark and Finland	325	109	216	6	6	6
Europe except EU15 and Nordic countries	55 053	28 609	26 444	12	14	11
Bosnia-Herzegovina	11 864	5 906	5 958	14	18	11
Bulgaria	1 041	518	523	15	18	12
Estonia	1 089	750	339	11	11	11
Yugoslavia	19 377	9 540	9 837	8	10	7
Croatia	1 558	807	751	12	14	11
Latvia	451	297	154	10	9	12
Lithuania	463	324	139	10	11	8
Macedonia (FYROM)	1 149	607	542	9	10	7
Poland	9 082	4 787	4 295	17	17	17
Romania	2 763	1 480	1 283	15	15	14
Russia	1 926	1 280	646	14	14	15
Switzerland	434	208	226	15	17	14
Czechoslovakia	1 111	541	570	18	19	18
Ukraine	494	360	134	13	13	11
Hungary	2 466	1 207	1 259	13	13	12
Belarus	197	137	60	16	15	17
Other Europe except EU15 and Nordic countries	833	460	373	7	9	5
Africa	17 493	8 892	8 601	7	7	6
Algeria	439	220	219	13	13	12
Egypt	525	258	267	18	20	15
Eritrea	1 176	664	512	9	8	11
Ethiopia	2 486	1 292	1 194	8	8	8
Gambia	833	432	401	4	6	2
Kenya	412	249	163	10	9	12
Morocco	1 428	783	645	9	10	7
Somalia	5 265	2 562	2 703	2	2	3
Sudan	254	130	124	15	17	12
Tanzania	247	128	119	12	13	10

Tunisia	712	381	331	8	8	7
Uganda	864	478	386	14	14	14
Other Africa	2 580	1 195	1 385	6	7	5
North America	4 726	2 221	2 505	10	11	8
El Salvador	670	311	359	12	16	9
Canada	565	291	274	12	14	10
Mexico	368	156	212	8	9	7
USA	2 193	998	1 195	10	11	9
Other North America	800	412	388	7	8	6
South America	12 644	6 222	6 422	10	11	8
Argentina	971	451	520	10	12	8
Bolivia	692	337	355	13	13	12
Brazil	867	524	343	9	9	9
Chile	7 332	3 489	3 843	9	11	7
Colombia	750	385	365	11	11	12
Peru	1 084	586	498	13	14	11
Uruguay	805	391	414	11	14	7
Other South America	472	225	247	10	12	8
Asia	75 108	38 637	36 471	10	11	10
Afghanistan	1 962	907	1 055	5	4	6
Bangladesh	913	483	430	13	10	17
Philippines	1 431	995	436	4	4	5
India	2 030	787	1 243	17	19	15
Iraq	15 655	7 790	7 865	5	6	4
Iran	12 991	6 444	6 547	21	22	20
Israel	913	362	551	8	12	6
Japan	430	270	160	8	6	13
Jordan	555	283	272	11	11	12
China	2 248	1 249	999	17	18	16
South Korea	248	151	97	18	16	21
Kuwait	356	162	194	12	17	8
Lebanon	6 801	3 443	3 358	8	9	7
Malaysia	220	129	91	20	17	25
Pakistan	1 187	521	666	16	16	17
Saudi Arabia	219	133	86	15	14	16
Sri Lanka	604	338	266	12	13	10
Syria	5 142	2 772	2 370	11	12	10
Taiwan	167	98	69	19	20	17
Thailand	3 143	2 268	875	3	3	5
Turkey	14 652	7 165	7 487	10	11	8
Vietnam	2 967	1 645	1 322	11	10	13
Other Asia	1 186	657	529	11	11	10
Oceania	851	324	527	5	6	3
Australia	636	261	375	5	6	4
Other Oceania	198	53	145	4	9	2
Former Soviet Union	1 173	581	592	24	25	23

Source: Table 6B in SCB, 2004 c

Social bias in higher education

The tables below present results from logistical regression analyses of the significance of socio-economic background for enrolment in higher education. The numbers represent the total effect of socio-economic background without control for any other variable. In order to avoid confusion between cohort effects and effects of differences in age groups when enrolling, the analyses have been conducted separately for each age group during each individual year. In these analyses the base has gradually been altered to allow exclusion of those enrolled the year previously from the analysis. For reasons of presentation only SEI I (senior salaried employees in both the private and public sector) has been used in comparison to SEI VII (unskilled labourers). Odds quotas larger than one means that there is a higher probability for transition to higher education in comparison to a person whose origin comes from the SEI VII-group.

The tables show better odds over time for members of SEI VII to enter into higher education especially for shorter programs. For longer programs the odds remain high against entering. In Table 6.6. there is only little movement, but as the length of education is added, in Table 6.7., as a variable a clearer tendency towards social movement may be discerned.

(Data and discussion from Andersson, Gustafsson, Hansen in SOU 2000:39, Välfärd och skola)

Table 6.6. Odds quotas for enrolment in higher education for SEI I compared to SEI VII

Cohorts	1972	1973	1974	1975	1976	1977
Age						
19	5,26	5,1	4,81	4,44	4,8	4,8
20	7,92	6,96	7,1	6,23	6,42	
21	8,58	7,85	7,25	7,61		
22	6,75	6,3	6,3			
23	5,47	4,76				
24	4,39					

Source: Table 8 in Andersson, Gustafsson, Hansen in SOU 2000:39, Välfärd och skola

Table 6.7. Odds quotas for enrolment in higher education for SEI I compared to SEI VII

	Age	Cohort					
Courses		1972	1973	1974	1975	1976	1977
	19	5,87	5,64	4,06	4,48	4,48	5,70
	20	6,69	5,05	5,26	5,00	5,21	
	21	6,30	6,30	5,37	5,21		
	22	5,53	4,31	4,26			
	23	4,39	3,71				
	24	3,71					
Three years or shorter							
	19	2,89	2,94	2,51	2,23	2,20	1,97
	20	4,22	3,71	3,49	3,00	2,83	
	21	5,00	4,10	3,82	3,94		
	22	4,39	4,53	4,71			
	23	3,39	3,74				
	24	3,10					

Longer than three, shorter than four and a half						
19	5,99	5,10	4,81	3,71	4,06	3,46
20	8,50	6,75	7,69	5,99	5,10	
21	10,59	9,58	7,85	8,08		
22	9,12	8,76	7,46			
23	6,11	5,31				
24	5,47					
Four and a half and longer						
19	10,91	9,30	9,49	8,08	9,49	7,61
20	13,74	13,87	11,82	10,91	13,07	
21	13,20	14,3	13,60	16,12		
22	8,58	8,58	10,70			
23	12,81	7,92				
24	8,41					

Source: Table 9 in Andersson, Gustafsson, Hansen in SOU 2000:39, Välfärd och skola

Table 6.8. Beginners in HE 1993/94, 24 years old or younger who have attained at least 120 credits after 8 years, by ethnic and socioeconomic background and gender, per cent

Background	
Swedish	75
Foreign	65
Socioeconomic (SE) groups	
Higher officials	79
Midranking officials	74
Officials with routine tasks	71
Entrepreneurs without academic qualifications, farmers and fishermen	72
Qualified labourers	72
Unqualified labourers	69
Total SE groups	*74*
Gender	
Men	70
Women	77

Source: Table from Högskoleverket 2002-11-18, p. 1

Annex Chapter 7.

7.1. Staff

Table 7.1.1. Number of teaching and research staff in Swedish higher education (full-time equivalents) in 2004, per subject area

Subject area	Professor	Postdoctoral fellow	Senior lecturer	Junior lecturer	Guest teacher and part-time teacher	Other research and teaching staff	Technical and administrative staff	**Total**	*Share (%)*
Humanities and religious studies	494	119	1 111	1 019	115	299	95	**3 252**	*13,5*
Jurisprudence/law	77	2	122	116	36	35	4	**392**	*1,6*
Social science	554	92	1 867	2 223	135	574	229	**5 675**	*23,6*
Mathematics	124	23	326	214	15	28	15	**746**	*3,1*
Natural science	655	260	728	241	17	558	462	**2 921**	*12,1*
Technological science	752	211	1 148	1 158	88	511	585	**4 452**	*18,5*
Agricultural and silvicultural science	125	43	64	70	2	474	83	**860**	*3,6*
Medicine	840	194	420	198	20	1 077	485	**3 232**	*13,4*
Odontology	61	9	61	80	4	33	21	**268**	*1,1*
Pharmacology	19	3	24	9	-	19	6	**81**	*0,3*
Veterinary medicine	37	9	16	57	-	22	6	**147**	*0,6*
Other areas of research	98	45	435	1 264	55	69	44	**2 011**	*8,3*
Not subject coded	6	-	5	12	3	17	-	**43**	*0,2*
Total	3 841	1 011	6 325	6 661	489	3 717	2 035	**24 080**	*100,0*

Source: National Agency for Higher Education Statistical Database

Studies on future recruitment need of academic staff

The National Agency for Higher Education and the Swedish Research Council have produced two forecasts on the future supply of teaching and research staff in relation to needs in the HE sector.

The study by the **National Agency for Higher Education** contains prognoses for three five-year periods (2003-2007, 2008-2012, 2013-2017). The analysis is based on the assumption that staff requirements will rise at the same pace as the increase in the size of cohorts of young people, that research resources will expand by one per cent each year and that those replacing teachers and researchers who will retire and have research qualifications will have PhD's. A scenario is constructed, based on the present annual number of PhD's awarded. According to the scenario, recruitment problems may arise in certain subject areas, for example, in the humanities and social sciences, while in others the number of PhD's awarded will exceed the needs of higher education, for example in the natural sciences, technological sciences and medicine.

The study also makes the alternative assumption that all retired teaching and research staff – including the large group of junior lecturers – will be replaced with PhD's. With this assumption the study argues that the recruitment base would be lower than demand in the humanities, law and "other" areas (mainly the caring sciences) during all three periods. During one or two periods, shortages are foreseen

in the social sciences and in mathematics, odontology, agriculture and forestry. During all three periods the pool of available PhD's will exceed the need for teachers and researchers in natural science, technology and medicine. (Högskoleverket (2003). Redovisning av uppdrag till Högskoleverket att utreda det framtida behovet av lärare vid universitet och högskolor. 2003-11-14. Also in Högskoleverket 2004:16R)

According to the study by the **Swedish Research Council** (2003), there is, across the whole HE system, no risk of major shortages of academic staff in the wake of the rise in retirements. There are, however, large variations between subject areas. The study contains calculations for the periods 2002–2008 and 2009–2013 and states that the number of PhD's awarded will be more than sufficient to provide a good recruiting base for senior lectureships and professorships, except in a few subjects (education, caring sciences). It finds that for most of the subjects in the analysis the number of available PhD's will exceed the number of available positions for senior researchers, while the reverse is true only for a few subjects. The number of retirements is expected to increase during the period of 2009-13 but this will only create shortages in a few areas. The Research Council finds that the greatest shortages will occur at new HEI's and affect subjects within the social sciences and the humanities. The main problem, according to the Research Council, is instead that there will be too few permanent positions for young researchers. (Vetenskapsrådet, 19 September 2003)

Table 7.1.2. Distribution of working hours between different categories of academic staff in percentages

Task	All	Professors	Senior lecturers	Junior lecturers	Postdoctoral fellows.	Other research and teaching staff
Teaching, excluding doctoral studies						
- Teaching (lectures, seminars, etc.)	26	13	31	42	10	8
- Planning, preparation, examination, etc.	18	8	21	30	7	7
Teaching in doctoral studies						
- Teaching (lectures, seminars, etc.)	2	6	2	0	3	2
- Planning, preparation, examination, etc.	2	5	1	0	2	2
- Supervision of doctoral students	7	17	5	0	11	7
Research/artistic development	20	19	16	6	48	51
Personal educational development, methodology, subject specialisation	3	2	2	4	2	3
Research information, other external contacts	3	5	3	1	5	5
Administration and management	14	21	14	12	6	8
Work with patients	1	2	19	0	2	1
Other	4	3	2	4	5	6
Total	100	100	100	100	100	100

Source: Table 4 in Högskoleverket 2003:13 R, p.21

7.2. Financing

Table 7.2.1. Public expenditure on education as a percentage of total public expenditure

		2002	1995
Non-tertiary	Tertiary education	All levels of education combined	All levels of education combined
8,5	3,7	13,1	10,7

Source: OECD 2005 Education at a Glance

Table 7.2.2. Total revenues for higher education institutions

Current prices	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Direct university funds	18 436	19 654	20 077	21 811	23 096	26 651	28 134	28 516
Central government sources	5 800	5 903	6 322	6 572	6 806	7 372	7 818	7 879
Regional government	812	1 386	1 944	2 216	2 270	1 005	1 112	1 084
Funds from international agencies and other foreign sources	670	783	876	967	1 028	1 219	1 340	1 442
Swedish private firms and non-profit organizations	2 306	2 582	2 868	3 073	3 342	4 024	3 876	4 072
Miscellaneous *	1 560	1 578	1 398	1 938	1 414	1 054	1 183	1 174
Total SEK million	29 583	31 886	33 486	36 576	37 956	41 325	43 463	44 168

Calculated in fixed terms using government expenditure index, total								
Index	*81,20*	*82,01*	*85,08*	*89,30*	*92,39*	*95,21*	*99,00*	*100,00*
Fixed prices	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Direct university funds	22 704	23 965	23 598	24 424	24 999	27 992	28 418	28 516
Central government sources	7 142	7 198	7 430	7 359	7 367	7 743	7 897	7 879
Regional government	1 000	1 690	2 285	2 481	2 457	1 056	1 124	1 084
Funds from international agencies and other foreign sources	825	955	1 030	1 083	1 112	1 281	1 353	1 442
Private firms and non-profit organizations	2 840	3 149	3 371	3 441	3 617	4 226	3 915	4 072
Miscellaneous *	1 921	1 924	1 644	2 170	1 530	1 107	1 195	1 174
Total SEK million	36 432	38 881	39 358	40 958	41 082	43 404	43 902	44 168

*) From 1997-2001 accounts included a small proportion of revenues (1-3%) that were not directly linked to teaching or research under the heading of a different activity. Here these items are included under the heading "miscellaneous".

Source: National Agency for Higher Education

Table 7.2.3. Revenues for higher education excluding doctoral studies (*grundutbildning*)

Revenues	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Direct university funds	10 448	11 217	11 552	12 579	13 555	16 572	17 714	17 747
Government agencies	197	263	422	466	503	605	591	1 290

Other government funds	1 408	1 010	816	705	772	661	706	0
Local authorities and county councils	544	1 084	1 518	1 671	1 732	411	485	409
EU	1	5	9	13	2	4	13	45
Foreign companies	15	18	13	20	11	20	21	19
International non-profit organizations	9	9	22	28	10	13	13	43
Swedish non-profit organizations	48	43	57	65	49	96	84	222
Swedish companies	133	166	196	236	189	201	240	284
Other funds	91	370	349	278	389	409	406	514
Current totals SEK million	12 893	14 186	14 954	16 062	17 211	18 992	20 270	20 573

Calculated in fixed terms using government expenditure index, total								
Index	*81,20*	*82,01*	*85,08*	*89,30*	*92,39*	*95,21*	*99,00*	*100,00*
Revenues	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Direct university funds	12 867	13 677	13 577	14 086	14 671	17 405	17 893	17 747
Government agencies	242	320	496	522	544	636	597	1 290
Other government funds	1 734	1 231	959	790	835	694	713	0
Local authorities and county councils	669	1 322	1 784	1 871	1 874	431	490	409
EU	2	6	10	14	2	5	13	45
Foreign companies	18	22	15	23	12	21	21	19
International non-profit organizations	11	11	26	32	11	14	13	43
Swedish non-profit organizations	59	53	67	72	53	101	85	222
Swedish companies	164	203	230	265	205	211	242	284
Other funds	113	451	411	312	421	429	410	514
Totals in fixed terms SEK million	15 878	17 298	17 576	17 986	18 629	19 948	20 475	20 573

Distribution	***1997***	***1998***	***1999***	***2000***	***2001***	***2002***	***2003***	***2004***
Direct university funds	81%	79%	77%	78%	79%	87%	87%	86%
Government agencies	2%	2%	3%	3%	3%	3%	3%	6%
Other government funds	11%	7%	5%	4%	4%	3%	3%	0%
Local authorities and county councils	4%	8%	10%	10%	10%	2%	2%	2%
EU	0%	0%	0%	0%	0%	0%	0%	0%
Foreign companies	0%	0%	0%	0%	0%	0%	0%	0%
International non-profit organizations	0%	0%	0%	0%	0%	0%	0%	0%
Swedish non-profit organizations	0%	0%	0%	0%	0%	1%	0%	1%
Swedish companies	1%	1%	1%	1%	1%	1%	1%	1%
Other funds	1%	3%	2%	2%	2%	2%	2%	2%
	100%	100%	100%	100%	100%	100%	100%	100%

Source: National Agency for Higher Education

Table 7.2.4. Unit revenues in 2005 and relative size of the different fields in 2004

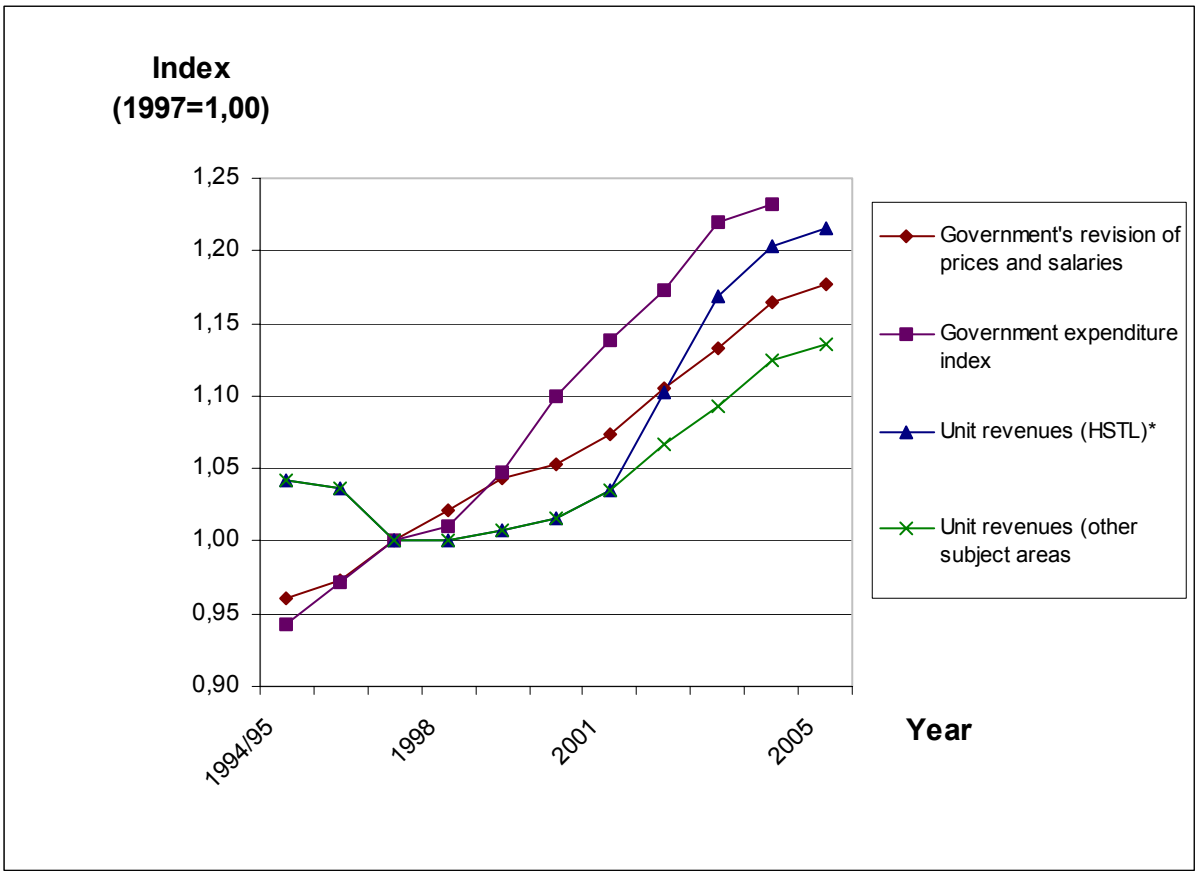
Field	Unit revenue per FTE* student, SEK	Unit revenue per FTE* study result, SEK	Share of total number of FTE* students, per cent
Humanities, social sciences, theology, law	17,217	16,958	44.9
Science, technology, pharmacology	43,431	37,421	30.1

Caring sciences	48,241	41,783	7.9
Odontology	39,893	46,471	0.4
Medicine	53,908	65,572	4.4
Teaching	31,490	37,086	8.1
Other/misc.	36,441	29,602	1.9
Design	128,583	78,342	0.7
Fine arts	182,547	78,372	0.3
Music	110,932	70,141	0.8
Opera	264,364	158,146	<0.0
Acting	255,635	127,329	0.1
Media	260,874	208,971	0.1
Dance	179,788	99,343	<0.0
Physical education/sports	93,688	43,356	0.4

Source: Högskoleverket 2005:36 R

*=Full-time equivalent

Graph 7.2.1. Development of unit revenues and costs



Source: Graph from National Agency for Higher Education Annual Report 2005, p. 74

*HSTL= humanities, social sciences, theology, law

Annex Chapter 9.

Advanced Vocational Education (AVE): quality criteria for applications to start a programme

-**Needs on the labour market**
How clearly does the application describe a need, is the need significant and growth-oriented? How does the need relate to the AVE form of education? How does the need appear from a sectoral perspective and a regional perspective, and how long-term is the need?
-Labour market collaboration and involvement.
What degree of labour market involvement has there been in developing the programme concept, to how much support can be expected for the workplace-learning component from employers, how much active labour market involvement can be expected in the management group? Does the programme build on training that has been generated in the production of goods and services?
-**The quality assurance capacity of the provider**
How is the quality assurance system described by the provider and what are the ambitions of the system?
-Provider's quality assurance capacity.
How does the provider describe the quality assurance system, how ambitious is the system, what form of feed-back is there of quality measurement and monitoring to the students, how does the provider describe the goals and methods with regard to student influence, what is the management group expected to do and what has the provider learnt from other programmes.
-Provider's organisational capacity.
How does the provider envisage implementation of the programme in terms of teacher qualifications, project management functions, LIA, supervision. What "references" has the provider supplied, what does the agency know about capacity demonstrated in other programmes?
-Provider's ability to counteract gender-related choices and social bias in recruitment.
Criteria for eligibility and selection. Explicit goals in the application, capacity demonstrated in other programmes.

Higher education: examples of quality aspects in programme and subject evaluations

- Composition of the student body and recruitment of students
- Qualifications of academic staff and staff development
- Equal opportunities and diversity
- Aims, contents and organisation of program
- Infrastructure
- Creative and critical environment
- Methods of teaching and learning
- Working conditions of academic staff
- Integration of research and applied science in teaching and learning
- Co-operation and internationalisation
- Assessment methods
- Quality of degree projects/theses
- Evaluation and quality enhancement
- Pass rate
- Monitoring and follow-up of students and alumni

Annex Chapter 10.

Table 10.1. Numbers of students studying abroad with Swedish study assistance in total and numbers in exchange programmes 2003/2004

Country	Total number studying abroad	Number in exchange programmes
Denmark	1 296	95
Finland	229	63
Iceland	55	33
Norway	608	83
Nordic countries total	*2 188*	*274*
	103	48
Belgium		
France	2 049	550
Greece	117	16
Ireland	264	77
Italy	1 114	227
Malta	221	10
Monaco	19	-
Netherlands	423	261
Poland	149	26
Portugal	54	18
Romania	39	3
Russia	139	27
Switzerland	404	212
Spain	3 227	459
UK	5 475	632
Czech Republic	87	35
Germany	1 425	845
Hungary	168	28
Austria	445	284
Rest of Europe	98	24
Europe excl. Nordic countries total	*16 020*	*3 782*
	29	4
Egypt		
South Africa	86	57
Rest of Africa	33	22
Africa total	*148*	*83*
	417	253
Canada		
USA	3 815	546
Rest of North and Central America	138	88
North and Central America total	*4 370*	*887*
	49	21
Argentina		
Chile	209	308
Uruguay	37	4
Rest of Latin America	66	30
Latin America total	*361*	*93*
	30	2
Israel		
Japan	221	187
China	101	17
Syria	43	23
Rest of Asia	310	194
Asia total	*705*	*423*
	3 023	543
Australia		
New Zealand	314	71
Oceania total	*3 337*	*614*
Total all countries	**27 129**	**6 156**

Source: CSN. Table from Högskoleverket 2005:26 R, p. 100

Table 10.2. Number (Nr) of incoming exchange students in Swedish HE by country, academic years 1996/97–2003/04*

Area	Country	Ac. year 96/97 Nr	%	97/98 Nr	%	98/99 Nr	%	99/00 Nr	%	00/01 Nr	%	01/02 Nr	%	02/03 Nr	%	03/04 Nr	%
Total		**4 719**	***100***	**4 426**	***100***	**5 510**	***100***	**6 290**	***100***	**6 800**	***100***	**7 590**	***100***	**7 890**	***100***	**9 055**	***100***
Nordics		671	*14*	631	*14*	722	*13*	831	*13*	845	*12*	874	*12*	858	*11*	915	*10*
	Denmark	96	*2*	91	*2*	106	*2*	139	*2*	131	*2*	178	*2*	173	*2*	187	*2*
	Finland	426	*9*	428	*10*	495	*9*	548	*9*	590	*9*	542	*7*	530	*7*	544	*6*
	Iceland	-	-	27	*1*	-	-	20	*0*	20	*0*	29	*0*	31	*0*	23	*0*
	Norway	130	*3*	85	*2*	107	*2*	124	*2*	104	*2*	125	*2*	124	*2*	161	*2*
	Other Nordics	19	*0*	-	-	14	*0*	-	-	-	-	-	-	-	-	-	-
EU15 excl. Denmark and Finland		3 040	*64*	2 822	*64*	3 412	*62*	3 816	*61*	4 086	*60*	4 580	*60*	4 662	*59*	5 340	*59*
	Belgium	146	*3*	134	*3*	159	*3*	140	*2*	156	*2*	165	*2*	154	*2*	155	*2*
	France	481	*10*	402	*9*	546	*10*	640	*10*	700	*10*	831	*11*	887	*11*	1 074	*12*
	Greece	42	*1*	45	*1*	55	*1*	76	*1*	58	*1*	83	*1*	82	*1*	103	*1*
	Irleand	27	*1*	-	-	29	*1*	45	*1*	53	*1*	68	*1*	62	*1*	58	*1*
	Italy	267	*6*	266	*6*	331	*6*	369	*6*	384	*6*	409	*5*	389	*5*	406	*4*
	Netherlands	343	*7*	373	*8*	359	*7*	376	*6*	363	*5*	423	*6*	427	*5*	418	*5*
	Portugal	54	*1*	43	*1*	48	*1*	63	*1*	65	*1*	72	*1*	76	*1*	97	*1*
	Spain	328	*7*	297	*7*	439	*8*	477	*8*	582	*9*	610	*8*	624	*8*	690	*8*
	UK	423	*9*	287	*6*	314	*6*	344	*5*	330	*5*	355	*5*	297	*4*	273	*3*
	Germany	819	*17*	826	*19*	939	*17*	1 068	*17*	1 190	*18*	1 327	*17*	1 412	*18*	1 743	*19*
	Austria	110	*2*	130	*3*	193	*4*	218	*3*	205	*3*	236	*3*	252	*3*	323	*4*
	Other .EU15 ecl. Denmark and Finland	-	-	19	*0*	-	-	-	-	-	-	1	*0*	-	-	-	-
Europe excl. EU15 and Nordics		271	*6*	267	*6*	457	*8*	624	*10*	778	*11*	861	*11*	962	*12*	1 089	*12*
	Estonia	-	-	28	*1*	23	*0*	50	*1*	46	*1*	43	*1*	34	*0*	24	*0*
	Latvia	20	*0*	-	-	52	*1*	40	*1*	61	*1*	41	*1*	29	*0*	34	*0*
	Lithuania	29	*1*	40	*1*	28	*1*	70	*1*	77	*1*	122	*2*	124	*2*	121	*1*
	Poland	27	*1*	37	*1*	81	*1*	116	*2*	176	*3*	195	*3*	266	*3*	291	*3*
	Romania	-	-	-	-	28	*1*	33	*1*	33	*0*	47	*1*	44	*1*	39	*0*
	Russia	38	*1*	40	*1*	75	*1*	94	*1*	72	*1*	79	*1*	34	*0*	46	*1*
	Switzerland	40	*1*	48	*1*	70	*1*	70	*1*	120	*2*	101	*1*	156	*2*	176	*2*
	Slovakia	-	-	-	-	-	-	-	-	-	-	-	-	25	*0*	64	*1*
	Slovenia	-	-	-	-	-	-	-	-	-	-	21	*0*	25	*0*	-	-
	Czech Republic	-	-	-	-	40	*1*	57	*1*	73	*1*	97	*1*	140	*2*	191	*2*
	Hungary	50	*1*	24	*1*	33	*1*	50	*1*	59	*1*	56	*1*	63	*1*	58	*1*
	Rest of Europe excl. EU15 and Nordics	67	*1*	50	*1*	27	*0*	44	*1*	61	*1*	59	*1*	22	*0*	45	*0*
Africa		21	*0*	22	*0*	20	*0*	50	*1*	27	*0*	45	*1*	56	*1*	86	*1*
	South Africa	-	-	-	-	-	-	-	-	-	-	-	-	28	*0*	41	*0*
	Rest of Africa	-	-	-	-	-	-	-	-	-	-	-	-	28	*0*	45	*0*
North America		478	*10*	426	*10*	538	*10*	622	*10*	653	*10*	733	*10*	750	*10*	843	*9*
	Canada	133	*3*	101	*2*	128	*2*	178	*3*	176	*3*	226	*3*	222	*3*	202	*2*
	Mexico	-	-	-	-	-	-	-	-	54	*1*	52	*1*	72	*1*	83	*1*

USA	337	7	313	7	393	7	429	7	422	6	450	6	453	6	554	6
Rest of North America	8	0	12	0	17	0	15	0	1	0	5	0	3	0	4	0
Latin America	18	0	58	1	27	0	43	1	65	1	65	1	94	1	102	1
Bolivia	-	-	38	1	-	-	-	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	-	-	-	-	-	-	-	21	0	25	0
Chile	-	-	-	-	-	-	-	-	-	-	-	-	22	0	35	0
Rest of Latin America	18	0	20	0	27	0	43	1	65	1	65	1	51	1	42	0
Asia	103	2	103	2	158	3	183	3	201	3	267	4	309	4	466	5
India	-	-	-	-	-	-	-	-	-	-	20	0	33	0	25	0
Japan	23	0	28	1	56	1	57	1	49	1	61	1	76	1	84	1
China	22	0	20	0	34	1	23	0	28	0	43	1	45	1	101	1
South Korea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	0
Singapore	27	1	24	1	27	0	32	1	31	0	51	1	44	1	90	1
Taiwan	-	-	-	-	-	-	-	-	-	-	-	-	22	0	24	0
Thailand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	0
Rest of Asia	31	1	31	1	41	1	71	1	93	1	92	1	89	1	70	1
Oceania	91	2	95	2	116	2	120	2	142	2	164	2	197	2	206	2
Australia	84	2	85	2	109	2	110	2	131	2	155	2	177	2	191	2
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	20	0	-	-
Rest of Oceania	7	0	10	0	7	0	10	0	11	0	9	0	-	-	15	0
Not known	26	1	2	0	60	1	1	0	3	0	1	0	2	0	8	0

*Countries with at least 20 exchange students are accounted for separately

Source: SCB (2004c)

Table 10.3. Number of free mover students* granted residence permits for studies in undergraduate and graduate programmes in Swedish HE

Academic years 2002/03 and 2003/04 by country and gender

		2002/03		2003/04	
Geographical area	Country	Total Number	%	Total Number	%
		1 849	100	2 082	100
Nordic countries		41	2	47	2
	Finland	23	1	28	1
	Other Nordic countries	18	1	19	1
EU15 excl. Denmark and Finland		210	11	240	12
	France	41	2	46	2
	Italy	33	2	24	1
	Netherlands	23	1	31	1
	Spain	0	0	32	2
	UK	0	0	20	1
	Germany	55	3	65	3
	Other EU15 excl. Denmark and Finland	58	3	22	1

Europe excl. EU15 and Nordic countries		370	*20*	277	*13*
	Bulgaria	21	*1*	0	*0*
	Estonia	37	*2*	27	*1*
	Latvia	31	*2*	0	*0*
	Lithuania	30	*2*	0	*0*
	Poland	34	*2*	41	*2*
	Romania	24	*1*	0	*0*
	Russia	84	*5*	46	*2*
	Ukraine	28	*2*	22	*1*
	Europe excl. EU15 and Nordic countries	81	*4*	141	*7*
Africa		146	*8*	190	*9*
	Ghana	25	*1*	41	*2*
	Cameroon	20	*1*	39	*2*
	Nigeria	22	*1*	31	*1*
	Rest of Africa	79	*4*	79	*4*
North America		140	*8*	135	*6*
	Canada	0	*0*	31	*1*
	Mexico	49	*3*	32	*2*
	USA	73	*4*	58	*3*
	Rest of North America	18	*1*	14	*1*
Latin America		41	*2*	54	*3*
	Rest of Latin America	41	*2*	54	*3*
Asia		804	*43*	1 052	*51*
	Bangladesh	49	*3*	68	*3*
	India	210	*11*	331	*16*
	Iran	35	*2*	38	*2*
	Japan	21	*1*	28	*1*
	China	249	*13*	293	*14*
	Pakistan	61	*3*	98	*5*
	Thailand	23	*1*	23	*1*
	Turkey	24	*1*	35	*2*
	Rest of Asia	132	*7*	138	*7*
Oceania		12	*1*	12	*1*
	Rest of Oceania	12	*1*	12	*1*
Unknown		85	*5*	75	*4*

*Students who arrange their course of study on their own initiative. Data about free mover students is available from 2002/03. This group consists of individuals who have been granted residence permits for study and who immigrated into Sweden less than two years before commencement of their studies

Source: SCB (2004c)

Organisations invited to the hearing on Sept. 30, 2005*

Organisation	
AMS	Swedish National Labour Market Administration
FAS	Swedish Council for Working Life and Social Research
Formas	Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning
Företagarna	Federation of Private Enterprises in Sweden
IFAU	Institute for Labour Market Policy Evaluation
Internationella programkontoret	International Programme Office for Education and Training
ITPS	Swedish Institute for Growth Policy Studies
IVA	Royal Swedish Academy of Engineering Sciences
Jordbruksdepartementet, ansvarig SLU	Ministry of Agriculture, Food and Consumer Affairs (responsible for the Swedish University of Agricultural Sciences)
KK-stiftelsen	The Knowledge Foundation
Myndigheten för kvalificerad yrkesutbildning	National Agency for Advanced Vocational Education
Myndigheten för Sveriges Nätuniversitet	Swedish Net University Agency
NUTEK	Swedish Agency for Economic and Regional Growth
Näringsdepartementet, Arbetsmarknadsenheten	Ministry of Industry, Employment and Communications (labour market)
Näringsdepartementet, Enheten för jämställdhet	Ministry of Industry, Employment and Communications (gender equality)
Näringsdepartementet, Enheten för regional utveckling och turism	Ministry of Industry, Employment and Communications (regional development)
Näringsdepartementet, Analys- och utredningssekretariatet	Ministry of Industry, Employment and Communications (analysis and research)
SACO	Swedish Confederation of Professional Associations
SCB ES/FOI	Statistics Sweden (research statistics)
SCB, Högskolestatistik	Statistics Sweden (higher education statistics)
SFS	Swedish National Union of Students
SISTER	Swedish Institute for Studies in Education and Research
Skolverket	Swedish National Agency for Education
ST	ST – the Union of Civil Servants
Stiftelsen för strategisk forskning	Swedish Foundation for Strategic Research

SUHF	Swedish Association of Higher Education
SULF	Swedish Association of University Teachers
Svenska institutet	Swedish Institute
Svenskt Näringsliv	Confederation of Swedish Enterprise
Sveriges Kommuner och Landsting	Swedish Association of Local Authorities and Regions
TCO	Swedish Confederation of Professional Employees
Utbildnings- och kulturdepartementet Universitets- och högskoleenheten	Ministry of Education, Research and Culture (Division for Higher Education)
Utbildnings- och kulturdepartementet, BIA	Ministry of Education, Research and Culture (analysis unit)
Verket för Högskoleservice	National Agency for Service to Universities and University Colleges
Vetenskapsrådet	Swedish Research Council
VINNOVA	Swedish Agency for Innovation Systems

***The organisations were also invited to comment on an earlier draft of the report. The organisations that participated in the hearing are enumerated in the Preface to the Country Background Report.**

Higher Education Act

[http://www.sweden.gov.se/content/1/c6/02/15/40/d894190c.pdf]

[NB: The Higher Education Ordinance is available in English translation at http://www.sweden.gov.se/content/1/c6/02/15/41/47b0b98d.pdf]

Note that there may be errors in the statutes. Appendices to the statutes are not included. Therefore always check the text against the printed version.
SFS No: 1992:1434
Department/authority: Ministry of Education and Science in Sweden
Heading: Higher Education Act (Law 1992:1434)
Issued: 17 December 1992
Amendments included: to and including SFS 2000:260
- -

Ch. 1. Initial Provisions

S. 1 This Act contains provisions relating to universities and institutions of higher education where the responsible body is the state, municipalities or county councils.
What is said below in respect of institutions of higher education shall unless otherwise specifically stated apply to both universities and institutions of higher education.
S. 2 The state shall, as the entity responsible, provide institutions of higher education for
1. education based on science or art and on tested experience, and
2. research and artistic development and other development.
The institutions of higher education shall also co-operate with the surrounding community and give information about their activities. (Law 1996:1392)
S. 3. Activities shall be conducted so that there is a close relationship between research and education.
S. 4 Activities shall be adapted so that a high quality is achieved, in education as well as in research and artistic development.
Available resources shall be efficiently utilised in order to maintain a high quality of activities.
Quality efforts are a joint matter for staff and students at institutions of higher education. (Law 2000:260)
S. 4 a Students shall be entitled to exert influence over the education in the institutions of higher education.
The institutions of higher education shall work towards students taking an active part in the work with further development of the education. (Law 2000:260)
S. 5 Equality between women and men shall always be observed and promoted in the activities of the institutions of higher education.
The institutions of higher education should furthermore in their activities promote understanding of other countries and of international conditions.
(Law 1997:797)
S. 6 The following general principles shall apply to research
1. research problems may be freely selected,
2. research methods may be freely developed and
3. research results may be freely published.
S. 7 The education shall include undergraduate education as well as postgraduate studies.
Undergraduate education shall include both further education and in-service training.
S. 8 Undergraduate education shall mainly build on the knowledge acquired by pupils in national programmes in upper secondary school or corresponding knowledge. The government may however make exceptions in respect of artistic education.
Postgraduate studies shall be based on undergraduate education.
S. 9 Undergraduate education shall, in addition to knowledge and skills, provide the students with a capability of independent and critical judgment, an ability independently to solve problems and an ability to follow the development of knowledge, all within the field covered by the education.
The education should also develop the students' ability to exchange information at a scientific level.
Postgraduate studies shall, in addition to what applies to undergraduate education, provide the knowledge and skills necessary to undertake independent research.
S. 10. Municipalities and county councils may provide institutions of higher education only by consent of the government. Such consent may be restricted to relate exclusively to undergraduate programmes.

The provisions of s. 2 relating to education etc. shall apply also to such institutions of higher education.
S. 11 The government shall specify the degrees that may awarded in undergraduate education. The National Agency for Higher Education shall decide by which institutions of higher education these degrees may be awarded. The government shall however specify the degrees that may be awarded by the Swedish University of Agricultural Sciences. (Law 1997:797)
S. 12 The government shall specify which postgraduate study degrees that may be awarded. Postgraduate degrees may be taken at the universities. Such degrees may be taken at other institutions of higher education within the academic disciplines available at the institution of higher education, pursuant to a decision under chapter 2 section 5. (Law 1997:797)

Chapter 2 Organisation of the state institutions of higher education.
S. 1 Parliament shall decide which state institutions of higher education there shall be.
S. 2 The governing body of an institution of higher education shall supervise all matters concerning the institution of higher education and shall be responsible for the performance of its duties.
S. 3 Each institution of higher education shall under the governing body have a vice-chancellor charged with the management of its activities.
S. 4 The government shall appoint the chairman of the governing body of an institution of higher education. The vice-chancellor shall be a member of the governing body. The government shall appoint the majority of the other members of the governing body. Teachers and students at the institution of higher education shall be entitled to representation on the governing body.
Staff representatives shall be entitled to attend and speak at meetings of the governing body. (Law 1997:797)
S. 5 Postgraduate studies shall be available in the academic disciplines determined by the government. These academic disciplines shall be available in the universities. On the application of an institution of higher education, which is not a university, the government may decide that one or several such academic disciplines shall be available at that institution of higher education. Such a decision may be made if undergraduate programmes and research at the institution of higher education are of such quality and scope that postgraduate studies can be undertaken at an advanced academic level. (Law 1998:1832)
S. 5 a There shall be at least one faculty board at each university, and at each institution of higher education where an academic discipline is available pursuant to a decision under s. 5.
The faculty boards shall be responsible for research and postgraduate studies. The boards shall also be responsible for undergraduate programmes, unless the university or the institution of higher education establishes separate bodies for those programmes. The institutions of higher education shall always have separate bodies for undergraduate programmes and research not included in the area of responsibility of a faculty board.
The universities and such institutions of higher education as referred to in the first paragraph shall decide which faculty boards there shall be and the area of responsibility of each board. Areas of responsibility need not coincide with academic disciplines. The area of responsibility covering postgraduate studies may at institutions of higher education that are not universities however only relate to the academic disciplines available at the institution of higher education by decision pursuant to s. 5. (Law 1997:797)
S. 6 The following may be appointed members of faculty boards
1. academically competent teachers within the area of responsibility of the faculty board
2. other academically competent persons, and
3. persons otherwise appropriate for the position.
The majority of the members shall however be such academically competent persons as referred to in 1 or 2. The members shall be appointed by academically competent teachers within the area of responsibility of the faculty board. The students at the institution of higher education shall be entitled to representation on the faculty board.
The majority of the members of such bodies as referred to in s. 5 a shall be teachers at the institution of higher education. The students shall be entitled to representation on such bodies. (Law 1997:797)
S. 7 The government shall issue certain provisions relating to the composition of governing body, faculty board and any separate bodies for undergraduate programmes at the Swedish University of Agricultural Sciences.

Chapter 3. Professors and other teachers
S. 1 Handling education, research or artistic development and administrative duties may form part of a teacher's duties. It shall also be part of a teacher's duties to keep abreast of developments within his or her specific subject and other developments in society that are of importance to the teacher's work at the institution of higher education. (Law 1997:797)

S. 2 The position of professor is the foremost teaching position.
A professor's duties shall normally include both teaching and research.
Only a person who has shown academic or teaching skill may be appointed professor. The government may issue more precise regulations about the qualifications and assessment grounds that shall apply to appointment of professors.
Instead of the second and third paragraphs, the regulations issued by the government shall apply to appointment of professors within artistic disciplines. (Law 1997:797)
S. 3 A professor shall be permanently employed, without time limit, unless the second paragraph provides otherwise.
A professor may be employed for a fixed period, if it is a matter of
1. artistic disciplines
2. attachment to an institution of higher education of someone whose main activities are outside the higher education sector, or
3. employment as visiting teacher of a person possessing the qualifications to be a professor (visiting professor). (Law 1997:797)
S. 4 has been repealed by law. (Law 1997:797)
S. 5 Institutions of higher education shall, in addition to professors, employ lecturers. A lecturer shall, except when the lecturer is employed to work within artistic disciplines, have academic competence or other professional skill, unless the government directs otherwise. A lecturer shall also have teaching skills. A lecturer's duties shall normally include both teaching and research, except in artistic disciplines. (Law 1997:797)
S. 6 Unless otherwise follows from regulations issued by the government, each institution of higher education shall itself decide which categories of teachers, apart from professors and lecturers, that shall be employed there, and the qualifications and assessment grounds that shall apply to appointment of such teachers. (Law 1997:797)
S.7 A teacher at an institution of higher education may simultaneously with his or her employment as a teacher have employment or contracts or carry on operations relating to research or development within the subject of the employment, provided the teacher does not thereby damage the general public's confidence in the institution of higher education. Such additional activities shall be kept clearly separate from the teacher's work within the framework of his or her employment.
The Public Employment Act (Law 1994:260) contains other provisions relating to additional activities. (Law 1997:797)
S. 8 The government or an authority appointed by the government may issue regulations to the effect that employment as teacher at an institution of higher education shall be combined with employment as a physician or dentist with specialist training or with employment other than as a physician at a healthcare unit used for medical training or research. Combined employment may only be held by someone possessing the qualifications for both employments.
The system relating to employment of teachers shall also apply to the employment that is to be combined with the employment as a teacher.
Before someone is appointed teacher, the entity responsible for healthcare shall be given an opportunity to make representations in the matter, if the employment is to be combined with employment at a healthcare unit. (Law 1997:797)

Chapter 4 The students.
S. 1 In so far as this is possible in compliance with the quality requirement in chapter 1 section 4 first paragraph, institutions of higher education shall admit as students the applicants fulfilling the admission requirements for the studies.
S. 2 Unless otherwise follows from regulations issued by the government or an authority appointed by the government, the institution of higher education providing a programme shall determine the admission requirements that shall apply to the programme.
Applicants shall be admitted to higher education provided by municipalities or county councils without regard to their registered places of residence.
S. 3 If all eligible applicants cannot be admitted to an education, selection shall be carried out among the applicants. The government or an authority appointed by the government may issue regulations relating to selection. (Law 1996:555)
S. 4 The government may issue regulations relating to an obligation for students at the institutions of higher education to belong to certain students' associations.
S. 5 The government may issue regulations relating to temporary suspension of students.
S. 6 The government may issue regulations to the effect that a student shall for the time being be expelled from the programme in cases where the student
1. is mentally disturbed,
2. abuses alcohol or narcotics, or
3. is convicted of a serious criminal offence.

It shall be a further requirement for expulsion that there, as a consequence of circumstances set out in 1 – 3 above, is deemed to be a considerable risk that the student will injure another person or damage valuable property while pursuing the programme.
S. 7 A joint board for institutions of higher education shall consider matters relating to expulsion. The chairman of the committee shall be a lawyer and have experience as a judge.
The student and the institution of higher education may appeal to general administrative courts against decisions of the board in matters relating to expulsion.
Appeals to the Administrative Court of Appeal shall be subject to leave to appeal.
Decisions relating to expulsion shall be reviewed after two years, if the expelled person so requests. (Law 1996:555)

Chapter 5. Special provisions.
S.1 A special appeal board shall hear appeals against certain decisions relating to the higher education system.
There shall be no appeal against decisions of the board in appeal matters.
S. 2 Members of the governing body and other bodies in the institutions of higher education, who are student representatives, shall be appointed by a method prescribed by the government. The government may in such regulations charge private individuals or associations with appointing members.
S. 3 has been repealed by law (Law 1996:298).
S. 4 If an institution of higher education has admitted a student to a higher education programme also provided by a county council, the state shall be entitled to compensation for the education. The compensation shall be paid by the county council where the institution of higher education mainly is situated. If the institution of higher education is mainly situated in a municipality not included in a county council, compensation shall be paid by that municipality. The amount of compensation shall be fixed by the government or an authority appointed by the government. Compensation under this section shall not be paid in respect of education that a county council or municipality has instructed an institution of higher education to provide. (Law 1996:298)
S. 5 The government or an authority appointed by the government may issue regulations relating to the organisation of municipalities' and county councils' higher education and relating to municipalities' and county councils' other involvement in such education.
S. 6 The government or an authority appointed by the government may issue regulations relating to institutions of higher education.

Transitional provisions.
1995:96
This law shall come into force on 1 April 1995. Appeals may be made under older provisions against decisions pronounced before it has come into force.
1995:817
1. This law shall come into force on 1 July 1995.
2. Regulations relating to at which institutions of higher education, with the exception of the Swedish University of Agricultural Sciences, certain degrees may be taken, which the government has issued before coming into force of the law and that become effective on or before 1 July 1995 shall continue to be valid until the National Agency for Higher Education decides otherwise.
1996:298
This law shall come into force on 1 July 1996. Compensation under the repealed provision in chapter 5 section 3 shall not be paid in respect of the period after 31 December 19995. The new wording of chapter 5 section 4 second paragraph shall apply to compensation in respect of the period after 31 December 1995.
1996:555
This law shall come into force on 1 July 1996. The older wording of chapter 4 section 7 shall apply to decisions pronounced by the board before coming into force.
1997:797
1. This law shall come into force as regards chapter 2 section 4 on 1 January 1998 and otherwise on 1 January 1999.
2. Matters relating to the right to confer postgraduate degrees, where no decisions has been made by the National Agency for Higher Education by the end of December 1998, shall be handled as an application for a decision by the National Agency for Higher Education under the new provision in chapter 2 section 5.
3. If the handling of a matter relating to appointment of a person as lecturer has commenced but not been concluded before 1 January 1999, the older provisions relating to qualifications and assessment grounds in chapter 3 section 5 shall apply.
1997:1330

Older provisions shall however apply in respect of a person who before 1 January 1999 has been given employment without time limit as a professor.

Example of an appropriation directive

NB: English translation; Swedish original is available via www.esv.se.

Appendix 1: Uppsala University (Uppsala universitet)

The Riksdag has made a decision on the operations of Uppsala University for the budget year of 2006.

The Government has decided that the following directives are to apply for Uppsala University for the budget year of 2006, together with the appropriations listed below.

OPERATION

Operational directives

For higher education programmes excluding doctoral studies and their supporting functions.

Targets for the number of degrees to be awarded

For the four-year periods 2005-2008 and 2009-2012 the goals that are to apply until further notice in planning require the award of no less than the following numbers of degrees.

Degrees	Target2005–2008	Planning requirements 2009–2012
Master's degrees in engineering	1 220	[2]
Bachelor's degrees and diplomas in engineering	–	[2]
Nursing and radiological nursing qualifications	670	[2]
Teaching qualifications for teachers in the early years of schooling[1]	635	980
- of which specialising in pre-school/infant classes	320	470
Teaching qualifications for teachers in the later years of schooling[1]	1 375	1 100

1 Including degrees awarded according to previous course requirements.
2 Planning requirements as specified below.

The planning requirements to apply for the period 2009–2012 are as follows:

- The number of master's degrees awarded in engineeering and technological subjects should be at least at the same level as during the period 2005-2008,
- The number of bachelor's degrees or diplomas in engineering and technological subjects should be at least at the same level as during the period 2005-2008, and
- The numbers of qualifications awarded in nursing and radiological nursing should be at least at the same level as during the period 2005–2008.

At least one-third of the total number of teaching qualifications awarded (including those for teachers in the early years of schooling specialising in grades 4-9) should require specialisation in mathematics, technology or the natural sciences.

In order to enable the university to attain the target number of qualifications for teachers in pre-school or infant classes, it is to be possible for students to opt for a distinct pre-school and

infant-teaching specialisation either before beginning or in the course of their teacher-training programmes or alternatively the university is to adopt other measures that will as far as possible ensure that an adequate number of teacher-trainees opt for courses that focus on pre-school or infant teaching.

In awarding teaching qualifications for the later years of schooling particular attention is to be paid to the need for vocational teachers.

Accountability

The annual reports are to specify outcomes for 2005 and 2006 with respect to the above targets. Specific degrees included in these outcomes are to be accounted for separately. In addition, the statistics for teaching qualifications and corresponding degrees awarded according to previous course requirements are to contain separate figures for the number of qualifications in mathematics, technology and the natural sciences. Moreover the number of qualifications for vocational teachers is to be specified.

The university is also to report on the measures adopted to ensure that an adequate number of teacher-trainees opt for courses that focus on pre-school and infant teaching.

Full-time equivalent targets

The number of full-time equivalent students in the areas of the natural sciences and technology should total no less than 5,115.

Accountability

Full-time equivalents and annual performance equivalents are to be reported according to the special directives to be determined by the Government at a later date.

Other targets and accountability

The university will receive reimbursement for costs in respect of the participation of the local health authority (*landstinget*) in undergraduate courses in medicine (ALF-compensation) as laid down in the agreement concluded in June 2003 between the state and certain local health authorities on cooperation in undergraduate courses in medicine, medical research and the development of health and medical care supplemented by regional agreements between the appropriate local health authorities and the university.

As stipulated in the agreement between the state and certain local health authorities, the university may receive compensation for undergraduate courses in medicine for a maximum of 758 full-time equivalents with respect to the participation of the local health authority in these courses.

At the end of January 2007 the university is to provide the Government with information on the way in which ALF-compensation has been allocated to the costs of premises, salary costs and miscellaneous costs.

The annual report is to contain specific details about courses in medicine that indicate the number of full-time students in these programmes during the spring and autumn semesters. In addition, the report is to specify what proportion of the funds allotted pursuant to the agreement between the state and certain local health authorities for health authority participation in medical research with a clinical focus has been reallocated to undergraduate courses and also what proportion of the ALF-compensation has been carried forward from

one calendar year to another as laid down in § 6 of the same agreement. A brief description is to be provided of the joint priorities adopted and allocations made of ALF-compensation to undergraduate courses in medicine and medical research with a clinical focus on the basis of the regional agreements.

In addition a description is to be submitted of how the joint organisation for cooperation between the local health authority and the university has been arranged and what tasks it has been assigned.

Special commitments

1. Each academic year the university is to offer programmes in Egyptology, aesthetics, Estonian, Iranian languages, Celtic languages, Swahili, Turkic languages, Hungarian and seismology.

Accountability
The annual report is to indicate the number of places offered, the number of applicants and the total number of full-time students and annual performance equivalents in each of these programmes.

2. The university is to continue to arrange certain international programmes for teachers and certain in-service training for home language teachers of pupils with home languages other than Swedish. In addition the university is to be responsible for Sweden's participation in the Council of Europe's language project and in-service training programmes for teachers.

Accountability
The annual report is to indicate the number of participants in the various programmes as well as an overall description of how these commitments have been discharged.

For research and postgraduate programmes and their support functions or artistic development processes and their support functions, etc.

Research and postgraduate programmes

Targets for graduate schools

Uppsala University is the host university for two graduate schools, one in mathematics and computing and one in economics. The applicable planning requirements are that each graduate school is to have awarded no fewer than 25 PhD's by the end of 2007. These deadlines may be extended by up to one year depending on the average amount of time doctoral students in the graduate schools are required to undertake departmental duties.

Accountability
The annual report is to indicate how many doctoral students have been enrolled at each graduate school, their gender and the area of research to which they are linked. In addition the cooperation between the host university and its partner institutions is to be described.

Targets for degrees awarded

The target for the four-year period 2005–2008 and the planning requirement for 2009–2012 is that at least the number of degrees specified below will be awarded. Licentiate degrees are to count as half of a degree. PhD's awarded to candidates previously awarded a licentiate degree are to be counted as half of a degree.

Area of research	Target 2005–2008
Humanities and social sciences	440
Medicine	450
Natural sciences	450

[1] The targertfor the number of PhD's awarded in the natural sciences area of research includes the target for the technological area of research.

The planning requirement that is to apply for the period 2009–2012 is that the number of degrees awarded should be at the same level at least as for the period 2005-2008. Enrolment to postgraduate programmes should be adapted to enable this goal to be attained.

Accountability

See the section of the General regulations for higher education institutions etc. headed Research and postgraduate programmes and their support functions or Artistic development processes and their support functions etc. Accountability under target 1.

Recruitment targets for professorships

During the four-year period 2005–2008 at least 27 per cent of the professors appointed are to be women. This target includes promoted professors and guest professors, but not visiting professors.

Accountability

The annual report is to indicate the number of new appointments to professorships and how many of these are women for both 2005 and 2006.

Miscellaneous, research and postgraduate programmes

The university is to conduct research and offer postgraduate programmes in the following areas of research: the humanities and social sciences, medicine, the natural sciences as well as technology

Accountability

The annual report is to indicate the extent and focus of the operations of the Swedish Collegium for Advanced Study in Social Science (SCASSS) as well as the total expenditure involved.

FUNDING

Appropriation

Grants

Expenditure area 16: Education and university research

25:21 Uppsala University: higher education Amount in

	excluding doctoral studies (block grant)	SEK: ’000’s
At the disposal of Uppsala University		*1 200 693*
25:21 ap.1	Ceiling amount (block grant)	1 189 158
25:21 ap.3	National resource centre in biology and biotechnology (block grant)	1 658
25:21 ap.4	International in-service teacher training (block grant)	7 754
25:21 ap.5	Secretariat for the Baltic Sea University (block grant)	2 123

Conditions

25:21 ap.1 Ceiling amount

Per capita remuneration for full-time equivalents and annual performance equivalents in the various disciplinary areas is specified in the General regulations for higher education institutions, etc. in the section headed Financial accounts, higher education excluding doctoral studies point 7.

The remuneration specified for the university’s specific commitments point 1 in the section Higher education programmes excluding doctoral studies and their support functions is calculated per full-time equivalent and annual performance equivalent and is included in the ceiling amount.

25:22	**Uppsala universitet: research and postgraduate programmes (block grant)**	**Amount in SEK: ’000’s**
At the disposal of Uppsala University		*1 208 652*
25:22 ap.1	Area of research: Humanities and social sciences (block grant)	359 595
25:22 ap.2	Area of research: Medical science (block grant)	217 671
25:22 ap.3	Area of research: Natural Sciences (block grant)	375 127
25:22 ap.4	Area of research: Technological science (block grant)	0
25:22 ap.5	Collegium for Advanced Study in Social Science (block grant)	15 165
25:22 ap.6	Compensation for rental costs (block grant)	241 094 tkr

Conditions

25:22 Uppsala University: Research and postgraduate programmes

At the end of 2005 the university had saved a portion of the amount granted on this account. This balance is to be eliminated through withdrawal of the allotment. The withdrawal is to take place no later than June 30 2006. Funds corresponding to the amount withdrawn have previously been paid into the university's deposit account and this amount plus the accrued interest is to be paid back into the State current account. Interest is to be calculated from the end of the year until payment is made. The rate of interest is based on the average rate payable on the university's deposit account.

25:22 ap.3 Area of research: Natural sciences

The allocation under the heading Area of research: Natural sciences incudes funding for research and postgraduate programmes in technology.

25:22 ap.4 Area of research: Technology

Funding for research and postgraduate programmes in technology is included in the allocation under the heading Area of research: Natural sciences.

Financial conditions relating to the allocation

Expenditure area 16: Education and university research

25:21 Uppsala University: Higher education excluding doctoral studies

Grant/ap/dp	Grant credit (SEK '000s)	Grant retained to be used in 2006	Grant amount withdrawn (SEK '000s)
25:21 ap.1	0	10 %	0
25:21 ap.3	0	3 %	0
25:21 ap.4	0	3 %	0
25:21 ap.5		3 %	0

25:22 Uppsala University: Research and postgraduate programmes

Grant/ap/dp	Grant credit (SEK '000s)	Grant retained to be used in 2006	Grant amount withdrawn (SEK '000s)
25:22 ap.1	0	None	0
25:22 ap.2	0	None	0
25:22 ap.3	0	None	0
25:22 ap.4	0	None	0
25:22 ap.5	0	None	0
25:22 ap.6	0	None	0

Other conditions

Loan ceiling and credits

Loan ceiling (pursuant to § 20 of the Budget Act)	700 000
Deposit account credit limit (pursuant to § 21 of the Budget Act)	236 784
Other credit ceilings (pursuant to § 23 of the Budget Act)	0

Amounts specified in SEK '000s

Disbursement schedule

Decision No.: 18 Date: December 20 2005

The following sums will be transferred to Uppsala University's deposit account at the National Debt Office:

SEK 2,409,345,000 in monthly instalments from January 1 2006 until December 25 2006. This amount is the appropriation for Uppsala University under the heading: Higher education excluding doctoral studies 25:21 ap.1, 25:21 ap.3, 25:21 ap.4 and 25:21 ap.5 and the heading Uppsala University: Research and postgraduate programmes 25:22 ap.1, 25:22 ap.2, 25:22 ap.3, 25:22 ap.5 and 25:22 ap.6.

Fees and grants

The estimated budget for activities for which fees can be charged during 2006 and whose revenues may be used

Operation	Surplus/deficit up to and including 2004	Surplus/ deficit 2005	Revenues 2006	Costs 2006	Surplus/ deficit 2006	Accrued surplus/ deficit end 2006
Commissioned courses						
Contract teaching	998	102	6 000	6 000	0	1 100
Commissioned courses	3 881	119	58 000	58 000	0	4 000
Commissioned research	45 446	-5 446	190 000	195 000	-5 000	35 000
Total	50 325	-5 225	254 000	259 000	-5 000	40 100
Public service activities						
SweSAT	-75	-72	800	800	0	-147

Amounts specified in SEK '000s

Conditions on which fees may be charged

Detailed conditions applying to activities for which fees may be charged may be found in the General regulations for higher education institutions in the section headed Other objectives and accountability, Financial reports, Joint accounting for operational areas point 6.

Other revenues

Estimated other revenues at the disposal of the university SEK 1,300,000,000