OECD THEMATIC REVIEW OF TERTIARY EDUCATION

National Background Report for Iceland

This report was prepared for the Ministry of Education, Science and Culture as an input to the OECD Thematic Review of Tertiary Education. The document was prepared in response to guidelines the OECD provided to all participating countries. The guidelines encouraged the authors to canvass a breadth of views and priorities on tertiary education issues. The opinions expressed are not necessarily those of the national authority, the OECD or its Member countries.

The report was carried out by the Educational Testing Institute of Iceland

for

the Ministry of Education, Science and Culture

September 2005

CONTENT

Tables:

Figures:

Preface

This background report for the OECD thematic review of the tertiary education system in Iceland was carried out by the Educational Testing Institute of Iceland (*Námsmatsstofnun*), an independent institution funded by the state and under the auspices of the Ministry of Education, Science and Culture. The main task of the Institute is to compose, organise and mark all nationally co-ordinated examinations at the compulsory and upper secondary level. The Institute also participates in and carries out international comparative research in the field of education.

The following staff are the authors of the report: Elvar Örn Arason, Ingunn Ólafsdóttir, and Ásta Briem (co-author of Chapters 7.1. and 9).

The writing of the report was supported by the National Advisory Committee and by various stakeholders of the higher education system.

The committee consisted of the following representatives: Björn Thorsteinsson/Agricultural University of Iceland (nominated by the Ministry of Agriculture), Börkur Hansen/University of Education (nominated by the Standing Committee of the Rectors of Higher Education Institutions), Elín Soffía Ólafsdóttir/University of Iceland (nominated by the Association of Academics), Gissur Pétursson/Directorate of Labour (nominated by the Ministry of Social Affairs), Gudrún Geirsdóttir/University of Iceland (nominated by the Standing Committee of the Rectors of Higher Education Institutions), Gústaf Adolf Skúlason/Confederation of Icelandic Employers (nominated by the Confederation of Icelandic Employers), Leifur Eysteinsson/Ministry of Finance (nominated by the Ministry of Finance), Sólveig Gudmundsdóttir/Ministry of Health and Social Security (nominated by the Ministry of Health and Social Security), Sveinn Thorgrímsson/Ministry of Industry and Commerce, (nominated by the Ministry of Industry and Commerce).

The head of division for higher education at the Ministry of Education, Science and Culture, Stefán Stefánsson, was the national co-ordinator for the review.

Reykjavík, September 2005

Executive summary

Government policies, reforms and trends

1. Higher education in Iceland comes under the jurisdiction of the Ministry of Education, Science and Culture, although two public higher education institutions (HEIs) specialised in the field of agriculture come under the auspices of the Ministry of Agriculture. In 2005, five public institutions and three private institutions were operating at the higher educational level. The Universities Act of 1997 was the first legal framework for the higher education system. The Act signalled significant changes in the organisation and governance of the higher education system. The higher education system is characterised by one large public institution and several specialised public and private institutions. The private institutions have been enrolling an increasingly larger part of the student population, from 4.4% in 1998 to 13.5% in 2004. The HEIs can also be categorised into five groups according to their specialisation: two agricultural institutions, one academy of arts, one institution of education, one business school, and three institutions offering a wide ranges of studies. Other differences include the legal and operational environments of private and public institutions, the number of enrolled students, the mix of programmes offered, and the level of education and research activity.

2. Recent developments in the student body:

- Number of enrolled students has more than doubled since 1994
- Higher proportion of students enrolled at private HEIs
- Number of postgraduate students have increased nearly five-fold
- Increasing number of enrolled students over 30 years of age
- More comprehensive system with increased diversity of programmes and diplomas/degrees
- Proportionately fewer students seeking higher education abroad

3. The main policy goal of the government in regards to higher education has been to raise the general level of education attainment and to create a competitive system that will enhance quality and efficiency. The main strategic points in this policy has been to grant extensive autonomy and responsibility to the HEIs, open the system to private parties, increase the resources for research and innovation, direct research allocation to competitive public research funds, fund teaching and facilities with more a out-put-oriented system, and enter into performance-related agreements with the institutions that, among other things, set requirements for internal quality standards for teaching and research.

4. Recent reforms and policy developments:

- In the late 1990s various upper secondary schools were upgraded and new private institutions were established.
- The Division of Evaluation and Supervision was founded within the Ministry of Education, Science and Culture in 1996.
- The first framework legislation for the higher education system was enacted in 1997.
- The Ministry of Education, Science and Culture published in 1999 the policy paper "Education and Culture for All" (Menntun og menning fyrir alla) for the period 1999-2003
- Introduction of funding system for teaching and facilities in 2000, subsequently formal performance-related and service contracts were initiated between the Ministry of Education, Science and Culture and the HEIs.

- In 2003, a new policy led to the establishment of the Science and Technology Policy Council to promote science and technological progress.
- Merger of Reykjavik University (private) and Technical University (public) in 2005.
- Revision of the Universities Act in 2005

The labour market dimension

5. The government's policy has been to enhance the role of the market forces by liberalisation, fiscal consolidation, deregulation, and privatisation. These structural reforms were implemented in the 1980s and early 1990s, culminating in 1994 in membership of the European Economic Area (EEA). Iceland's economic performance has improved considerably over the past decade, with low inflation, fewer tensions on the labour market, a low unemployment rate, stable economic growth, and a high prosperity rate as measured in GDP per capita. The prosperity is based on the ability to utilise the natural resources and with increasing emphasis on human capital. The recent transformation of the economy has resulted in less reliance on resource-intensive activities, such as fisheries and agriculture. As the economy has become more diversified and internationalised, the demand from the private sector for a highly educated workforce has increased significantly.

6. The labour force is characterised by:

- Vast majority of the labour force is employed in the service sector
- High participation rate of women and men
- The education attainment correlates positively with the level of the employment ratio
- Low unemployment rate over the last decade
- Slow increase in the proportion of university graduates among the unemployed
- Low level of vocational graduates
- Gap between low skilled and highly skilled in the labour force

7. In general, the government have not endeavoured to direct the provision of tertiary education towards particular disciplines or areas. It has been explicit government policy to let the demand for tertiary education determine the supply. Therefore, it is presumed that the HEIs will respond to labour market and student demands. The highest proportional increases in student numbers have been in the field of economics and business administration, the natural sciences, and in various fields of technology and engineering. At the same time the graduation rates of students with vocational qualifications have not increased during the last decade and in many trades the rate has fallen. Despite explicit policy, however, the government have pursued a variety of policy measures in order to ensure responsiveness of HEIs to labour market needs by:

- Introducing competitive elements into the higher education system
- Strengthening collaboration between HEIs and industry
- Encouraging HEIs to appeal to business for additional funding

Regional dimension

8. The smallness and the concentration of the Icelandic population in and around the capital area have had an impact on the provision and development of the higher education system. This has had an especially detrimental effect on the supply of education in rural areas and the imbalance of educational attainment between rural and urban inhabitants. The migration to the capital area is the foremost trend since the beginning of the twentieth century. The government, through the Rural Development Agency, have actively interfered in the

population migration. Recently, the government have given education institutions enhanced leverage in the rural development plan by emphasising: the importance of HEIs located in rural areas, providing distant learning programmes at tertiary level through life-long learning centres, and strengthening research and innovation activities. At present, national policy is geared towards stimulating the role of HEIs in rural development through innovation clusters, university centres, and life-long learning centres. Furthermore, the government stress the importance of creating consortiums composed of the regional centres and research institutions all over the country.

9. Recent trends:

- Continuous migration to the capital area except from the region around Akureyri (in the northern part of Iceland)
- Three rural colleges have been elevated to university level
- Increasing proportion of students studying in HEIs that are located outside the capital area and taking distance learning programmes
- Increasing pressure from other regions to establish HEIs

Research and innovation

10. Iceland has made substantial progress in improving and strengthening its reseach performance. In 2002 the European Union set the Barcelona target of spending 3% of GDP on research and innovation, which was already achieved by Iceland in 2001. In 2003, the business sector carried out 46% of the research work, the public research organisations 25%, the HEIs 26% and by others 3%. The major part of the research conducted within the HEIs is government sponsored and *per se*, they play important role in the overall research infrastructure. However, the proportion has decreased in the last few years, with more resources coming from the business sector. The evaluation and quality control of research activities is a relatively new responsibility within the higher education system. However, the HEIs have increasingly taken up an out-put-oriented salary system, similar to the one that has been operated at the University of Iceland since 1994. The Ministry of Education, Science and Culture has not finalised regulation of research quality but has required HEIs to develop internal quality assurance systems. In 2003 the new Science and Technology Policy Council was established, headed by the Prime Minister. Its long-term goal is to enhance the economic strength of Iceland in a competitive international environment. The science and technology policy is: to strengthen the role of HEIs as research institutes, increase the resources for obtaining funds, and encourage the HEIs, public research institutes and business sector to unite their strengths. Furthermore, it is also the policy of STPC to increase the efficacy of the competition funds by increasing the amount of allocation for research.

11. Recent trends:

- Increasing emphasis of all HEIs on research activities
- Most of the research conducted within the HEIs is financed with public resources
- Most of the HEI research is conducted within the University of Iceland
- The University of Iceland received 79% in 2002 of the total research income of HEIs
- Increasing emphasis of the HEIs on research performance salary system
- Increased co-operation between HEIs, research institutes and industry.

Equity in the higher education system

12. The government have emphasised the importance of equal opportunity of access to higher education in the field of gender, socio-economic status, residential location, and disability. The equality of access to the higher education is guaranteed in the constitution, with specific laws and through government policies. The gender equality policy has been to "mainstream gender" through the government structure with a four-year action plan, nominate gender equality representatives in each ministry, and require HEIs to adopt a gender equality policy. The government have operated the Student Loan Fund for several decades with the aim of granting equal access of students with different socio-economic backgrounds and, based on the same principle, granted tuition-free education at public institutions. The access of rural residents to higher education has changed significantly with the recent development in information technology and the increasing availability of distance learning programmes offered by various HEIs, among other ways, through the life-long learning centres. Most of the HEIs have been adopted formal equality policy and have educational advisers to assist students that require additional services caused by their physical or mental disabilities. There are, however, few disabled people who seek a higher education.

13. The composition of the student body:

- Men constituted 36% and women 64% of the student body in 2004
- The gender gap is greatest at the undergraduate level
- Proportionally more men finish the ISCED 6 level
- Gender gap in various fields of studies
- Average age in 2003 was 30.2 years for women and 28.2 years for men

Resources: staffing

14. Icelandic higher education has a similar appointment structure for all HEIs: professors (*prófessorar*), docents (*dósentar*), and lecturers (*lektorar*). The public institutions are legally restricted in their recruitment procedures and follow regulations on assessment and promotion and negotiate with unions for salaries and benefits. The public HEIs are obliged to advertise all permanent posts and appoint selection committees to review the applications; however, the composition of the committees and the procedures vary between the public HEIs. The private institutions have more flexibility in recruiting academic staff, determine the research and teaching obligations, and negotiate salaries on an individual basis. The public institutions have responded to this competition from the private institutions by providing academic staff with various benefits. The main lack of supply of academic staff is in departments where the private sector provides higher wages. The HEIs that are located outside the capital area have experienced difficulties in recruiting part-time teachers. The HEIs are all developing their research capacity and, therefore, the competition has increased for highly qualified researchers. The main characteristics of the composition of the staff are a high number of non-tenured instructors, and women proportionately hold lower professional positions in the hierarchy.

Resources: finance

15. The higher education system is mainly financed by the government through annual research on teaching appropriations and public research funds (ca. 75% in 2002). Extensive reforms of budgetary procedures entered into force in 2000 with a new funding formula (*reiknilíkan*) for teaching and facilities based on payments per full-time equivalent student (FTE). The number of FTEs in each category is negotiated according to a performance-related agreement with the public institutions and a service contract with private institutions. The private and public institutions receive the same state contribution per FTE. The funding

formula is divided into seven categories of disciplines, which takes into consideration all general costs relating to teaching and facilities for each discipline. The research appropriations are kept on an incremental basis. The private HEIs are authorised to charge tuition fees but the public HEIs have only a limited legal basis for charging registration fees. Private institutions can expand their budgetary means by charging tuition fees that constitute a large proportion of the total income of some private HEIs. Additionally, the government operate the Icelandic Student Loan Fund, which provides loans to students to cover the cost of living and tuition fees. The generated cost for the government in operating the Fund has been between 49-55% of loans provided. The main income sources of the Fund are: annual state appropriations, loans from the National Debt Management Agency, and repayments of student loans. The proportion of income from students has increased in recent years.

16. Recent trends and characteristics:

- Since 2000 state appropriations for teaching and research have increased by 53.8%
- Greater part of the public HEIs´ income comes from annual state appropriations
- Increased activity rate from 65.7% in 2002 to 70.9% in 2004
- Since 2000 the prices in the funding formula have increased on average by 14.3%
- Since 1994 there has been a 60% increase in number of students receiving loans
- Since 1992 student loans provided have increased by 57.9%

Planning, governing and regulating

17. HEIs in Iceland have traditionally been relatively autonomous; however, an important part of the 1997 law on higher education was to further increase their independence. In return for enhanced autonomy they are to be made more accountable and efficient. The political goal is to strengthen institutional management, optimise use of resources and increase their strategic potential. The Ministry of Education, Science and Culture negotiates performance-related agreements or service contracts that set the funding targets for teaching and facilities and the overall aim and role of the individual HEIs. Additionally, the Ministry negotiates with each HEI as to whether and to what extent it is to engage in research. The main responsibilities of the Ministry of Education, Science and Culture are: to approve programmes and degree structure, conduct external quality evaluation/reviews of teaching and research, and negotiate the number of funded FTEs. The HEIs have autonomy and responsibility in: determining their own internal allocation systems, deciding the content of the curriculum and profiles of courses, setting the research priorities, recruiting academic staff, taking the initiative in launching new programmes, setting internal quality control, and restricting student access. The links between HEIs have been strengthened in recent years, especially between public institutions. For instance, it has become easier to transfer credit units between HEIs.

Quality assurance

18. General provisions for the assurance of quality in higher education are stipulated in the Universities Act of 1997 and in Regulations of 1999, revised in 2003. According to the regulations it is the responsibility of each HEI to develop a formal internal quality control system. All HEIs are obliged to promulgate a description of their quality assurance system. According to the regulations the objective of the quality control in HEIs is to maintain and raise the quality of teaching, to improve organisation, to promote greater responsibility for their own activities, and to ensure their competitiveness in the international arena. Since the institutions have expanded and become more expensive, there has been a growing pressure on to focus attention on quality factors in conjunction with enhanced accountability. The Ministry of Education, Science and Culture takes the initiative in conducting an external

evaluation. External quality control of higher education may cover the whole institution, a specific discipline, departments, study programmes, faculties or other specified units within the institution. The Minister of Education, Science and Culture decides when an external evaluation is to be conducted, which institutions will be evaluated and which factors are to be evaluated. According to the Universities Act, regulations concerning quality control of research are prospective. With growing competition in the higher education system the actual interest in the outcome of evaluations, both internal and external, becomes more evident and widespread. Iceland does not have a separate national agency for evaluation of education, but a division of evaluation and supervision in the Ministry of Education, Science and Culture was established in 1996.

- A three-years action plan on external evaluations at the higher education level was publiched in January 2005
- In 2004 the Minister of Education appointed a working group aimed at mapping the situation in relation to quality issues at all educational level. The group reported its recommendations to the Minster of Education in August 2005

Internationalisation and globalisation

19. Icelandic higher education has throughout the last century been highly internationalised. The small size and limited supply of graduate programmes has resulted in a large proportion of students seeking education abroad. The Student Loan Fund operates a loan system which does not discriminate between students who wish to study abroad or in Iceland. The higher education system has in recent years been developing towards a more comprehensive system, resulting in a decreasing number of students seeking education abroad. There is no government policy or specific laws concerning international co-operation and student exchange programmes. The HEIs generate their own policy and have the autonomy to admit foreign students who meet pre-defined criteria. The approaches to internationalisation have, however, moved towards a more systematic and institutionalised process, especially with growing co-operation with the European Union in the field of education and research. European co-operation has become more important for Iceland, while the Nordic dimension also remains important. Globalisation has not yet had a significant impact on the higher education system in Iceland.

20. Recent trends:

- Proportionally fewer students seek education abroad or 15% in 2004, down from 30-35% in the 1980s
- Decreasing number of students seek education in North America
- Majority of students studying abroad go to Denmark or 46% in 2004
- Increasing proportion of foreign students among enrolled students

Chapter 1: The national context of tertiary education

Historical and demographic developments

21. Iceland is a republic with approximately 300,000 citizens.[1] The official language is Icelandic, spoken by all Icelanders. The country retains strong historical and cultural links to the other Nordic countries as it was settled in the ninth century by Norse settlers, with a smaller Celtic element. In 1262 Iceland concluded a treaty establishing a union with the Norwegian monarchy. When the Danish and Norwegian monarchies were united in 1380 Iceland came under Danish rule, which lasted for more than five hundred years. On June 17, 1944, the union with Denmark was terminated with the adoption of the present constitution and the establishment of the Republic.

22. The population is ethnically and religiously homogeneous with over 90% registered as members of the Evangelic Lutheran church (Statistics Iceland).[2] The annual rate of population growth in 1993-2003 was 0.93% and it is forecast that the population will increase from 280 thousand in 2000 to 317 thousand in 2025 or by 13.2% (Statistics Iceland). As in other advanced countries, the population of Iceland is ageing, but at a relatively slower pace than in most OECD countries (Central Bank of Iceland, 2004: 15). The 60-79 year old age group is predicted to double in size whilst the 0-49 year group is forecast to decrease from 210 thousand to 205 thousand in 2025 or by 2.4%. (Statistics Iceland).

23. There has been substantial net immigration in recent years, causing the share of foreign citizens to rise to 3.6% of the total population at the end of 2004, double the proportion in 1995. Most of the foreign immigrant population comes from other European countries or 69.4% (Statistics Iceland).[3] The share of foreign workers has also increased in recent years and in 2003 they constituted about 4.5% of the labour force. Compared to most other developed countries these ratios still remain low (Central Bank of Iceland, 2004: 15 and 29).

24. Iceland is one of the least densely populated countries in Europe, with only 2.8 inhabitants per square kilometre and with 65% of the population living in the capital city of Reykjavik and its surrounding municipalities. The largest town outside the capital area is Akureyri, in the north, with a population of about 16.000. Most of the remainder live in small towns along the coast (Annex A1.1).

Political structure and characteristics

25. Iceland is a republic with a written constitution and a parliamentary form of government. In accordance with the constitution the Parliament (*Alþingi*) and the President jointly exercise legislative power. The President is the head of state and is elected for a term of four years by a direct vote of the electorate. The Parliament is composed of 63 delegates elected for four years by proportional representation. The government hold executive power and is headed by the Prime Minister. The ministers are members of Parliament and each minister has the responsibility for his or her area. Governments have normally been formed by a majority coalition of two or more political parties. Since 1995 there have been successive coalitions of

[1] The total population was 293,577 at the end of 2004.
[2] In 2004 85.5% of Icelanders were registered in the Evangelic Lutheran national church of Iceland, a decline from 92.6% in 1990. In 2004 the majority of Icelanders were registered as members of Protestant churches, 1.9% in the Catholic church, 0.11% Muslims, and 2.4% registered as having no religious affilifation.
[3] The division of immigrants in Iceland in 2005 was: 15.8% from the Nordic countries, 16.1% from EU-15, 37.5% from other European countries, and 8.4% from the USA.

the Independence Party (*Sjálfstæðisflokkurinn*) and the Progressive Party (*Framsóknarflokkurinn*), forming a central-right government.[4]

26. The public sector in Iceland is organised on two levels, the central government with 14 ministries and 101 municipal or local governments. The central government are responsible for the police, courts, foreign affairs, upper secondary and higher education, health service, institutional care for the disabled and elderly, general support, and services for industry. Local governments are responsible for local planning and infrastructure, day care, and education from pre-school to lower secondary level, and welfare services of various kinds.

27. Iceland is a modern welfare state which guarantees equal access of its citizens to health care, education and a high degree of social security, which amounted to a quarter of GDP in 2003 (Central Bank of Iceland, 2004: 15). Iceland has strong bonds with and bears a clear resemblance to the Nordic countries that influenced Iceland's historical development. Icelandic policy-makers have looked to other Nordic countries for models in economic and social matters (Jónsson, 2003). The principle of universalism of social security benefits, tax-based benefits and services, and the public health and education systems are all features that Iceland shares with the Nordic countries in terms of citizen-based rights, though less extensive in terms of GDP (Espsing-Andersen, 1990; Ólafsson, 1999)

28. Iceland has participated actively in international co-operation.[5] Iceland co-operates extensively with the other Nordic countries, among other ways, through the Nordic Council and the Nordic Investment Bank. Iceland joined the European Free Trade Association in 1970 and in 1994, together with the other EFTA countries, signed the European Economic Area agreement with the European Union that established a zone for the free movement of goods, services, capital and persons (Central Bank of Iceland, 2004: 16-17).

Economic development

29. According to the OECD (OECD, 2003) Iceland´s economic performance has improved considerably over the past decade. The per capita income surpasses the OECD average by around one-fifth, as compared to one-tenth in 1995. Major imbalances and tensions were corrected in a short time span, highlighting the economy´s enhanced capacity for adjustment. This favourable performance is to a large extent due to the shift in policy towards financial stability and market liberation during the 1990s. The average growth between 2004 and 2006 is expected to amount to about 5%, whereas over the period 2007-2010 a lower average growth of 2.75% per year is expected (Ministry of Finance, 2004b).

30. In 2003 the GDP per capita measured in terms of Purchasing Power Parities (PPP) amounted to €30.1 thousand or the seventh highest in the world.[6] This prosperity can be attributed to Iceland's ability to utilise its comparative advantages by exploiting its abundant natural resources, both marine and land-based, as well as human capital. These natural resources include the fishing grounds around the island, and hydroelectric and geothermal energy resources. Although electricity consumption per capita is the highest in the world, less than one-quarter of the energy potential has been tapped. The years ahead will be marked by

[4] The results of the 2003 elections were as follows: The Independence Party obtained 33.7% of votes and 22 seats, the Social Alliance 31% and 20 seats, the Progressive Party 17.7% and 12 seats, the Left-Green Movement 8.8% and 5 seats, and the Liberal Party 7.4% and 4 seats.

[5] Iceland is a member in the following international organisations: International Monetary Fund (1945), International Bank for Reconstruction and Development (1945), United Nations (1946), North Atlantic Treaty Organisation (1949), Organisation for Economic Cooperation and Development (1949), Council of Europe (1950), Nordic Council (192), International Finance Corporation (1956), General Agreement on Tariff and Trade (1964), European Free Trade Association (1970), European Trade Association (1970), Organisation for Security and Cooperationin Europe (1975), European Bank for Reconstruction and Development (1990), Western European Union (1992), European Economic Area (1994), World Trade Organisation (1995).

[6] In terms of PPP, ISK 2.8 million , US$ 29.8 thousand.

large-scale investment in the aluminium sector (processing imported aluminium ore) and related power plants. Relative to the size of the Icelandic economy, the investment will amount to nearly 30% of one year's GDP and increase the share of aluminium in total exports from 20% to 35% (Central Bank of Iceland: 2004: 11-14 and 25).

31. Over the past two decades, significant structural reforms have taken place in the Icelandic economy and financial markets. The reform has aimed to increase the role of market forces through deregulation, privatisation and integration into the world economy. This process was accelerated when Iceland became a member of the EEA in 1994. With the EEA membership Iceland became a part of the internal market of the EU, with the exception of a few specific areas. By the turn of the century Iceland had become an advanced economy, thoroughly integrated into the European market, with most of the features of a modern market economy (Central Bank of Iceland, 2004: 20).[7]

32. During the second half of the 1990s, Iceland experienced one of the highest GDP growth rates among the OECD countries. In 1998 signs of overheating became increasingly visible. A considerable shortage of labour, with unemployment around 1.4% in 1999, resulted in wage growth well in excess of productivity growth. Inflation took off and reached 9.4% in January 2002. The Central Bank responded to the imbalances in the economy by tightening of the monetary stance and within a year inflation was reduced from nearly 10% to the target of 2.25%, where it has broadly remained since (Central Bank of Iceland, 2005:58).

Labour market trends

33. The long-term development of the country's industries has followed a similar tendency as in other industrialised countries in the twentieth century. The workforce has been moving from farming to industrial production and from industrial production to the service sector. In 2003 the service sector employed a majority of the labour force or 71.4%, other industry 21.7%, the agricultural sector 3.6%, and the fishing sector 3.3% (Statistics Iceland).

34. These developments reflect a transformation in the utilisation of natural and human resources. The advent of service industries and several emerging human capital-intensive activities such as information technology and communications and financial services has continued unabated (OECD, 1997). Significant progress has been made in high-tech activities such as medical equipment, technical solutions for food processing, fisheries equipment, biotechnology and pharmaceutical products. In 2002 imports and exports of goods and services amounted to 38% of GDP (Central Bank of Iceland, 2005).

35. The Icelandic labour market has one of the highest participation rates among OECD countries. Over the past 10 years labour participation has persistently been well above 80% (Statistics Iceland). This fact is usually explained by the low unemployment rate in recent years, 2.1% in June 2005, and the high participation rate of women, who account for 47% of the labour force (Directorate of Labour in Iceland).[8] Furthermore, Icelanders tend to work long hours and participation of the young and elderly is high. These characteristics of the labour market in Iceland correlate positively with the average GDP growth rate of 3.2% since 1993 (Central Bank of Iceland, 2005: 58).

[7] In 2003, nearly three-quarters of merchandise exports went to the member countries of the EEA, which also were the sources of 64% of imports.

[8] The unemployment rate in the period January 2001-April 2005 was the lowest in September 2001 or 1.0% and highest in February 2003 or 4.1%. The participation rate of women has fluctuated between 75.3% in 1991 and 79.1% in 2001.

Chapter 2: Overall description of the tertiary education system

Legal framework

36. Higher education comes under the jurisdiction of the Ministry of Education, Science and Culture, with the exception of two public higher education institutions (HEIs) specialising in the field of agriculture which come under the auspices of the Ministry of Agriculture. In December 1997 the Parliament enacted Universities Act no. 136/1997 establishing the first legal framework for the higher education system, which became operative on January 1, 1998. In addition to this Act, the role of each public institution is further defined in its own individual laws (*sérlög*) and performance-related agreements.[9] The private institutions (government-dependent private institutions) also operate according to their individual charters (*skipulagsskrá*) and service contracts, which are confirmed by the Ministry of Education, Science and Culture.[10]

37. The University Act sets the general framework for the operation of the higher education system. It signalled significant changes in the definition, organisation and governance of the HEIs with greater emphasis on the monitoring role of the Ministry of Education, Science and Culture. Traditionally, HEIs have been relatively autonomous in Iceland. However, the legislation devolved increased responsibility and procedural autonomy and at the same time enhanced the role of private institutions in the educational system.

38. The Act defines the purpose and the role of HEIs as follows: "A university is an educational institution which also carries out research, if so provided for in the regulations applying to the activities of each individual institution. A university shall provide its students with the education to independently pursue scholarly projects, innovation and the fine arts, and to perform various work in society for which a higher education is required. Universities shall disseminate knowledge to the general public and provide society with services by means of their knowledge" (Article 2, no. 136/1997).

39. The Universities Act does not make a formal distinction between tertiary institutions based on the research activity, scope of professional fields and the postgraduate programmes offered at the institution. The Universities Act specifies that the term *háskóli* (university/college) refers to different types of HEIs which conduct teaching programmes and research activities. At present, there are eight higher educational institutions in Iceland and only the University of Iceland offers undergraduate and postgraduate programmes as well as research activities in a wide area of disciplines. The others are more specialised and do not have as extensive research activities and have traditionally served mainly as teaching institutions with research on an individual rather than an institutional basis (see Chapter 5). Furthermore, in the Icelandic system, the terms "higher" and "tertiary" are for nearly all purposes interchangeable. The Icelandic education system does not have distinct vocational colleges, although some part of the vocational sector is at the upper-secondary education level (ISCED 4).[11]

---

[9] At present the following legislation applies to the public higher education institutions: Act on Iceland University of Education (1997), Act on University of Iceland (1999), and Act on University of Akureyri (1999). At present the Agricultural Education Act (1999) relates to the higher education institutions that come under the auspices of the Ministry of Agriculture. The Agricultural Education Act, enacted in 1999, establishes the framework for the activities of the Agricultural University of Iceland, which was founded with this Act (see Table 2.2).

[10] Private higher education encompasses institutions of post-secondary study not owned or controlled by the government. In this report the term private institution refers to *government-dependent private institutions* according to the OECD classification (OECD, 2004b). Hereafter, the terms "private" and "government-dependent private institutions" will be used interchangeably.

[11] In 2004, 248 students were enrolled in vocational programmes offered by specialised schools at the tertiary level. The specialised schools at the tertiary level are: Iceland School of Singing, the Electric School, Akureyri College of Arts and Crafts, and Iceland Aeronautical Schools. The specialised schools have programmes such as air traffic control, art and music.

40. In June 2005 the Minister of Education, Science and Culture established a committee that will make a proposal for amendments of the Universities Act no. 136/1997 and of the applicable individual legislation on public HEIs. The committee will take into consideration the recent developments and changes in research and teaching, both in Iceland and other OECD countries. The committee's proposals are aimed at strengthening the quality of the higher education system in Iceland and will finish its work in November 2005.

Brief history of the higher education system

41. The Icelandic higher education system is a relatively small and unitary system compared to other countries. There are eight HEIs operating at the university level in Iceland, three private institutions and five public institutions. The system is characterised by one large, multidivisional public institution (with several faculties), the University of Iceland, and a number of smaller and more specialised public and private institutions. The division of labour between the various types of HEIs is vague by law, since the Universities Act does not make a legal differentiation. The higher education system could be categorised into five groups: two agricultural institutions, one academy of arts, one institution of education/pedagogy, one business school, and three institutions with wide ranges of studies.

42. Over the last few decades the HEIs have increased in number and in size, creating issues of conformity or diversity within or between institutions (Jónasson, 2004). Before the 1990s four public institutions were operating at the university level in Iceland, with the University of Iceland offering a wide range of programmes, and four specialised institutions in the field of education, business and agriculture. Since 1998 there have been significant changes within the education system with some specialised colleges previously at upper secondary level having gradually been elevated to the higher education level and long-established tertiary and upper-secondary institutions have been given university status (Annex A1.6). The dominant standing of the University of Iceland has in the last few years been challenged by a growing number of institutions, most notably in the field of education studies, business studies, law and computer sciences. Table 2.1 illustrates the development of the higher education system.

Table 2.1 HEI year of the establishment (E) or of upgrading (U) to the university level

	1911	1947	1971	1987	1988	1998	2002	2003	2005
University of Iceland	E								
Iceland University of Education			U			U			
University of Akureyri					E				
Technical University of Iceland							U		
Reykjavík University						E			
Bifröst School of Business				U					
Iceland Academy of the Arts						E/U			
Hvanneyri University of Agriculture		E							U
Hólar University College								U	

43. **Chronological list of the higher education institutions:**

- **University of Iceland, established in 1911 (public):** The institution was established by merging three professional schools founded in the 19th century: a school of theology, a school of medicine and a law school, and adding a new faculty of arts. Since then the institution has diversified and expended its operations. The University of Iceland has 41 research institutes under its auspices and offers more than 160

degree programmes, both at the undergraduate and graduate levels, including 19 Ph.D. programmes in 11 faculties: Humanities, Economics and Business Administration, Engineering, Law, Medicine, Pharmacy, Nursing, Natural Sciences, Dentistry, Social Sciences and Theology.

- **Iceland University of Education, established in 1971 (public):** The institution was established as a Teachers' College in 1908 and operated at the upper secondary level until 1971 when it was upgraded to university level. In 1998 four teaching education institutions: the College for Pre-School teachers, the College of Physical Education and the College of Social Pedagogy were upgraded and merged with the existing Iceland University of Education. The institution is responsible for undergraduate and graduate education of teachers at the pre-school, compulsory and upper-secondary levels, as well as sport and physical education, recreational and social activities studies, and developmental therapy. The institution offers 8 undergraduate programmes, 29 graduate programmes and diplomas, and one Ph.D. programme.
- **Bifröst School of Business, established in 1987 (private):** The institution was established in 1918 as a business school at upper-secondary level but was upgraded in 1987 to the university level. Bifröst focuses on business and management, law, social sciences and philosophy. It offers three undergraduate and 16 postgraduate programmes and 12 graduate diplomas within three faculties: Faculty of Business, Faculty of Law and Faculty of Social Sciences. It also offers continuous and executive education and, as an addition to faculty research, houses five specialised research centres in fields ranging from European studies to gender equality.
- **University of Akureyri, established in 1988 (public):** The institution offers 21 undergraduate programmes and diploma studies and 8 graduate programmes within six faculties: Social Sciences and Law, Health Sciences, Management Studies, Natural Resources Sciences, Teacher Education and Information Technology.
- **Reykjavik University, established in 1998 (private):** The Technical College of Iceland (establ.1964) was given university status in 2002 and merged with Reykjavik University in June 2005. The Technical College of Iceland offered programmes in business, civil, industrial, mechanical and electrical engineering technology, laboratory and radiology technology. The merged institution of Reykjavik University offers 11 undergraduate and diploma studies, eight graduate programmes, and two Ph.D. programmes within four combined schools: School of Science and Engineering, School of Health and Education, School of Business, and School of Law. In addition, the university offers executive education for managers and business professionals.
- **Iceland Academy of the Arts, established in 1999 (private):** the Iceland Academy of the Arts was established as a new institution. At the same time two previously established art colleges were shut down: the Icelandic Drama School and the Icelandic College of Arts and Crafts. The institution offers 11 undergraduate programmes and diploma studies and two graduate studies programmes and diploma within four departments: Design and Architecture, Fine Arts, Drama and Music.
- **Hólar University College, established in 2003 (public):** the institution was founded in 1882 as the Agricultural School at Hólar. In 2003 the institution was upgraded to university level and offers three undergraduate programmes in the fields of aquaculture and fish biology, equine science and rural tourism.
- **Agricultural University of Iceland, established in 2005 (public):** In 2005 the Agricultural University of Iceland began operation with the merger of the Hvanneyri Agricultural University (formerly Hvanneyri Agricultural College 1889-1999), the Agricultural Research Institute, and the Icelandic Horticultural College. A two-year university programme in agricultural sciences was established at the Agricultural

College Hvanneyri in 1947 and was upgraded to a three year B.Sc. programme in 1965. The newly established institution offers three undergraduate diplomas granting standing as a forestry, horticultural, or landscape technician, five undergraduate and four graduate programmes in: agriculture, natural history, natural resource management, and forestry/land reclamation.

Private and public institutions

44. In 2005 five public institutions and three private institutions were operating at the university level. The private institutions have been enrolling an increasingly larger part of the student population from 4.4% in 1998 to 13.5% in 2004 (Annex A1.6). The enrolment proportion of private institutions is expected to increase after the merger of the public institution of Technical University of Iceland (with 6% enrolled students in 2004) with the private institution of Reykjavik University in 2004. It is an explicit policy of the incumbent government to give private HEIs enhanced responsibility. The main difference between public and private institutions is depicted in table 2.1.

45. The distinction between public and private HEIs is mainly based on legal differentiation. The role of public institutions is defined in separate laws and regulated by the Ministry of Education, Science and Culture or Ministry of Agriculture. Additionally, the public institutions are legally obliged to follow various laws and regulations applying to specifically to them, such as laws on budgetary responsibilities, access to information and transparency, and recruitment procedures. The private institutions also operate under the Act on Universities and in accordance with an individual charter that is confirmed by the Ministry of Education, Science and Culture.

46. The Universities Act stipulates internal financial and management autonomy of the HEIs. The formal relation with the Ministry of Education, Science and Culture is further defined in performance-related agreements with public institutions and service contracts with private institutions. The private institutions receive more than 50% from core funding for teaching and facilities from the central government according to the same funding formula as the public institutions. In addition they charge students tuition fees, whereas the public institutions do not have the legal authorisation to do so. The research allocation is based on a three-year agreement between the Ministry of Education, Science and Culture and individual institutions under its auspices. The institutions differ in the extent to which they engage in research. In 2002 the income ratio of the University of Iceland was balanced between research and teaching whilst the other institutions received most of their income for teaching. The institutions under the auspices of the Ministry of Agriculture are financed by annual incremental budget allocations for both research and teaching. Furthermore, all institutions operate on a non-profit basis.

47. The system can be categorised into three groups according to the enrolment figures. There is one institution with approximately 9,000 enrolled students (University of Iceland); three institutions with 1,500-2,500 enrolled students (Iceland University of Education, University of Akureyri, and Reykjavik University), and four institutions with fewer than 500 enrolled students (Agricultural University of Iceland, Hólar University College, Bifröst School of Business, and Iceland Academy of the Arts).

Table 2.2 List of Icelandic institutions at the higher education level.

Institution:	Private/public	Separate law	Charge tuition fees	Funding formula	Research/ Teaching exp.ratio (2002)*	Enrolment figures (2004)	Under the auspices of:
University of Iceland	Public	Yes	No	Yes	63/37**	8.932	MinEdu
Iceland University of Education	Public	Yes	No	Yes	29/71	2.302	MinEdu
University of Akureyri	Public	Yes	No	Yes	50/50	1.512	MinEdu
Technical University of Iceland***	Public	Yes	No	Yes	0/100	916	MinEdu
Agricultural University of Iceland	Public	Yes	No	No	61/39	166	MinAgri
Hólar University College	Public	Yes	No	No	36/64	90	MinAgri
Reykjavik University	Private	No	Yes	Yes	26/74	1.361	MinEdu
Bifröst School of Business	Private	No	Yes	Yes	21/79	424	MinEdu
Iceland Academy of the Arts	Private	No	Yes	Yes	9/91	371	MinEdu

* Figures from the Ministry of Education, Science and Culture accounting separation to HEIs in 2002 (Table 5.2)
** All research institutions under the umbrella of the University of Iceland are included in this calculation
*** Enrolment figures summed with Reykjavik University because of the merger in 2004 or 2,300 students.

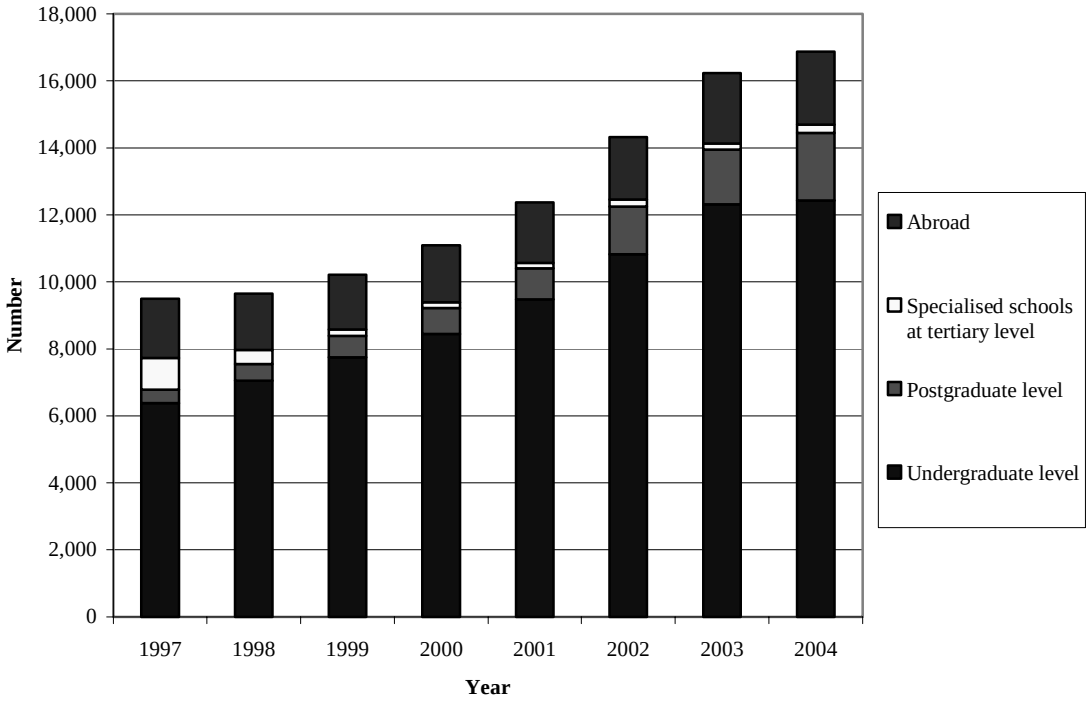
Size of the tertiary system

48. In 2004 approximately 16,074 students were enrolled at the HEIs divided into: students in specialised vocational schools at the tertiary level: 248 (1.5%); undergraduate students: 12,425 (77.3%); postgraduate students: 2,025 (12.6%); and students studying abroad: 2,175 (13.5%). In the period from 1997 to 2004 the enrolment figures at the vocational/technical level increased by 25 students (1.5%), at the undergraduate level by 6,044 students (94.7%), and at the graduate level by 1,627 students (509%).

49. Figure 2.1 encapsulates the expansion in the enrolment rate at the HEIs in the last decade or more than a twofold increase (Annex A1.5). Much of this growth is attributable to the increasing number of women, who have formed the majority of students in higher education since 1980. Presently, there are 39% more women than men studying at the higher education level (Annex A1.7 and A1.8). It is important to stress that not all of the students included in this graph are active; for example, in 2004 approximately 11,014 students were active in institutions under the auspices of the Ministry of Education, Science and Culture whereas the actual enrolment figure was 15,534 for the same year. Full-time students who completed their examinations made up approximately 70.9% of the total number of enrolled students (Annex A1.9)

50. The demand for higher education is expected to increase in the future because of the relatively stable size of the youth population (Annex A1.2) and the increasing enrolment of people over 30 years of age (Annex A.17 and A1.18). Furthermore, it is anticipated that the continual changes in the Icelandic economy will enhance demand for an increasingly highly skilled labour force in various sectors.

Figure 2.1 Number of enrolled students at the tertiary level in Iceland and abroad 1997-2004



Note: These data cover all students at tertiary level, including both university and specialised schools at the tertiary level. Only those students outside Iceland who apply for assistance to the Students Loan Fund are included. Each student is counted only once. The data are not always comparable because of changing availability through the years; e.g. data collection on students in evening courses and distance learning started in 1997.
Source: Statistics Iceland

51. As is shown in Table 2.3 there is a clear propensity for older students to enter the tertiary education institutions. Over the period of 2000 to 2004 there was a considerable increase in the percentage of students aged 30-39 and 40 and older, an increase of 5% and 4%, respectively. The significant increase in older students can be explained by mounting demand for a more highly educated workforce, an enhanced supply of graduate programmes, and provision of flexible programmes for people to engage in part-time studies. The majority of enrolled students at graduate level are older than 30 years of age (Annex A1.17 and A.18).

Table 2.3. Enrolment figures at the tertiary institutions in 2000-2004.

Age group	2000		2001		2002		2003		2004	
	Number	%	Number	%	Number	%	Number	%	Number	%
19 and younger	68	1	82	1	57	0	77	0	77	0
20-24	5,384	44	5,775	42	6,374	40	6,830	39	6,726	37
25-29	3,419	28	3,721	27	4,124	26	4,535	26	4,722	26
30-39	2,014	17	2,508	18	3,173	20	3,717	21	3,987	22
40 and over	1,289	11	1,608	12	2,025	13	2,404	14	2,731	15
		10		10		10		10		10
Total	12,174	0	13,694	0	15,753	0	17,563	0	18,243	0

Source: Statistics Iceland (2005)

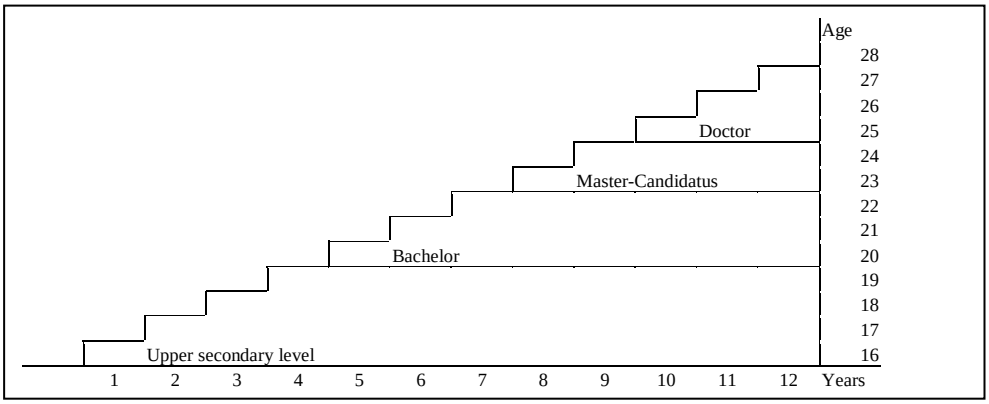
Degree structure of the higher education system

52. The Icelandic higher education system has always been a hybrid system. The degree structure of the Icelandic higher education system has since 1942 been largely consistent with the aim of the Bologna Declaration. Moreover in recent years some *candidatus* programmes

have been restructured into a shorter two-circle degree structure (3+2). In almost all institutions studies are divided into credit units (*námseiningar*), 30 credits corresponding to one academic year of full studies, 15 credits corresponding to one semester of full-time studies. As a general rule, 30 Icelandic credits are equivalent to 60 ECTS credits. Icelandic is the language of instruction in the HEIs in Iceland. However, in order to be attractive to foreign students and staff, HEIs offer an increasing number of courses and programmes in English (see Chapter 10).

53. According to the Universities Act the Ministry of Education, Science and Culture is responsible for granting programmes offered at HEIs. A list of programmes that each institution is allowed to offer is appended to the contract completed between the Ministry and the institution. Every two years the Ministry publishes a list of all programmes that are approved by national authorities.

Box 2.1 Higher education structure



Two-year diploma courses are offered in instrumental/vocal performance, dance, computer studies, management and civil and electrical engineering.

Bachelor's degrees (B.A., B.S., B.Ed.) are awarded to students who have satisfactorily completed the required 3 to 4 years of study (90-120 credits) in a degree programme in the field of humanities, theology, social sciences, education, economics, business administration, natural sciences, health subjects, fishery studies, agricultural science and engineering, courses for pre-school teachers, compulsory school teachers and in social pedagogy. Bachelor's degrees do not usually confer professional certification, except for nursing (B.S.) and compulsory primary teachers (B.Ed.). The bachelor's degree constitutes a formal qualification for postgraduate study. The **BFA degree** is awarded to students who have completed 4 years study of drama/acting. The **Bmus degree** is awarded to students who have completed 3 years study of instrumental/vocal performance.

Candidatus degree (*kandidatsgráða*) qualifies the holder for a special office or profession. It is an academic/professional degree in the fields of medicine, pharmacy, midwifery, business administration, and dentistry. The candidatus programmes last from four to six years.

Postgraduate certificates in upper-secondary teacher education, social work, student counselling, journalism and mass communication are offered after one year of postgraduate study in the field in question (after bachelor's degree). The certificates in social work and upper-secondary teacher education are professional certifications.

Master's degrees (M.A., MBA, M.Ed., MPA, M.Ped., M.S. – *meistaragráða*) are awarded after one or two years of successful completion of postgraduate study in the fields of theology, humanities, law, economics, business administration, social sciences, education, natural sciences, engineering, medicine, education, dentistry, nursing, fishery studies and environmental studies. A major thesis or research project is a substantial part of the programme.

Doctoral degree (dr. phil./Ph.D.– *doktorsgráða*) is awarded to those who have successfully completed a doctoral programme and defended a doctoral thesis in Icelandic literature, Icelandic language and Icelandic history, theology, law, medicine, pharmacy, dentistry, education, engineering and social sciences. Study for a doctor's degree takes from three to four years.

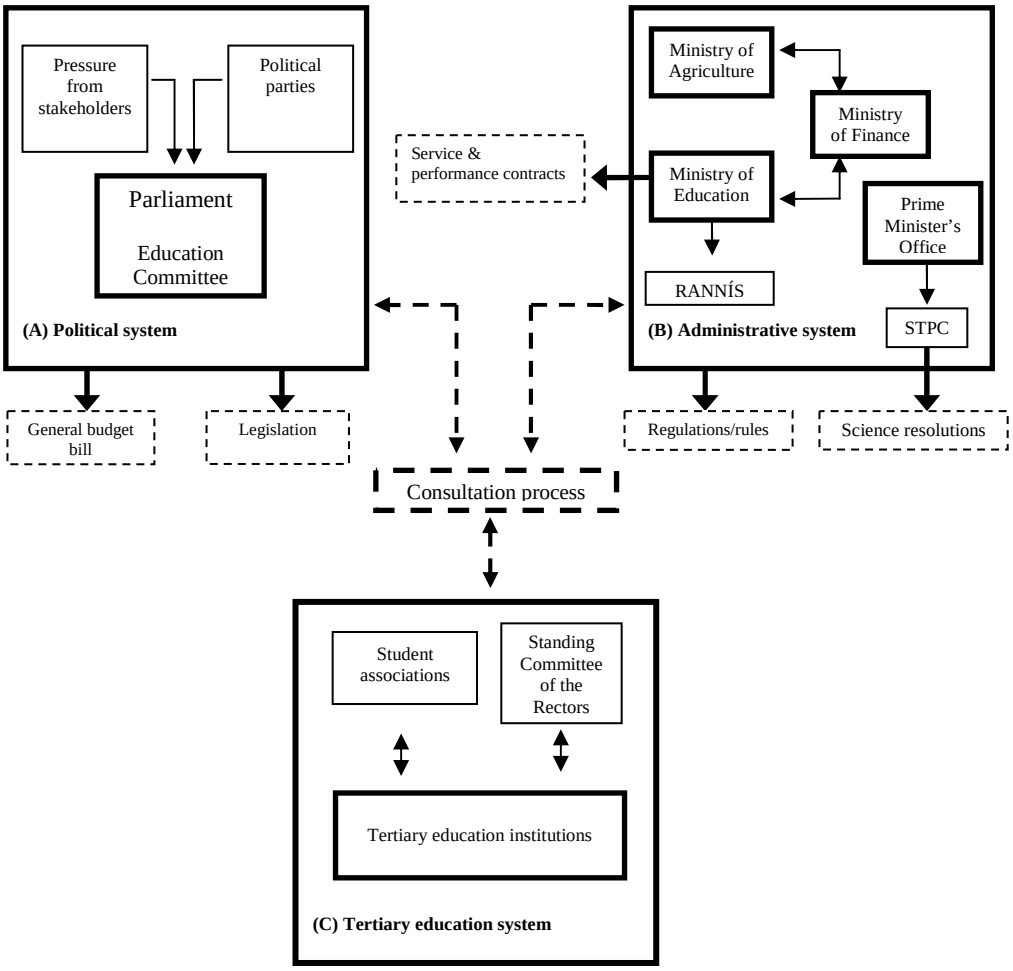
Source: Eurydice (2005)

54. The most prevalent attendance form at HEIs is a full-time programme. Flexibility has been initiated in recent years with an increasing number of students entering the system and with enhanced competition between the institutions. For example, the University of Iceland and Reykjavik University offer MBA programmes where people can choose to study part-time. Recently, the Bifröst School of Business introduced a 12-month Masters' programme, allowing students to attend university during the summer term. Distance education is becoming more widespread; for instance, approximately 55% of students at the University of Education are taking distance learning programmes and courses.

Policy making process

55. Figure 2.2 illustrates the decision making process at the tertiary level. There are three main clusters. In the top left is the political system (A, including the legislative system). In the top right is a group of administrative factors (B, including the ministries and STPC under the auspices of the Prime Minister's Office). In the bottom half of the figure is the tertiary education system (C, including the institutions and the Standing Committee of Rectors and student associations). Beyond this consultation process at the heart of figure 2.2 are the four main outputs: legislation, regulations and the general budget; service and performance-related contracts, and science resolutions.

Figure 2.2 Model of the policy making process



56. Each box will be examined in more detail, as follows:

57. **Box A** depicts the political component of the tertiary education system. The Minister of Education, Science and Culture is politically responsible for the education system as a whole.

It is the central political authority – the government and the Parliament (*Alþingi*) – that agree on the annual appropriations to the HEIs. The higher education system is predominantly funded by the central government. The appropriation to tertiary education institutions is proposed by the government and decided by the Parliament. The Ministry of Finance applies "frame budgeting" (*rammafjárlagagerð*) when it allocates resources to the higher education system. A specific sum is subsequently allocated to the Ministry of Education, Science and Culture. It is then left to the Ministry to decide how the funds will be allocated to individual institutions, in accordance with the limit set by the frame. The Parliament then approves the financial plan as a part of the General Budget Bill (*fjárlagafrumvarp*). The funding mechanism to higher education has been reformed in recent years by introducing further fiscal freedom for the institutions. Simultaneously, the funding system has become more output-oriented (see Chapter 7.2).

58. The Education Committee of the Parliament consists of nine representatives from the parliamentary parties. The committee reviews all legislative proposals on the parliament's agenda concerning the educational system. The traditional procedure is to give various stakeholders the opportunity to present their views, either in writing or with a formal meeting with the committee. Subsequently, the committee gives an advisory opinion or proposes amendments to the legislative proposal before the first and second discussions in the parliament.

59. **Box B** depicts the main actors involved in the administrative and implementation process of the system. The higher education level in Iceland consists of eight HEIs. Six institutions are under the auspices of the Ministry of Education, Science and Culture and the two agricultural institutions are under the auspices of the Ministry of Agriculture and operate under the Agricultural Education Act.

60. The Ministry of Education, Science and Culture formulates, together with the public institutions, a three-year performance-related agreement and service contract with the private institutions. These framework agreements and contracts lay down the main objectives, responsibilities and quality assurance that the institutions and the Ministry are expected to accomplish over the period. These contracts lay down the key goals and means and also guide the dialogue between the Ministry and the institutions (see Chapter 8).

61. The teaching and research budgets are allocated separately and based on different underlying principles. All institutions under the auspices of the Ministry of Education, Science and Culture receive appropriations for teaching based on a funding formula and block grant funding for research. Institutions under the auspices of the Ministry of Agriculture receive annual funding for teaching and research on an incremental basis (see Chapter 7.2).

62. According to Regulation no. 136/1999 regarding quality control of higher education, institutions are obliged to set up a formal internal quality evaluation system. The Ministry of Education, Science and Culture takes the initiative to conduct an external evaluation of higher education programmes or institutions and is also responsible for approving new programmes. A Division of Evaluation and Supervision was established in 1996 within the Ministry. Quality control for research has not been developed yet (see Chapter 9).

63. In 2003 the Parliament established the Science and Technology Policy Council (STPC) with the aim of promoting scientific research and research training and encouraging technological progress. The Council operates under the direction of the Prime Minister and consists of ministers, scientists and representatives from the business community. Two committees, the Science Committee and the Technology Committee, serve as working committees between Council meetings. The STPC formulates the prioritisation and allocation of public research funds (see Chapter 5).

64. The services to the operational level of the science and technology system are provided by the Icelandic Centre for Research (RANNÍS).[12] Its mission is to serve and provide operational support to the science and technology committees and funding bodies, to manage the international connections, monitor the effects and impacts of policies, and to provide intelligence and informed advice to STPC and its committees and sub-committees. Hence RANNÍS handles all the funding bodies set up by the new legislation, including the Research Fund, the Technology Development Fund, the Instrument Fund, the Graduate Training Fund, and other funding bodies for science that the government may want to assign to it. Furthermore, it maintains the National Contact Point Co-ordination and support network for the EU Framework programme and other international bodies in science and technology (see Chapter 5).

65. **Box C** itself represents the tertiary education system and the Standing Committee of the Rectors of Higher Education Institutions (*samstarfsnefnd háskólastigsins*). Since 1987 the Standing Committee has served as a platform for discussions on various matters of common interest. The Universities Act strengthened the role of the committee and gave it a legal status. It consists of the heads of the HEIs, with the rector of the University of Iceland normally nominated as chairman. The committee is a common policy-making body for the tertiary institutions and it gives opinions on questions referred to it by the Minister of Education or individual institutions (see Chapter 8).

66. There is no single representative body for university students at the national level. However, each HEI has its own student body, for example, the Student Council of the University of Iceland (SHI). The Student bodies for all the other HEIs have formed their own organization (BÍSN). In addition there is a special representative body for university students studying abroad (SÍNE). In accordance with the Universities Act students have representatives on the university councils of public universities.Students can influence the policy making process in various ways. Students participate in university forums, faculty meetings and department meetings according to special laws and regulations set for individual public universities. Students are not represented on councils of all the private institutions but each of these institutions has an active student organisation (see Chapter 8).

Government policy and recent developments

67. The main policy objective of the government in the area of higher education has been to raise the general level of education attainment in the country (Menntamálaráðuneytið, 1999).[13] During the past decade control of the HEIs by the Ministry of Education, Science and Culture has been deregulated and the institutions have been granted extensive autonomy. The main policy aims of the government in this field are to create competitive elements in the higher education system that will enhance quality and efficiency in the use of resources. The means to this target have been to: open the system to private parties, who, after meeting general criteria, are also acceptable for funding; a system of quasi-contracts between government and institutions, performance-related block grant funding; external quality evaluation/reviews; and more managerial governance. The Ministry's emphasis is on agreements and the monitoring role, rather than on interference with particular internal matters of the institutions.

68. The recent changes of the tertiary education system consist of four main lines. Firstly, new HEIs have been established or upgraded with a more specialised focus, creating more diversity at the tertiary level. In the present policy on higher education, no precise numerical

[12] In 1994 the Icelandic Research Council was established to replace the previous Council of Science (basic research) and National Research Council (applied R&D). The Icelandic Research Council advised Government and Parliament on all aspects of science, technology, and innovation. It also had a funding function.
[13] Menntamálaráðuneytið (1999). Menntun og menning fyrir alla. Verkefnaáætlun 1999-2003. Reykjavík.

targets or benchmarks have been formulated. On the other hand, the government negotiate with the individual institutions of the number of active students that it is willing to fund and can control the expansion of the system within budgetary constraints. The growth has been mainly driven by community demand and the enhanced supply of educational opportunities in the country.

69. Secondly, the HEIs have to a larger extent emphasised the importance of research activities and strengthening their research capacity. As a result there has been a rapid expansion of research-based education, with an increased number of Ph.D. and postgraduate students (see Table 2.4). Another aspect is the increasing attention to research policy and strategies to stimulate internationalisation of research activities to improve quality and competitiveness. A related issue is the growing "Europeanization" that will continue to play a large role in the near future, and to a lesser extent inter-Nordic co-operation (see Chapters 5 and 10).

70. Thirdly, there has been an increase in the availability of higher education programmes at various levels. In general, the Icelandic higher education system is developing towards a more comprehensive system, even though postgraduate programmes are still not offered in all disciplines and fields. In Table 2.4 the numbers of programmes and diplomas offered at the HEIs are illustrated. There has been a significant increase in the numbers of programmes and diplomas offered at all levels of higher education. From 1999 to 2005 a total of 153 new programmes and diploma studies have been established at the HEIs; the expansion has been most prominent at the postgraduate level (Ministry of Education, Science and Culture). As a result of this development the percentage of Icelandic students studying abroad has dropped considerably (see Chapter 10).

Table 2.4 Number of programmes and diplomas offered in 1999 and 2005

Higher Education Institutions:	Undergraduate 1999	Undergraduate 2005	Graduate 1999	Graduate 2005	Ph.D. 1999	Ph.D. 2005
University of Iceland	89	111	87	121	7	19
University of Akureyri	11	21	6	8	0	0
Iceland University of Education	4	8	15	29	0	1
Agricultural University of Iceland	2	7	0	4	0	0
Hólar University College	0	5	0	0	0	0
Reykjavík University	5	11	0	8	0	2
Bifröst School of Business	4	3	0	28	0	0
Iceland Academy of the Arts	15	11	1	2	0	0
Total	130	177	109	200	7	22

Source: Ministry of Education, Science and Culture and Agricultural University of Iceland.

71. Finally, the institutions are to a larger extent emphasising continuing education and distance learning. In general, the government policy in this respect is to ensure access to education for adults and rural residence so that they can acquire and renew skills required for active participation in society (see Chapters 3 and 4).

Tension within the tertiary education system

72. After more than a decade of expansion the government have extended the annual appropriations allocated to the HEIs in conformity with the enormous increase in the number of students. This continuous demand for higher education and the demand from the institutions for financing various internal developments have created fiscal pressure on the government. The question is how the government should respond to this demand with pressure also coming from other government-financed systems. The discussion of altering the traditional financing method such as by introducing tuition fees, i.e., insisting on a greater

share from students in the financing of their higher education, has raised the controversial issues of equal access and social mobility. Furthermore, the financing of higher education has, among other things, created tension between public and private institutions. Private institutions receive state support to the same extent as the public institutions and can also charge tuition fees, whereas public institutions are only authorised to charge registration fees. This has raised the question of distorted competition in various fields of study offered both at private and public institutions.

73. The higher education system has been criticised for its homogeneous structure, with its weak vocational/technical level and *academic drift* in recent decades. There is a general consent that there has been significant progress and expansion of the system in recent decades in terms of institutions, students, and number of programmes. However, it has been contested whether the expansion has led to real diversification of the system. It has been argued that the current legislative framework has eroded the difference among institutions and fields, transferring all institutions into the homogeneous realm of theoretically based education (Jónasson, 2004, 2004b: 287-288).

74. As the HEIs have multiplied in number and expanded, issues of how to allocate research funds have been raised. Since the Icelandic institutions are relatively small compared to those of other countries, it has been argued that it is more sensible to focus on fewer institutions. The research conducted within the higher education system is mostly financed by the state and the majority of the research budget is allocated to the University of Iceland. In recent years this dominant role of the University of Iceland has been challenged, with an increasing demand from other institutions to develop their own research capacity. This has raised the question of the necessity to make a clearer distinction between institutions with a research role and "other" institutions and to take such a differentiation into account when financing research. This view has been advocated at the University of Iceland, claiming recognition of its special status as the only institution that can develop to a full-scale research university compatible with international standards. On the other hand, some have argued that a more equal distribution of the research budget is necessary for institutions to provide academic staff with the opportunity to develop their professional qualifications and furthermore that enhanced competition, both for funding and within research communities, will improve quality.

75. The following tension regarding the policy of the Science and Technology Policy Council's (STPC) can be identified. The public funding of research by competitive procedures has been growing, with the increased emphasis being placed on research at the HEIs, marked by the rapid growth of the higher education sector. There has been ongoing debate between basic/academic and applied researchers – the majority of applied research being carried out in the public research organizations and business firms and the basic/academic research in the universities. This debate becomes focused on the evaluation criteria used by the Research Fund, established in 2003 by combining two equally large funds, one for basic research and one for applied research. There are some that have pointed out that the funds favour basic research over applied research. The fund has now operated for two years and the larger proportion of the funding has been to the universities, the majority to the University of Iceland. At the same time the STPC policy stresses the need for closer co-operation between the public research institutes and the universities.

76. The fiscal pressure and escalating competition between institutions has initiated a greater demand for accountability of the institutions and an enhanced role of the government in quality assurance. The institutions have expanded and become more expensive, therefore creating pressure by the government to expect financial and managerial accountability and high standards of teaching and research. Some have criticised the government's policy of creating a competitive higher education system with significant autonomous institutions that have not been balanced by a strong enough quality assurance system (Vilhjálmsson, 2005:

147). However, the applicability of strict evaluation criteria between different types of institutions, such as arts academies, has been questioned (Ragnarsson, 2005).

77. Finally, there is the issue of the regional distribution of HEIs. While different regions demand and strive for the establishment of new HEIs in their areas, the general objectives of the regional dimension are still vague. As a result of the expansion of the University of Akureyri, other areas outside the capital area are stressing the importance of enhancing the education opportunities in their regions. The government's policy has emphasised the development of the distance learning programmes through the regional centres in collaboration with the HEIs. Recently the idea of the foundation of new HEIs in the Ísafjord area (*West Fjords*) and the Egilsstadir area (*East Iceland*) have been prominent in the media and political circles. As these regions do not have a population base to support such institutions, the government are looking towards regional centres in order to provide higher education opportunities to people in rural areas.

Chapter 3: The tertiary education system and the labour market

Policy context

78. The Icelandic economy has operated at a very high level of labour employment for most of the nation's history since the founding of the republic in 1944. In fact, Iceland has one of the lowest unemployment rates and the highest labour force participation rate in the OECD (Annex A1.23 and A1.24). In 2004, the unemployment rate in the EU-25 was 9.0% (EU-15 8.9%) and 3.1% in Iceland (Eurostat, 2005; Statistics Iceland). In the past decade the unemployment rate has increased, reflecting both transitory conditions and structural changes; nevertheless Iceland has in no way experienced the harsh deterioration of labour market outcomes that has occurred in continental Europe (OECD, 1997: 62-63).

79. The Icelandic economy has gradually changed over the last two decades. The importance of the primary sectors of agriculture and fisheries has declined. The present vast expansion of the aluminium sector reflects the authorities' view that Iceland should diversify its export base by diminishing its dependence on fisheries, while simultaneously taking advantage of its wealth of renewable energy resources. Furthermore, recent structural economic reforms have transformed the economy and made it more global and competitive. This transformation of the economy requires greater diversification away from resource-intensive economic activities in order to provide citizens an adequate living standard. As the economy has become more diversified and internationalised, the demand from the private sector for a highly educated workforce has increased significantly.

80. In policy debates there has been an emphasis on economic returns from higher education and the contribution of increased education to economic growth. It is frequently stressed that, despite the nation's resource advantages, its economic success will more than ever be determined by the ingenuity of its people and by their ability to respond to fast-changing needs in the ever more unified global market place.

81. The Directorate of Labour (*Vinnumálastofnun*) is responsible for the implementation of active labour market policy, monitoring the regional employment offices, supplying them with professional assistance, and collecting information from them on the employment situation. However, neither the government nor HEIs carry out systematic assessment of the labour market demand nor of the supply of tertiary education graduates and their earnings.

Government policies

82. The higher education system in Iceland has to a large extent responded to the changed economic environment. These changes have imposed new tasks for the education system to ensure stronger links between higher education and industry, to introduce greater diversity and flexibility in education, and to strengthen continuous learning. The authorities have in recent years stressed the importance of human capital formation for Iceland's capability to diversify and its future economic performance; as a result the government have significantly increased spending on education. By international comparison Iceland has moved from being a low spender to a high spender in this area in terms of GDP, although the country's young population base means that expenditure is less outstanding on a per capita basis (OECD, 2004).

83. In recent years debates on private and community returns to education have become widespread, as well as the question of the suitability and efficiency of government policies to manipulate the supply of graduates and in determining in which fields they should be qualified. Nevertheless, there is no centralised effort by the government to direct the

provision of tertiary education towards particular disciplines or areas. It is an explicit government policy to let the demand for education determine the supply without direct intervention from the central government. It is expected that the HEIs (HEIs) themselves will respond to labour market demands. The underlying assumption is that education planning based on anticipation of future needs is difficult to carry through successfully and hence prediction about needs for the future is unlikely to be accurate. Specific industries have conducted studies to assess demand for particular jobs and professions, but this has not been initiated or supported by the government (Ríkisendurskoðun, 1994:24).[14] The overall government policy is to let the equilibrium mechanisms of the labour market balance the supply and demand for an educated labour force.

84. The government have pursued various policy measures in order to make the tertiary institutions more responsive to labour market demand. Firstly, the government have instigated competition into the tertiary education system. The underlying assumption is that increased competitiveness will enhance the quality and the responsiveness of the system as a whole. Secondly, the government have emphasised the need to strengthen co-operation between HEIs and industry. It is envisaged that these measures will generate an education system that is more sensitive to the needs of economic activities and in the long run ensure sensitivity of the education system to the demands of the labour market. For example, the main argument for the unification of the Reykjavik University and the Technical University of Iceland in 2005 was to strengthen the association between industry and academic institutions in the fields of technology and engineering. Furthermore, the government have directly encouraged both private and public institutions to appeal to business for additional financial resources. As a result, the HEIs are increasingly calling upon business enterprises and other activities for co-operation; for instance, various business enterprises sponsor academic posts at the university level.

Educational attainment and industry sectors

85. As in other countries, the number of students enrolled in higher education in Iceland and the range of courses offered has grown very rapidly in recent years and the upgrading of the occupational structure as a result of industrialisation processes has created, among other things, a demand for a skilled and highly educated labour force. Consequently, there is increased pressure on the tertiary education system to diversify in order to meet the demand for more education and to accommodate an increasing number of students. As most individuals in Iceland complete secondary education, the proportion of occupations that require post-secondary education has grown and is projected to continue to grow (OECD, 1997). Within the perspective of a "knowledge economy" it is claimed that there is a collective need for highly skilled graduates who are employable in a broad spectrum of jobs. On the other hand, there is an ongoing concern that too few students attend programmes in natural sciences and engineering (OECD, 2004: 83).

86. The people graduating with vocational qualifications have not grown in numbers during the last decade and in many trades the number of graduates has fallen.[15] The decline in the proportion of students finishing vocational education and the increase in the proportion of students completing general education at the upper secondary level and the university level has already resulted in a skill gap and a skill disparity in the Icelandic labour force (OECD, 1997:81-84). The relatively high dropout rate at the upper secondary level in Iceland can be the result of emphasis placed on the academic line of studies rather than vocational training, with 61% of all upper secondary students in general programmes, 14% above the mean of the OECD (OECD, 2004; Stefánsdóttir, 2001;). In a special OECD report on education and the

[14] The National Audit gives one example of a survey that was conducted by the government that assessed the demand for teachers in the primary schools in 1999.
[15] It fell from 10.6% for those born in 1969 to 7.0 % for those born in 1975.

labour market in Iceland it is claimed that the relatively high rate of student drop-outs at the upper secondary level is inextricably related to the weakness of the vocational education system (Óskarsdottir, 1995; OECD, 1997:83-84).

87. According to the OECD the Icelandic labour force is characterised by a relatively large groups of low-skilled workers and of highly skilled workers. The share of the Icelandic labour force with primary education and lower secondary education (ISCED 1 and 2) was 35% in 2001, while the average rate for OECD countries was 29%. Conversely, the share of those that had completed tertiary education (ISCED 5 and 6) was 36% in Iceland and 29% on average in the OECD countries (OECD 2003; OECD, 1997:81-84).[16]

88. From an economic point of view, the evolution of tertiary education in Iceland has developed from two main forces. Firstly, the economic structure is relatively resources-based and there is a high labour intensity in the primary sectors. This has arguably had a dampening effect on the demand for highly skilled human capital in key sectors. Secondly, the build-up of a modern welfare society has worked in the other direction and stimulated the growth of jobs requiring a university education (OECD, 1997). In recent years the chief job growth has been in the public health and education sector and the governmental sector, similar to other Scandinavian countries. Other evolving sectors have been all types of personal services, wholesale and retail businesses, banking, tourism, and cultural pursuits. In 2003 the majority of the Icelandic workforce or 71.4% was employed in the service sector, 21.7% in the industry, and 6.9% in the agricultural and fishing sectors. The division of the country's main employment sectors are depicted in Table 3.1.

Table 3.1 Employment in Iceland by sector in 2003 (ages 16-74)

Sector	%
Agriculture and fishing	**6.9**
Agriculture	3.6
Fishing	3.3
Industry	**21.7**
Fish processing	3.4
Manufacturing except fish processing	10.4
Electricity & water supply	1.0
Construction	6.9
Services	**71.4**
Wholesale, retail trade, repairs	13.1
Hotels, restaurants	3.5
Transport, communication	6.2
Financial intermediation	4.0
Real estate & business activities	9.1
Public administration	5.2
Education	7.8
Health services, social work	15.8
Other services and n.s.	6.8
Total %	100

Source: Statistics Iceland

89. Up to now, a comprehensive strategy has not been developed to tackle the mismatches in the education system. The emphasis on the university level has increased steadily at the expense of graduates from lower levels of the education system. At the same time, there seems to be a pressure for higher degrees to get jobs for which lower level degrees would have been sufficient earlier. The education system has responded to the higher qualification

[16] The 1997 OECD report claims the dispersion of educational attainment is greater in Iceland than in the average OECD country.

demands of the labour market by developing new master's and doctoral programmes. However, an increased labour market demand for vocational education has not followed suit (Jonasson, 2004).

Educational attainment and employment trends

90. Tables 3.2 and 3.3 examine the relationship between educational attainment and labour force activity, comparing employment ratios first and then the unemployment ratios. In Iceland, as in other OECD countries, the employment ratios rise with educational attainment, although the gap is less wide. The gender gap is also less wide compared to other OECD countries. The gender gap in employment ratios decreases with increasing educational attainment. The gap is 10% among persons without an upper secondary education and 4% among those with the highest educational attainment, whereas the average figures for the OECD countries are 23% and 11%, respectively (OECD, 2004: 146-163).

Table. 3.2 Employment ratio and educational attainment in percentages (2002)

	Age groups	
	25-64	30-34
Lower secondary education		
Males	92	96
Females	82	84
Upper secondary education (ISCED 3A)		
Males	91	94
Females	84	79
Post-secondary non-tertiary education		
Males	95	94
Females	85	75
Tertiary education, type B		
Males	95	88
Females	92	92
Tertiary education, type A and advanced research programmes		
Males	98	100
Females	94	90

Note: The employed are defined as those who, during the survey reference week: i) worked for pay (employees) or profit (self-employed) and unpaid (family workers) for at least one hour, or ii) had a job but were temporarily not at work (through injury, illness, holiday, strike or lockout, educational or training leave, maternity or parental leave, etc.) but had a formal attachment to their job.
Source: OECD (2004)

91. There has been a slow increase in the proportion of university graduates among the unemployed, rising from 7.6% in 2000 to 9.9% in 2004 of the total unemployed population (Directorate of Labour; Annex A1.22). Whether this trend will continue is difficult to assess at this point in time. However, this indicates that Icelandic society has not managed to match job creation to skills available in the Icelandic labour market. It is possible that the current economic growth, currently over 5% of GDP in 2005, will reverse this trend.

92. Table 3.3 reveals that those with low educational attainment are more likely to be unemployed, whereas unemployment ratios fall with higher educational attainment. However, there seems to be a different pattern in unemployment ratios between 25-65 year olds and the age group 30-34 year olds.

Table 3.3 Unemployment ratio and educational attainment in percentages (2002)

	Age groups	
	25-64	30-34
Lower secondary education		
Males	3.0	3.0
Females	2.7	3.6
Upper secondary education (ISCED 3A)		
Males	2.7	1.8
Females	2.5	2.5
Post-secondary non-tertiary education		
Males	1.8	3.1
Females	1.5	0.0
Tertiary education, type B		
Males	2.8	4.0
Females	1.0	0.0
Tertiary education, type A and advanced research programmes		
Males	1.2	0.0
Females	1.7	3.2

Note: The unemployed are defined as individuals who are without work, actively seeking employment and currently available to start work.
Source: OECD (2004)

Life-long learning

93. In December 2002 the Icelandic Federation of Labour (ASÍ) and the Confederation of Icelandic Employers (SA) established the Education and Training Centre. The purpose of the Centre is to be a joint forum of the founding parties for adult education and vocational training in collaboration with other education bodies operating under the auspices of the member associations of ASÍ and SA. The Centre operates in accordance with its articles of association and a service agreement with the Ministry of Education, Science and Culture.

94. In Iceland, the government have largely left it to unions and employers' organisations to negotiate terms that safeguard the rights of employees to life-long learning, rather than enforcing law and regulations. The wage agreements contain numerous provisions that guarantee the workers the right to lifelong-learning, and the provisions ensuring higher salaries for those who gain additional qualifications. In recent years it has become more common for wage agreements to embrace the right of workers to undertake studies. These provisions vary from one wage agreement to another: some guarantee the right to unpaid study leave, while others provide for the employee to be able to undertake studies during working hours on full pay.

95. The Icelandic work force compensates for a low skill level by attending adult education and training courses offered outside the formal education system. This vocational education is sponsored by Icelandic enterprises and trade unions. In 1998 the proportion of the Icelandic population 18-65 years of age engaged in lifelong-learning outside the tertiary education system during the previous twelve months was 32% (Jónasson and Arnardóttir, 2001). Participation in job-related education and training is relatively high in Iceland compared to other OECD countries. In 1998 the proportion of those 25 to 64 years of age who had participated in job-related education and training during the previous twelve months was 40% in Iceland, as compared to 45% in Finland and 34% in the USA in 1995. Education and training outside the Icelandic education system is primarily carried out by private enterprises (25.1%), at the work place (20 %) and by education centres (16.2 %).

Education and industry

96. The relationships between universities and industry have become more important in the area of research. Contract research and consultancy services provided by universities have generated increased revenues, whereas more and more strategic research collaborations have been initiated. These tendencies have occurred in relation to the development of the higher education system towards a more comprehensive research-based system (see chapter 5).

97. There is no comprehensive policy that links the tertiary education system and the labour market. The extent of such links varies between disciplines. However, students in most disciplines are required to achieve practical experience in their field of study. A part of this experience is frequently achieved through employment and the respective HEI often serves as the mediator for the placement of students for practical training. Research institutions engage students to work on research projects that have been negotiated with state and private agencies.

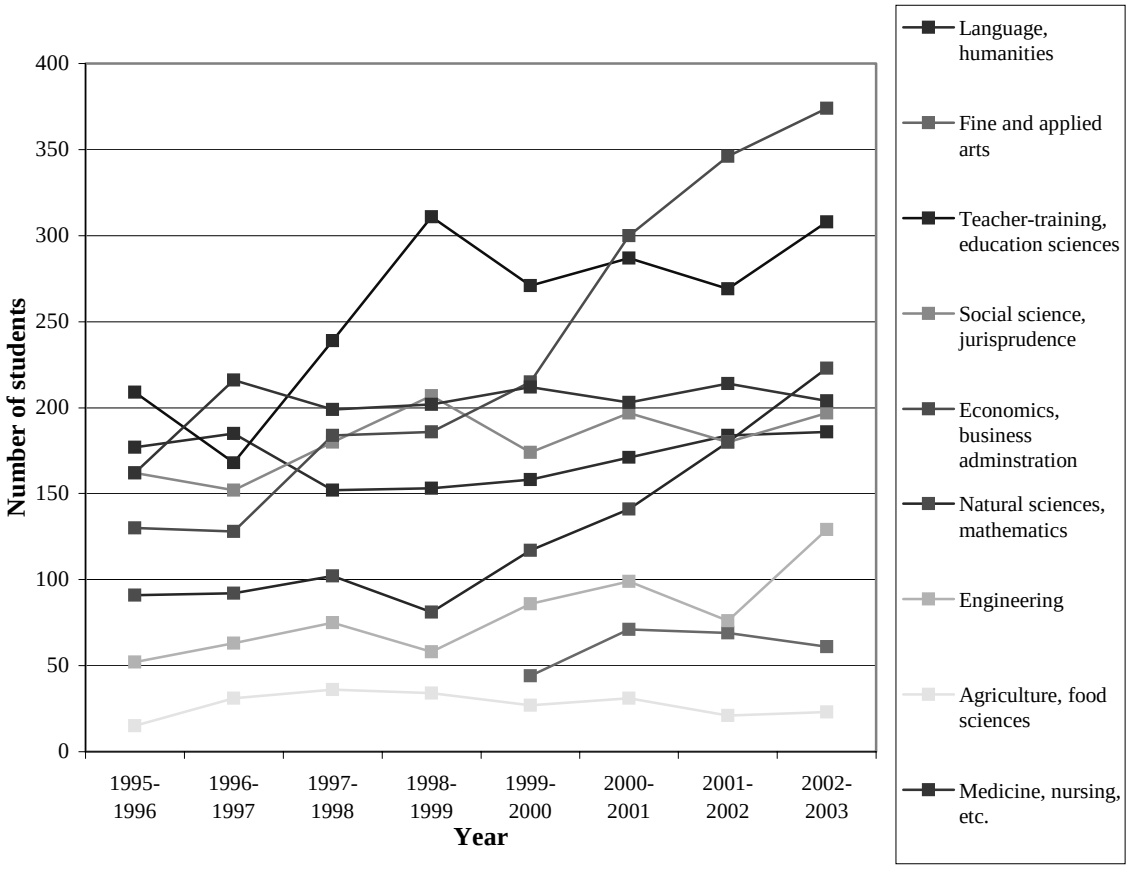
98. Landspitali-University Hospital is at the forefront of specialized and general health care in Iceland. The hospital is a centre for knowledge and technical know-how, providing the basis for the nation's health service and the education of its professionals, as the hospital is instrumental in basic and further training of the health care community. The hospital leads the field of health sciences with diverse laboratory work and health instruction. The laboratories of Landspitali-University Hospital provide diverse laboratory services. In the haematology and chemical pathology departments about 550,000 tests are carried out every year, and about 125,000 in the microbiological and virological departments. By the same token, over 100,000 examinations are carried out in the radiology and diagnostic imaging departments every year. The hospital provides laboratory services for other hospitals and health care institutions in the country by using the latest computer and telecommunications technology.

99. Professors, companies or entrepreneurs can apply to the Innovation Fund (*Nýsköpunarsjóður námsmanna*) - established by the Ministry of Education, Science and Culture - to hire students to work on specific projects. The Fund pays for student salaries, whereas the company or the supervisor for the project provides workspace and materials. This gives the students relevant work experience in their field of study that may open future job opportunities.

Graduation trends 1995-2003

100. Figure 3.1 demonstrates the changes in graduation by undergraduate programmes in Iceland from 1995/1996 to 2002/2003. Clearly, there has been a significant increase in all fields of studies, though the rate in number of graduates in economics and business administration, mathematics and the natural sciences, and various fields of technology and engineering has nearly tripled. The fields that had the highest annual graduation rates in 2002-2003 were education, sciences and economics, and business administration. This trend is in accordance with recent labour market expansion in the financial sector and in the biotechnology sector (Annex A1.11 and A1.12).

Figure 3.1 Number of students graduating by undergraduate programmes 1995/1996 to 2002/2003



Source: Statistics Iceland

101. This growth can to some extent be explained by an increasing supply of business programmes offered at HEIs and the current expansion of the financial sector in Iceland. At present there are four institutions that offer education in business administration. Due to the growth in this field, there appears to be some over-supply of business graduates at the moment, as there is a higher proportion of people with this education among the unemployed population (Directorate of Labour, 2005). However, there is evidence of a short supply of nurses and other labour in the health sector.

Graduates and their earnings

102. There is little evidence available concerning the relationship between the supply of graduates and their earnings. The central government do not conduct research on the links between educational attainment and salaries. However, Statistics Iceland collects data on the development of the salary scale in selective sectors (Annex A1.25). These categories are very broad and have indistinct links with educational attainment in general. Table 3.4 shows the average total earning per month in 2004 (in euros) in the seven sectors that are available.

Table 3.4 Average total earning per month in 2004 (in euros)

Sectors	€
Executives	5,456
Specialists	5,005
Technical workers	4,458
Service and salespeople	2,705
Clerks	2,716
Craftsmen	3,740
Workers	2,728

Source: Statistics Iceland

103. The 1997 OECD survey argues that the correlation between education and earnings is probably weak in Iceland "due to strong commitment to equity, the progressivity of the tax system (relevant for after-tax measures of earnings), union power and the undiversified nature of the economy". It is also claimed that the economic returns to education in Iceland are probably more indistinct than in other countries due to the fact that a relatively high proportion of university graduates have traditionally worked for the public sector where market forces do not operate to determine wages (OECD, 1997:95). However, it is possible that increased diversification of the Icelandic economy in recent years has enhanced the wage disparity in the country. Recent privatisation of the public firms, such as the Icelandic financial institutions, and the consequent expansion of the financial sector have created more opportunity for the Icelandic labour force to enter the private sector.

Chapter 4: The regional role of tertiary education

Policy context

104. Iceland is one of the least densely populated countries in Europe, with only 2.9 inhabitants per square kilometre and with 65% of the population resident in the capital area and its surrounding municipalities. The nature of population distribution and migration trends in Iceland has had a detrimental effect on the supply of education and therefore the access to higher education. The educational attainment in Iceland varies between the regions with only 16% of all people with a higher education resident outside the capital area and 45% with compulsory education (Regional Development Agency). Since 1991 there have been significant changes in the number of inhabitants within the regions of Iceland. The capital area and the nearest municipalities showed a 19.1% increase between 1991 and 2001. The northern town of Akureyri with 16,000 inhabitants showed an 8.3% increase in population, but all other regions in Iceland experienced an average decrease of 9% (Statistics Iceland). The population distribution by regions in 2004 was as follows:

Table 4.1 Population distribution by regions in 2004

Region	Population	Percentage
West	14,500	4.9%
West Fjords	7,700	2.6%
North-west	9,000	3.1%
North-east	21,788	7.4%
East	11,700	4.0%
South	17,600	6.0%
Westman Islands	4,300	1.5%
Capital area	189,789	64.6%
South-west	17,200	5.9%
Total population	293,577	100%

Source: Statistics Iceland

Government policy

105. The Icelandic government have for several decades applied various measures to effect the population migration from the rural regions. In 1985 the Rural Development Agency (*Byggðastofnun)* was established under the auspices of the Ministry of Industry and Commerce (*Iðnaðar- og viðskiptaráðuneytið*) with the aim of co-ordinating the regional development plan (*byggðaáætlun*) set by the Parliament. The Agency's aim is to balance the population movement to the capital region by strengthening the rural communities. There are four arguments for government intervention in rural development: preservation of Icelandic culture, exploitation of natural resources, equity between citizens, and adjustment of communities (Statistics Iceland). The equity argument has been important for various educational projects implemented in the rural areas, both with direct and indirect measures.[17] Thus, it could be said that the national higher education policy does not have a direct regional dimension but that on the other hand the regional development policy has a clear emphasis on the importance of education (Rural development policy, 1998-2002). In 2002 the Parliament enacted an action plan for regional development with a strong emphasis on research, innovation and education. The changes in information and communication technology will progressively be exploited to open accessibility, both to all levels of the education system and continuing education. The Ministry of Education, Science and Culture and the Ministry of

[17] Annually all higher education institutions outside the capital area receive financial support to meet additional cost generated as a result of their rural location, such as travelling expenses for academic staff. For instance, the University of Akureyri receives annually additionally approximately €437,000 (ISK35,000,000)

Industry and Commerce have entered into an agreement on effective action to structure education and cultural pursuits in rural areas. At present, the government's action plan works along various strategy points that are all aimed at strengthening the labour market, telecommunications, support for SMEs (small and medium sized enterprises), and improving the quality of rural life. The most important measures are to:

- Strengthen the initiatives, entrepreneurship, and innovation of the rural residents
- Increase diversity in the labour market in rural areas with research and innovation in the primary industry sector and develop telecommunication in the service sector.
- Strengthen co-operation between innovation/spin-off companies with the public institutions with focus on communication technology.
- Strengthen telecommunications in rural areas and public transport
- Increase educational opportunities in the rural areas through distance learning and lifelong learning centres and strengthen the operation of HEIs located in rural areas
- Align the government's operation and capital allocation to labour market measures and rural development plans
- Strengthen co-operation between local governments in improving environment, culture, recreational activity, services and trade.

Educational dimension of the region policy

106. The most notable link between regional development initiatives and the development of the higher education level in Iceland has been the foundation of the University of Akureyri in 1987. In 2004 the University of Akureyri accounted for nearly 1,500 of the roughly 2,200 tertiary level students enrolled outside the capital area. The second largest institution outside the capital area is the Bifröst School of Business (located in West Iceland) with some 400 students in the academic year 2004. The Agricultural University of Hvanneyri and Hólar University College were also elevated to university status with 166 and 90 enrolled students, respectively, in 2004.

107. It is undisputed that the establishment of the University of Akureyri would not have come about without the importance of the regional dimension. The University of Akureyri has had a beneficial influence on the community in and around Akureyri. The chief incentives for establishing an institution in this area were to enhance educational opportunities outside the capital of Reykjavík and to create stronger ties between academia and the economy of the region.

108. At the beginning the institution offered programmes emphasising a practical line of studies, in nursing, fisheries, business administration and later in teacher education, with close associations to the economy of the region. One of the disciplines that can be studied at the University of Akureyri is nursing. The decision to make this subject available in this university was taken in light of a particular shortage of nurses in the area. Another example of government reaction to a particular rural labour market demand was the establishment of the education faculty at the same institution, which was based on local demand for teachers in the region. This is thus an example of measures taken to shape tertiary institutions in response to labour market requirements outside the capital area. Such considerations may not be explicitly stated but seem nevertheless to influence decision-making regarding tertiary education.

109. Similar arguments have been made for keeping the two agricultural educational institutions under the auspices of the Ministry of Agriculture. Government authorities have

argued that it is important for the progress of agriculture and the exploitation of Iceland's natural resources that there should be close links between agricultural policy making and the research and teaching of agricultural studies. It has been stressed by current authorities that such links will be ensured most effectively by having the agricultural educational institutes under the Ministry of Agriculture.

110. Due to the success of the University of Akureyri there has been mounting pressure to increase opportunities for tertiary education outside the capital area and even suggestions for the foundation of new HEIs in the Ísafjörður area (West Fjords) and the Egilsstaðir area (East Iceland) (Menntamálaráðuneytið, 2004). As both these regions have a sparse population basis to sustain such institutions, the government are looking for other solutions to increase higher education opportunities for people in rural areas, for example, strengthening distance education and opening branches in local areas that specialise in academic fields with close ties to existing tertiary education institutions.

Regional centres and distance learning

111. The government's rural development plan is to strengthen the distance learning and continuous education opportunities (Byggðastofnun, 2003). Figure 4.1 illustrates the location of HEIs and learning centres around the country. Nine lifelong learning centres (*fræðslumiðstöðvar*) are operated outside the capital area, with one in each of the main regions of the country. The plan is to strengthen the role of the centres by creating effective lifelong learning. The government hope that vigorous centres around the country will reinforce the basis for residence and enable them to be a venue for collaboration among the HEIs in various fields, both for research and teaching. The centres also facilitate distance education at the upper secondary and higher education levels by providing technical and organisational facilities, such as videoconferences and enrolment of students. High expectations are attached to the work of education/lifelong learning centres as an addition to the Icelandic educational system, e.g., to ensure equal rights to education, regardless of where people live, and to militate against population drain from the regions (Ministry of Education, Science and Culture, 2001).

112. The role of distance learning at the institutional level is becoming more widespread; this development will accommodate regional demand for education. Various educational centres have been established in order to provide necessary equipment and services for distance learning. The clearest initiatives are the "growth agreements" already adopted for the Eyjafjord region (with Akureyri as a central place), and soon to be adopted in the West Fjords region (with Ísafjord as a central place) (STPC, 2005). These growth agreements are a kind of regional development plans and are the result of the national regional development plan for 2002-2005. This effort has primarily been initiated by the Ministry of Industry and Commerce. The growth agreement for the Eyjafjord (and Akureyri) region focuses on the creation of clusters (one of them a research and educational cluster) with co-ordinator facilitators being employed over a three-year period.

113. There are seven HEIs that provide distance learning programmes and courses, with the University of Education and the University of Akureyri with the largest share, with 1,353 and 742 enrolled students, respectively (Annex A.10). In 1978 the Icelandic University of Education was the first HEI to initiate distance learning programmes. In the beginning the enrolment was restricted to students who resided in rural areas. In 1993 the institutions also launched a distance learning B.Ed. programme for primary school teachers. The main rationale for this initiative derived from the growing shortage of teachers in rural areas (Rannsóknastofnun KHÍ, 2001: 4-6).

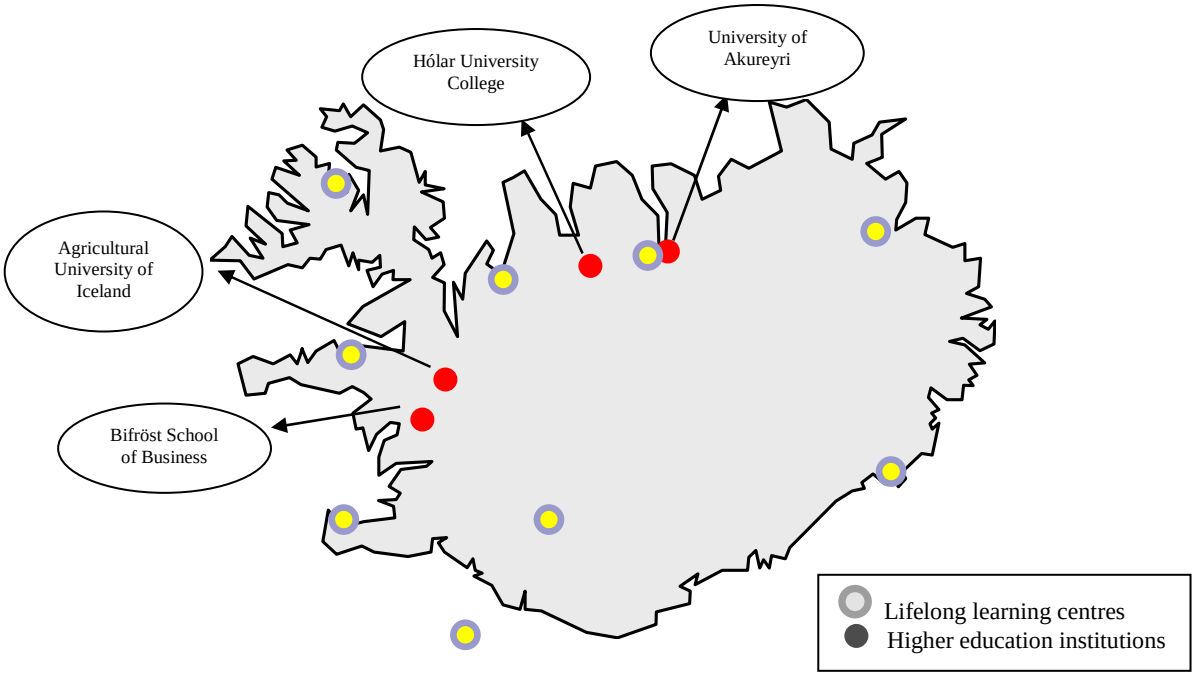
114. There are several projects consistent with the regional development plan that are meant to bolster the economy of the rural areas. As mentioned earlier, establishing university centres

(*háskólanámssetur*) in the core rural areas has become a priority on the government's agenda and in August 2005 a new centre was established in Ísafjord. Recently, the government have given education institutions enhanced leverage in the rural development programme by issuing detailed action plans for these areas. The main aim of the action plans is to strengthen the contributions of HEIs to the economic development of the regions through innovative clusters (*þekkingaklasar*). The plan is intended to create a liaison between HEIs, research and innovation with a definite focus on the local economy. Furthermore, the government stress the importance of creating a consortium of the university centres, higher education and the research institutions all over the country.

115. The IMPRA Innovation Centre was established in 2003 under the new legislation on support for technological development and innovation. Its aim is to provide support services to entrepreneurs and SMEs, as well as initiating and supporting regional development agencies and local business consultants. The Centre has also been assigned the task of creating a venue for collaboration with economic agencies in Iceland, and for linking them to the public support system for scientific research, technological development and innovation (STPC, 2004)

116. The University of Iceland has created an extensive network of research and academic centres (*fræðasetur*) scattered around the country. The aim is to liaise with municipalities, companies, associations and individuals outside the capital area. Furthermore, it is also intended to give academics opportunities to engage in research in rural areas and to enhance relations between the universities and society.

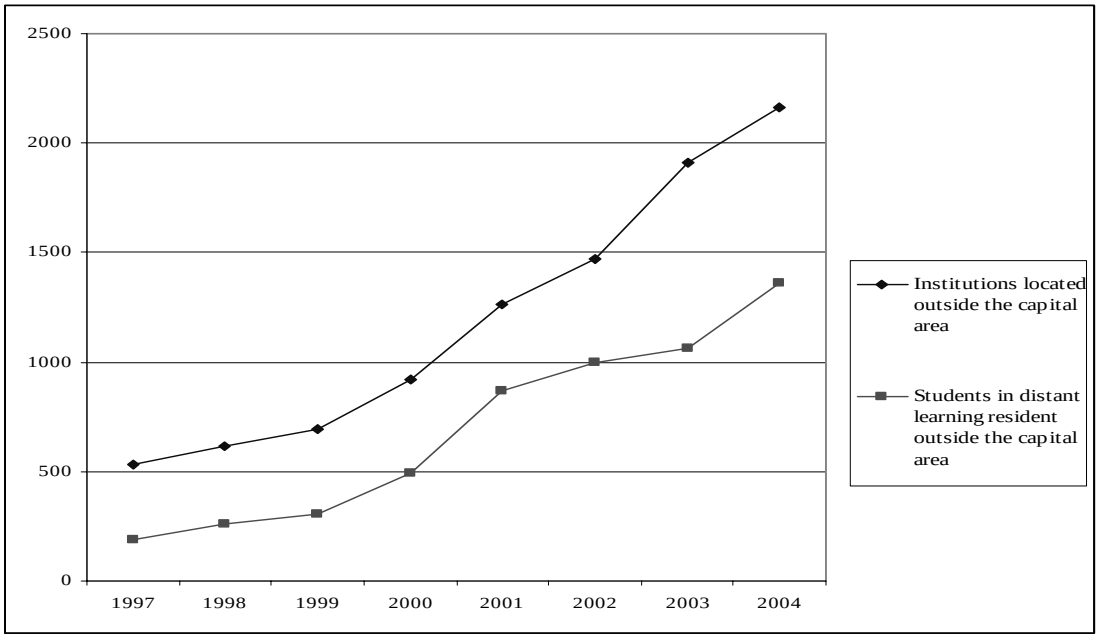
Figure 4.1 Location of lifelong learning centres and HEIs outside the capital area



117. From 2000 to 2004 the number of students in distance education at tertiary level has nearly tripled in growth with 2,751 students or 16.7% of the total enrolment (Statistics Iceland). As figure 4.2 illustrates, the expansion of distance learning opportunities has

occurred quite rapidly over the last few years.[18] With growing opportunities for distance learning at HEIs in Iceland, the potential for people in rural areas to obtain qualification has been transformed. In 2004 the total enrolment of students that are resident outside the capital area in distance learning at the tertiary level was 1,361 students. This constitutes as a seven-fold increase in enrolment since 1997. In 1997 to 2004 the number of students studying at HEIs located outside the capital area increased from 530 and up to 2,192 students, whereas the institutions have increased their share from about 6% in 1997 and up to more than 13% in 2004 (Icelandic Statistics).

Figure 4.2 Enrolment of students in distance learning and institutions outside the capital area, 1997-2004



Note: The HEIs that are located outside the capital area are: Bifröst School of Business, Agricultural University of Hvanneyri, University of Akureyri and Hólar University College.
Source: Statistics Iceland

[18] Although in recent years the demarcations between distance learning and traditional (face to face) learning have become obscure. Most institutions offer to some extent a combination of distance learning and on-campus courses. For instance, all lectures at the Reykjavík of University are available online.

Chapter 5: The role of tertiary education in research and Innovation

Policy context

118. In 2001 Iceland spent 3% of GDP on research and development (R&D), compared to 1.1% in 1990 (STPC, 2003:1). In 1990 about 20% of the research work in Iceland was carried out by the business sector, 45% by the public research organizations, 27% by the HEIs and 9% by others[19]. In 2003 the business sector carried out 46% of the research work, the public research organizations 25%, the HEIs 26% and others 3%[20]. This trend demonstrates the growing participation of the business sector in research activities in the period between 1990 and 2003 (Annex A1.35).[21]

119. The HEIs receive the largest proportion of the government funding for research. As such, they play an important role in the overall research infrastructure. Until the 1960s and 1970s the support for research was minimal at HEIs and they were primarily regarded as teaching institutions. This has changed significantly in recent years with, currently, considerable emphasis on research activities. In line with this development, the share of science-based products in total exports has increased at the expense of other products. Investing in human capital is now viewed as a key element of the modern knowledge-based economy.

120. The Icelandic community has a high level of international co-operation. From 1999 to 2002 the scientific work at the University of Iceland culminated in approximately 70% of papers by Icelandic scholars written jointly with authors from foreign institutions.[22] The countries that Icelandic scholars most frequently collaborated with were: Sweden (27%), USA (25%), Denmark (17%), England (17%), Norway (16%) and Finland (10%). On the other hand co-operation within the Icelandic research community has been limited, as only 11% of all articles written by Icelandic authors were co-authored with researchers from other non-university institutions, and furthermore co-operation between universities in Iceland is still minimal (Sigfúsdóttir et al., 2005: 37 and 65).

Government policy

121. In Iceland the state carries out the role of formulating a national research policy and funding research activities. In 2003 the Parliament established the Science and Technology Policy Council (STPC) with the role of promoting scientific research and research training and encouraging technological progress for the purpose of strengthening the competitive capacity of the economy.[23] The Prime Minister chairs the STPC, with the Minister of Education, Science and Culture, Minister of Trade and Industry, the Minister of Finance and two other government ministers as occasional members, with additionally fourteen members appointed by the science, economic and business communities.[24]

---

[19] Rannsóknir og þróunarstarfsemi árið 1995. Tölfræði vísinda, tækni og nýsköpunar á Íslandi. Rannís, 1995

[20] Rannsóknir og þróun á Íslandi árið 2003. Fjárfestingar Íslendinga í þekkingarsköpun. Rannís, 2005.

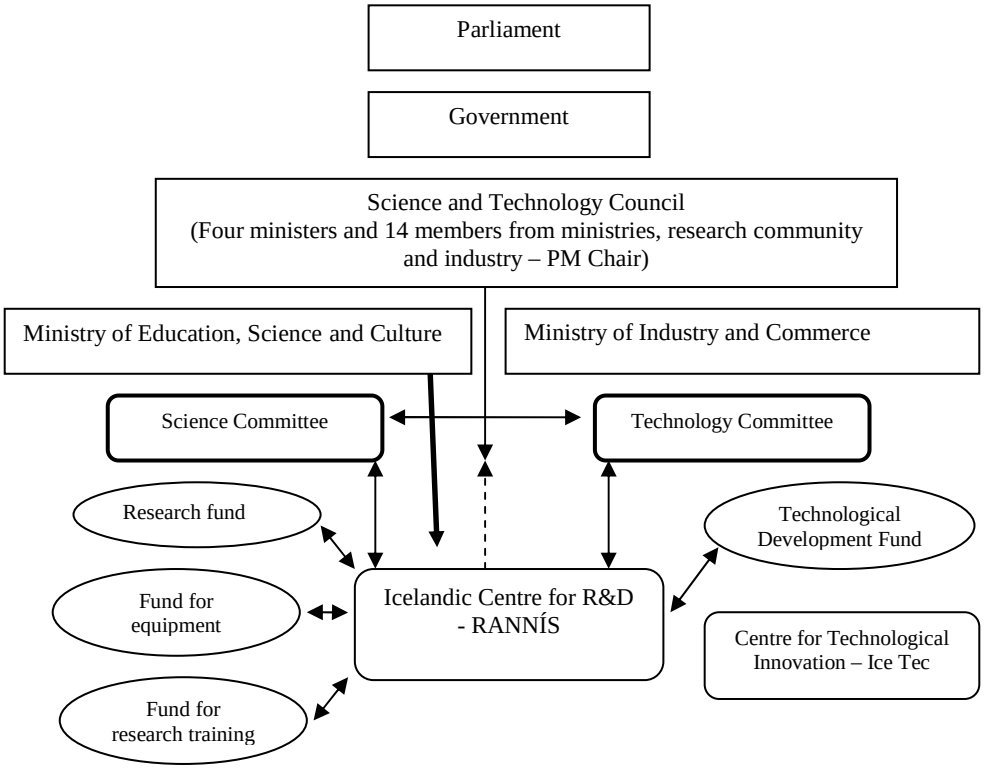
[21] This information statistics are gethered by the Icelandic Centre for Research – RANNÍS and are available on-line:
http://www.rannis.is/files/{367b954c-620f-4696-9736-777393987134}_tab%202%20is.xls

[22] The analysis was based on data retrieved from the Science Citation Index (SCI), Social Science Citation Index (SSCI), and Arts and Humanities Index (AHI).

[23] The Icelandic model is similar to the Finnish model of public research planning.

[24] Three ministers, four designated by associated committees of higher education institutions, two designated by the Service Organization of Icelandic Industry, two designated by the Icelandic Federation of Labour, and six designated by the ministries. The Minister of Education appoints the Science Committee (*Vísindanefnd*) and the Minister of Industry and Commerce, the Technology Committee (*Tækninefnd*). The function of the Science and Technology Committees is to prepare the government's science and technology policy for the STPC, to develop the allocation policy of the research funds managed by the Icelandic Centre for Research (RANNÍS), and to appoint expert committees (*fagráð*) that function as a consultative body to the board of the research funds.

Figure 5.1 Science and technology policy-making structure



Source: RANNÍS

122. The Icelandic Centre for Research (RANNÍS) implements the framework for science and technology policy introduced by the Act on Public Support to Science Research in 2003. RANNÍS is a public institute under the auspices of the Ministry of Education, Science and Culture. Its main role is to provide professional services and implementation of the STPC's policy and its sub-committees that handle, among other things, the management of the research funds under the auspices of various ministries.

123. The resolution of the STPC in June 2004 reviewed the implementation of policy and progress on actions agreed in 2003 and concluded that the following needed to be done (Science and Technology Policy Council 2004).

- Increase public resources intended for allocation from competitive funds and co-ordinate their operation to insure their optimum use for scientific and technical research and support to innovation in the Icelandic economy.
- Strengthen the role of universities as research institutions by building up and encouraging diversity in research at Icelandic universities through competition between individuals and research teams for research grants from competitive funds.
- Review the organisation and working methods of public research institutes, with the objective of uniting their strengths and co-ordinating their activities more closely with the universities and the business sector.

124. Furthermore, the government will launch a number of supporting measures intended for strengthening the infrastructure for science and technology and the status of Iceland as a leading knowledge-based society. More explicitly the objective is to:

- Establish strong research teams for working in an international environment by giving priority to the most competent individuals, institutions and firms
- Increase co-operation between research institutes, universities and business enterprises in forming knowledge clusters capable of attaining a strong position in international competition
- Make research and development attractive to business, enterprises, supporting the emergence of high-technology firms that rely on risk capital for their growth
- Give increased weight to research training of young scientists in an internationally competitive research environment
- Assure open public access to the results of publicly financed research, databases and other scientific and scholarly information, promoting their utilisation for added value to society
- Pass legislation encouraging scientists to protect their intellectual property rights through patents, and institutions and firms to introduce measures to properly manage the intellectual properly of their employees
- Regularly assess the quality of research conducted by universities and research institutes, by subject areas or fields of employment or knowledge clusters, and take the results into account when deciding on appropriations and priorities.

125. The public competitive funds are financed by the Ministry of Education, Science and Culture, the Ministry of Fisheries and the Ministry of Industry and Commerce, which amounted to around €10 million (ISK 800 m) of the national budget for 2003. The government have pledged to raise appropriations for these funds by €21.8 million (ISK 1,700 m) in 2004-2007, thus more than doubling the appropriations.

126. In 1998 the Minister of Education relegated to the former Research Council to construct a research programme in the area of information technology and environment. This was considered to be an important way for government to co-ordinate and define specific research goals that would be granted priority on the basis of pre-defined research programmes. The total budget for this research project was estimated at €8.5 million (ISK 680 m) for 1999-2004. The STPC initiated and designed a new genetics research programme for 2005-2009 to further the fields of health and nano-technology. In 2005-2006 approximately €2.5 million (ISK 200 m) will be allocated to this programme and the STPC will be guaranteed funding for 2007-2009 (STPC, 2004: 6).

127. There is no formal policy that regulates the competition between the HEIs and other applicants. The research funds are open to everyone for application and the grants are allocated on a competitive basis and evaluated by expert committees. On the other hand the research funds have specific allocation policies that are guided by the STPC policy for a three-year period at a time.

Knowledge transfer and collaboration

128. One of the objectives of the STPC**'**s policy is to review the organisation and working methods of public research institutes, with the goal of uniting their strengths and co-ordinating their activities more closely with the HEIs, the public research institutes and industry.[25] Table 5.1 depicts the sources and level of research income available to the HEIs. The government sponsor the majority of the research conducted within the higher education system, although the proportion has been lowered by nearly 10% over a ten year period.

[25] The STC resolution (2004: 9) states "...the Council also encourages increased co-operation among universities, research institutes and firms on research and research training . The participation of research institutes in master's and doctoral studies by providing research facilities and guidance is well suited to enhance co-operation among these institutions and meeting the needs of the economy and society in general."

Icelandic industry, and research income from abroad, has increased its share from a total of 9.1% in 1991 to 18.3% in 2001.

Table 5.1 Sources of research income conducted within the HEIs - at price level each year in €

	1991 %	1991 €	1997 %	1997 €	2001 %	2001 €
Government	90.8	15,397,288	81.2	27,716.600	80.9	43,264,450
Industry	4.9	838,988	10.6	3,619.313	10.9	5,845,825
Abroad	4.2	718,750	7.8	2,650.425	7.4	3,947,075
Self-governing institutes	0.0	2,813	0.4	153,125	0.8	450,113
Total	100	16,957,838	100	34,139,463	100	53,507,463

Source: The Icelandic Centre for Research (RANNÍS)

129. The STPC emphasises the priority of larger projects and encourages the formation of knowledge clusters from various sectors. Another priority is co-operation on interdisciplinary projects that seem promising for innovation that enterprises would normally not undertake otherwise. For example, the Research Fund, under the auspices of the Ministry of Education, Science and Culture, is the most powerful tool of the public sector for reinforcing the research community infrastructure through project grants based on application from scientists, business firms and institutions. The Technical Development Fund, under the auspices of the Ministry of Industry and Commerce, is intended to support technological development and research to support innovation in the economy in Iceland. The Fund is intended to give support to spin-off ventures and innovative firms and can take the initiative to establish programmes in consultation with other parties.

130. The work on restructuring the research institutes has led to the discussion of relocating them as well. Both the University of Iceland and Reykjavik University have indicated that they would like to locate the research institutes in their area with the intention of working more closely with them. Recently the University of Iceland and others such as the Reykjavik City Council and several private companies have introduced the idea of building a Technology Park. (*Vísindagarðar*). Its main role will be to create tighter science–industry relations in the Icelandic community by offering facilities with easy access to the academic environment and providing risk capital for spin-off companies that usually develop from research projects at the University of Iceland (STPC, 2004:3). This large project constitutes around 50,000 m² of adjoining areas of research institutes and R&D companies situated near to the university's facilities and present research institutes. The Landspitali-University Hospital has a similar idea of creating a Health Science Park to enhance relations with companies operating in the field of health science. Reykjavik University has been offered land in the same area. Restructuring of several public research institutes is now under discussion, and their future location as well. These ideas are being addressed but the urban planning has not been finalised.

131. Furthermore, all HEIs are involved in various collaborative operations in partnership with other universities, institutions and private companies. The objective of the Research Service of the University of Iceland (*Rannsóknaþjónusta HÍ*) is to instigate such collaboration in co-operation with university staff. The aim of the service is to increase the university's involvement with industry in the area of research and innovation with the objective of providing support for the industry involved and at the same time of enriching the university. The focus of such collaboration is of course not exclusively to increase regional links, but part of the activity leads to increased links and collaboration between regions.

Quality and effectiveness of research

132. The evaluation and quality control of research activities is a relatively new affair within the higher education system in Iceland, which came into force in 1997 with the Universities Act. The Ministry is responsible for the supervision of education and research in Iceland and since 1996 has operated the Division of Evaluation and Supervision. The Act stresses that HEIs bear the main responsibility for their activities, while the role of the Ministry is primarily to monitor the standards of research and quality assurance systems. According to the Act the Ministry will further regulate the quality assurance systems. The Ministry has not finalised regulations but has included requirements of internal quality assurance in the research contracts and has conducted external assessment of research activities at the University of Iceland (Sigfúsdóttir et al., 2005). Although there are no direct financial rewards associated with a positive research evaluation on the annual state research grants (such an allocation system is evolving), it is anticipated that the competition funds will enhance a more direct link between quality and allocation of research funds.

133. The Universities Act of 1997 emphasises increasing autonomy of HEIs in managing financial and human resources. At the same time it requires increased accountability and documentation of impact and significance of their work. The Act also strengthened the role of the Ministry in assuring quality of research. As with other public institutions in Iceland, the HEI face increased demands for evidence of efficiency and impact. With this development of increasing demand of quality, autonomy, and accountability the Ministry of Education, Science and Culture has also to confront the issue as it clarifies and develops its policy on university research in Iceland (Sigfúsdóttir et al., 2005:8-10).

134. Since 1997 a series of changes have been implemented aimed at enhancing quality, supervision, co-ordination and competition of the HEIs in Iceland. The system was transformed with the introduction of the funding formula for the teaching component and fixed annual research component based on performance-related contracts with public institutions and service contracts with the private institutions (see Chapter 7.2). The intention was, among other things, to produce a more output-oriented approach to budgeting processes.

135. This was also intended for the research component, although it has not yet been developed (Ríkisendurskoðun, 2005:23-26). The Ministry of Education, Science and Culture has entered into contracts with four out of six institutions – negotiation with the other institutions is still in process.[26] The research appropriation in the contracts is a fixed amount (re-evaluated annually) calculated from the historical research costs of the individual institution. In some cases the research appropriation amounts to up to one-third of the total allocations for the institution concerned, while in other cases they are lower.

136. The Ministry is working on the modification of regulations affecting the direct appropriations for research at the higher education level. One of the alternatives being examined is assuring HEIs a specified basic appropriation for research and internal development. Strengthening research infrastructure along with increasing competition on scientific merit is considered a definite way to create opportunities for progress; create tighter quality control and optimise use of research funds. An additional argument is to enable all institutions to become attractive collaborative partners for other sectors in society and strengthen their position in international co-operation. These changes are in line with the STPC's policy from December 2003 that emphasises the optimal use of funds and systematic

[26] The Ministry is still in the process of negotiating with some of the higher education institutions in Iceland but has finished a 3 year research contract with the University of Iceland, research and teaching contracts with the University of Akureyri and the Iceland University of Education, all of which entered into force on 1st January 2004. These contracts do not apply to the higher education institutions under the auspices of the Ministry of Agriculture.

prioritisation by taking more into consideration general regulations, quality and result of research when deciding the appropriation to the HEIs.

137. The Science and Technology Policy Council's resolution in May 2005 supported the proposal from the Ministry of Education, Science and Culture to make the external quality assessments of public funded research one key denominator in the procedure for determining the appropriation for basic research (Science and Technology Policy Council, 2005). Furthermore, the existing research and technology policy is aimed at allocating more resources to the domestic research funds. This is both motivated by reference to scientific excellence as a dividing criterion and in line with the increasing tendency in the education system to incorporate market-type mechanisms so as to encourage institutions to look for other sources of revenue and generate more contract activities between public-private co-operation (Science and Technology Policy Council, 2004).

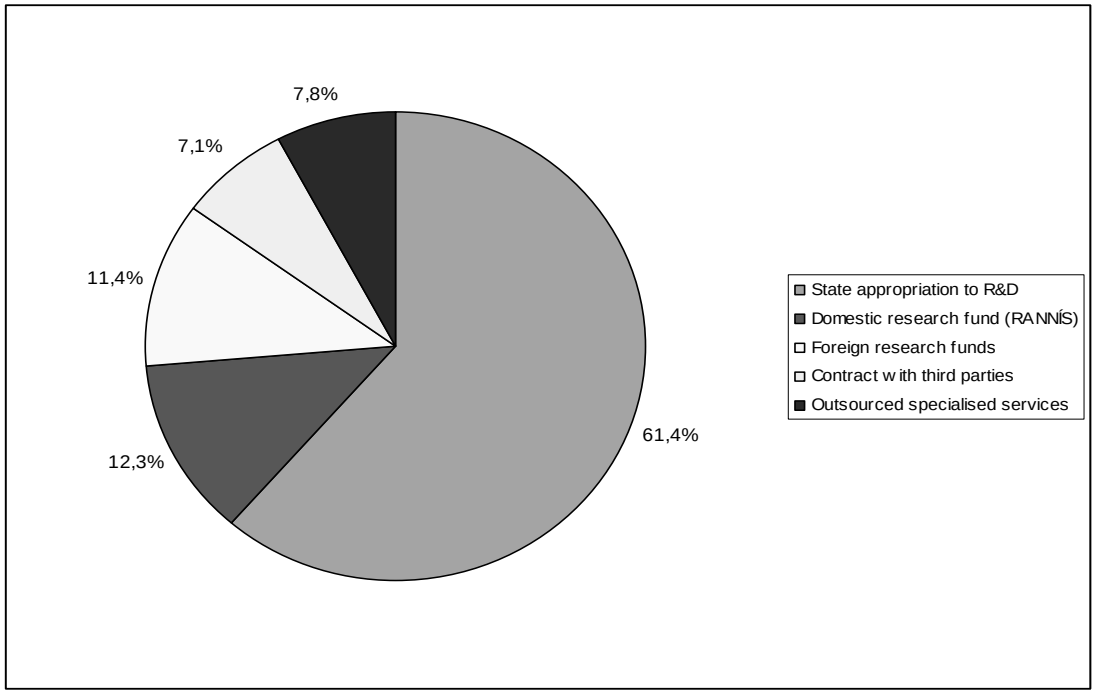
Level of research funds

138. The central political authority – the government and the Parliament – decide on the annual research appropriations to the HEIs. The research policy is set forth in an agreement signed by the Minister of Education and the institution concerned on a framework for the development of research activities. The agreement lists responsibilities and quality assurance which both the institution and the Ministry agree to carry out.

139. Most of research funding available at HEIs comes from public resources, in particular from annual state grants. In 2002 the research appropriation to the HEIs was €26.5 million (ISK 2,100 m) and €4.1 million (ISK 328 m) received through government research funds. These amounts account for 73.7% of the total research funds of the HEIs. An additional 11.4% of the resources were provided by foreign research funds and international collaboration projects that are an increasingly more important source of funding such as the EU's Framework Programme. The balance of 14.8% is made up of income from private sources. As the domestic research funds are from public grants, total government funding to research amounted to 73.7% in 2002, and the remaining 26.3% came from private funds. These can be seen in Figure 5.2, a pie chart showing the division of income sources of approximately €50 million (ISK 4,000 m) in 2002 (Annex A1.30 and A1.31).[27]

[27] The data is based on the accounting separation of the HEIs in 2002 collected by the Ministry of Education, Science and Culture.

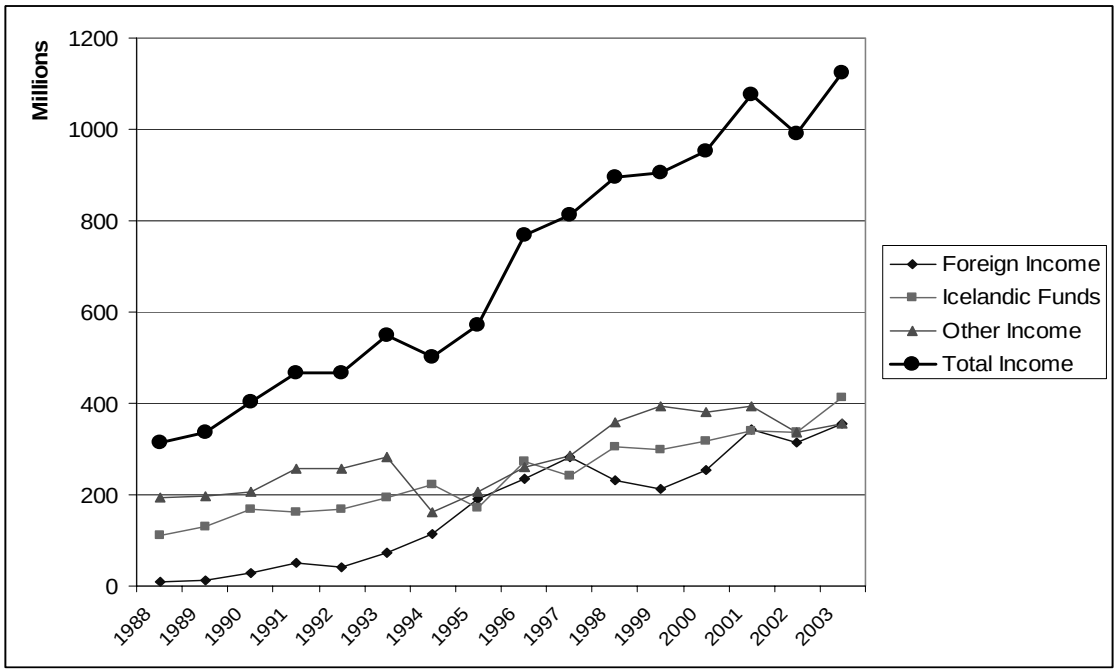
Figure 5.2 Sources of research funds in HEIs in 2002



Sources: Accounting Separation of the HEIs in Iceland 2002, Ministry of Education, Science and Culture

140. The only data available on the development of the level and sources of research funds were at the University of Iceland, which receives the majority of the research funds and therefore indicates the overall development for the higher education system (Figure 5.3). The data do not include the annual state appropriation (Chapter 7.2; Annex A1.30).

Figure 5.3 Sources of research income other than from state appropriations at the University of Iceland, 1988-2003, in ISK (in 2003 prices)



Sources: University of Iceland

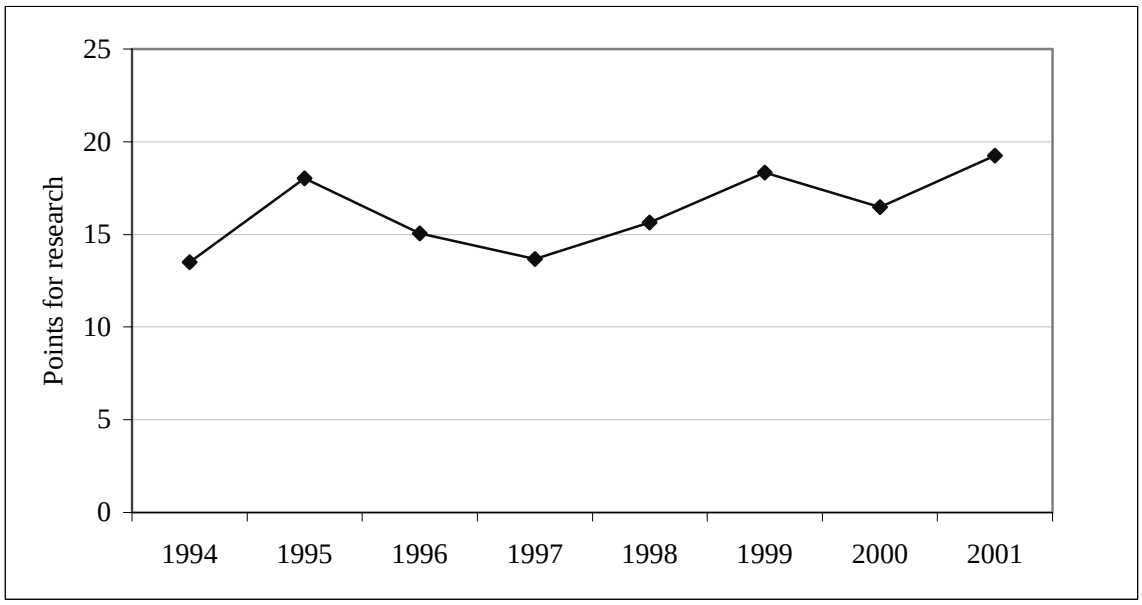
Internal distribution

141. The traditional form of management of HEIs has been of collegial governance, i.e. they are self-governed by an academic community of members and have great independence in budgetary allocation within the institutional structure. The research priorities are mainly generated on the basis of academic freedom and performance. In general the initiative for development of academic research projects comes from individual scholars within the framework set out by the relevant faculty (Hannibalsson, 2004: 257-274). Therefore the government have a modest impact in setting the research priorities within the institutions. On the other hand the government influence the research policies through the budgetary allocation to the domestic competitive research funds.

142. There is a tendency in the system of linking salaries of academic staff to their research performance. At the University of Iceland performance incentives at the individual level have been operated for some time through the productivity fund and the central administration has commenced to allocate part of department funding according to the productivity of departments (Sigfúsdóttir et al., 2005) Furthermore, the Remuneration Committee (*Kjaranefnd prófessora*) uses a similar point system as the University of Iceland to define the salary divisions of professors at public institutions based on their research and teaching performance, administration, experience and other services provided (Kjaranefnd prófessora, 2002).

143. The information on research points at the University of Iceland from 1999 to 2002 shows that full professors are more productive researchers than the docents and lecturers, with mean research points of 116 and 69, respectively. Furthermore, the oldest and the youngest group of scholars at the University of Iceland are less active than the middle-age group. Closer analysis of the data revealed that part of the employees are not active in research or 25% received fewer than 32 research points and 17% received fewer then 15 research points (Sigfúsdóttir et al., 2005: 39 and 41-42). One contentious issue within the HEIs is the division between teaching and research and the interaction with one another. Individual institutions interpret differently the relevance of teaching and research. The recent classification and competition in the higher education sector may have led to more time being spent on teaching, particularly when institutions are dependent on the number of active students for their financing. This could counteract the objective of developing top-quality research institutions (Sigfúsdóttir et al., 2005: 12 and 43). Figure 5.4 shows a gradual increase in research points at the University of Iceland following the introduction of the scheme in 1994.

Figure 5.4. Average research activity of academic staff at the University of Iceland



Note: Points are given for research activities at the University of Iceland.
Source: University of Iceland.

Distribution of research funds among institutions

144. Table 5.2 illustrates the division between teaching and research appropriations within each institution and distribution of the total research funds between HEIs in 2002 (Annex A1.28 and A1.33). Most of the institutions spend proportionally more on research than the income side indicates. For example, in 2002 the Reykjavik University spent proportionally more on research than the income side indicated. The imbalance between research income and expenditures seems to be the trend for all the institutions except the Bifröst School of Business and the Iceland University of Education.

145. As can be seen in Table 5.2 the distribution of the resources varies significantly within the higher education system. Most of the research activities are conducted within the public institutions and they received 98% of the total resources in 2002. The University of Iceland received proportionately most of the total research income or a total of 79%. The private institutions carry out research activities to a lesser extent, although they have in recent years been developing their research capacity (Annex A1.29, A1.30 and A1.31).

Table 5.2 Division of teaching (T) and research(R) income and expenditures of institutions (2002)

	Bifröst School of Business	Reykjavik University	Iceland Academy of the Arts**	Technical University of Iceland	University of Iceland*	University of Akureyri	Iceland University of Education	Agricultural University of Iceland at Hvanneyri	Hólar University College
Internal ratio of income:									
Research***	20%	8%	-	0%	57%	26%	34%	53%	34%
Teaching****	80%	92%	100%	100%	43%	74%	66%	47%	65%
Internal ratio of expenditure:									
Research	21%	26%	9%	0%	63%	50%	29%	61%	36%
Teaching	79%	74%	91%	100%	37%	50%	71%	39%	64%
Distribution of the total income:									
Research	1%	1%	-	0%	79%	4%	9%	6%	1%
Teaching	2%	8%	7%	11%	44%	9%	13%	4%	3%
Distribution of the total expenditure:									
Research	1%	2%	1%	0%	77%	5%	6%	7%	2%
Teaching	2%	7%	6%	8%	49%	5%	15%	5%	3%

Note: *Included are all the 41 research institutions under the auspices of the University of Iceland and Natural Science Institution of the University of Iceland and the Institute for Experimental Pathology of the University of Iceland. **The research appropriation to the Iceland Academcy of the Arts is included in the teaching appropriations therefore it is not easy to separate between the income earmarked for research (*art creation*) and teaching. *** In the research income is included income from internal and foreign research funds and the annual state appropriations. **** In the calculation for income for teaching is only included the annual state appropriation for teaching.

146. The imbalance in the distribution of research funds within the higher education system can be explained by historical factors. The University of Iceland was the only HEI with a developed research infrastructure and constitutes the largest academic staff working on research in a variety of disciplines. In 2005 the Ministry of Education, Science and Culture requested an evaluation of the scholarly work at the University of Iceland. The evaluation conducted a comparison of published scientific articles by Icelandic scientists in 1999 to 2002. The majority or approximately 80% were scholars at the University of Iceland; approximately 20% were employees at other Icelandic research institutes, and 3% of articles were by scholars employed by other HEIs (Sigfúsdóttir et al., 2005:34).

147. The government have put greater effort into initiating and implementing policies designed to strengthen higher education's role in the national research infrastructure. One of its policies adopted in 2003 is to move towards multiple sources of research funding instead of one central source. The imbalance of research funds within the higher education system will probably change with the government's current emphasis on giving other institutions a greater share of the research budget. For this reason the Icelandic government have decided to give increased importance and direct a larger appropriation to competitive funds.

Teaching and research obligations

148. Most of the HEIs have set general rules concerning the balance between staff time spent on teaching and research time but, nevertheless, enter into specific contracts on an individual basis where the balance between teaching and research differs.

149. As can be seen in table 5.3 the public institutions apply a similar rule; professors are expected to spend 40-48% of their time on research, 40-48% on teaching and 12% on administration. The administrative obligation is defined separately and is divided between

the research and teaching components. The percentage for docents and lecturers is the same for all public institutions: 43% on research, 51% on teaching, and 6% on administration.

150. The balance of research and teaching at the private institutions is more based on the principal obligations of each individual staff member and differs between faculties, such as at Reykjavik University. At Bifröst School of Business professors apply at least 40% of their work towards research, docents 35% and lectors 24%.

Table 5.3. Percentage division of teaching and research obligations at the HEIs

Teaching/research (administration)	University of Iceland	Iceland University of Education	University of Akureyri	Agricultural University of Iceland	Bifröst School of Business	Reykjavik University	Iceland Academy of the Arts**
Professors	40/48 *(12)	48/40 *(12)	48/40 *(12)	48/40 (12)	52/48	Individual basis	55/30
Docents	51/43 *(6)	51/43 *(6)	51/43 *(6)	54/40 (6)	57/43	Individual basis	-
Lecturers	51/43 *(6)	51/43 *(6)	51/43 *(6)	54/40 (6)	68/32	Individual basis	55/20
Assistant instructors	NA	65/35	65/35	54/40 (6)	NA	100/0	55-60/15-25*
Temporary instructors	100/0	100/0	100/0	54/40 (6)	Individual basis	100/0	100/0

*These public institutions define the administrative obligation differently and divide it between the teaching and research components. **This column gives the balance for *art creation* and teaching obligation for tenured staff (*fastir kennarar*) and supervisors (*fagstjórar*); one academic teacher has the status of docent (*dósent*).
Sources: information from individual HEIs

Intellectual property rights

151. The increasing volume of scientific and research activity in Iceland raised the importance of protecting intellectual property and knowledge assets. Patents issued to Icelanders by the US Patent Office have risen from 4-5 per year until 1997 to 20-25 since 2001. In Iceland, there are as of yet too few patents taken out by the personnel of public research institutes and HEIs.

152. The task of obtaining and defending patents remained extremely specialised and costly for the HEIs, whereas they perceived low benefits for themselves, particularly because the right of use remained was entirely with each and every employee. In 2004 the Icelandic Parliament enacted a new legal framework for intellectual property rights based on the legal frameworks of other Scandinavian countries. The legislation was intended to induce the further use of knowledge to economic advantage and also to encourage HEIs and research institutions to register patents more frequently.

153. The government decided to accede to the European Patent Convention. The Parliament agreed to confirm the EEA Joint Committee decision to make the European Parliament Council's directive no. 98/44/EC part of the EEA agreement. The Act on Intellectual Property Rights of Employees, no. 72/2004, strengthened the position of the employers and gave them the right to claim the property rights of inventions and innovations by their employees. According to the Act the HEIs have the right to claim the property rights of all inventions and innovations by the institutional staff, on condition that they were generated during and for the contracted work or project with the relevant institution. On the other hand, the employer has to apply formally for the patent and give satisfactory compensation to the employee/s involved (Act on Intellectual Property Rights of Employees 72/2004; STPC, 2004).

Chapter 6: Achieving equity in and through tertiary education

Policy context

154. The fundamental principle of the education system in Iceland is based on the various laws that guarantee an equal opportunity to acquire an education irrespective of sex, economic status, residential location, religion, disabilities, or cultural or social background. Equity in higher education system can be defined as principles to ensure citizens the opportunity of access and successfully complete studies. Thus, equality is not only a question of opportunity of access but also the actual outcomes of different groups of students in the education system. The main emphasis of government policy has been focused on the opportunity for access to the education system in the field of gender, socio-economic status, residential location, and disabilities. There are several social-demographic factors that could explain why ethnicity, religious or cultural backgrounds have not been high on the equality agenda. Iceland is relatively religiously and ethnically homogenous though this has changed in the past decade. The increasing immigration has influenced the political debates, especially on socio-economic matters, but to a lesser extent on issues relating to higher education.

Legal context

155. The HEIs are required to pursue various domestic and international legal obligations. Article 65 of the Constitution of the Republic of Iceland 33/1944 makes illegal all discrimination on the grounds of gender, religion, opinion, national origin, race, colour, property, birth and other status, and Article 76 guarantees socio-economic equality by obliging the government to offer suitable general education and tuition fees for everyone. The objectives of the government's educational policy has been to provide free access to higher education as a potential instrument to address and achieve broad national goals ranging from economic competitiveness to equity and social inclusion. Other fundamental rights are also found in the European Human Rights Charter 62/1992, ratified by the Icelandic Parliament in 1992. Other specific laws that define equity of specific groups and that are linked to social welfare and national labour market policies include: the Act on Gender Equality 96/2000, the Act on Disabled Persons 59/1992, the Act on the Rural Development Institutions 106/1999, and the Act on the Icelandic Government Student Loan Fund 21/1992. Furthermore, the HEIs are also obligated to enforce government regulations, rules, policies and programmes to advance equity goals.

Gender equality

156. In accordance with the Act on Gender Equality of 2000 all discrimination on the basis of gender is prohibited. The aims and the scope of the Act are to establish and maintain equal status and equal opportunities for women and men by promoting gender equality in all spheres of the society. The official gender equality policy has, at least since 1998, been based on gender mainstreaming in decision and policy making in public administration, although the measures taken are in line with the traditional emphasis of increasing the number of women where they are under-represented (Þorgrímsdóttir, 2003). This has been elaborated, in accordance with the Act, by appointed representatives who are intended to supervise the gender equality within each ministry and institutions under their auspices.

157. The Minister of Social Affairs is in charge of the implementation of the Act on Gender Equality and presents to the Parliament a motion for a parliamentary resolution on a four-year programme after having received proposals made by the various ministries and the Equal Status Bureau (*Jafnréttisstofa*). The government have laid out action plans since 1986 and

the programme for 2004-2008 includes general aims such as the gender equality projects for the ministries and the definition of the role and responsibilities of each equality representative in the ministries and gender connectors in each public institution (Action plan for gender equality 2000-2004).

158. The Act on Gender Equality stipulates that the Ministry of Education, Science and Culture has the responsibility of supervising the development of gender equality within the higher education system and research in the area of gender equality. According to the Act all public institutions with more than 25 employees are legally obliged to set a gender equality policy and action plan with specific objectives and targets.[28] The action plan should address equal wages for comparable work, equality in the recruitment process, access to continuous education and vocational training, reconciliation of family responsibility and work, and provision for handling sexual harassment. Therefore the targets and goals are both developed and implemented at the institutional level. The institutions have set different emphases on this work; however, nearly all of them have in operation an equity committee though only the University of Iceland and the University of Akureyri have a special representative. The institutions that have already published their equality policy have also taken other factors into consideration such as disability, ethnicity, language, age, origin, disability or sexual orientation.

Regional equality

159. Access to education is a very important factor in the rural development in Iceland. Iceland has a small population that is very thinly and unevenly distributed among the various regions. The density is highest in the capital city and its surroundings with more than 65% of the population resident in the area. The educational attainment in Iceland varies between the regions, with only 16% of all people with a higher education resident outside the capital area and 45% with compulsory education (Regional Development Agency). The nature of the population distribution in Iceland has had a detrimental effect on the number and size of educational institutions and therefore the access of rural people to tertiary education (see Chapter 4).

160. The responsibility of the regional development policies is the Regional Development Institution (*Byggðastofnun*) under the auspices of the Ministry of Industry and Commerce (*Iðnaðar- og viðskiptaráðuneytið*). The main role of the institution is to strengthen the rural areas and the economy in accordance with the action plan presented by the Minister of Industry and Commerce to the Parliament every four years. The government have emphasised the importance of educational opportunities as a key factor in regional development and the response to the population movement to the capital area. In 2002 the Parliament passed an action plan on regional development with a strong emphasis on education. The strategy is to strengthen the distance learning and continuous education opportunities (Byggðastofnun, 2003). An increasing proportion of tertiary programmes are carried out through distance education. From 2000 to 2004 the number of students in distance education at the tertiary level nearly tripled, with 2,751 students or 16.7% of the total enrolment (Statistics Iceland; Annex A1.10).

[28] The Ministry of Agriculture has not formulated a gender equality policy.

Socio-economic equality

161. The Icelandic Student Loan Fund (*Lánasjóður Íslenskra námsmanna*) is an important public institution with the specific aim of guaranteeing equal access to higher education irrespective of financial status (see Chapter 7.2). For that reason the Fund is a powerful welfare instrument of the government to enhance social mobility and equal access to tertiary education. The Fund offers student loans that are sufficient to cover costs incurred by the studies (tuition fees, books and materials, travelling expenses, etc) as well as the cost of living.[29] The Fund provides assistance for the time of study or generally for two semesters of equal length for full-time studies (60 ECTS). For the academic year 2005-2006 the basic living cost is estimated at €1,031 per month. The amount takes into consideration the size of the student's family. For example, for a student cohabiting with a partner and with one child cost are calculated as 125% of the basic living costs or €1,289 per month. All income forming the student's tax base will be subtracted by 14% of the amount of assistance during the study period. The rates of support for students living with low-income parents may be raised to 100% if the income of each parent is under the reference threshold.

162. In order to receive loans, students are obliged to complete at least 75% of full-time studies according to the programme of the educational institution approved by the board of the Fund. Assessment of academic progress takes place each semester and if a student does not meet the demands the loans will be reduced proportionally. For example, the loan to a student who completes 83% of full-time studies will be reduced by 17%.

163. Repayment of loans begins two years after the completion of studies. The interest rate on loans made by the Fund is 1% but can vary, though it is at no time higher than 3% per annum on the principal of the debt. The student loans are index-linked, based on changes in the consumer price index of the Central Bank of Iceland (*Seðlabanki Íslands*). The annual repayment of loans is twofold: one fixed sum of €885 (ISK 70,837) in 2005 and one supplementary payment of 3.75% of the person's income calculated on the previous year's tax base for municipal income tax purposes.

164. In accordance with the EEA Agreement, individuals from the European Union member states and the EEA-EFTA countries (Norway and Liechtenstein) who are residents in Iceland in connection with their work, their families and others who are or have been supported by them are entitled to student loans by the Fund. One condition for receiving loans from the Fund is that the applicant has been domiciled in Iceland for two continuous years or has been domiciled in Iceland for three of the ten years preceding the beginning of the period for which the student loan is applied. The Icelandic Student Loan Fund may grant loans to other foreign students if reciprocity agreements have been concluded between their countries of origin and Iceland.

Disabilities

165. The state purpose of the Act on the Affairs of the Disabled of 1992 was to provide equal rights and similar living standards compared to other citizens and create conditions that would enable them to lead normal lives. According to the Act, disabled people have equal right to general public services such as higher education. In cases where a disabled person needs a higher service level than that provided by general laws the provisions of the Act apply. The Act stipulates in particular regulations concerning the costs of disabled persons to acquire education; the Ministry of Social Affairs provide funds relating to additional costs and specific equipment necessary for the studies (Ministry of Social Affairs). In reality very few disabled persons seek higher education in Iceland (Parliament Session paper, no. 922/2004).

[29] The board of the Fund may take into consideration the student's place of residence and other factors which may affect his financial position.

The HEIs provide counselling and other support services for disabled students. Most of the institutions have set a policy in this area and have educational advisers that *inter alia* provide assistance and information to students that require additional services caused by their physical or mental disabilities.

Equality in selection procedures

166. According to the Universities Act students entering tertiary education are required to have passed the Icelandic matriculation examination (*stúdentsprófi*) to access higher education or have completed other equivalent education or practical experience in lieu of upper secondary education, or in the view of the institution the applicant has achieved equivalent maturity and knowledge. The Act includes provisions for all HEIs to set their own admission criteria. Admission may also be granted to students who have completed studies abroad, which ensure sufficient preparation for university studies and are equivalent to the Icelandic matriculation examination. Institutions of higher education may also grant admission to students who have completed other studies in Iceland (Iceland: National Report on the Bologna Process). Most faculties of the University of Iceland have no general restrictions on admission for those who passed the matriculation examination. However, in a few departments there is a selection at the point of entry, requirements of matriculation in specific upper secondary studies or a competitive examination held at the end of the first semester.[30] HEIs other than the University of Iceland and the University of Akureyri have exercised selection in their admission of students and often given priority to students with particular work experience. The Iceland Academy of Arts selects its students primarily on the basis of the quality of the applicants´ artistic portfolios, and in some cases it holds entrance examination/auditions.

Social mobility

167. There has not been conducted any direct research on the contribution of tertiary education to social mobility in Iceland. On the other hand, there are some indicators that could be examined. Educational opportunity was extended with the Act on Student Loan Fund enacted by the Parliament in 1961. The aim of the Act was to provide students equal opportunity to acquire higher education irrespective of parental income and the student's financial position. This was an important measure to weaken the correlation between parental socio-economic status and the educational attainment of their children. In 2003 over 40% of the enrolled students and approximately 70% of active students in the tertiary system received student loans from the Fund LIN 2004; Ministry of Education, Science and Culture, 2005). Another political strategy based on the similar equality argument has been to provide free education in public institutions and student loans for tuition fees in private institutions.

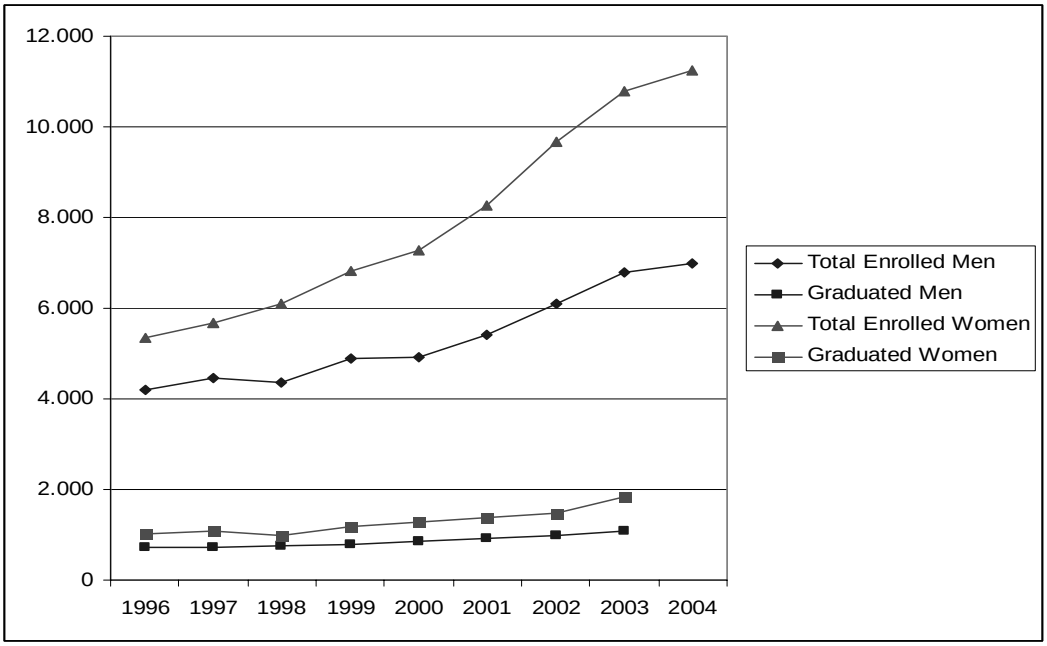
Composition of the student body

168. The overall enrolment in tertiary education in 2004 was 16,277 students or a nearly twofold increase since 1996. In 1985, women for the first time made up the majority of students at the tertiary level and have remained in the lead since. Along with rapid enrolment growth, significant gender differences are increasing with women constituting the majority or 63.7% of enrolled students at the tertiary level while men accounted 36.3% in 2004 (Annex A1.7 and A1.8). Figure 6.1 illustrates the division between the total enrolment of women and

[30] In the Faculty of Medicine and the Faculty of Physiotherapy there is a selection at the point of entry. Competitive examinations are held at the end of the first semester in the Faculty of Nursing and the Faculty of Odontology. The number of students who are allowed to continue, after a competitive examination, is limited (*numerus clausus*). Also the Department of Pharmacy and the Faculty of Science students are required to have matriculated in mathematics, physics or the natural sciences branch of study in an upper secondary school.

men at the tertiary level and the gender division of graduations from 1996 to 2003 (Annex A1.14).

Figure 6.1 Total graduations and enrolment at the tertiary level in Iceland by gender from 1996-2003 (2004)



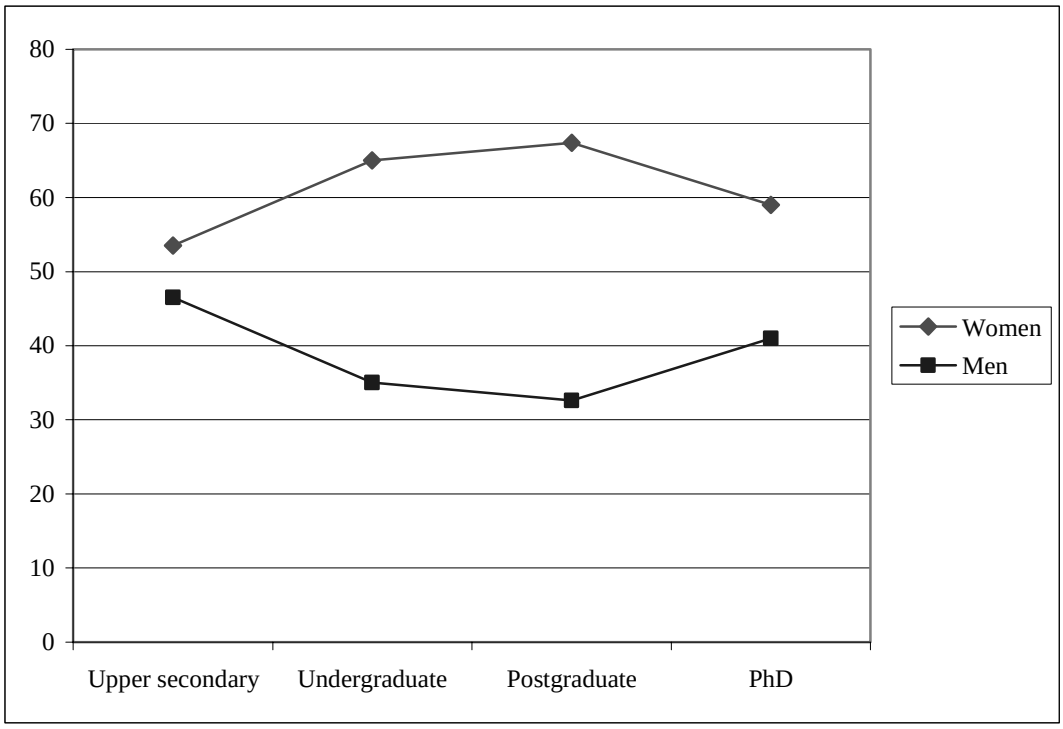
Source: Statistics Iceland

169. The average age of students in higher education varies considerably by gender. In 1994 the average age of the female students was 27.6 years while the same figure for men was 25.4 years. In 2003 the average age of both women and men had risen to 30.2 years for women and 28.2 for men. There has been an increase in all age groups but noticeably the number of women aged 25-39 years old has more than doubled since 1997 (Annex A1.16 and A1.18).

170. There has been no special study carried out to analyse the development of changes in the student body. One of the causes of the rising average age of both men and women could be due to the increased number of postgraduate studies offered in recent years. The higher average age of women has been explained by the increased labour market demand for higher education in general and the exceptionally high birth rate in Iceland, which is more likely to interrupt the studies of women. In 2003, women constitute 55% of the employed (16-74 years) with a higher education (Statistics Iceland).

171. As can be seen in figure 6.2 the division is relatively equal between the genders at the upper secondary level with 53.5% of men enrolled in 2004. The enrolment figure at the undergraduate level has a significant gender gap with women in the majority or 65% in 2004, an increase from 59.6% in 1997. The gender division at the postgraduate level is similar with women constituting 67.4% in 2004. The gender gap is less at the Ph.D. level with a higher proportion of men enrolled for the Ph.D. than at the master's level. In 1995 the majority enrolled in Ph.D. programmes were men or 57.1%, but this has slowly reversed to 59% women in 2004 (Annex A1.20).

Figure 6.2 Percentage of enrolment between women and men at the tertiary level in 2004



Source: Statistics Iceland and the Icelandic Centre for Research

172. It should however be noted that there are still gender gaps in some fields of study. At most levels of vocational training the participation of men is far greater than of women. In many cases the ratio is 3 to 1. Participation however varies between study paths, with females tending too be more numerous than males in health care studies, travel and industry service programmes and males in more technically oriented programmes. One of the main reasons for the increasing gender gap at the higher education level may be that many of the traditional "female" subjects have been elevated from secondary to the tertiary level; hence taking the matriculation examination has become a necessary prerequisite (Stefánsdóttir, 2001:15). Women make up the large majority in fields such as education and teacher education, social sciences, health studies and the humanities at university level. For example, in 2003 at the Iceland University of Education 83% of the enrolled students were female; this provides a clear example of the wide gender gap and gender segregation in the fields of study selected (Statistics Iceland). It is interesting to note that women are now also the majority of students in law, medicine and theology at the University of Iceland.

Chapter 7: Resourcing the tertiary education system

7.1. Staff

Supply and recruitment of academic staff

173. Icelandic higher education has a similar appointment structure for all higher education institutions (HEIs). The permanent academic positions are professor (*prófessor*), docent (*dósent*), and lecturer (*lektor*).[31] All staff members who have been assessed as qualified to be professor are appointed or promoted to the rank of professor. The public institutions are legally restricted in their recruitment procedure and a qualified academic is given tenure. For public institutions the procedure must be based in part on legislation, regulations and agreements on employee–employer relations, such as general legislation concerning tertiary education, the specific law applying to the institution, the Rights and Duties of Civil Servants Act, the Administrative Practice Act, the Equal Opportunity Act, the Industrial Agreements Act, and general agreements on salaries and conditions of employment made between the state and the association belonging to the Confederation of University Graduates (*Bandalag háskólamanna*).

174. The private institutions have more flexibility in recruiting academic staff. They have different rules and regulations to abide by when recruiting academic staff and negotiating salaries. The public universities are trying to respond to this obvious discrepancy by improving the salary scale and providing various advantages such as sabbatical leaves, thus enabling the academic to focus on research and earning points, which lead to a yearly bonus from the Wage Assessment Fund (*Vinnumatssjóður Félags háskólakennara*). The University of Akureyri has, for instance, negotiated contracts between private companies and academic staff to ensure better salaries. This often attracts highly qualified staff and enables the institution to compete with the private sector. The Agricultural University of Iceland enters into research agreements with academic staff employed by the institution.

175. It is difficult to generalize whether the institutions are currently experiencing problems in ensuring an adequate supply of academic staff. The main lack of supply is in the departments where the salaries are much higher in the private sector, e.g., in engineering, business and economic studies, computing, physiotherapy and dentistry or finding teachers in highly specialised subjects. The Iceland Academy of the Arts now has a rule that all academic posts must be advertised within the European Economic Area (EEA).

176. The public HEIs are obliged by law to advertise all permanent posts with the exceptions described in separate laws on the public institutions. The general legal procedure is that the academic staff is selected by a selection board consisting of three chosen individuals. Some institutions such as the Iceland University of Education and the University of Akureyri employ a permanent selection board that calls upon different specialists; others like the University of Iceland choose a new board for each selection. On the occasions when there are no candidates for an advertised post the management needs to seek abroad, either among students finishing their doctorates or among foreign academics encouraged to change their scenery and visit Iceland for a limited period. The private institutions often seek certain individuals due to their special skills and hire them without ever advertising the posts.

[31] The Iceland Academy of the Arts does not use the same professional titles as the other institutions, for instance, no teacher has the position of docent (*dósent*).

177. The University of Akureyri is situated in the North of Iceland, farthest away from the relatively densely populated southwest. The institution's administration has experienced great difficulties in engaging part-time teachers, unlike their colleagues elsewhere in Iceland. When the Bifröst School of Business established a faculty of law they experienced a shortage of academic lawyers with a doctorate, which is a prerequisite for professors of universities. However, they do not see this as an obstacle in the future as the number of those working on a doctoral thesis is increasing.

178. As more HEIs are committed to developing their research capacity, the competition for highly qualified individuals with substantial research experience has increased in recent years. The institutions encounter some difficulties in finding ways of employing the best research staff in order to produce the highest quality of research.

179. The academic staff in the public institutions follow more or less the same regulations on assessment concerning promotions and the level of monthly pay (University of Iceland, 2003). Decisions are based on three responsibilities: teaching, research and administration. Teaching includes teaching experience, the productions of teaching material, innovation in teaching and guidance of students in postgraduate studies. Research includes scientific publications, citations and participation in international conferences and other academic activities. Administration involves work that is not part of a teacher's obligatory radius of action such as chairmanship of a university committee or the organisation of an international scientific conference. University teaching staff are promoted or elevated according to specific regulations. A post does not require being advertised when a person promoted within the same HEI receives it.

180. Over the period 2000-2004 there has been a considerable increase in the number of tenured academic staff (professors, docents and lecturers) or from 478 to 605 or a 27% increase. As Table 7.1.1 demonstrates, a high number of non-tenured instructors (*stundakennari*) is a prominent characteristic of the composition of the academic staff in all HEIs. There has been an increased tendency to hire non-tenured teachers at the HEIs in recent years. For example, approximately 1,700 non-tenured teachers (or 173 full-time equivalents) were appointed at the University of Iceland in 2004. It is noteworthy that over from 2000-2004 the number of professors within universities has increased in real terms from 169 to 199. Of all academic positions, the widest gender gap is among professors, with 85% of professors' positions at HEIs held by men. Although there has been an increase in the proportion of women among the academic staff, the gender gap is still wide, especially at the highest academic positions (Table 7.1.1; Annex A.1.27).

Table 7.1.1 Number of academic staff (full-time equivalents) in HEIs in 2000 and 2004.

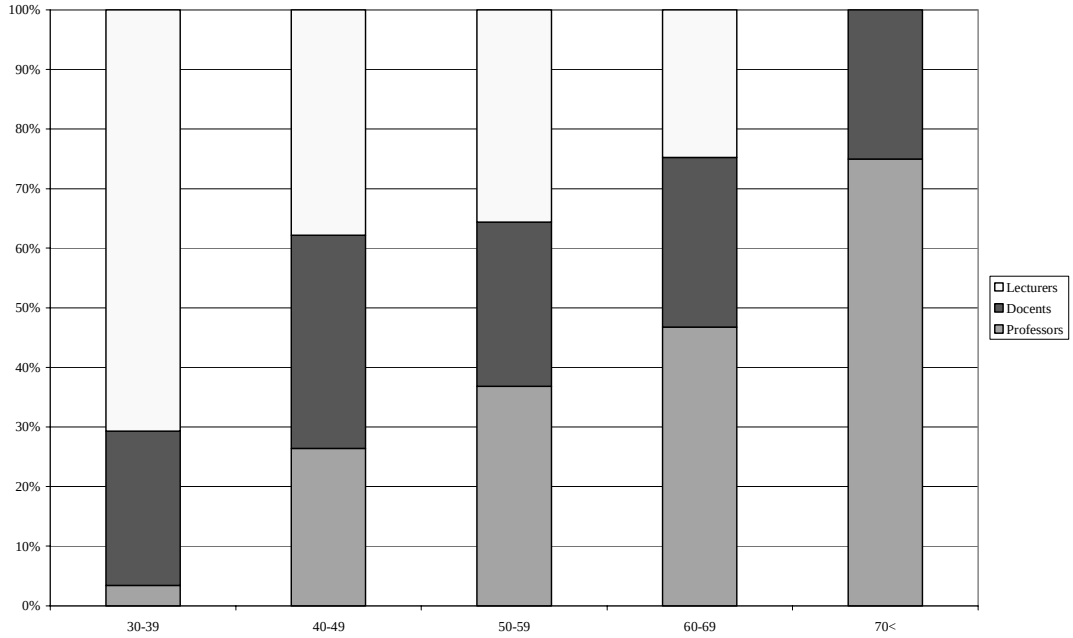
Academic position:	Total ´00	Males ´00	Females ´00	Total ´04	Males ´04	Females ´04
Professors	164	150	14	193	164	29
Docents	166	118	48	184	129	55
Lecturers	148	71	77	228	107	121
Non-tenured instructors	955	502	453	904	478	426
Total	1433	841	592	1509	878	631

Source: Statistics Iceland

181. The high average age of the tenured academic staff at HEIs due to the permanent appointment structure in public institutions is a concern. It has been argued that it is necessary to enable tenured staff to retire earlier than 67 years old, in order to give younger scientists an opportunity and to augment the necessary renewal of the academic staff. The general retirement age is 67, but most public employees must retire by the age of 70. The average age of tenured academic staff was 50.5% in 2000 and rose to 51.3 years in 2004. The average

age is the highest for professors or 54.6 years in 2004 and lowest for lecturers or 48.6 years. Figure 7.1 illustrates the distribution of tenured academic staff within the age ranges in 2004.

Figure 7.1. Age distribution of the tenured academic staff (2004)



Sources: Statistics Iceland

Improving the quality of teaching

182. In general, the research obligations of tenured staff are intended to improve the quality of teaching. Research is enabled by allowing tenured staff to take regular sabbaticals to fulfil their research obligations. All HEIs abide by the Regulations on quality control in teaching in higher education no. 666/2003 (Chapter 9). Teacher assessments are performed at the end of each semester in the form of staff interviews as well as analysis of student questionnaires.

183. At the University of Iceland the Teaching Centre (*Kennslumiðstöð*) provides support for the improvement of teaching quality by providing courses for academics. The courses are mostly in the areas of information technology and educational theory. The Teaching Centre also provides various items of technical equipment for visual presentation and computer programmes for the preparation of educational material.

184. The Learning Centre at the Iceland University of Education provides a learning environment for students and practical support for academic staff in the design and delivery of learning and teaching activities (*Menntasmiðjan*; Icelandic University of Education). It provides consultation and gives access to reference works, teaching materials and auxiliary resources. The Centre has samples of all teaching materials published by education authorities in Iceland and provides facilities for the use of video materials, sound recordings and multi-media materials. The Centre also has facilities for working with a variety of media for developing teaching materials and other creative projects, providing first hand experience in using the latest advancements in information technology and media resources. The Centre's library specializes in topics relevant to education and provides access to various electronic databases and full text resources, to mention two examples. The other HEIs ambitiously work toward improving the quality of the services they provide in accordance with rules and regulations.

7.2. Finance

Policy context

185. The direct total government expenditure on the tertiary system in 2001 amounted to €108.6 million (ISK 8,700 million), which constituted 1.1% of GDP. Statistics indicate that the Icelandic total expenditure is below the OECD average of 1.3% in 2001 (OECD, 2004: 249).[32] The central government have argued that the Iceland´s total expenditure on education is underestimated (see Annex 5).[33] On the other hand, the data also show that the government have increased direct expenditures to the higher education system in real terms from 1.07% of GDP in 1999 to 1.48% in 2003 (Statistics Iceland).

186. There have been significant changes in the funding of higher education towards a more output-oriented system and increasing institutional autonomy of the HEIs. In 2000 extensive reforms of budgetary procedures entered into force following the Universities Act no. 136/1997. There had been discussion since 1995 to restructure the appropriation methods and it was finally agreed to use the formula funding based on a Swedish report for financing teaching and facilities at HEIs – the appropriation methods for research and development were kept unchanged.[34]

187. The pre-2000 funding system did not correspond to the teaching load and quality performance within HEIs. The appropriation method was incremental based on historic costs per student in different fields of study and no systematic consideration was given to the fact that the number of active students had increased or to the extended activities of the institution.

188. According to the new arrangement the Ministry of Education, Science and Culture negotiate a performance-related contract with public institutions or service contract with private institutions for teaching and facilities for a three-year period based on the funding formula for FTE and appropriations for research and development based on a fixed annual appropriation. Financial accounting methods for the HEIs under the auspices of the Ministry of Agriculture were not changed and are still calculated incrementally. Include

Budgetary procedure

189. The key variable in the new budgetary procedure is the pre-arranged funding formula for teaching and facilities based on the number of active students, i.e., the number of full-time equivalent students (FTEs). In calculating the number of active students, one FTE is equivalent to taking examinations for 30 credits (60 ECTS) during the academic year.[35] Thus

[32] Direct expenditure includes approporiations to the HEIs and the Student Loan Fund. These calculations do not include indirect government expenditures such as the annual appropriations to public research funds, the National and University Library of Iceland, and the expenditure of the National University Hospital of Iceland on research and teaching

[33] According to the OECD report Education at Glance in 2004, Iceland´s total expenditure on education amounted to 6.7 % of GDP in 2001. According to the Ministry of Finance there are approximately 2, 000 million krónas not included. If this amount is taken account of in the calculation, Iceland has spend 7.2% of its GDP in 2001 on education, placing the country in second place amongst OECD (see Statement from the Ministry of Finance in Annex 5).

[34] The Swedish report on financing higher education: *Resurser för hökgskolans grundutbildning SOU* was published in 1992.

[35] The appropriation to each institution is calculated on the basis of the number of active students, which is found by summing all the credit points for examinations taken by the students in the discipline and then divided by 30 (the required credits per full-time active student). For example, the Department of Mathematics examines 20 students in courses equivalent to 27 credit points over the academic year. That equals 0.9 FTE or 18 active students in mathematics (20*27/30=18) and would be assessed as generating €140,634 (funding formula for *18 active students) in costs to the institution.

the calculation formula is not based on either the number of students enrolled in the institution or the actual course credits earned by students. The activity rate was considered to be more in conformity with the generated costs for the services provided by the institutions. The activity rate at the HEIs decreased during the first two years after the application of the funding formula but increased from 65.7% in 2002 to 70.9% in 2004 (Annex A1.9).

190. According to the formula, the financial budget increases in accordance with the number of active students though the payment to the institution cannot exceed the decided budget. The HEIs have the autonomy to accept more students by balancing teaching and facility costs with administrative rationalisation. The appropriation is not directly linked to quality assurance but according to the Universities Act 136/1997 the Ministry Education is responsible for regulating the internal quality of the HEIs, both for research and teaching, and is obliged to conduct an external quality assessment on a regular basis (Universities Act 136/1997: Article 5; Regulation 666/2003).

191. The estimated budget for teaching and facilities is decided every year in the General Budget based on the agreed maximum number of FTEs the government decide to fund and the division of students by categories in the funding formula. The allocation of funds takes place through the budget proposal made by the Ministry of Education, Science and Culture that calculates the financial demand of each institution according to the pre-defined funding formula or/and according to the negotiated research grant, which then has to be approved by the Parliament as a part of the General Budget Bill. The annual budget is then allocated to the institutions, whereas the institutional governing board is responsible for allocating funds to the faculties. The institutions have the authority to distribute the appropriation based on their own methods and are not obligated to confer with the departments or the faculties where the costs were generated.

192. The funding formula takes into consideration all general costs related to the teaching such as academic salaries and assistant employees, general operating costs, contribution to central administration, operation of facilities, interior construction costs, and costs relating to facilities (Annex A1.32). The weight of each cost indicator in the funding formula depends on the discipline; therefore the balance between costs and pay is not always the same. The costs are re-evaluated every year in accordance with general wage and cost indicators in the General Budget.

193. As can be seen in table 7.2.1, the funding formula applies to seven study areas or academic disciplines that are determined on the basis of differences in seven cost indicators. The costs according to the funding formula for the academic year 2004-2005 ranged from €4,938 to €26,188 (Annex A1.34) per FTE before the deductible expenditures are considered, such as part of the registration fees and calculated capital expenses of state-owned housing.[36] Since the funding formula entered into force in 2000 the cost has increased on average by 14.3%, ranging from 11% within the categories of science, engineering and pharmacology up to 18.6% in nursing and physiotherapy, using the constant price of 2005 as the basis of calculation (Ministry of Education, Science and Culture).

[36] In 2005 the Ministry changed the regulations and gave higher education institutions permission to raise the registration fees up to € 563 per student and the difference would not be subtracted from the cost as calculated from the funding formula listed in the General Budget. This authorisation is estimated to raise the total budget of the higher education institutions up to €1,875,000 in 2005.

Table 7.2.1 List of costs according to the funding formula for teaching and facilities per FTE at 2005 price level in €[37]

Disciplines	2000	2005	Ratio	% change in prices
Humanities and social science, theology and law	4,399	4,938	1.0	12.2
Mathematics and computer science	7,038	7,813	1.6	11.0
Education	7,038	8,350	1.7	18.6
Nursing and physiotherapy	7,478	8,788	1.8	17.5
Science, engineering and pharmacy	10,117	11,238	2.3	11.1
Medicine	13,636	15,675	3.2	15.0
Dentistry	22,873	26,188	5.3	14.5

Source: The National Treasury –General Budget for 2004, p. 261.

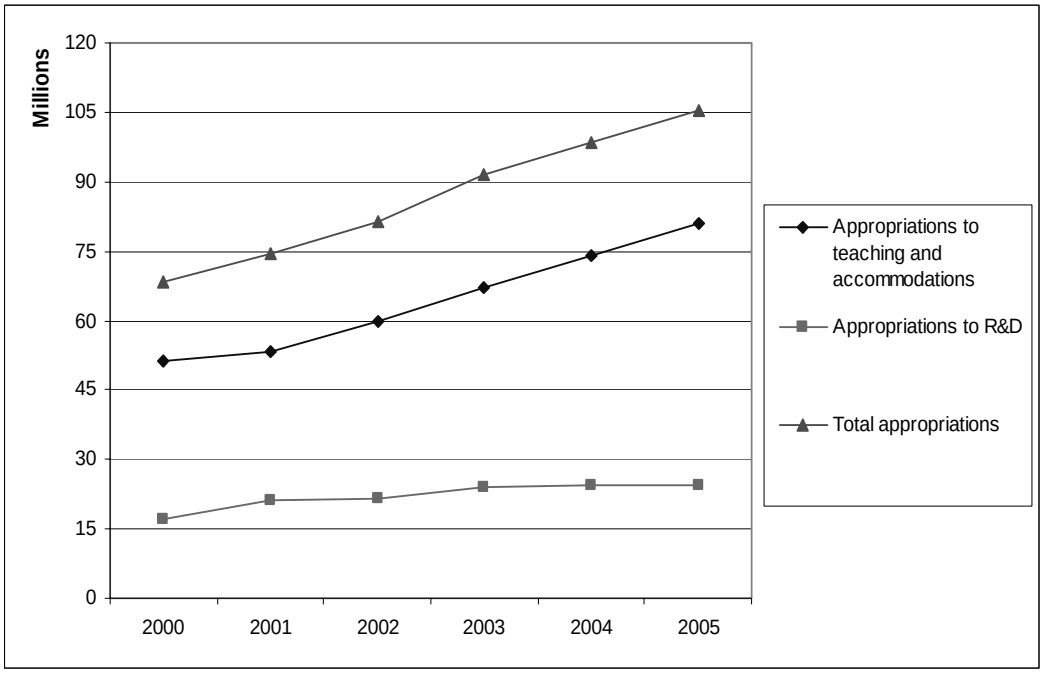
State appropriations

194. The HEIs in Iceland receive most of their funding from state appropriations for an estimated total of €105 million in 2005. During 2000-2005, the total national expenditures on teaching and research increased by nearly 53.8%, based on the constant price level of 2005. In 2002 this income source constituted on average 74.6% of total income, ranging from 48% to 95.1% of the institutions' budgets (Ministry of Education, Science and Culture).

195. Figure 7.2.1 illustrates the development of total appropriations to HEIs in Iceland, and costs divided between teaching and research in 2000-2005 (General Budget 2000-2005). The research funding to HEIs constituted approximately €23 million (ISK 1,800 million). In 2002 of that, 46% came from the annual state budget. The rest, €19 million (ISK 1,500 millions), came from the research councils and other Icelandic and international sources (Ministry of Education, Science and Culture).

[37] The cost for education in the arts is not included in the list but according to the General Budget 2005 the calculated cost per FTE art student ranges from € 8,350 to € 32,500, including an R&D budget. Secondly, the agricultural institutions (Hvanneyri University of Agriculture and Hólar University College) are under the auspices of the Ministry of Agriculture that applies the older incremental allocation formula based on historical costs.

Figure 7.2.1 Appropriations to HEIs in 2000-2005 (2005 price level) in €



Source: Ministry of Education, Science and Culture & Statistics Iceland (2005)

Tuition fees

196. The tuition and registration fees generate on average 7% of the total income of the higher education system in 2002, or about one-third of the total financial sources for the private institutions and 4% on average for the public institutions. According to the Universities Act the public institutions have no legal base to charge tuition fees or other additional costs that are not defined as continuing education. They have a limited legal base to charge registration fees or €563 (ISK 45,000) for the academic year.[38] The private institutions have unrestricted authority to charge tuition fees and for other costs to increase their financial basis and additionally receive the same financial contribution per FTE as the public institutions. They charge on average around €1,800-2,500 (ISK 144,000-200,000) for undergraduate studies, which can be financed with student loans from the Student Government Loan Fund (Annex A1.34). By law the HEIs are permitted to operate life-long learning and continuous education institutes, although they have to keep the accounting separate and there are no legal restrictions on how to finance the operation. The government and the Student Loan Fund do not finance continuing education and registration fees for such course, either at public or private institutions.

Other revenues

197. Revenues from other sources constitute around 5.7% of the total income of HEIs; other income such as gifts and grants constitute around 1.2%, return on assets and interest 4.3%; this summed to 10.2% of the total income of the higher education system in 2002. The average share of income from contracted activities differs between HEIs. Institutions with large research funds, such as the University of Iceland, are more involved in contract research and outsourced specialised services. Various research institutions under the aegis of the University of Iceland conduct research, evaluation projects and public opinion polls for

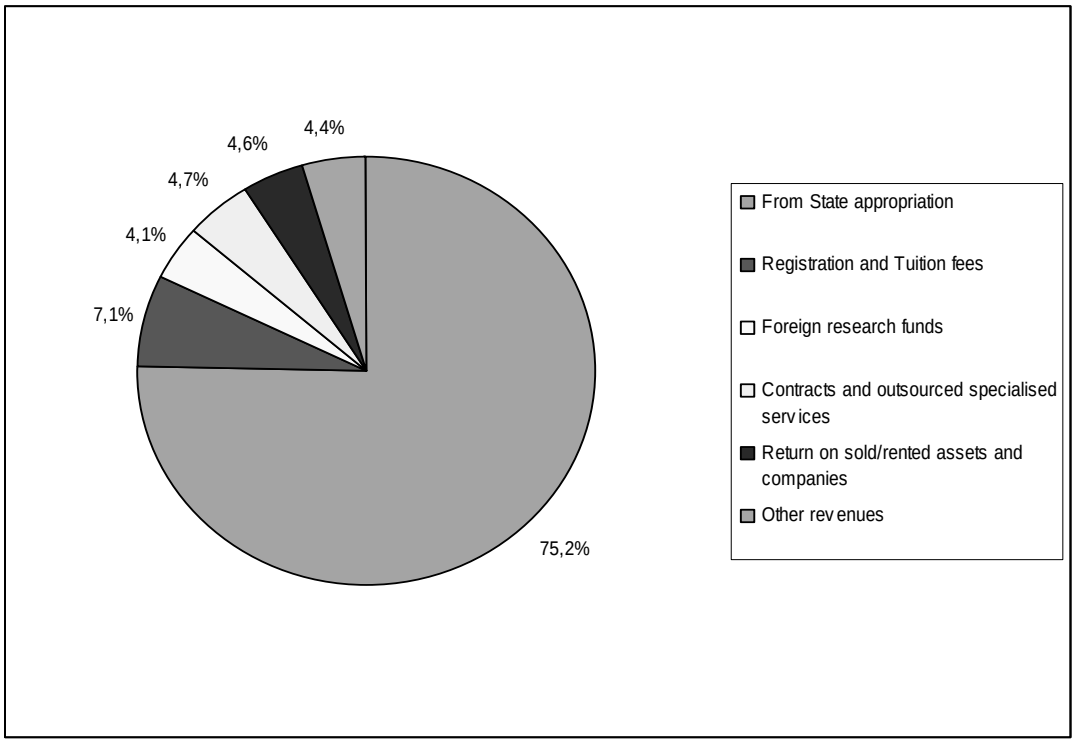
[38] Exceptions are made for certain continuing education/life-long learning courses and programmes for business and industry. For instance, The Institute of Continuing Education – University of Iceland (*Endurmenntunarstofun Háskóla Íslands*) offers, in collaboration with the University of Iceland, an MBA programme, where students pay tuition fees that are comparable with tuition fees paid at private institutions for similar programmes.

national and regional authorities, industry and other outside parties. Another source of income comes from companies that fund research posts, teaching positions or scholarships for graduate students at certain faculties, where specific projects or research are conducted for the companies.

Division of total income

198. Figure 7.2.2 illustrates the average proportion of income sources of the HEIs in Iceland in 2002. The most important source was from the annual state appropriation that constituted 75.2%, including public research funds. As mentioned earlier, the relative size of each income source within each institution varies greatly, especially within the private institutions that receive proportionately more from tuition fees, whereas the public institutions receive proportionally more revenues from foreign research funds and outsourced specialised services – no data were available for long-term comparison between years.

Figure 7.2.2 Sources of income for the HEIs in Iceland, 2002



Source: Accounting Separation of the HEIs in Iceland 2002

Icelandic student loan system

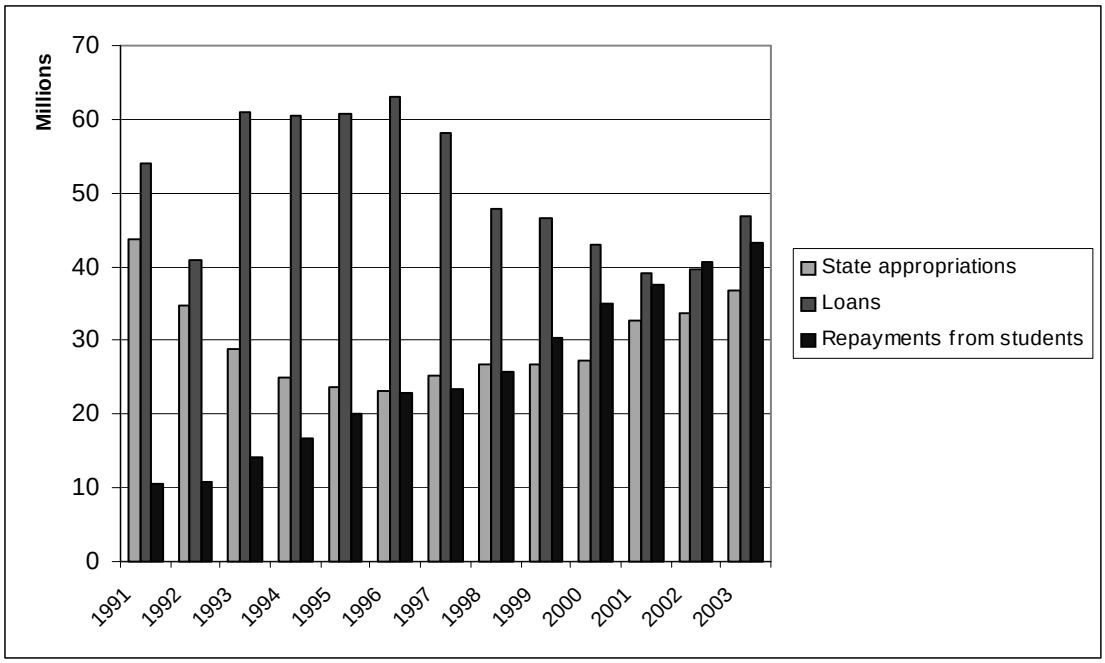
199. Financial support to students is allocated through the Icelandic Student Loan Fund. The aim of the Fund is to provide Icelandic students the opportunity to acquire a higher education in Iceland and abroad. The Fund offers students loans that are sufficient to cover costs incurred in relation to the studies, such as tuition fees, books and materials, and travelling expenses, as well as the cost of living. A more detailed description of the system of financial support to students is available in the Annex and in Chapter 6.

200. The Fund has seen a substantial increase in the student loans provided in recent years. In 2004 the Fund provided 9,700 students with loans that constitute an increase of 60% in loan receivers since 1994 (LIN, 2004:24). The Fund provided students with loans totalling €73.4 million (ISK 5,900 million) in 2003 that amounts to a 57.9% increase since 1992, calculated on the constant price level of 2003.

201. The generated cost of the government in operating the Student Fund has been between 49-55% of the student loans provided. The main reason is the subsidised interest rates and the costs of operating the Fund. The interest rate of the loans taken by the Fund follows the general interest rate on the loan market or 5.48% in 2003. The Fund provides students with index-linked loans at a 1% interest rate. Furthermore, around 1% of loans provided are charged off because of death, unemployment, financial difficulties, health problems and disabilities (LÍN, 2004:7-9 and 20).

202. The Fund's main income sources are: annual state appropriation, loans from the National Debt Management Agency (*Lánasýsla ríkisins),* and repayments from student loans. Figure 7.2.3 illustrates the development of the level of income sources of the Fund. In 2003 the proportion of the income sources of the Fund was equalised over the preceding years with higher income coming from repayments of student loans. Since 1991 the proportion of the repayments from students increased from 9.6% to 34.0% in 2003.

Figure 7.2.3. Distribution of income of the Icelandic Student Loan Fund in € constant price level of 2003



Source: Icelandic Student Loan Fund

Pressures on the financing system

203. As discussed earlier, the annual government appropriation to teaching and facilities has increased at the same pace as the relative increase in the number of active students and the Ministry of Education, Science and Culture has complied with financial payment laid out in the individual service- and performance-related contracts with HEIs (Ríkisendurskoðun 2005: 9). The public institutions do not have the legal base to charge tuition fees to respond to increased demand, but on the other hand they can restrict the excess of students as a mean of keeping in line with contracts with the Ministry and the financial restrictions in the General Budget.

204. The funding formula introduced in 2000 occasioned considerable debate among those involved. Monthly salaries of academic teachers in public HEIs were increased by the Collective Wage Committee (*Kjaranefnd*) and by collective agreements in 2001, amounting

to about 22-26% in 2000-2003. The amount of the increase varied with the institutions. The government and the HEIs agreed to divide the cost. The government assumed 15-25% of the cost, among other ways, with an increase in the wage indicator in the funding formula (23.1%), and the HEIs assumed the rest of the cost. In addition, individual HEIs entered into internal salary agreements which they finance without additional outlays from the government's budget. From 2000-2003 monthly salaries at the public HEIs, as well as salary totals, increased about 33-45%.

206. As discussed earlier, the education system in Iceland has undergone considerable changes in recent decades with establishment and upgrading of institutions at the higher education level. All of the HEIs have shown interest in strengthening their research activities and postgraduate level activities (ISCED 6). This has led to debate about restructuring arranging the distribution of the annual research appropriation. The government have responded to this debate with in the policy of the Research and Technology Policy Council in 2003 that emphasises the importance of guaranteeing all institutions a basic annual research appropriation and at the same time strengthening the research funds where the institutions will have to apply for and compete for additional research funding. The Ministry of Education, Science and Culture has entered into three-year performance related contracts with the public institutions where both teaching and research appropriations and quality requirements are laid down. Contracts with private institutions are in process and will cover both teaching and research.

Taxation and age-earnings profiles of graduates

207. The general argument of higher age-earning profiles has not been used to finance the public HEIs in Iceland. Secondly, expenditures on higher education by individuals and private enterprises are not treated for taxation purposes. On the other hand, private enterprises can provide employees with financial support for higher education or continuing education and can deduct the costs from taxable income, as for other services. Furthermore, private grants and gifts to tertiary institutions are deductible for tax purposes for enterprises up to 0.5% for education-related operations such as construction and/or operation of educational institutions, various scientific research studies, both in the humanities and natural sciences, and the publishing of scientific literature (Act on income tax and asset tax 90/2003: Article 31.2; Regulation no. 483/1994 of the Ministry of Finance: Articles 15 and 16).

Chapter 8: Planning, governing and regulating the system

Decision making in the tertiary education system

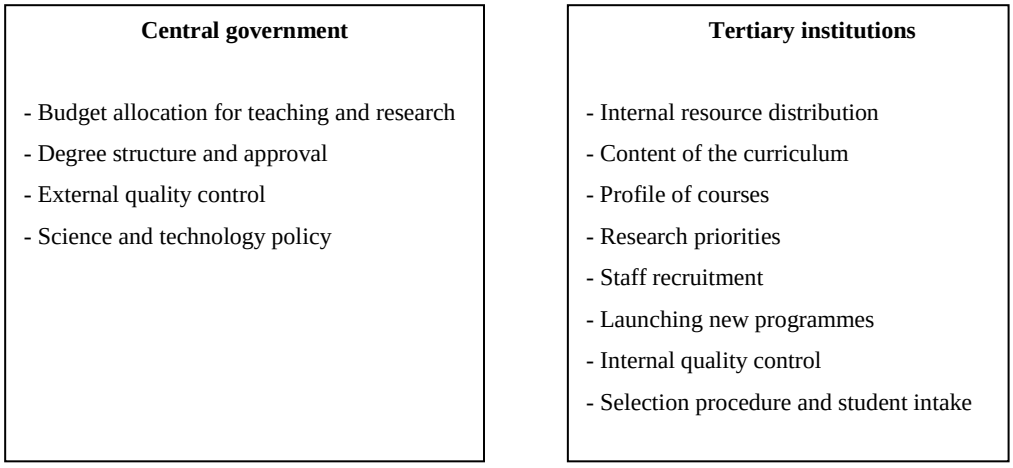
208. The Universities Act pertains to the higher education system as a whole and sets the general framework for the operation of the higher education system. In addition to this law, the role of each public institution is further defined in its own individual laws (*sérlög*), which set forth the main roles.[39] The private institutions also operate according to their individual charters (*skipulagsskrár*), which are confirmed by the Ministry of Education, Science and Culture.

209. The rationale of the legislation has been a mixture of political, economic and demographic factors. From a political point of view, government policy has been to diminish direct administrative involvement in the running of higher education institutions (HEIs) and to grant them greater autonomy. The law sets the framework for the operation and financing of HEIs and clarifies, for instance, the regulations for private institutions and financial agreements between them and the central government. These reforms of the HEIs in Iceland are in line with developments in other OECD countries (OECD, 2004b; Boyne, 2003: 118-151). As will be discussed further, the University Act signalled significant changes in the definition, organisation and governance of the HEIs, but it does not make a distinction between different types of HEIs.

210. The Ministry of Education, Science and Culture is responsible for implementing legislation, planning changes and issuing regulations for the tertiary education system. Furthermore, the Ministry enters into a financial, teaching and research contract with each institution, supervises the quality of education provided by the HEIs, and ensures that they comply with the Universities Act and the specific requirements for instruction, which apply to each of them singly or as a whole (Figure 8.1). According to the Act, the Ministry sets specific regulations in the following domains: first, the manner in which each institution is to fulfil its obligation concerning control of the quality of instruction, instructor qualifications and the management of external quality control; second, the manner in which each institution that has a research role is to fulfil its obligations concerning control of the quality of research and utilisation of funding provided for research; and finally, the Ministry is responsible for establishing a complaints committee that is to respond to complaints from students in cases where they consider their rights have been infringed upon and it also lays down appeal rules (Universities Act no. 136/1997).

[39] Article 3 of the Universities Act 1997 states: State-run universities shall be independent national institutions under the administrative authority of the Ministry of Education, Science and Culture and administered as provided for in the specific legislation on each institution.

Figure 8.1. Main responsibilities of the Ministry of Education, Science and Culture and the tertiary institutions



211. The administrative structure differs somewhat between institutions. The higher education system has been moving towards decentralisation, both with regards to responsibilities and decision making. According to the Act, HEIs shall be independent institutions under the administrative authority of the Ministry of Education, Science and Culture. The administration of public HEIs is relegated to the University Council, rector, faculty meetings, faculty councils and deans, if the institution is divided into faculties.

212. The University Council is the supreme decision making and executive body in each institution unless otherwise provided for expressly in the Act or in a special law pertinent to each university. It is stated in the Act that the University Council of each public institution shall be comprised of up to ten representatives, including the rector, who is a member *ex officio* and the chairman of the Council. Academic staff, students and independent members are represented on the council. Their governing bodies are responsible for ensuring the effective management of the institution and for planning its future development. They have freedom to decide upon matters such as the organisation of instruction, study, admission requirements, curriculum, certification, progression of students from one year to another, as well as staffing and arrangements for research.

213. Both private and public education institutions have a large autonomy over the decision as to which programmes to offer. Private institutions are recognised by the Ministry and come under the same revisions as public institutions concerning external reviews and quality control (Regulations on quality control no. 666/2003). A list of the degrees (*prófgráðulisti*) that each institution is allowed to offer is appended to each contract. If a HEI wants to launch a new programme or degree, this has to be approved by the Ministry and added to the list. Every two years the Ministry publishes a list of all degrees that are offered in the country.

214. The exact formal process of the system of granting degrees derives from the general laws that apply to the particular university and the formal agreement between the universities and the Ministry. Universities decide on the provision of programmes but new programmes have to be presented to the Ministry for approval and financing. Even though the budgets given to the universities are block budgets, the government set a limit to the number of students in different categories in the funding formula that the government are ready to pay for.

215. The HEIs in Iceland are committed to upholding and preserving principles of academic freedom. The research priorities are mainly generated on the basis of academic freedom and in general the initiative for development of academic projects comes from individual scholars. The faculties and individual academics are responsible for the content of the curriculum and the profile of the courses offered. University faculties delineate and define goals for courses and the curriculum as a whole in each area of teaching. At the faculty and department levels, professors and scholars regularly discuss their goals, define standards and follow international academic developments.

216. The responsibilities of staff recruitment and working conditions lie within each institution. In public institutions, the rector appoints professors (*prófessorar*), docents (*dósentar*) and lecturers (*lektorar*), experts, scholars, and specialists. The Dean of each faculty engages senior lecturers and non-tenured lecturers. The Evaluation Committee judges on a majority basis the qualifications of professor, docent, lecturer, expert, scholar or specialist.[40] In public institutions all permanent academic staff members are appointed after being judged competent to hold the post by the committee, which consists of one member appointed by the University Council, one appointed by the Ministry of Education, Science and Culture, and one (the chairperson) appointed by the relevant faculty. The proposal of the committee must be adopted at a Faculty General Meeting (students do not have a vote in these cases). The Rector has the ultimate responsibility for academic recruitment.[41]

217. In private institutions the academic recruitment process differs. The Dean of each faculty has the main responsibility to appoint academic staff. They have all established selection committees and selection guidelines. The faculty board nominates professional titles for: docents, lecturers and professors. As in public institutions, the final responsibility is in the hands of the Rector (see Chapter 7.1).

218. All HEIs in Iceland are autonomous when it comes to allocation of the appropriations received from the state. The HEIs in Iceland receive a block grant allocation, so that institutions have the freedom to allocate their funds among various activities. According to the new financial model for financing teaching, this appropriation is now more output-oriented and is allocated separately from the research appropriation.[42] Previously, the financing of higher education in Iceland was based on an historical and incremental basis where each institution received what it had been allocated for the current year plus the general increase on the basis of expected inflation (Hannibalsson, 2002). The institutions that are under the auspices of the Ministry of Agriculture still employ this financial method.

219. An important part of the 1997 law on higher education was to assert the independence of university administrations from the central government. This legislation gives HEIs greater autonomy and, simultaneously, they are to be made more accountable. This includes greater independence in financial affairs, with performance-related contracts agreed between each institution and the Ministry. Institutions are in general free to determine their own internal allocation systems. Funding for research (as well as for capital maintenance) comes from special allocations and the Ministry also negotiates with each institution as to whether and to what extent it is to engage in research. Institutions have considerable latitude to internally distribute these funds.

[40] This is elaborated further in special regulations and laws that apply to each higher education institution.

[41] In the case of the Iceland University of Education and the University of Akureyri, the general working procedure has also been changed: one permanent evaluation committee has been established to evaluate academic qualifications. Usually, this committee appoints one or two specialists to support the evaluation process.

[42] Funding models are called input-based whenever the variation in the public funds depends mostly on the number of students and/or staff. Output-oriented funding models focus on the number of degrees and credits awarded.

Institutional management

220. The reform of the higher education system was intended to produce more output-oriented approach. It is widely assumed that the integration of budgeting processes with performance measurements will create favourable results for the education system as a whole. This applies both for teaching and research components, although the performance-based budget mechanism for research has not yet been developed (National Audit Bureau, 2005: 23-26).

221. Furthermore, there is an increasing tendency to incorporate market-type mechanisms as a co-ordinating strategy in the higher education system. Providers are supposed to become more competitive and accountable. For instance, the existing research and technology policy of the government intend to make research funds more performance based by enhancing the share of competitive research funds (STPC, 2004). In addition, when public funds are not keeping up with the growing number of students, the HEIs become increasingly inclined to look for other sources of revenue. This has generated more contract activities and increased public-private co-operation. The salaries of professors and other scholars are increasingly performance based. Relating funds to productivity gives the institutions an incentive to raise production. In order to raise production, institutions must concentrate on quality in teaching and in planning of the courses.

Institutional governing bodies

222. The structures of the administrative authority are clarified in the law and the influence of external parties is increased by reserving two seats on their governing councils for outside members who are appointed by the Minister. These representatives normally come from the various sectors of the labour market. Private-run institutions have representatives from the industrial sector on their board.

223. HEIs have different associations with acting parties in society and the labour market. Some institutions frequently set up developmental committees with representatives from the public sector and industry. Academic staff, students and independent members are represented on the University Council of each public university. Students are not represented on councils of private HEIs. There has been a growing tendency to increase the participation of community members in the governance and management of tertiary institutions in Iceland. Behind such a view lies the assumption that neutral opinions from outside parties are necessary in order to create a more efficient decision making process within the institutions, which play a larger role in institutional strategy, accountability, and sustainability. It is a common view among the government and university officials that conflict of interest can occur if the governance of the institutions is solely constituted of academics and university officials (OECD, 2004b; National Audit Bureau, 2005: 83-88).

Expansion of the tertiary system

224. The higher education system has remained unitary and diversification has traditionally been limited. However, the dominant role of the University of Iceland is declining, followed by some diversification as other private institutions enrol a growing number of students. Regarding the general expansion of the tertiary educational system, this has, during the last decade, mostly been driven by student demands and choices, together with government intervention in some fields of study. The expansion and development of the system has occurred incrementally and has been mainly endorsed at the institutional level. Presently, special targets for further expansion of the system in terms of student numbers have not been set (Ríkisendurskoðun, 2004)

225. The expansion of the education system can to some extent be explained by government incentives to improve regional economies and the environment outside the Reykjavik area by establishing new HEIs in local areas. The establishment of the University of Akureyri in the biggest town outside the capital area and other recently established learning centres outside the capital area signify the regional dimension of the government's education policy. The main arguments for establishing the University of Akureyri in the northern area of the country were to strengthen educational opportunities outside the capital of Reykavík and to build a link between higher education and the economy of the Akureyri region. The programmes of study that have been launched at this new institution reflect the emphasis on a practical line of studies, in nursing, fisheries studies, business administration and, later, teacher education, with close relations to the economy of the region (Edvardsson, 2001: 249-268).

226. Occasionally, the expansion of the education system has been motivated by increased demand for a specific sort of labour force. For instance, an increased local demand for teachers was one of the main reasons for the establishment of the education faculty at the University of Akureyri. By the same token, the Iceland University of Education was the first institution to launch a full-fledged distance learning programme in education in 1979. The main rationale for this initiative derived from the growing shortage of teachers outside the capital area. Furthermore, the decision to merge the Technical University of Iceland and Reykjavik University in 2005 was aimed at stimulating technological education in the country. The Ministry of Agriculture has initiated the restructuring of agricultural research within the agricultural university formed by the merger of the Agricultural University, Hvanneyri, RALA and the Icelandic Horticultural College. In this context, the new university is seeking closer co-operation and collaboration with the University of Iceland regarding foundation courses in biology (see Chapter 3).

Diversity within the tertiary system

227. As noted earlier, the government have taken various measures to maintain and promote diversity within the educational system as a whole. First, the policy of privatisation and the political willingness of the government to finance private institutions aim at strengthening diversity. Second, the government have been trying to incorporate competitiveness into the educational system. As a result, new private institutions have been established and a number of schools at upper secondary level have been elevated to the university level. Consequently, the expansion of the educational system has resulted in a major change at the secondary and non-university levels. It has been argued that the recent development of the higher education system has created a vacuum in the system, as there are few non-university tertiary institutions operating in Iceland (Jónasson, 2004: 137-188). Finally, the higher education system has been developing toward a more comprehensive system. Many institutions have established postgraduate study and two universities offer Ph.D. programmes (University of Iceland and University of Education).

228. In recent years there has been an obvious trend in the educational system towards increasing university status. Professional schools in many fields have been given university status, either by upgrading or merging them with institutions that already had such status. This development has given vocational disciplines a clear academic drift (Jónasson, 2004).

229. The extension of the system toward more a comprehensive system has called for further division of labour between institutions. At the University of Iceland some have argued that, since it is by far the largest and most wide-ranging research institution in the country, it should therefore be given a special status within the system. On the other hand, it has been argued that increased competition is essential for the development of the higher education system in Iceland (National Audit Bureau, 2005: 6 and 48). In addition, it has been claimed that the government should make a further division of labour between the HEIs and take

account of such a distinction in financing the system, especially at the postgraduate level (master's and Ph.D.) (Ríkisendurskoðun, 2005: 23-26).

System linkages

Alternative form of education and training

230. The Icelandic government have in recent years focused on the importance and the necessity of life-long learning (Jónasson and Arnarsdóttir, 2001). Continuing education is becoming a more important feature of the education system. The Ministry of Education, Science and Culture initiated a five-year plan in 1998 to strengthen lifelong-learning (Ministry of Education, Science and Culture, 1998 and 2001). The policy in this field is to generate a joint responsibility of the government and social partners to ensure everyone's rights and obligations to education throughout life. Several initiatives have already been taken to ensure these objectives. Increased emphasis by labour unions on the right to paid educational leave and/or subsidised courses have increased labour force opportunities considerably. Broadly, the field can be divided into general adult education and training directly linked to specific tasks within the labour market.

231. The function of the lifelong-learning centres not only assembles secondary schools, unions, employers and local authorities in the regions, but also Iceland's HEIs. It is also anticipated that this arrangement will lead to closer ties between communities, business, and education, with increasing emphasis on distance learning at the HEIs, at the same time as business attaches a growing importance to education.

232. Previously continuing education did not come under any single ministry but a recent resolution of the government states that adult education and lifelong-learning shall come under the Ministry of Education, Science and Culture. Government responsibility for continuing education mainly entails accessibility of good education for all. In general, the objectives are to ensure access to education for adults and young school leavers so that they can acquire and renew skills required for active participation in society.

233. In recent years providing access to higher education via distance learning has become an increasingly important aspect of the Icelandic higher education system. Most of the HEIs offer distance learning in some areas of study. There is no specific legislative framework for distance learning at the higher education level. Since 1998, nine lifelong-learning centres have been established, one in each of the main regions of the country. The centres offer a variety of training programmes - most of them vocational - in collaboration with the HEIs. The centres offer students facilities, equipment, and services, whereas the curriculum and teaching is provided by the institutions. They operate in close co-operation with the municipalities, representatives of the labour market and the upper secondary schools in the region (Ministry of Education, Science and Culture, 2001). The cost is subsidised by the government but participants do pay a small amount.

234. The Upper-Secondary School Act (*lög um framhaldsskóla*) of 1996 covers some aspects of adult education, including adult education programmes in evening classes and continuing education centres. The Act on Vocational Training in Business and Industry of 1992 covers studies and courses taken by participants in order to increase their skills and knowledge for jobs in which they work or intend to work. The Act on Labour Market Measures of 1997 provides for the right of the unemployed to study in connection with a job-seeking plan complied with by regional employment centres in consultation with the job seeker.

235. In early 2003 the government entered into an agreement with the Icelandic Federation of Labour (*Alþýðusamband Íslands*) on establishment of the Education and Training Service Centre (*fræðslumiðstöð atvinnulífsins*). This is a three-year programme subsidised annually

by the government. The chief goal is to increase educational opportunities among people on the labour market, to support education providers to define the target group's need for education, and to assist in developing methods to evaluate informal competence.

Upper-secondary education

236. The Ministry has, since 2002, been working on ways to reduce the duration of the general academic programmes leading to matriculation from four to three years. If this takes place, it will affect the lower-secondary level as well. In recent years the school year has been lengthened considerably, both in compulsory and upper-secondary education. Icelandic students graduate from secondary education at age twenty and therefore begin higher education one or two years later than their coevals in other countries. In the OECD countries the average age for graduation from secondary school is 19 years (OECD, 2003). It is considered necessary to modernise this traditional system to better conform to the demands of contemporary society and to unify the Icelandic system with educational system in other countries.

237. In 2005 the Ministry initiated a unitary matriculation examination (*samræmd stúdentspróf*) in three core subjects for the upper secondary level; Icelandic, English, and mathematics. From now on all students completing requirements for the matriculation examination are obliged to take at least two of the three core subjects. The objectives are to provide the HEIs with better information about the students' capabilities for selection purposes and to provide the authorities better data to evaluate different institutions at the upper secondary level.

238. HEIs are responsible for selecting students for admission. Students entering a university are required to have passed the Icelandic matriculation examination (*stúdentspróf*), or to have completed the equivalent education.[43] Some public and private institutions select students based on merits and the quality of their application. Most faculties of the University of Iceland have no general restrictions on admission for those who passed the matriculation examination. However, in the Faculty of Medicine and the Faculty of Physiotherapy there is a selection at the point of entry. Competitive examinations are held at end of the first semester in the Faculty of Nursing and the Faculty of Dentistry. The number of students who are allowed to continue after a competitive examination is limited (*numerus clausus*). Also, the Department of Pharmacy and the Faculty of Science students are required to have matriculated in mathematics, physics or a natural sciences branch of study in an upper secondary school. For teacher education programmes and some business and computer science programmes, students are selected on the basis of their marks on the matriculation examination and priority may be given to students with particular work experience.

Credit transfer and recognition of prior learning

239. Under Article 24 of the Universities Act, universities are to set regulations on mutual recognition of parts of study programmes. The regulations for recognition of the education offered can usually be found in the regulations of each HEI. The Ministry of Education, Science and Culture has instigated a co-ordination process aiming at facilitating the transfer of students between HEIs, and programme and institutional changes.[44] The public

[43] Students can also be admitted who have acquired equivalent maturity and knowledge according to the evaluation of the institution in question. Universities can impose further admission requirements, including an entrance examination.

[44] Article 24 stresses that: Universities shall consult and co-operate with one another to utilise optimally the human and material resources at their disposal and encourage the cost-effective provision of varied university education. To this end universities shall set rules, for instance, on mutual recognition of parts of study programmes. A co-operation committee for university level education shall be appointed on the basis of this Act (Universities Act no. 136/1997).

universities in Iceland entered into a formal agreement in April 2003 in order to facilitate credit transfer between institutions. The aim of the co-ordination process is to facilitate student exchange, either between institutions or programmes. As a result, it has become easier for students to transfer credits (*einingar*) between different HEIs. Nevertheless, transfer from one course of study to another or from one institution to another is always subject to the approval of the academic authorities of the receiving faculty or institution. The receiving faculty decides how many credits can be transferred towards a new programme, usually on the recommendations made by study committees that are composed of students and teachers in each department. Transfer between subjects within the same faculty are usually easily arranged, but may involve some loss of credit earned. Intermediate qualification from HEIs may in some cases be recognised as part of a degree course, usually as a minor subject.

240. According to the Universities Act, joint degrees do not have a clear legal basis. However, the Ministry of Education, Science and Culture is preparing an amendment to the act to facilitate joint degrees or joint study programmes.

241. There are no data available on the extent of transfer of students and credit transfers between various institutions and programs.

Access to information

242. The government do not provide information on the opportunities for transfer between programmes and institutions, and do not systematically gather any such information. Further, do not operate any centralised administrative centre that provides information on opportunities available in the tertiary education system and it is left to the individual institution to provide such information.

243. The institutions usually operate their own international office that manages their international affairs, for example, students and staff exchanges and negotiate bilateral agreements with foreign institutions. The Ministry of Education, Science and Culture has a special contract with the University of Iceland to operate the Office of International Education (*Alþjóðaskrifstofa háskólastigsins* (OIE)), which is a service organisation for all HEIs in Iceland to promote international co-operation in the field of education, such as ERASMUS and NORDPLUS. The service includes assistance to academic and administrative university staff involved in international co-operation programmes. OIE also runs an information centre on studies abroad, which is open to the public.

Chapter 9: Assuring and improving the quality of tertiary education

Policy framework

244. The Ministry of Education, Science and Culture is responsible for the supervision of education in Iceland and for that purpose, the Division of Evaluation and Supervision (*mats- og eftirlitsdeild*) was established in 1996 within the Ministry. The division is liable for evaluation at all school levels from pre-school through higher education.

245. The Universities Act 136/1999 stresses that higher education institutions (HEIs) bear the main responsibility for their activities, while the role of the Ministry is primarily to monitor that HEIs meet standards for teaching and research and that they fulfil their plans. In recent years, in the formation of policies, laws, rules and regulations for HEIs, emphasis has been placed upon increasing their autonomy and responsibility, and also upon strengthening their internal and external quality control. In return for greater autonomy, the institutions are expected to develop their own system of quality control and assurance that demonstrate accountability in the use of public funds. Since the institutions have extended their operations and become more expensive to run, there has been pressure by the government to require accountability of them. In Iceland, where HEIs have traditionally been relatively autonomous, therefore, self-evaluation is seen as not only politically pragmatic but a necessary vehicle to ensure that the institutions focus attention on maintaining quality (Sigfúsdóttir et al., 2005).

246. In 1999 the Ministry issued regulations on quality control of teaching in higher education based on the Universities Act no. 136/1997 (Article 5.1), which has since been revised (Regulations no. 666/2003). According to the regulations the objective of quality control in HEIs is to maintain and raise the quality of teaching, to improve organisation, to promote greater responsibility for their own activities, and to ensure their competitiveness in the international arena (Ministry of Education, Science and Culture, 2005). The Ministry of Education, Science and Culture has been an active participant in European and Nordic collaboration on evaluation of higher education.[45]

247. Iceland does not have a separate national agency for evaluation of education, but a division of evaluation and supervision in the Ministry of Education, Science and Culture was established in 1996. In 2004 the Ministry appointed a special working group on quality in the education sector. The mission of the group is to map the situation concerning quality issues at all educational levels. The outcome of this process will be used to improve quality measures at the national level, particularly at the tertiary level.

Internal quality control

248. According to the regulations on quality control of teaching in higher education it is the responsibility of each institution to set up a formal internal quality control system. One aspect of this is systematic internal evaluation by the HEIs, or units within it, and formal consideration of the evaluation by the institutions, with the purpose of improving teaching. According to the regulations activities of the academic staff are to be systematically evaluated. Furthermore, the institutions are obliged to promulgate a description of their quality assurance system. The Ministry of Education, Science and Culture may at any time

[45] Iceland has participated in ENQA (European Association for Quality Assurance in Higher Education), NOQA (Nordic Quality Assurance Network in Higher Education) and INQAAHE (International Network for Quality Assurance Agencies in Higher Education). Some programmes have independently requested an international accreditation. The Faculty of Engineering at the University of Iceland was evaluated in 1992-1993 by the Accreditation Board for Engineering and Technology, Inc (ABET).

request information relating to the internal quality assurance system in accordance with the performance-related and service contracts (Ministry of Education, Science and Culture, 2005).

External quality control

249. The Ministry of Education, Science and Culture takes the initiative in conducting an external evaluation. The main elements of the external evaluation process are a self-evaluation, conducted within the respective institution(s), and a peer review team which visits the institution(s)/faculty. The rector of the relevant higher education institution appoints a self-evaluation group and its chair, which is responsible for the self-evaluation and its report. The self-evaluation group shall be comprised of at least four and not more than six members correctly reflecting the internal organisation of the unit being evaluated and include representatives of staff, students and administration. A visit by a peer review group takes place after self-evaluation has been completed. The objective is to verify the self-evaluation report, examine other factors if necessary, and submit a report within two months of the conclusion of the visit to the higher education institution. The relevant higher education institution is given the opportunity to comment upon the factual content of the report that the peer group then considers before rendering its report to the Ministry. Within three months of the peer review group's promulgation of their report the relevant institution shall disseminate its report on how they responded to the findings. The Ministry is responsible for the follow-up of the evaluation and no more than two years shall pass before the verification of whether and how the institution has responded to the external review (Rules no. 666/2003).

250. External quality control of higher education may cover the institution as a whole, specific discipline, departments, study programs, faculties or other specified units within the institution. The Minister of Education, Science and Culture decides when an external evaluation is to be conducted, which institutions will be evaluated and which factors are to be evaluated. The Minister appoints an evaluation team for the external evaluation, consisting of three to six individuals, at least one from abroad, who meet certain standards such as having the appropriate education and extensive experience. No team member may have any links to the institution evaluated (Ministry of Education, Science and Culture, 2005).

251. The rules also state that the Ministry can take the initiative to carry out external evaluations of defined units within the institutions or of the institutions as a whole. External evaluations conducted in recent years have predominantly focused on specific programmes in one institution or across institutions. In recent years approximately one or two external evaluations have been carried out annually. Evaluations focusing on the administration and management of private institutions have also been conducted. In recent years approximately one or two external evaluations have been carried out annually. In January 2005 the Ministry of Education, Science and Culture published a three-year action plan on evaluation of the higher education level, which stipulates what kind of evaluations will be executed within the timeframe. It includes programme and institutional evaluations. The action plan does not eliminate further evaluations at the higher education level.

252. The Agricultural Educational Act 57/1999 (*Lög um búnaðarfræðslu*) states that the Ministry of Agriculture is responsible for the quality of the HEIs under its auspices. The Ministry is now in the process of formulating rules and regulations concerning quality control for its two HEIs. At present, it is expected that it will adopt the same or similar measures concerning quality control as the HEIs under the auspices of the Ministry of Education, Science and Culture.

253. In recent years the Icelandic National Audit Bureau has conducted reviews in the field of education, independent audits as well as external appraisals, by the appointment of the Ministry (Ríkisendurskoðun, 2004 and 2005).

Research quality control and assurance

254. According to the Universities Act, rules concerning quality control of research are being prepared (Universities Act no. 136/1997 article 5.2). Although there is yet no rule on quality control of research activities, the Ministry of Education is evaluating and guaranteeing the quality with special objectives stipulated in the contracts with the HEIs. The contracts compel the institutions to develop internal quality mechanism for research activities.

255 The action recommended by the Science and Technology Policy Council (STPC) are based on the premise that competition is a means of assuring quality. More research funding is to be allocated competitively and it is through competition that individuals or research teams are to obtain funding for their research activity. These measures aim at strengthening the role of universities as research institutions by building up and encouraging diversity in research at Icelandic universities through competition between individuals and research teams for research grants from competitive funds (Science and Technology Policy Council, 2004: 9).[46]

Students' participation in quality control

256. In relation to external evaluation the regulation on quality control states that students must be among the members of the institution's self-evaluation group. Students are also involved in site visits. The peer review group interviews 8-12 students during each visit and, when planning the visit schedule, the Ministry of Education, Science and Culture and HEI nominate one contact person from students' representatives to secure contacts.

257. The higher education quality assurance regulations state that students must be among the members of the institution's self-evaluation group. For instance, it is proposed that they should take part in course evaluation. However, the provisions concerning internal quality work of the institutions are general and the institutions can develop their own methods independently. Even though the provisions do not ask for or demand student involvement, the information available at this point suggests that students are active participants in the development of the internal quality systems. Further, they are also involved in site visits and, when planning the visit, each institution delegates at least one contact person. The provisions concerning external evaluation carried out by the Ministry are more explicit than the provisions on internal evaluation; they state that students are to be members of the institution's self-evaluation group (ESIB, 2005; Froestad and Bakken, 2004). It is noteworthy that students will for the first time have a representative in the external evaluation group that will carry out an evaluation of the Faculty of Humanities at the University of Iceland. Henceforth, students will be represented in the external evaluation team in line with the *Berlin Communiqué* (ESIB, 2005: 26). Iceland has fulfilled all its obligations in relation to the qualiy commitments in the Bologna Process, although improvement in terms of student participation and international co-operation need to take place (Bologna Process Stocktaking, 2005: 82).

Key audiences

258. With growing competition in the higher education system in Iceland the actual interest in the outcome of evaluations, both internal and external, becomes more evident and widespread. The Universities Act ensures increased transparency and information is more easily available now. The external evaluations of institutions become public and are therefore

[46] The Science and Technology Policy Council resolution (2004:9) states "...increased appropriations to competitive funds would create the fresh opportunities for progress at universities, while competition would create the necessary quality control."

accessible to everybody. The Ministry of Education, Science and Culture publishes all evaluation reports on its website.

259. At the simplest level, quality monitoring has encouraged, or even compelled, compliance in the production of information: statistical data, prospectuses, level of international co-operation, etc. In Iceland the main audiences for evidence of quality monitoring are the policy makers, the managers of tertiary institutions, students and employers. However, to date there is little evidence to suggest that students or employers make much use of information that stems from quality monitoring evaluations. The current quality assurance system does not include any formal, or even informal, ranking of individual institutions or programmes. Opinions differ regarding the quality of diverse study programmes or disciplines.

Quality control in public and private institutions

260. The development of an internal quality system determined by the institution itself varies between institutions. As for external evaluations, however, since all the institutions depend to a great extent on public funding, uniform or very similar demands on quality assurance are progressively being imposed. The rules on quality control in higher education apply to both private and public institutions.

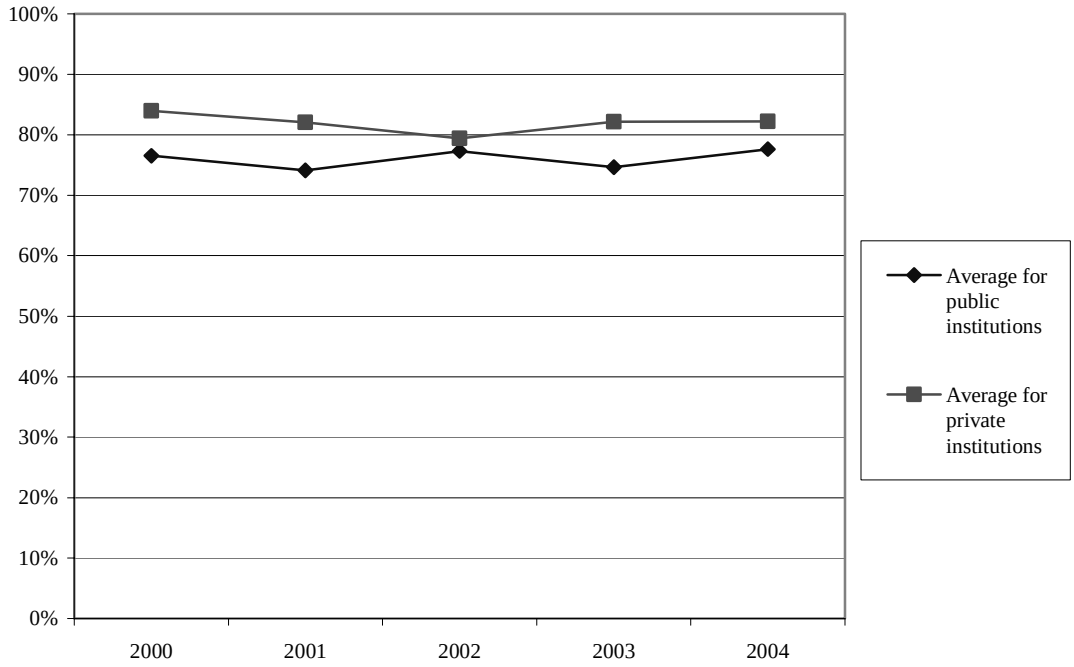
261. According to the Universities Act Article 21 (Annex 2) the Ministry has the authority to carry out an evaluation of the private institution before the conclusion of the agreement between the Ministry and the private institution in question. Three such evaluations were conducted in the period 2003-2005, embracing the operation of all private institutions.

262. The Ministry of Education, Science and Culture can to some extent influence the standards through financial and performance agreements that are made with each institution. The Ministry of Education, Science and Culture is responsible for approving new programmes and it issues a list of approved degrees. In addition, the Minister grants operating permits to institutions operated by private parties. However, if the private institution fails to accomplish the provisions of the legislation or demands made concerning instruction and research, the Minister can void its operating permit.

Relationship between input and output

263. On average for all institutions, the activity rate calculated in FTEs for the period 2000-2004 ranged from 77.5-79.7%. Figure 9.1 shows the change in activity rates between public and private institutions. On average, public institutions had a lower activity rate.

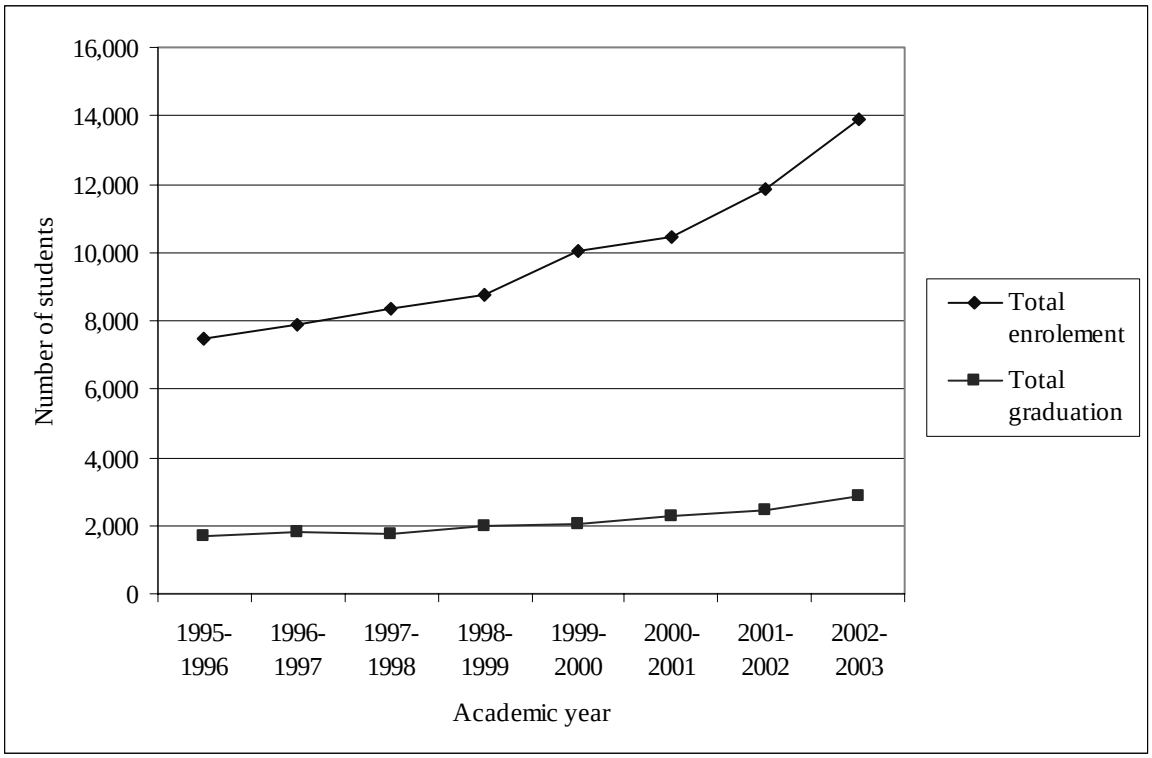
Figure 9.1 Change in the activity rate between private and pubic institutions (2000-2004).



Note: Public institutions included in this calculation were the following: University of Iceland; University of Akureyri; Technical University of Iceland; Iceland University of Education. Private institutions were: Iceland Academy of the Arts, Bifrost School of Business, Reykjavík University.
Source: Ministry of Education, Science and Culture

264. Figure 9.2 shows the trend in enrolment and graduation for the period 1995 to 2003. In the academic year 2003 there were 13,884 enrolled students at the tertiary level (ISCED-type A and B, ISCED 6). The numbers of enrolled students have increased by 6,409 over the period 1995-2002 or 86%. The numbers of graduated students have increased by 1,176 or 69% for the same period. The graduation rate has not followed the same pace although it has kept the balance from 22.8% to 20.8% of the total enrolments from 1995 to 2003 (Annex A1.14, A1.15 and A1.19).

Figure 9.2 Trends in enrolment and graduation of students at the tertiary level (1995-2004)



Source: Statistics Iceland

265. There are various reasons for the unbalanced relationship between the inputs and outputs of the tertiary system. The activity rate of enrolled students has declined in recent years with increased participation of people over 25 years old (Chapter 6). The labour market in Iceland has developed rapidly with increasing demands for more specialisation and better qualifications. The tertiary institutions have responded by establishing various suitable (part-time) postgraduate programmes for working people. There is also a link between activity rates of students and family responsibilities. In 2004 women constituted around 61.6 % of the student population in Iceland and they have a high fertility rate compared to other OCED countries and consequently childbearing and rearing are more likely to interrupt and limit their level of participation. Secondly, there has been an increased number of students (80% are women) enrolled in distance learning that usually provides more flexibility in the arrangement of studies (Statistics Iceland; see Chapter 6).

266. Overall, the rising skill requirements of the labour market and the higher expectations of individuals and society have impacted upon the proportion of young people who obtain at least a tertiary qualification. As table 9.1 illustrates, there has been a general increase in the percentage with higher-level skills in the adult population. Higher participation and graduation for women play an important role in the increase of the potential qualification of the population.

Table 9.1 Trends in educational attainment of the 25-34-year-old population, by gender (1998-2002)

	1998	1999	2000	2001	2002
Males	17	21	20	19	22
Females	21	24	24	23	24
M+F	19	22	22	21	23

Note: Percentages that have attained tertiary-type A and advanced research programmes.
Source: OECD (2004)

Chapter 10: Internationalisation and globalisation of tertiary education

Policy context

267. Throughout the last century internationalisation has been a characteristic of the Icelandic higher education system. The small size of the higher education system and limited supply of post-secondary education (ISCED 5 and 6) has meant that up to 35% of Icelandic students seek education abroad. This provision has also been essential to improve the cost-efficiency of the provision of education, especially for programmes with a very heavy fixed cost. The student loan system has since 1927 provided students the opportunity to choose academic programmes abroad suited to individual needs. The majority of the students have sought higher education in the Scandinavian and Anglo-Saxon countries that has provided them with both important linguistic and cultural knowledge. These extensive international ties between the Icelandic population and the higher education system have created a clear advantage in a modern economy with enhanced flow of ideas and knowledge, greater opportunity to build up research networks, and permits students to obtain needed linguistic, cultural, and professional expertise (OECD, 2004: 294-295). Obviously, there is a certain risk of 'brain drain', but the evidence is that the large majority of students studying abroad have returned to Iceland, even though it may be becoming more acceptable to stay abroad, given the poorer employment prospects at home in their specialised field. In recent years the higher education system in Iceland has been developing towards a more comprehensive system, with progressively more emphasises on the postgraduate level. Consequently, the number of students seek higher education abroad has decreased in recent years.

Government policy

268. Part of the government policy in this regard has been to encourage students to go abroad to seek higher education. The government's Icelandic Student Loan Fund, the most prevalent form of financial assistance for students, does not discriminate between students who wish to go abroad or study at home. Loans are available for students who wish to study abroad, both for subsistence and tuition fees. Hitherto no specific law has been enacted concerning international co-operation in the field of education. Each institution is free to admit foreign students who meet pre-defined criteria for admission. The current legislation provides for large independence of the higher education institutions (HEIs) to generate their own policy in this matter. This means that incremental changes can be implemented at the institutional level without having to amend the legal framework. The Ministry has left the development of agreements with foreign institutions to HEIs, which explains why there are relatively few bilateral education agreements between Iceland and other governments. Current legislation encourages the independence of the institutions, which are all trying to increase international co-operation. The opportunities are opened up by multilateral or bilateral agreements between various countries and the institutions.[47] In addition, there are numbers of fellowships awarded to students of foreign countries for studies in Iceland. These schemes are operated on a reciprocal basis. At the same time modes and approaches to internationalisation have gradually changed from sporadic and individual-based contacts and networks to systematic and institutionalised processes, especially with increasing co-operation with the European Union in the fields of education and research.

269. Government policy has stressed availability of information and guidance in order to facilitate international exchange of students and academic staffs. The personal interests of students and encouragement from teachers also play an important role, and of course grants and transferability of loans are major factors that encourage students to take a part of their

[47] For instance the University of Iceland has completed numerous student exchange contracts in the past few years with HEIs in the US, Canada, Australia, New Zealand and Japan.

study abroad. When taking part in exchange programmes Icelandic students can use their student loans without any complications.

270. Iceland also participates in a number of multilateral programmes. Nordic co-operation in the field of education has a long tradition. The Nordic Committee for Cultural Affairs was founded in 1947 and the Nordic Council in 1952. In recent decades the formal basis for co-operation has been the Nordic Treaty of Cultural Affairs, which was signed in 1971. The Nordic Council of Ministers, which was established in the same year, supervises co-operation between the governments in this field.

271. When the EEA agreement came into force participation in European education and research programmes became a part of the co-operation under the agreement. According to the relevant articles of Protocol 31 of the EEA agreement, the EEA countries participate in all actions and programmes of the European Union in the field of education and research with the same rights and obligations as those of the EU member states, although with a few exceptions.

International mobility

272. In Iceland a new aspect of the international dimension of the higher education is receiving growing attention. In the case of Iceland it is necessary to make a distinction between internationalisation and globalisation (Jónasson, 2004: 137-188; Wende, 2001: 249-259). Both "globalisation" and "internationalisation" have been applied to analyse the increasing international activities and outreach of higher education. In this context, globalisation refers primarily to the process of increasing interdependence, and ultimate convergence, of economies, and to the liberation of trade and markets. Internationalisation refers more to the process of increasing co-operation between states or to activities across state borders (OECD, 2004: 294-295; Enders, 2002; Altbach and Teichler, 2001). Jürgen Enders points out that the context for internationalisation varies considerably from country to country:

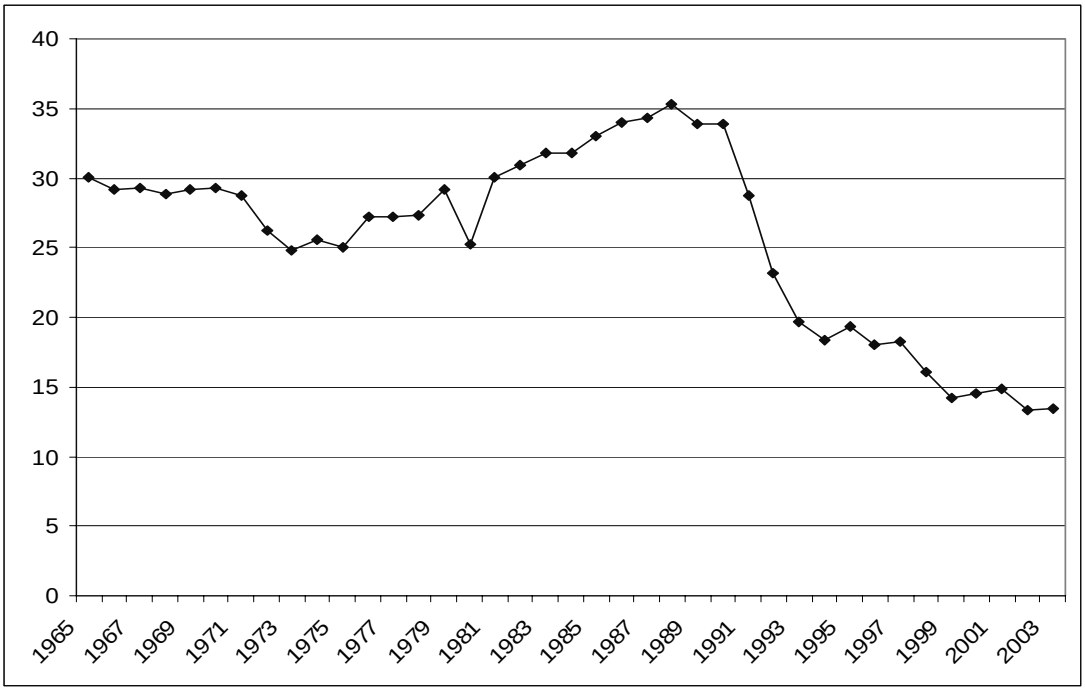
273. It is obvious that the economic and political power of a country, its size and geographic location, its dominant culture, the quality and typical features of its higher education system, the role its language plays internationally, and previous internationalisation policies have all to be taken into consideration (Enders, 2002: 7).

274. Over the last decade the Icelandic higher education system has been developing towards a more comprehensive system, even though the highest academic degree programmes are still not offered in all disciplines and fields. As a consequence of this development the relative number of Icelandic students studying abroad has dropped significantly in recent years. At the same time there is an understanding among higher education authorities of the necessity of creating liaisons and consortia with education institutions in other countries in order to enable students to take part of their education abroad. Most postgraduate programmes have therefore been organised with the intention of allowing students to take part of their courses abroad (*programme mobility*). Notwithstanding, it is envisaged that a number of students will go abroad in the future in particular for studying subjects not offered at Icelandic HEIs, as well as for advanced studies.

275. Since the Icelandic student loan fund was established, there are good records of all those who have applied for a loan. Although this accounting applies to the vast majority of Icelandic students abroad, it is not an exhaustive record because not all of them have applied for a loan. As can be seen in Figure 10.1 up to 35 % of all students studying at university level were studying abroad. The extent of students seeking education abroad is much higher

compared to other countries, even though the figures show a significant decrease in recent decades (OECD, 2004: 306).[48]

Figure 10.1 Percentage of Icelandic students at university level registered at universities in other countries between 1965 and 2003



Note: Numbers since 1965 represent those receiving loans from the Icelandic Student Loan Fund. These figures show the proportion of university students who were studying abroad during 1963-2003. This is almost certainly an underestimate for the latter period as the numbers only reflect those who apply for loans at the Icelandic Student Loan Fund. The drop in the curve coincides with a decision to change the terms of loans for tuition and fees for undergraduate studies from subsidized loans to loans granted on market terms.
Source: Icelandic Student Loan Fund

276. According to OECD figures, the proportion of Icelandic students in tertiary education studying abroad is 25.4 % (OECD, 2004).[49] Table 10.1 shows that the highest proportion of Icelandic students studying abroad in 2004 went to the Scandinavian and Anglo-Saxon countries, with the highest percentage going to Denmark or 46.1%.

[48] There are various reasons for the decline in the proportion of students studying abroad. The first is that a number of institutions, notably in the caring and pedagogic fields, have been transferred to university status, and consequently the number of university students has increased. It was not commonplace for students in these fields to undertake their basic studies abroad. The composition of the student force has changed, from undergraduate degrees that often take three to five years to postgraduate degree study that usually spans one to four years.

[49] The number of students studying abroad is obtained from the countries of destination. Students studying in countries which did not report to the OECD are not included in this indicator. This proportion is higher than the official figure from the Government Student Loan Fund (GSLF) since some students that are included in the OECD report cannot apply for financial assistance from the fund, and as a result the figures from the GSLF are slightly underestimated.

Table 10.1 Number, percentages and share of Icelandic students enrolled in host country (2004).

Country of destination	Number of Icelandic students studying abroad	Share of Icelandic students studying abroad	Percentages of Icelandic students' studying in host country
Denmark	1,002	46.1	6.2
United States	314	14.4	1.9
United Kingdom	282	13.0	1.7
Sweden	143	6.6	0.9
Netherlands	78	3.6	0.5
Germany	70	3.2	0.4
Norway	51	2.3	0.3
Spain	46	2.1	0.3
Italy	41	1.9	0.3
France	25	1.1	0.2
Hungary	24	1.1	0.1
Canada	22	1.0	0.1
Austria	17	0.8	0.1
Switzerland	17	0.8	0.1
Other countries	43	2.0	0.3
Total	2,175	100	13.4

Note: Includes only those students outside Iceland who apply for assistance to the Student Loan Found. Each student is only counted once.
Source: Statistics Iceland

277. In Iceland disciplines vary in terms of their international exposure and there are also variations between larger and smaller institutions. For instance, the disciplines of Icelandic language and law have traditionally had relatively little international exposure. Other disciplines have maintained more international ties, mainly through exchange of faculty and international research co-operation. The majority of professors in the universities have received their postgraduate degrees abroad and preserve international relations through, for example, research collaboration after they move back home. In universities, support for professors to take sabbatical leave abroad is generous, which encourages the maintenance of international links. Since the University of Iceland has been the only HEI with an extensive research role, smaller tertiary institutions, due to the fact that their teachers have had limited research obligations, have generally had less international contact. However, modes and approaches to internationalisation have gradually changed from sporadic and individual-based relations and networks to more systematic and institutionalised processes.

278. HEIs in Iceland have in recent years emphasised the importance of participating in exchange and co-operative programmes with the aim of facilitating the possibilities for staff and students alike to spend a period at a foreign university. The Office of International Education (*Alþjóðaskrifstofa háskólastigsins*) serves all institutions at the higher education level and handles student exchanges both through agreements with individual universities abroad and the student exchange programmes which form a part of the Nordic and EU co-operation, in which Iceland participates as a party to the Agreement on the European Economic Area (*EEA agreement*).[50]

279. Table 10.2 shows the mobility of students between various regions over the period 1997-2004. There has been a considerable change in student mobility over this period. Studying in the Scandinavian and the EU countries has become more attractive for Icelandic students.

[50] The EEA Agreement is between the EU and Iceland, Liechtenstein and Norway.

Conversely, there has been a drop in students studying in North America. The changes in patterns of student mobility may be a result of the Bologna process with mounting convergence in the structure of higher education in Europe. Consequently, studying in Europe may have become more accessible for Icelandic students for various reasons. Firstly, credit transfers between institutions have become easier, for instance, with the introduction of the Diploma Supplement. Secondly, the language spoken is critical for selecting a foreign country in which to study. Indeed, an increasing number of institutions in non-English EU countries now offer courses and programmes in English to attract foreign students, especially so in Nordic countries (OECD, 2004; 298). This new landscape of educational provision in Europe may explain the comparatively large increase in proportion of students studying in the EU countries.

Table 10.2 Trends in student mobility between regions (1997-2004)

Regions	1997	1998	1999	2000	2001	2002	2003	2004
Scandinavian countries	43.4	40.4	40.5	41.1	41.8	46.6	52.5	55.2
North America	28.1	30.9	30.1	30.8	28.1	22.2	17.8	15.4
UK	9.8	11.2	12.3	12.0	12.2	13.6	12.3	13.0
EU-15 + EEA	71.0	68.4	69.2	68.3	70.5	76.0	80.4	82.3
EU-25+ EEA	71.3	68.8	69.5	69.0	71.3	76.8	81.4	83.6
Other	1.8	2.2	2.2	1.9	1.8	2.4	2.2	1.9

Note: Includes only those students outside Iceland who applied for assistance to the Students Loan Found.
Source: Statistics Iceland

Bologna process

280. The Ministry of Education, Science and Culture supervises the implementation of the Bologna process. The Ministry appointed in 2003 a National Bologna working group to co-ordinate and conduct the process and to provide input and make proposals for possible legislative reforms and regulations in order to ensure successful implementation of the process. The group comprises representatives from the Ministry, all the HEIs and the student organisations.

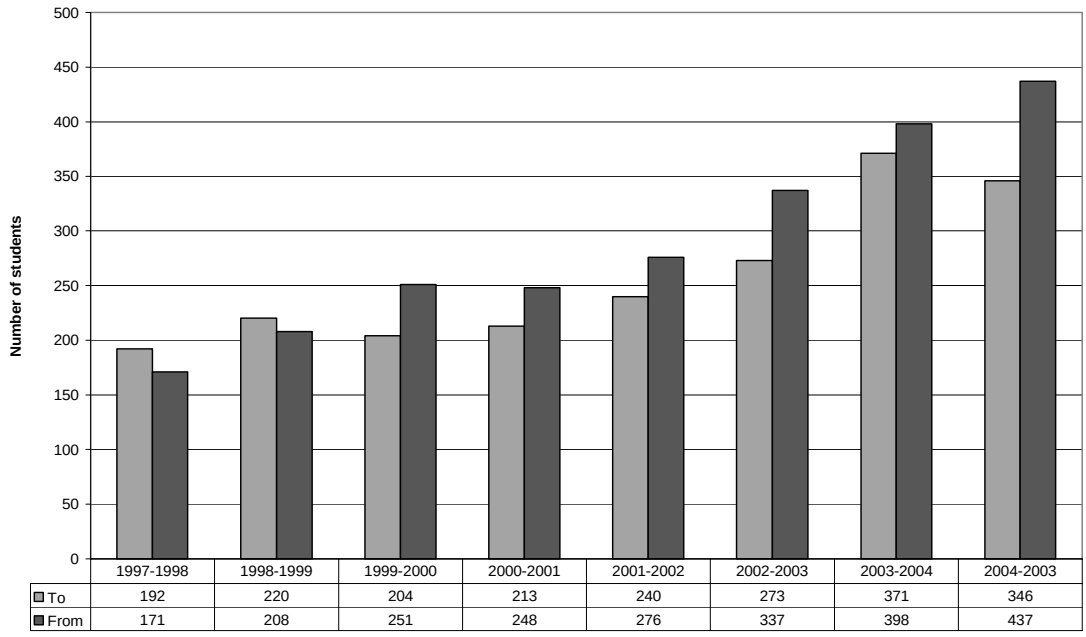
281. The degree system has long since been largely consistent with the aim of the Bologna process. The Bologna declaration has not led to major changes or reforms in Icelandic higher education policy. However the higher education system has for long had a hybrid structure, consisting of the single-cycle candidates (lasting between 4 and 6 years) and a more common two-cycle (Bachelor's/Master's) arrangement lasting around 3 (or 4) +1 (2) years. The Icelandic university tradition derived from Denmark, but also from other northern European countries with their lingering requirements for a degree. The professional degrees in divinity, medicine and law take between five and six years, but since 1942 most other degrees are of the three-year bachelor type, with an additional extension of one or two years in some subjects. In recent decades, a vast majority of Icelandic students seeking a master's or a Ph.D. have gone to the UK or North America and as a result Iceland has by now adapted to the Anglo-Saxon system at that level.

282. The national credit system, in which one credit is normally equivalent to two ECTS credits, is based on the same principles as ECTS that are used by all Icelandic universities for student exchange purposes. To improve international transparency and facilitate academic and professional recognition of qualifications, all HEIs have decided to introduce the Diploma Supplement in 2005.

283. As can be seen in Figure 10.2 the number of exchange students coming to Iceland has increased, especially through the Erasmus and Nordplus programmes. The influence of the growing number of foreign students is evident, for instance, in the content of curriculum offered and a growing assortment of courses in English that are taught. The extent of student

exchanges has increased gradually. The greatest number of foreign students in Iceland are enrolled at the University of Iceland, which offers the greatest variety of subjects (Annex A1.36 and A1.37). For the academic year 2002-03, there were 572 foreign students at the university, more than 7 % of all students enrolled.

Figure 10.2 Exchange students (Erasmus, Nordplus and others) to and from the HEIs in Iceland, 1997/1998 – 2004/2005



	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2003
To	192	220	204	213	240	273	371	346
From	171	208	251	248	276	337	398	437

Source: International Office at the University of Iceland

284. In the Icelandic HEIs, as in the rest of Europe, the use of English as the "lingua franca" is growing. This increase can be expected to continue, for instance, because of mounting pressure on Icelandic academics to publish in international (English-language) journals; the growing involvement in research funded by the European Union; the transition from a focus on small, independent national research projects to involvement in larger international projects; and new teaching patterns in the form of master's programmes, with more courses in English.

Impact of internationalisation and globalisation

285. The traditional essence of internationalisation of the Icelandic education system has consisted of mobility of students and academic staff, most of them resulting from institutional rather than governmental initiatives. New forms of internationalisation are coming to the fore, while the traditional forms continue to exist parallel to the "new internationalisation" trends. These new trends are to a larger extent driven by economic factors, such as changes in world markets and technology (OECD, 2004: 295-296). The general trends towards free flow of capital, goods and services coupled with changes in the openness of labour markets have increased the demand for new kinds of educational opportunities in Iceland. As a result, most HEIs have international co-operation high on their agenda (Enders, 2002).

286. Whereas political, cultural and academic rationales have driven internationalisation in the field of education over recent decades, the economic rational has not "penetrated" internationalisation policies in Iceland. Higher education is still primarily regarded as an important social institution. In Iceland, free access to higher education is seen as a fundamental right, which collides with the common perspective of higher education as a service to be traded on a (world) market (Van der Wende, 2001). This has probably impeded

the Icelandic government from formulating policy aimed at attracting foreign students for economic reasons. However, some of the current developments with respect to higher education make it necessary to look at the economic dimension more seriously. With the pressure from the WTO negotiation on trade in educational services, the economic rational for internationalisation can be expected to increase even more (OECD, 2004: 295-296; Van der Wende, 2001).

287. Unlike institutions in other countries, inside and outside Europe, Icelandic higher education cannot profit economically from attracting foreign students other than through the national public funding model. Thus the "import" dimension and international marketing are lacking from the internationalisation of higher education in Icelandic (OECD, 2004: 295-296).

288. Other issues have also become more salient, such as the government's awareness of the necessity of creating and maintaining a balance in international activities. Traditionally Iceland has had a strong relationship with the USA and the UK, while the Nordic dimension also remains important. Recently, the European dimension has become more important for Iceland, resulting in the need for the universities to develop and maintain appropriate co-operation with continental European countries, without weakening the ties with traditional partners.

289. Furthermore, enhanced internationalisation will probably generate proclivity for policy makers in Iceland to concentrate their scarce resources on a few large institutions in order to be competitive internationally. Thus, education institutions need to develop sufficient infrastructure to be able to participate in the current international environment and compete for research grants. Increased internationalisation will put pressure on HEIs to develop sufficient infrastructure to be able to participate in the highly globalised knowledge-based economy.

290. The influence of globalisation on higher education is gradually becoming more important in Iceland, for obvious cultural, political, social and economic reasons. Certainly, the role of the national government in steering higher education is changing. Deregulation and the increase of institutional autonomy are intended to allow institutions to become more responsive to their external environment, including the international challenge.

291. Internationalisation of higher education is perceived by most stakeholders in government and the academy as a path for further development of higher education. International education opportunities, sharing of knowledge, an academic consortium and an enriched curriculum are some of the advantages that are regularly cited with regard to the impact of internationalisation in Iceland. Conversely, there is also some comprehension of the negative impact that follows. Culturally, the significance of higher education in preserving and re-examining the national identity in a changing environment has been stressed. The government are aware of the need to find an appropriate balance between the national and international dimension. National and international interests have to be balanced in line with the ongoing politically and economically driven globalisation trends with respect to public and private activities, including education and research. This includes promoting cultural involvement by the general population.

292. The trends towards greater globalisation and international competition of education will certainly have a growing impact on the government education policy in coming years. In addition, and very much related to the proceedings of the Bologna Declaration, the European dimension is now much more integrated into the mainstream policy making of higher education.

Chapter 11: Conclusion

Review of recent developments and policy reforms

292. The higher education institutions in Iceland are operating in a new environment with rising demand for higher education, international and domestic competition, extensive legal autonomy and a broader socio-economic role. The Universities Act of 1997 granted the HEIs greater autonomy of operation and financial management. The aim was to create optimal conditions for the institutions to adapt and respond to the changing national and international environment. Following these changes the Ministry of Education, Science and Culture introduced a more out-put-oriented funding system and negotiated performance-related agreements with individual institutions. These reforms have in general been regarded as a positive development that has led to greater managerial flexibility, created a systematic funding system and led to consultation procedures between the HEIs and political authorities.

293. The higher education system in Iceland has undergone, and still is in, a transition period. There has been massive growth in the number of enrolled students and expansion of the HEIs and the breadth of programmes offered. The recent policy reforms have delegated more responsibilities to HEIs and enhanced the role of private institutions that has led to growing competition between various parts of the system. In the late 1990s changes were made in the institutional settings with mergers of upgraded institutions into larger units. The increasing demand for higher education has been met with firm policy measures, which in return have been supported with a more realistic level of government spending. The continual positive developments within all the HEIs over the past decade are proof of a vibrant and dynamic system.

294. Overall, there is a broad political consensus in Iceland that higher education and research are central to the future development of the country. With the establishment of the Science and Technology Policy Council in 2003 the government reformed the distribution of research responsibilities to HEIs and strengthened the competition for research funding. The establishment of STPC was a decisive step in the deployment of medium to long-term research and innovation strategies.

295. The enlargement of the system has encompassed a diversity of goals (i.e., equity, education, research and innovation, the regional dimension, and economic development) in order to meet growing socio-economic demands. To some extent, the current expansion of the higher education system has occurred faster than the government anticipated. The result has been the creation of new challenges that need to be addressed, for example, whether and how the government: should make clearer differentiations between institutions, requiring specialisation; should distribute research budget allocations between institutions; and should guarantee the quality standards of individual institutions and programmes.

296. In June 2005 the Minister of Education, Science and Culture established a committee that will make a proposal for amendments to the Universities Act no. 136/1997 and of the applicable individual legislation on public HEIs. The forthcoming revision of the Universities Act is a response to the altered domestic environment and the growing economic importance of universities, among other things, as generators of scientific and technological knowledge. The committee's proposals are aimed at strengthening the quality of the higher education system in Iceland and it will finish its work in November 2005.

297. Recent reforms and policy developments:

- In the late 1990s various upper-secondary colleges were upgraded and new private institutions were established, leaving three private institutions and five public institutions operating in 2005.
- The Division of Evaluation and Supervision was established within the Ministry of Education, Science and Culture in 1996.
- The first framework legislation of the higher education system was enacted in 1997.
- In 1999 the Ministry of Education, Science and Culture published the policy paper "Education and Culture for All" (*Menntun og menning fyrir alla*) for the period 1999-2003.
- After the introduction of funding formula for teaching and facilities in 2000, formal performance and service contracts were initiated between the Ministry of Education, Science and Culture and the HEIs.
- In 2003, a new policy-making body, the Science and Technology Policy Council, was established to promote science and technological progress.
- Merger of Reykjavik University (private) and Technical University (public) in 2005.
- Revision of the Universities Act in 2005.

Strengths and concerns of the tertiary education system in Iceland

298. The following strengths can be identified:

- There has been considerable increase in the real level of government spending to higher education, both for teaching and research. Furthermore, the government have pledged more resources to research and technology funds with competitive procedures.
- The recent reforms have led to greater managerial flexibility, a systematic out-put-oriented funding system, and enhanced consultation procedures between the HEIs and political authorities. These reforms have enabled the HEIs to respond and adapt to changes in the international and domestic environment.
- Mergers and unification of institutions over the last decade have created larger and more efficient institutional units. Therefore, the institutions have more capacity to conduct research, and offer better education and services to students.
- The HEIs have put more effort into strengthening their research activities and developing their postgraduate level. There is also a growing interest in collaboration with industry, the business sector, research institutes and with other HEIs.
- Higher education has become more attractive for students at all ages, leading to a doubling of enrolment over the last decade. Older students have enrolled, especially to seek postgraduate education.
- Significant resources are allocated annually through the Student Loan Fund in order to provide equal opportunity of access to higher education. The current loan system also facilitates the process of seeking an education abroad, as the loans may be equally applied to study in Iceland or abroad.

299. The following concerns have been put forward:

- Whether Iceland can sustain more than one university with extensive research activities, which are internationally competitive in producing new knowledge, innovation and development in economic and cultural areas. This concern generates

the question of financial efficiency, competitiveness and diversification of the higher education system in general.

- The greater autonomy of the HEIs in their governing activities has raised the concern that the shift of decision-making powers from the central authorities has not been balanced with strong enough institutional monitoring, quality assurance and a national accreditation system that would guarantee the quality of programmes and institutions.
- Whether the expansion over the last decade has resulted in real diversification of the system. It has been stressed that most HEIs are heading in the same direction, offering similar programmes, and that the newly established institutions offer undergraduate programmes similar to those already offered.
- There are few women among tenured academic staff – especially among docents and professors – although there has been an increase in recent years. There is a gender gap in the overall student body and imbalance of women and men in various fields of studies
- Lack of policy papers that stipulate the long-term policy priorities and objectives of the central government. It has been stressed that it is essential for a transparent and competitive higher education system to provide stakeholders with information on long-term objectives and priorities, utilisation of resources, and the general development within the system.
- How to tackle the financial pressure generated by the increasing number of students at the same time as the institutions are building up their research capabilities. Strengthened research and educational programmes are often a synergistic undertaking, but these objectives may indeed compete with each other.

Future policy challenges

300. The Icelandic tertiary education system has to prepare for a global society with further internationalisation of research and teaching, and to develop critical awareness of the forces affecting the position of HEIs. The new environment of the HEIs has lifted the issues of quality, productivity, and accountability higher on the government's agenda, as well as evaluation, benchmarking, and monitoring. In addition, the government have promoted the policy of creating a competitive environment of public research funds and enhanced the entrepreneurial entity of the institutions.

301. Future policy challenges ahead are all concerned with the general dimensioning of the higher education system of the 21st century. There are various issues and reforms that need to be addressed in the foreseeable future such as:

- Meeting the fiscal pressure that results from the growing number of students and at the same time managing mounting demand for tertiary education. Additionally, developing an alternative approach to financing the growing postgraduate level and improving opportunities for doctoral studies in Iceland. The challenge is to find a suitable balance between the social gains that derive from open and equal access to higher education and the additional fiscal costs resulting from increasing participation.
- Develop a suitable balance between the autonomy of the HEIs and the governing role of the Ministry of Education, Culture and Science. There are two policy issues being considered: First, whether it is feasible to maintain a laissez-faire policy of letting the autonomy of the institutions and the competition for research funds, students and the demands of the labour market determine the outcome or whether it is necessary to

strengthen centralised policy making with measurable long-term priorities and objectives. Secondly, whether government should make a clearer differentiation and specialisation between various types of institutions at the tertiary level.

- Focusing on the growing importance of research at the HEIs. The universities will play a more instrumental role as the economy becomes more complex and knowledge based. Transforming higher education will require expanding the research role of the HEIs with enhanced collaboration with industry, with the aim of attracting private funding, stimulating interdisciplinary co-operation and generating applied knowledge.
- Continue to focus on the quality of educational provided and improving the quality assurance system, for instance, by building up national accreditation and developing quality control on research activities. The research quality system should give enhanced attention to research output.

List of Abbreviations

ASÍ	Icelandic Federation of Labour (ASÍ)
BISN	Association of Icelandic Students
ECTS	European Credit Transfer System
EEA	European Economic Area
ERA	European Research Area
FTE	Full Time Equivalent Student
HEI	Higher Education institution
ICT	Information and Communication Technology
ISK	Icelandic Króna (1€ is about 80 ISK)
ISCED	International Standard Classification of Education
LÍN	Icelandic Student Loan Fund
OECD	Organisation for Economic Co-operation and Development
OIE	Office of International Education
PPP	Purchasing Power Parities
RANNÍS	Icelandic Centre for Research
R&D	Research and Development
SA	Confederation of Icelandic Employers
SHI	Student Council of the University of Iceland
SINE	Organisation for Icelandic Students Studying Abroad
SMEs	Small and Medium Size Enterprises
STPC	Science and Technology Policy Council

Glossary

Association of Icelandic Students (*Bandalag Íslenskra Stúdenta (BISN)*): the Association of Icelandic Students was formed in 1979 and consists of seven HEIs (except the Univeristy of Iceland) with about 8000 members. The main role of the organisation is to represent students´ interests in issues such as the student loans system and availability of accommodation.

Candidatus degree (*kandidatsgráða*)**:** qualifies the holder for a special office or profession. It is an academic/professional degree awarded in the fields of theology, medicine, pharmacy, midwifery, law, business administration, engineering and dentistry. The Candidatus programmes last from four to six years.

Confederation of Icelandic Employers (*Samtök atvinnulífsins*, SA)**:** a service organization for eight member organizations representing about 2,600 Icelandic companies. SA projects include negotiation of collective agreements with unions on wages and working conditions, advocating an internationally competitive legal and regulatory environment, and the interpretation and communication of decisions by governmental authorities that directly affect the business environment.

Confederation of University Graduates (*Bandalag háskólamanna*, BHM): is the Icelandic organisation of academic trade unions. At present there are 24 member unions in BHM representing more than 7,000 employees with an academic degree requiring 3 or more years of study. The member unions themselves reserve the right to negotiate collective agreements for their members but BHM assists the member unions in many fields and speaks for academics on common causes.

Credit (*námseiningar*): recognition of a unit of learning, usually measured in hours of study or achievement or both.

Directorate of Labour (*Vinnumálastofnun*): is responsible to the Minister of Social Affairs and has the management of the employment service within the country as well as the daily administration of the Unemployment Benefit Fund and the Wage Guarantee Fund. The Directorate of Labour is empowered by Act no. 12/1997 on labour market affairs and Act no.13/1997 on the Unemployment Benefits Fund as well as related regulations.

Equal Status Bureau (*Jafnréttisstofa*): works on the national level and is in charge of administering the Act on equal status and equal rights of women and men no. 96/2000, as well as providing counselling and education in the field of gender equality for state and municipal authorities, institutions, companies, individuals and non-governmental organisations.

European Economic Area (*Evrópska Efnahagssvæðið*): came into being on January 1, 1994 following an agreement between the European Free Trade Association (EFTA) and the European Union (EU). It was designed to allow EFTA countries to participate in the European Single Market without having to join the EU. The current members are the EU states plus Norway, Iceland and Liechtenstein. The EEA is based on 4 freedoms defined as: the free movement of goods, persons, services and capital between the EEA countries. The non-EU members of the EEA have agreed to enact legislation similar to that passed in the EU in the areas of social policy, consumer protection, environment, company law and statistics.

Frame budgeting: The Ministry of Finance applies “frame budgeting” (*rammafjárlagagerð*) when it allocates resources to the higher education system. This method allocates specific sums to the Ministry of Education, Science and Culture, which in turn decide how the funds will be allocated to individual institutions, in accordance with the limit set by the

frame. The Icelandic Parliament then approves the financial plan as a part of the General Budget Bill.

Full-time equivalent student (FTEs): the proportion of nominal full-time students in higher education (enrolled in a full course of study). The non-full-time students are calculated as equivalent to full-time students based on their own partial enrolment.

Funding formula (reiknilíkan)**:** the financing of teaching and facilities is based on a pre-arranged funding formula that is divided into five categories (disciplines). The list indicates the generated cost of one active student in each category. In calculating the number of active students, one FTE stands for taking examinations equivalent to 30 credit points (60 ECTS) during the academic year

Government dependent higher education institutions: A private institution that receives 50% or more of its core funding from state agencies or one whose teaching personnel are paid by a state agency - either directly or through the government.

Iceland National Audit Office (*Ríkisendurskoðun*)**:** the legislative basis for the Office is the National Audit Act no. 86/1997. According to the Act, the Office is an independent body operating under the auspices of the Icelandic Parliament. The Presidential Committee of the Parliament appoints the Auditor General for a period of six years. The main tasks of the Office are: a) to audit agencies and enterprises under state ownership, b) to examine the economy, efficiency and effectiveness of public spending and c) to evaluate whether internal control of state agencies is adequate and whether their performance is satisfactory.

Icelandic Centre of Research (*Rannsóknamiðstöð Íslands, RANNÍS*)**:** reports to the Ministry of Education, Science and Culture with the purpose of providing professional assistance in the preparation and implementation of science and technology policy in Iceland. RANNÍS serves the framework for science and technology policy in Iceland introduced by act of Parliament in 2003.

Icelandic Chamber of Commerce (*Verzlunarráð Íslands*)**:** an association of enterprises, companies, and individuals, from all sectors of the Icelandic business community. It is an independent voluntary organisation, established in 1917, and has always been free of state involvement or official contribution. It seeks to further strengthen open market ideas, promote free trade and competition on equal terms.

Icelandic Federation of Labour (*Alþýðusamband Íslands, ASÍ*))**:** the largest organisation of Icelandic workers. It strives to improve remuneration and rights of workers. ASÍ is an umbrella organisation of worker unions and two-thirds of Icelandic workers are registered in ASÍ. Total membership is close to 90,000 in 82 membership unions around the country.

Icelandic Student Innovation Fund (*Nýsköpunarsjóður námsmanna*)**:** established in 1992 to provide an opportunity for students to conduct research projects over the summer holidays. The aim of the Fund is to enhance entrepreneurship, research experience of students and co-operation between industry and the higher education institutions.

Icelandic Student Loan Fund (*Lánasjóður Íslenskra námsmanna*): offers student loans for tuition fees, maintenance costs for studying at higher educational institutions that require preparatory study, both in Iceland and abroad.

Innovative clusters (*þekkingaklasar*): are intended to create a liaison between higher education institutions, research and innovation to create knowledge diffusion with the aim of strengthening the local economy.

Matriculation examination (*stúdentspróf*): is the national co-ordinated examination following upper secondary (*menntaskóli*) education when the student is usually about 20 yrs. old. A sufficiently high mark leads to the possibility of enrolling in a university degree programme.

Organisation for Icelandic Students Studying Abroad (*Samband Íslenskra Námsmanna Erlendis(SINE))**:** The main role of the Organisation for Icelandic Students Studying Abroad is to guarantee the interests and provide services for students studying abroad and be the national contact point with the government´s institutions.

Private institutions: See government-dependent higher education institutions.

Public institutions: An institution is classified as public if ultimate control rests with: a) a public education authority or agency or b) a governing body (Council, Senate, etc.), most of whose members are appointed by a public authority or elected by public franchise (OECD, 2004c: 58).

Regional Development Institute (*Byggðastofnun*)**:** The aim of the Institute is to enhance rural communities and the labour market by organising and financing projects and providing loans with the aim of creating diverse economic and labour market opportunities in rural areas in Iceland. The Institute implements the policy underlying the government's the rural development plan in co-operation with the Ministry of Industry and Commerce.

Remuneration Committee (*Kjaranefnd prófessora*)**:** decides the wages, responsibilities and distribution of working hours and other remunerations of professors at public HEIs in Iceland in accordance with Act on the Remuneration Court and the Remuneration Committee no. 120/1992.

Research Service at the University of Iceland (*Rannsóknaþjónusta Háskóla Íslands*): provides various services regarding international research and educational co-operation, enhances the utilisation of research conclusions, and administers companies and other projects linked to the University of Iceland.

Science and Technology Policy Council (*Vísinda- og tækniráð Íslands*): operates under Act 2/2003 that has restructured the central administration and funding of research and development in Iceland. The role of the Council is to promote scientific research and research training in the sciences and encourage technological progress in Iceland. It operates under the auspices of the Prime Minister, consists of ministers, scientists and business representatives, and formulates public policy on scientific research and technological development. Two boards, the Science Board and the Technology Board, serve as working committees between Council meetings.

Standing Committee of the Rectors of Icelandic Higher Education Institutions (*Samstarfsnefnd háskólastigsins*): Since 1987 the Committee has served as a platform for discussions on various matters of common interest. The Committee consists of the heads of the higher education institutions in Iceland as well as one representative from the Ministry of Culture and Education. The Standing Committee meets regularly, 6-9 times a year.

Student Council at the University of Iceland (*Stúdentaráð Háskóla Íslands)*: The role of the Student Council at the University of Iceland is to guard every aspect of student rights both inside and outside the institution. In the Council are twenty students from nearly all faculties. The Council has six subcommittees regarding various issues such as equality and safety, student loans, international and educational affairs and student rights in general.

Student Council of the University of Iceland (*Stúdentaráð Háskóla Íslands*): The Council guards every aspect of student rights inside and outside the University. The Council consists of twenty students from nearly all faculties and has six subcommittees concerned with various issues.

The Icelandic Centre for Research (*Rannsóknarmiðstöð Íslands* –RANNÍs): RANNÍS provides services to the science and technology system. Its mission is to serve and give operational support to the boards and funding bodies, to manage and support international connections and cooperations, monitor the effects and impacts of policies, and to provide

intelligence and informed advice to STPC and its boards and sub-committees. Thus, RANNÍS handles all the funding bodies set up by the legislation on STPC in 2003.

University (*háskóli*): an institution of learning at the highest level providing teaching in several professional fields, operates research facilities and has the authorisation to grant undergraduate and postgraduate academic degrees. The Icelandic *háskóli* refers to both a university and a college, when the latter is used in the sense of a degree granting institution of higher education. Operation of a *háskóli* is covered by the Universities Act no. 136/1997. According to the Act, a university need not necessarily carry out research. Some Icelandic universities serve mainly as teaching institutions with research on an individual rather than an institutional basis.

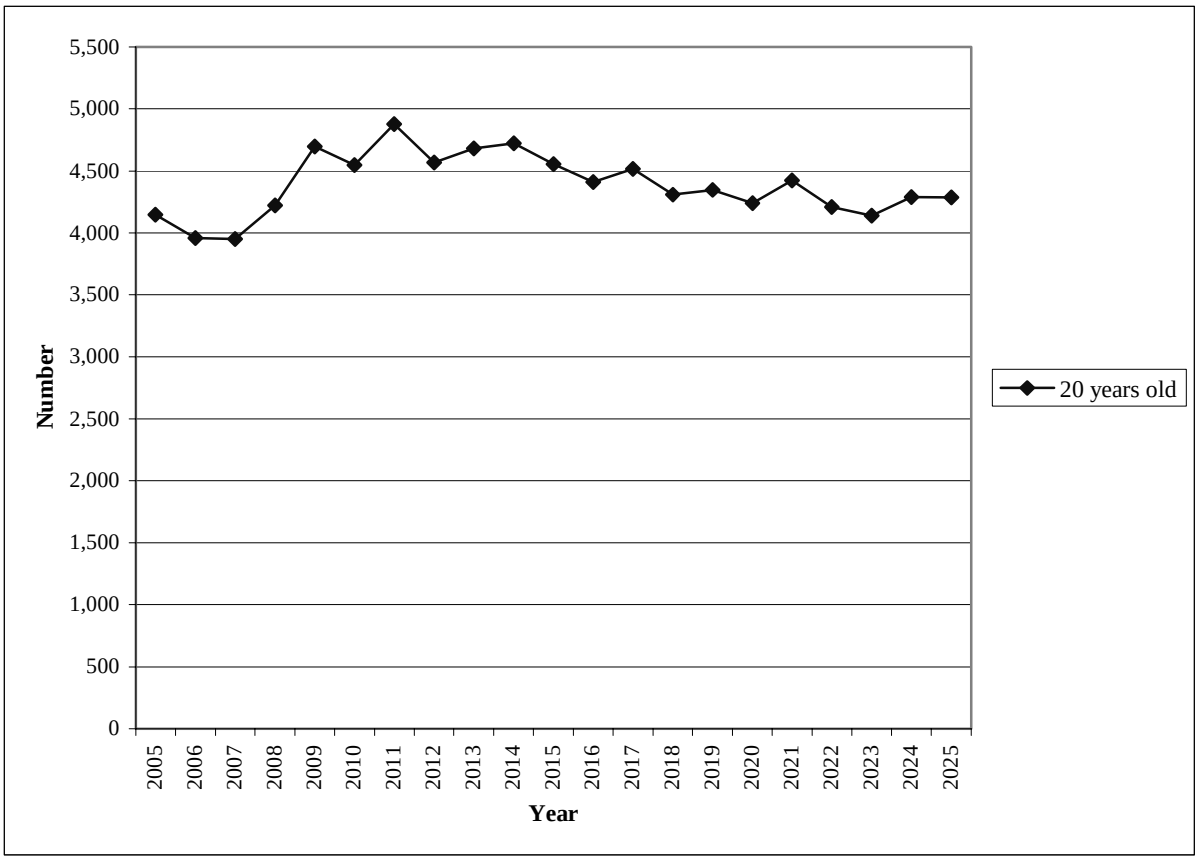
Annex I Tables and Figures

A.1.1 Selected key cultural, economic and social variables

Total area	103,000 km^3
Population (31.01.2004)	293,000
Capital	Reykjavík, population 113,848
Population density	0.36 p./km^2
Population increase since 2003	1 %
Net. Immigration	435
Life expectancy	Females: 83 years, Males: 79 years
Main religion	Evangelical Lutheran (86.6%)
Gross domestic products (2003)	€9.4 billion (8,10.8 billion ISK., US$ 10.6 billion)
Per capita GDP	€32.4 thousand (2,8 million ISK, US$ 29.8 thousand in terms of PPP)
Growth of GDP 2004	5.2%
Employment age 16-74 (01.12.2004)	80.7%
Labour force age 16-74	160,600
Employed 16-74	155,800
in agriculture (2003)	6.9%
in industry	21.7%
in service	71.4%
Unemployed (01.04.2005)	2.3%
Unemployed	3,746
of which 16-24	784
Males	1,578
Females	2,170

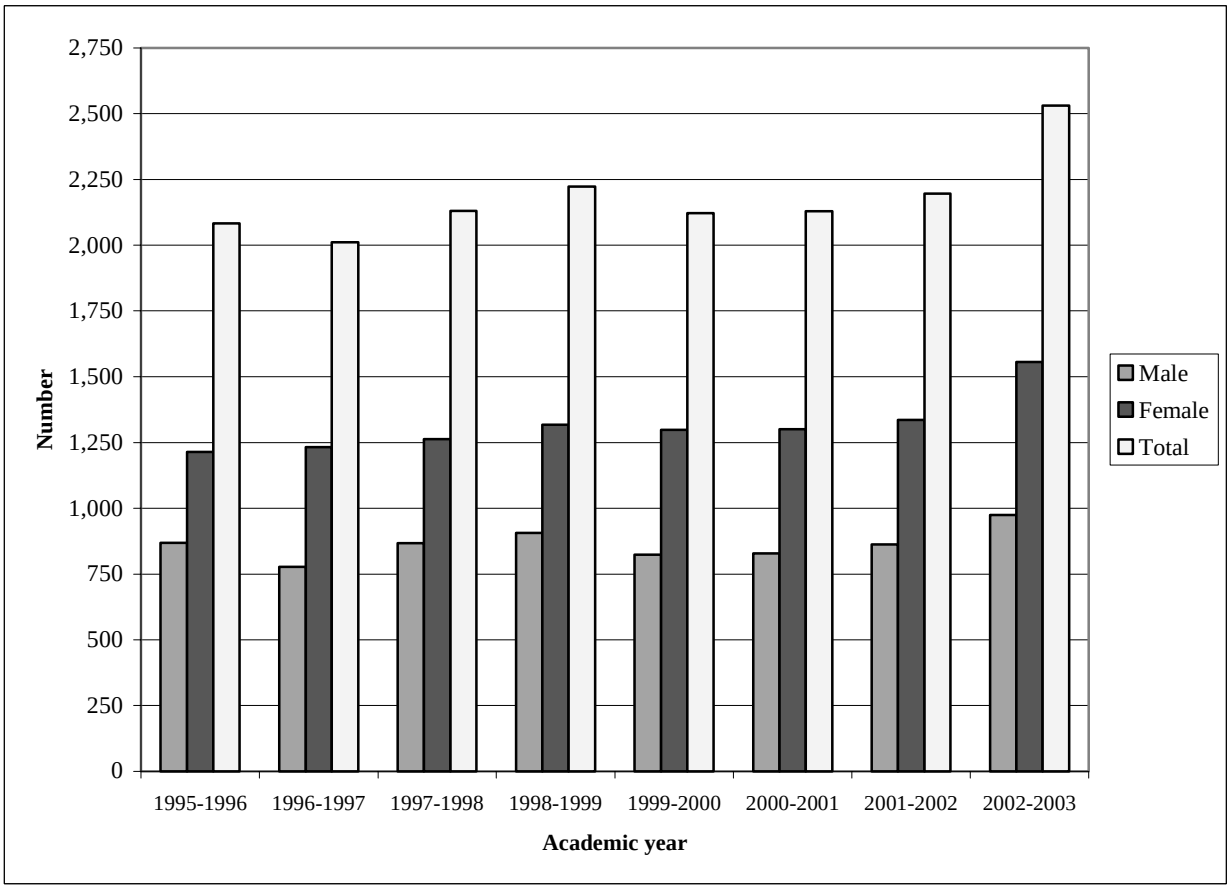
Source: Statistics Iceland

A1.2. Predicted number of 20 years old 2005-2025



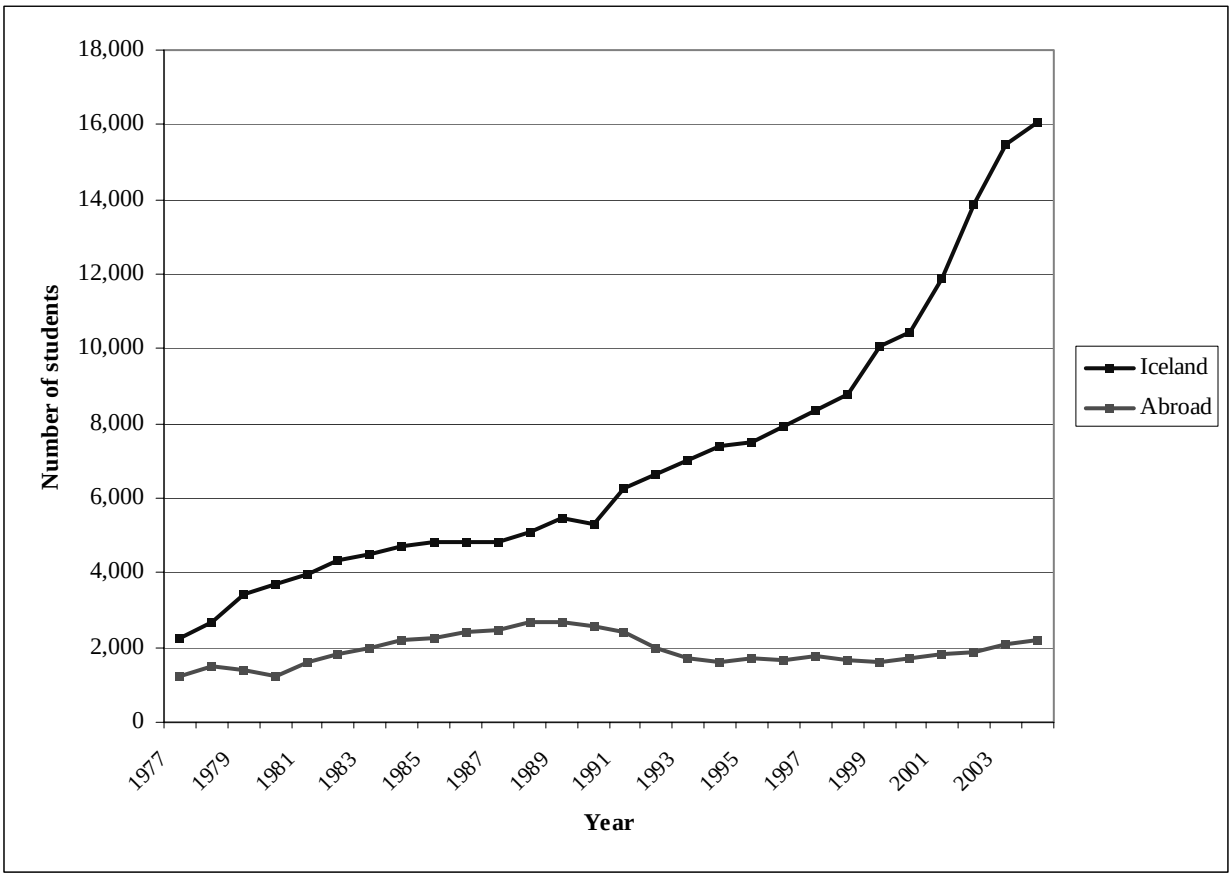
Source: Statistics Iceland

A1.3. Total number of graduates passing matriculation examinations in Iceland 1995-2003



Source: Statistics Iceland

A1.4. Number of enrolled students at the tertiary level in Iceland and Icelandic student studying abroad 1977-2004



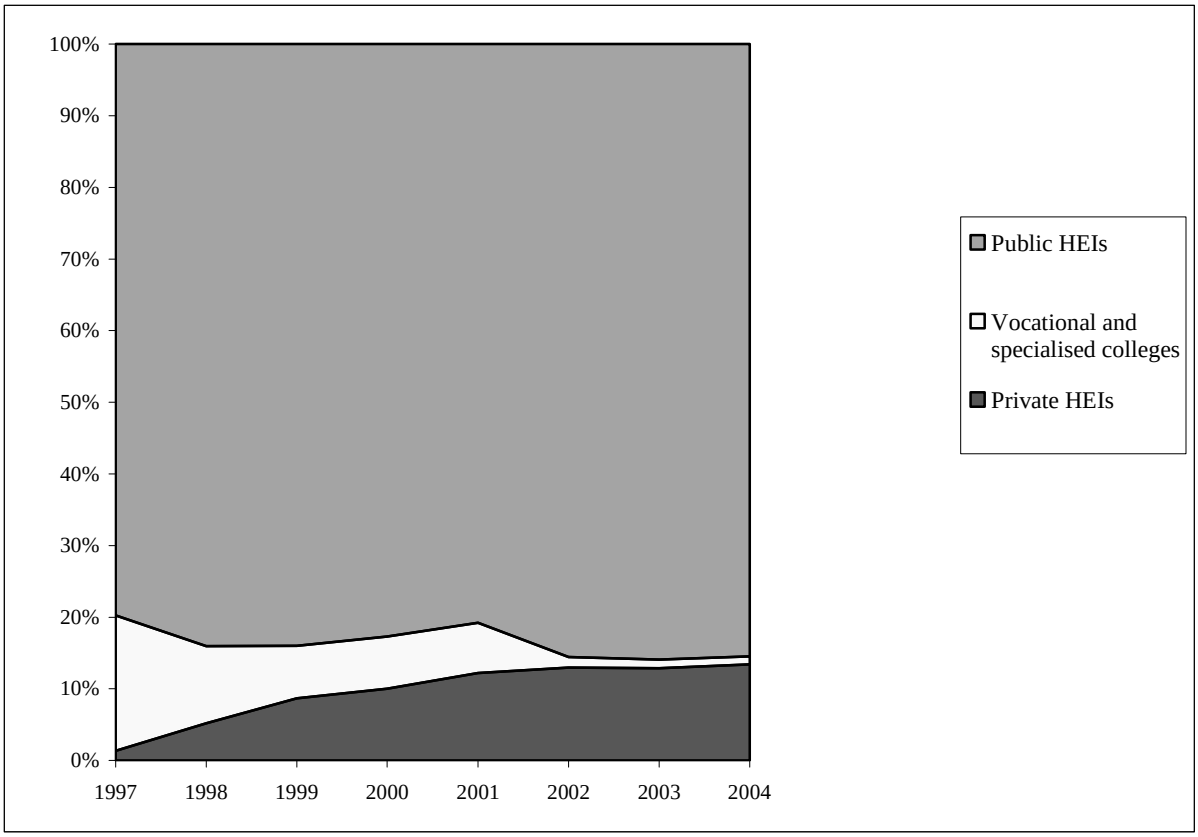
Note: Including in the number of student studying in Iceland is all the students in vocational programmes on the tertiary level or 248 students in 2004.
Source: Statistics Iceland

A1.5. Number of enrolled students at the HEIs 1997-2004

	1997	1998	1999	2000	2001	2002	2003	2004
University of Iceland	5,549	5,561	6,601	6,670	7,051	7,948	8,759	8,712
University of Akureyri	415	502	554	649	908	1,039	1,388	1,496
Iceland University of Education	718	1,247	1,172	1,263	1,591	2,043	2,088	2,245
Reykjavik University	-	339	503	643	969	1,163	1,269	1,355
Iceland Academy of the Arts	-	-	220	233	237	309	350	366
Agricultural University of Iceland	-	-	-	92	99	120	162	164
Bifröst School of Business	-	-	-	177	254	314	360	417
Technical University of Iceland	-	-	-	-	-	657	794	943
Hólar University College	-	-	-	-	-	-	-	88
Total	6,682	7,649	9,050	9,727	11,109	13,593	15,170	15,786

Source: Statistics Iceland

A1.6. Percentages of enrolled students at tertiary level by type of institutions 1997-2004



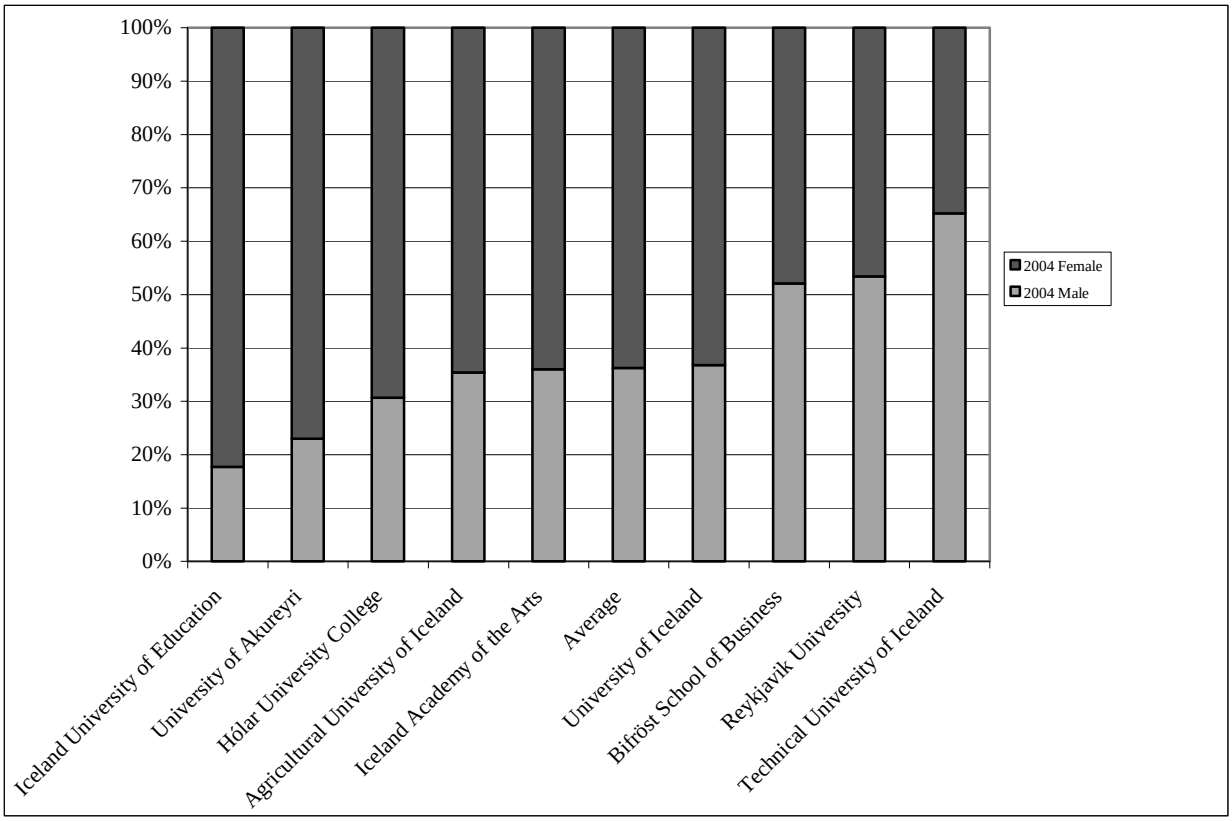
Source: Statistics Iceland

A1.7. Percentages of female and male at the ages 20-24 working on their undergraduate degree

Year	Male %	Female %	Total %
1977	12.1	9.5	10.8
1980	18.6	15.5	17.1
1985	20.7	22.9	21.8
1990	21.5	30.0	25.7
1991	24.9	36.3	30.5
1992	26.3	38.1	32.1
1993	27.6	39.6	33.5
1994	29.0	40.9	34.8
1995	28.2	41.6	34.8
1996	29.7	43.2	36.4
1997	31.5	46.2	38.8
1998	31.6	49.9	40.6
1999	35.2	54.7	44.8
2000	34.1	55.7	44.8
2001	37.8	62.2	49.9

Source: Statistics Iceland

A1.8. Gender division within the HEIs (2004)



Source: Statistics Iceland

A1.9. Enrolled students and activity rate 2000-2004

	2000	2001	2002	2003	2004
Enroled students	10,265	11,698	13,473	15,008	15,534
Active students FTEs	6,964	7,764	8,849	9,950	11,014
Activity rate %	67.8%	66.4%	65.7%	66.3%	70.9%

Source: Ministry of Education, Science and Culture

A1.10. Students enrolled in distance-learning courses and programmes at HEIs in 2001- 2004

Higher education Institutions:	2001	2002	2003	2004
Hólar University College	.	.	.	37
University of Iceland	95	29	20	244
University of Akureyri	351	417	584	742
Reykjavik University	129	77	63	59
Iceland University of Education	667	1317	1247	1353
Agricultural University of Iceland	25	29	9	31
Iceland Academy of the Arts	0	0	0	0
Technical University of Iceland	0	0	0	149
Bifröst School of Business	51	67	96	136
Total	1318	1936	2019	2751

Source: Statistics Iceland

A1.11. Total number of enrolled students by programmes (2004)

	Male		Female		Total	
	Number	%	Number	%	Number	%
Language, humanities	813	12	1,588	14	2,401	13
Fine and applied arts	336	5	531	5	867	5
Teacher-training, education science	554	8	2,732	24	3,286	18
Social sciences, jurisprudence	958	14	1,741	15	2,699	15
Economics, business administration	1,405	20	1,611	14	3,016	17
Natural sciences, mathematics	984	14	776	7	1,760	10
Engineering	1,469	21	457	4	1,926	11
Agriculture, food sciences	172	2	251	2	423	2
Medicine, nursing, etc.	306	4	1,557	14	1,863	10
Total		100		100		100

Source: Statistics Iceland

A.1.12. Graduation by academic programmes 2002/2003

Areas of study	Male	Female	Total
Language, humanities	92	179	271
Fine and applied arts	31	64	95
Teacher-training, education science	141	638	779
Social sciences, jurisprudence	90	145	235
Economics, business administration	239	289	528
Natural sciences, mathematics	163	113	276
Engineering	243	89	332
Agriculture, food sciences	46	105	151
Medicine, nursing, etc.	37	221	258
Total	1,082	1,843	2,925

Source: Statistics Iceland

A1.13. Graduation by educational level 1997-2003

Diplomas and degrees	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003
Industrial/Vocational diploma	61	95	114	81	94	143
Tertiary level, non-university diploma	388	460	429	479	479	582
First university degree	1,167	1,232	1,304	1,500	1,539	1,705
Postgraduate certificate	105	133	152	138	137	297
Masters degree	44	74	102	99	217	189
Doctoral degree	0	1	2	3	4	5
Total	1,765	1,995	2,103	2,300	2,470	2,921

Source: Statistics Iceland

A1.14. Total graduation and enrolement at the HEIs by gender from 1996-2003 (2004)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	% 96-03
Total Enrolled Men	4,211	4,459	4,345	4,871	4,906	5,421	6,090	6,771	6,997	62.2
Graduated Men	707	734	769	799	838	913	993	1,079		65.5
Total Enrolled Women	5,353	5,683	6,109	6,816	7,268	8,273	9,660	10,792	11,246	49.6
Graduated Women	1,028	1,081	996	1,196	1,265	1,387	1,477	1,842		55.8
Total Enrolment	9,564	10,142	10,454	11,687	12,174	13,694	15,750	17,563	18,243	54.5
Total Graduations	1,735	1,815	1,765	1,995	2,103	2,300	2,470	2,921		59.4

Source: Statistics Iceland

A1.15. Annual ratio between enrolment and graduation by the first and the postgraduate degree

	First degree			Postgraduate degree		
	Enrolement	Graduates	%	Enrolement	Graduates	%
1997/1998	6.381	1.167	18.3	398	44	11.1
1998/1999	7.044	1.232	17.5	502	74	14.7
1999/2000	7.742	1.304	16.8	645	102	15.8
2000/2001	8.447	1.500	17.8	774	99	12.8
2001/2002	9.476	1.539	16.2	923	217	23.5
2002/2003	10.832	1.705	15.7	1.413	189	13.4

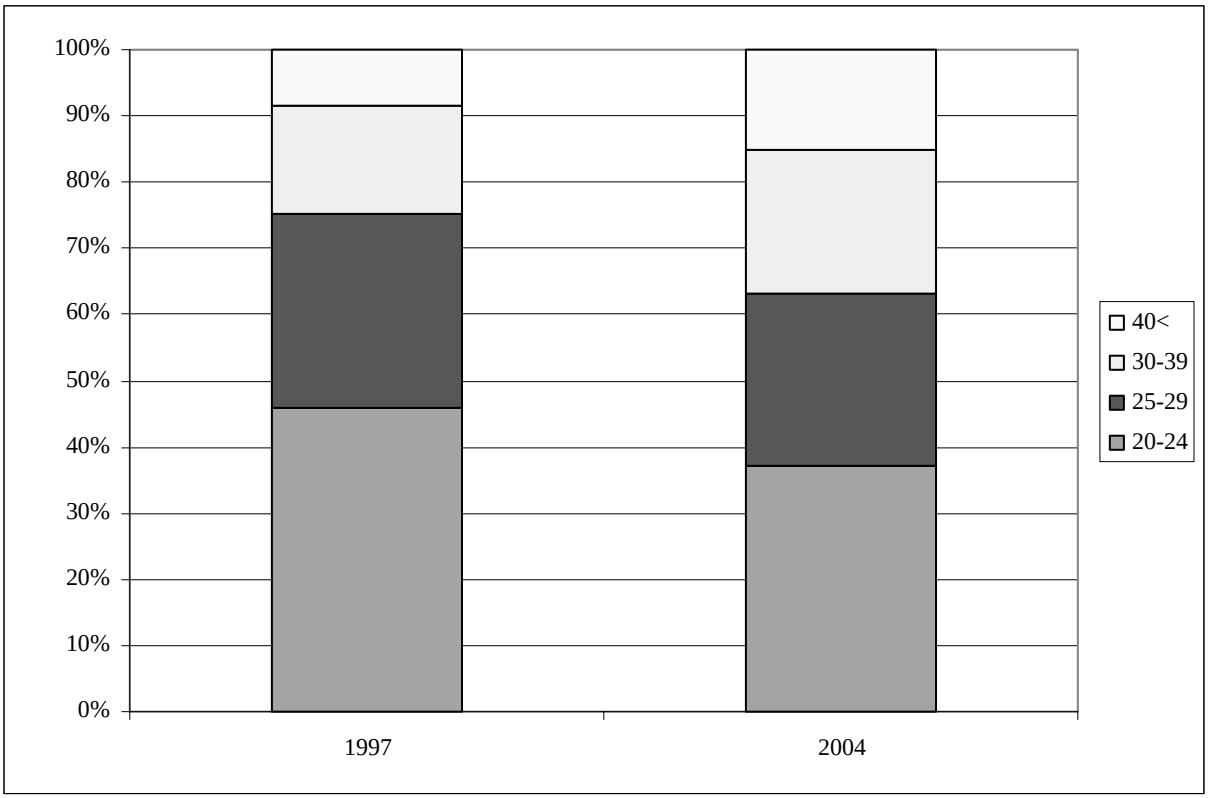
Source: Statistics Iceland

A1.16. Total enrolment at the tertiary level by gender and age 1997-2004

	1997	1998	1999	2000	2001	2002	2003	2004
Total 20-24	4,643	4,623	5,289	5,384	5,775	6,374	6,830	6,726
Total 25-39	4,577	4,645	5,142	5,433	6,229	7,297	8,252	8,709
Total 40<	868	1,120	1,207	1,289	1,608	2,025	2,404	2,731
Men 20-24	2,137	2,068	2,354	2,330	2,456	2,665	2,878	2,789
Men 25-39	2,059	1,976	2,199	2,234	2,486	2,861	3,209	3,393
Men 40<	227	259	298	315	443	548	657	789
Women 20-24	2,506	2,555	2,935	3,054	3,319	3,709	3,952	3,937
Women 25-39	2,518	2,669	2,943	3,199	3,743	4,436	5,043	5,316
Women 40<	641	861	909	974	1,165	1,477	1,747	1,942

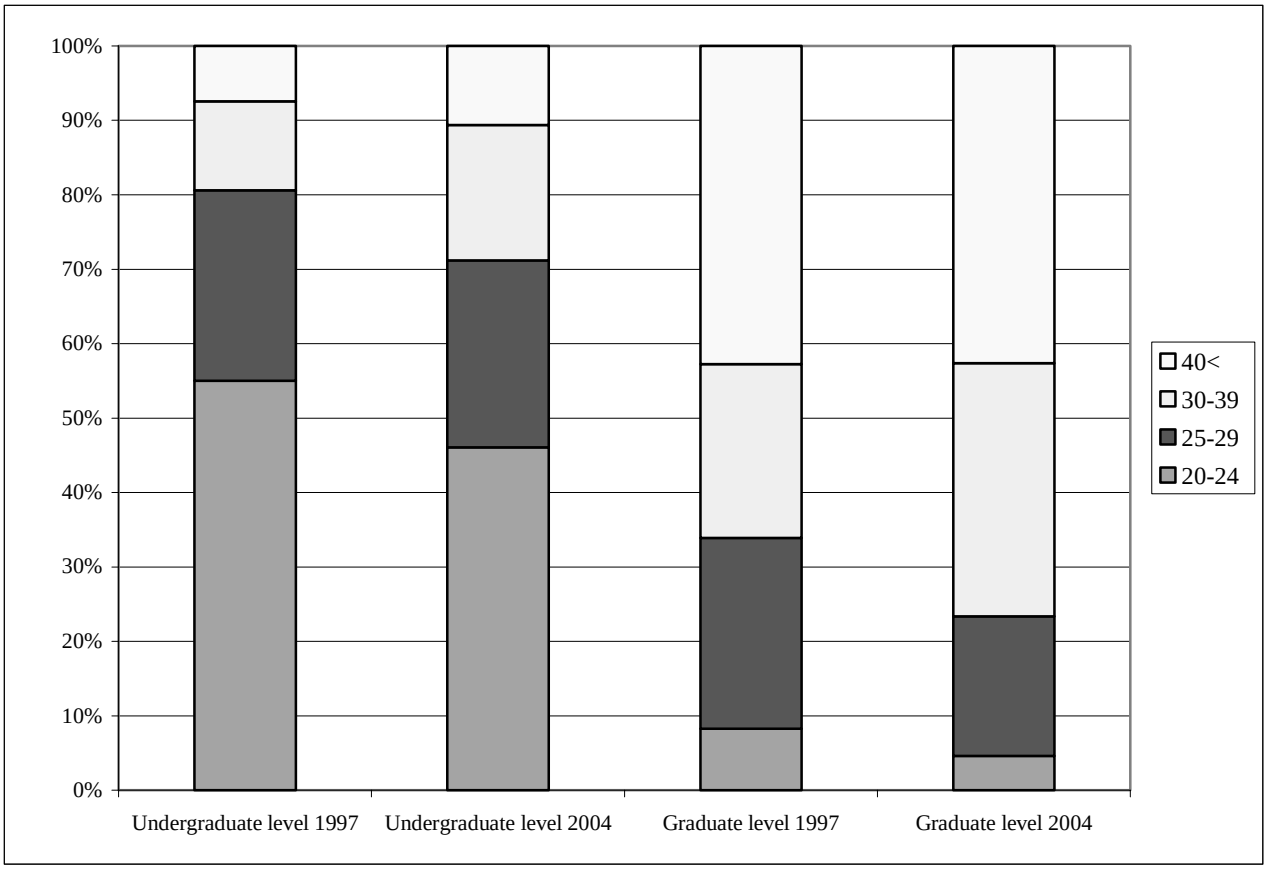
Source: Statistics Iceland

A1.17. Age distribution of the student population 1997- 2004



Source: Statistics Iceland

A1.18. Age division in higher education by undergraduate and graduate level 1997- 2004



Source: Statistics Iceland

A1.19. Ratio between erolment and graduation by fields of study at the tertiary level in percentage

	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003
Language, humanities	12	13	12	13	14	14
Fine and applied arts	14	17	15	18	13	13
Teacher-training, education sciences	25	30	29	28	24	28
Social sciences, jurisprudence	15	17	13	16	13	12
Economics, business administration	19	17	14	18	20	19
Natural sciences, mathematics	17	15	15	17	16	15
Engineering, Technology	17	22	23	21	19	20
Agricultural and food sciences	25	26	38	47	35	47
Medicine, health sciences	15	16	17	15	16	17

Source: Statistics Iceland

A1.20. Number of Icelanders completing a doctoral degree in Iceland and abroad 1990-2004

	Number			Percentages %		
Year:	Total	Men	Women	Total	Men	Women
1990	28	23	5	100	82	18
1991	35	24	11	100	69	31
1992	43	35	8	100	81	19
1993	43	34	9	100	79	21
1994	36	30	6	100	83	17
1995	46	32	14	100	70	30
1996	39	28	11	100	72	28
1997	38	23	15	100	61	39
1998	33	28	5	100	85	15
1999	27	19	8	100	70	30
2000	47	26	21	100	55	45
2001	41	23	18	100	56	44
2002	48	26	22	100	54	46
2003	35	21	14	100	60	40
2004	37	20	17	100	54	46

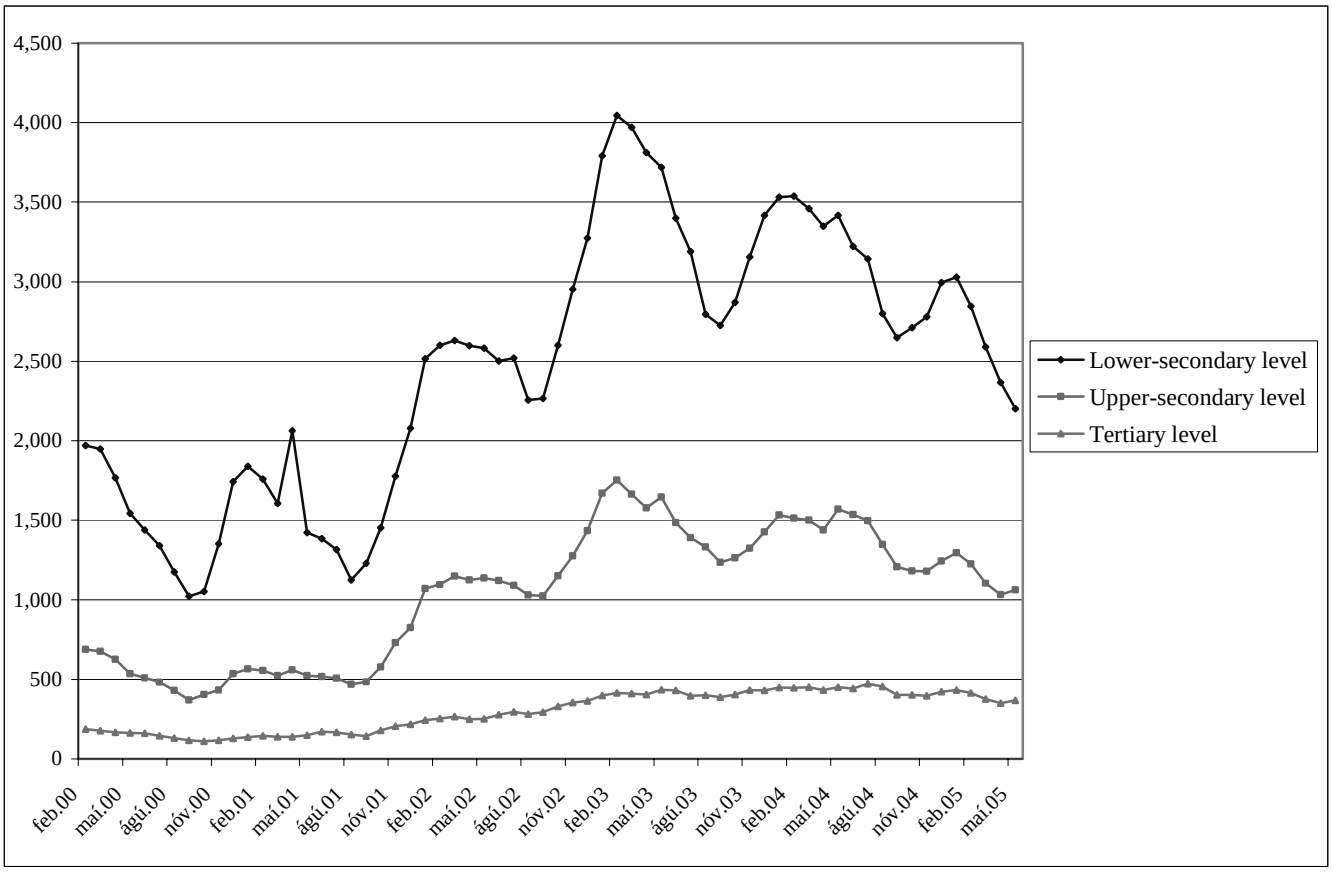
Source: The Icelandic Centre for Research (RANNÍS)

A1.21. Number of Icelanders currently undertaking a doctoral degree in Iceland by field of science

Field of science	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Humanities	1	3	7	10	12	12	15	14	20	22
Social sciences	0	0	2	3	1	4	9	15	26	37
Natural sciences	0	0	0	0	5	11	17	17	30	36
Technology	0	0	0	0	1	1	2	3	4	5
Medical sciences	6	6	5	8	16	24	26	31	34	44
Agricultural sciences and veterinary medicine	0	0	0	0	0	0	0	0	0	0
Total	7	9	14	21	35	52	69	80	114	144

Source: The Icelandic Centre for Research (RANNÍS)

A1.22. Number of unemployed by educational attainment from February 2000 to May 2005



Source: Directorate of Labour

A1.23. Labour force participation rate 1994-2004.

Year	Men	Women	Total
	%	%	%
1994	85.8	76.7	81.3
1995	87.7	77.9	82.9
1996	86.4	76.8	81.6
1997	86.1	75.8	81.0
1998	87.1	77.4	82.3
1999	87.7	78.6	83.2
2000	87.9	79.0	83.5
2001	88.2	78.9	83.6
2002	87.3	78.2	82.8
2003	85.9	78.3	82.1
2004	85.0	76.3	80.7

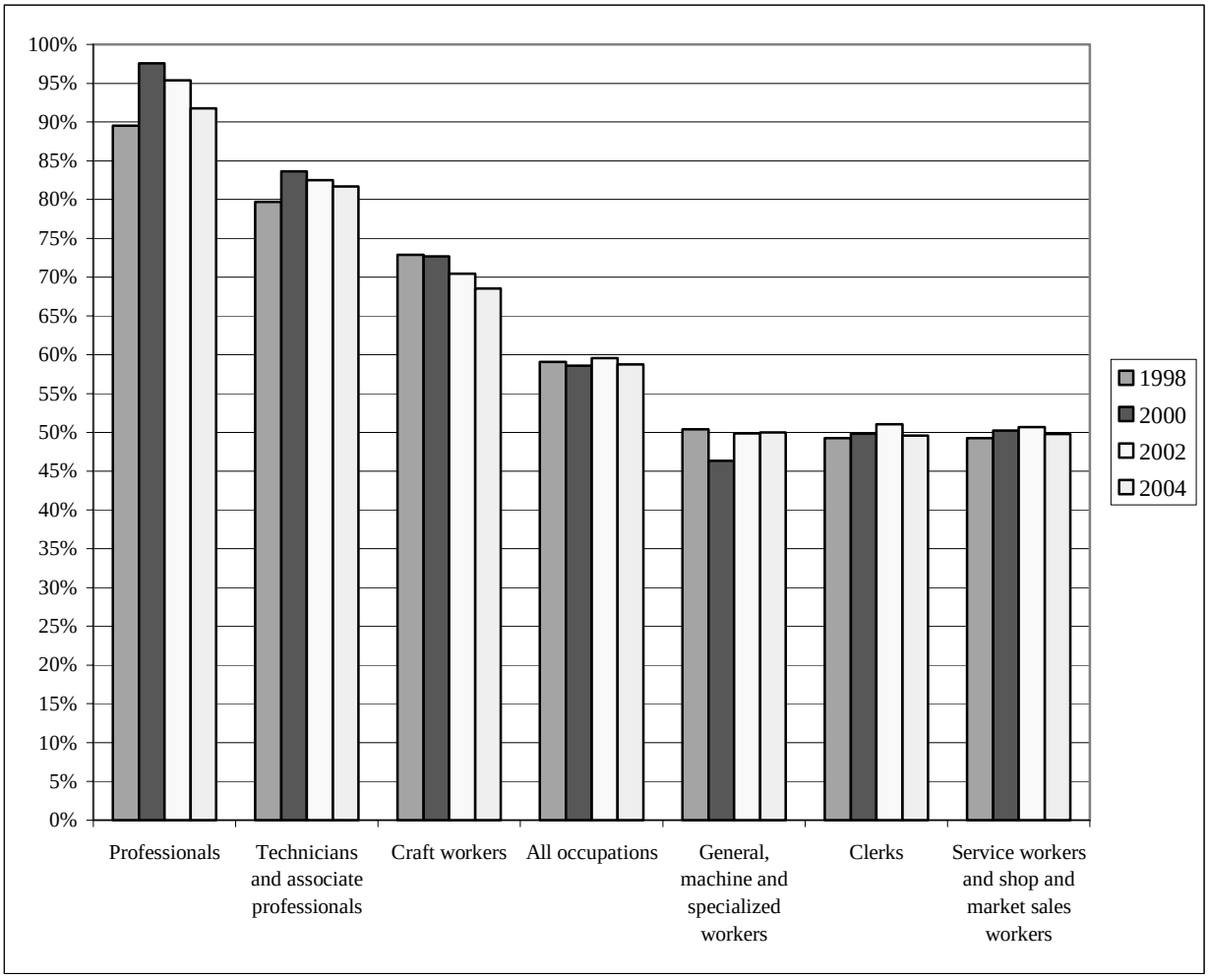
Source: Statistics Iceland

A1.24. Unemployment rate from 1994-2004

Year	Men	Women	Total
	%	%	%
1994	5.10	5.50	5.30
1995	4.80	4.90	4.90
1996	3.40	4.10	3.70
1997	3.30	4.50	3.90
1998	2.30	3.30	2.70
1999	1.50	2.60	2.00
2000	1.80	2.90	2.30
2001	2.00	2.50	2.30
2002	3.60	2.90	3.30
2003	3.60	3.10	3.40
2004	3.20	2.90	3.10

Source: Statistics Iceland

A1.25. Ratio of average gross salaries of managers (100%) by occupational areas in Iceland



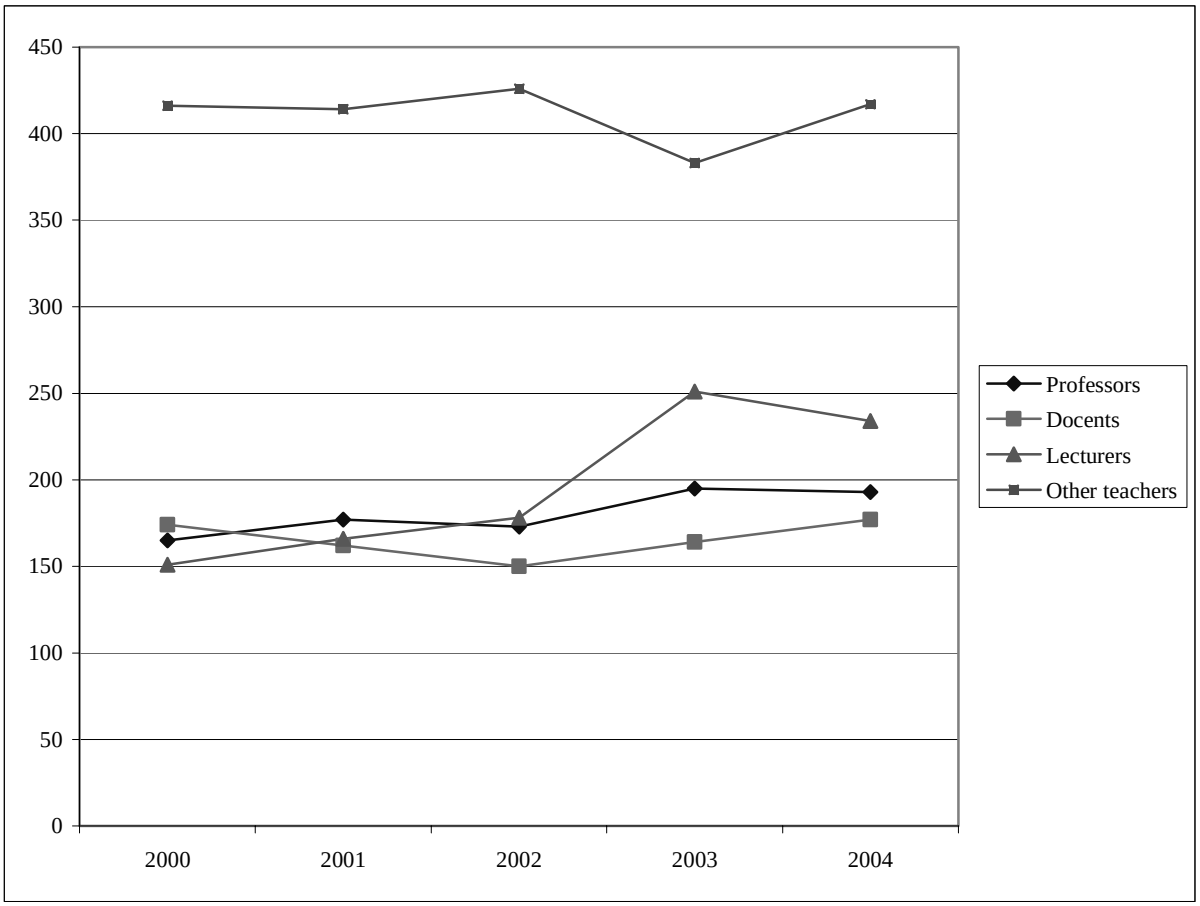
Source: Statistics Iceland

A1.26. Number of academic teachers at the tertiary level in 2000-2004

Academic position:	2000	2001	2002	2003	2004
Professors	164	179	180	194	193
Docents	166	165	177	175	184
Lecturers	148	164	186	252	228
Other teachers	955	1069	1040	1001	904
Total	1433	1577	1583	1622	1509

Source: Statistics Iceland

A.1.27. Number of Full-Time Equivalent academic staff at the tertiary level in Iceland 2000-2004



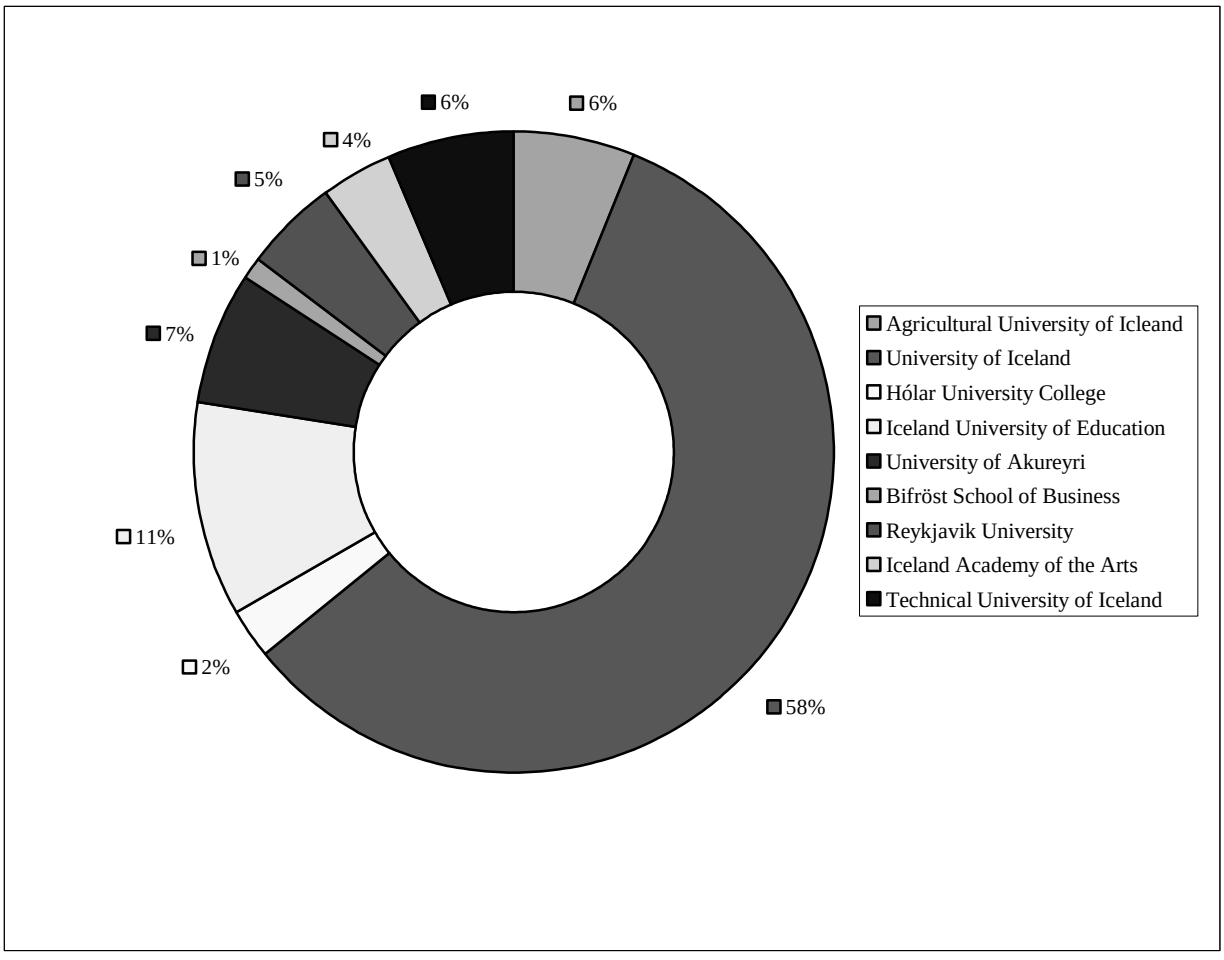
Sources: Statistics Iceland

A1.28. Distribution of total income and expenditure on research and teaching at the HEI in ISK (Millions) 2002

	Bifröst School of Business	University of Akureyri	University of Iceland***	Reykjavik University	Iceland University of Education	Iceland Academy of the Arts	Technical University of Iceland	Agricultural University of Icleand	Hólar University College	Total
Research income*	22.1	152.8	2,872.6	30.6	314.6	0.0	0.0	329,3	73,7	3,628.1
Teaching income**	87.3	430.2	2,152.9	375.3	621.0	315.0	544.8	179.3	139.4	4,845.1
Total income	109.4	583.0	5,025.4	405.8	935.6	315.0	544.8	380.3	173.9	8,473.2
Expenditure on teaching	98.6	221.7	2,062.0	272.5	610.0	233.8	339.5	206.8	136.0	4,180.8
Expenditure on research	25.9	225.7	3,454.8	94.4	252.6	24.3	0.0	329.3	77.1	4,484.0
Total expenditure	124.5	447.4	5,516.8	366.9	862.6	258.1	339.5	536.1	213.1	8,664.8

Source: Ministry of Education, Science: Accounting Separation for 2002 and Culture and Ministry of Agriculture.
* Including in the calculation are the annual state appropriations and research funds both domestic and foreign.
** In the calculations are only the annual state appropriations for teaching

A1.29. Disstribution of research and teaching resources between the HEIs in 2002



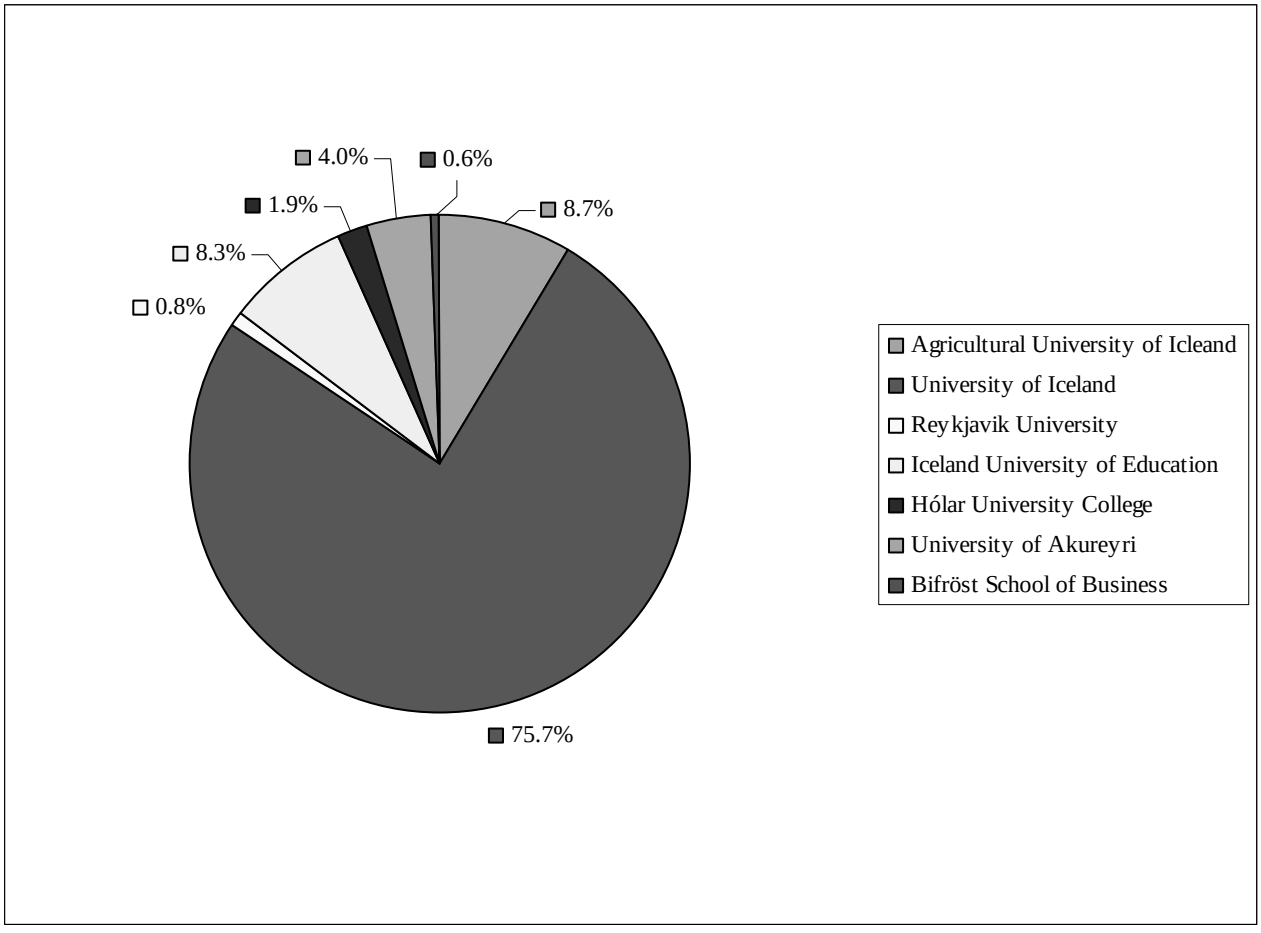
Sources: Ministry of Education, Science and Culture: Accounting separation for 2002 and Ministry of Agricutlure
* In this calculation is included the annual state appropriations for research and teaching and domestic and foreign research funds in 2002.

A1.30. Division of sources of research funds at HEIs in 2002 – in Million ISK

Sources of income:	Agricultural University of Icleand	University of Iceland	Hólar University College	Iceland University of Education	University of Akureyri	Bifröst School of Business	Reykjavik University	Iceland Academy of the Arts*	Technical University of Iceland	Total
Research appropr.	201	2,015	35	277	114	22	20	0	0	2,683
Domestic research funds	128	448	34	20	17	0	6	0	0	653
Foreign research funds	0	410	5	18	22	0	5	0	0	460
Teaching appropr.	207	2,153	139	621	430	87	375	315	545	4,873
Total	536	5,025	213	936	583	109	406	315	545	8,668

Sources: Accounting Separation of the HEIs in 2002, Ministry of Education, Science and Culture. * The annual state research appropriation is included in the teaching appropriations to the Iceland Academy of the Arts.

A1.31. Distribution of the total research income between the HEIs in 2002



Source: Ministry of Education, Science and Culture – Accounting separation of HEIs for 2002 and Ministry of Agriculture

A1.32. Cost indicators of the calculation formula

A. Wages of academics (the number varies between disciplines)

B. Wages of assistance staff (the number varies between disciplines)

C. General operation costs (varies between disciplines)

D. Contribution to central administration 13.6% of A+B+C

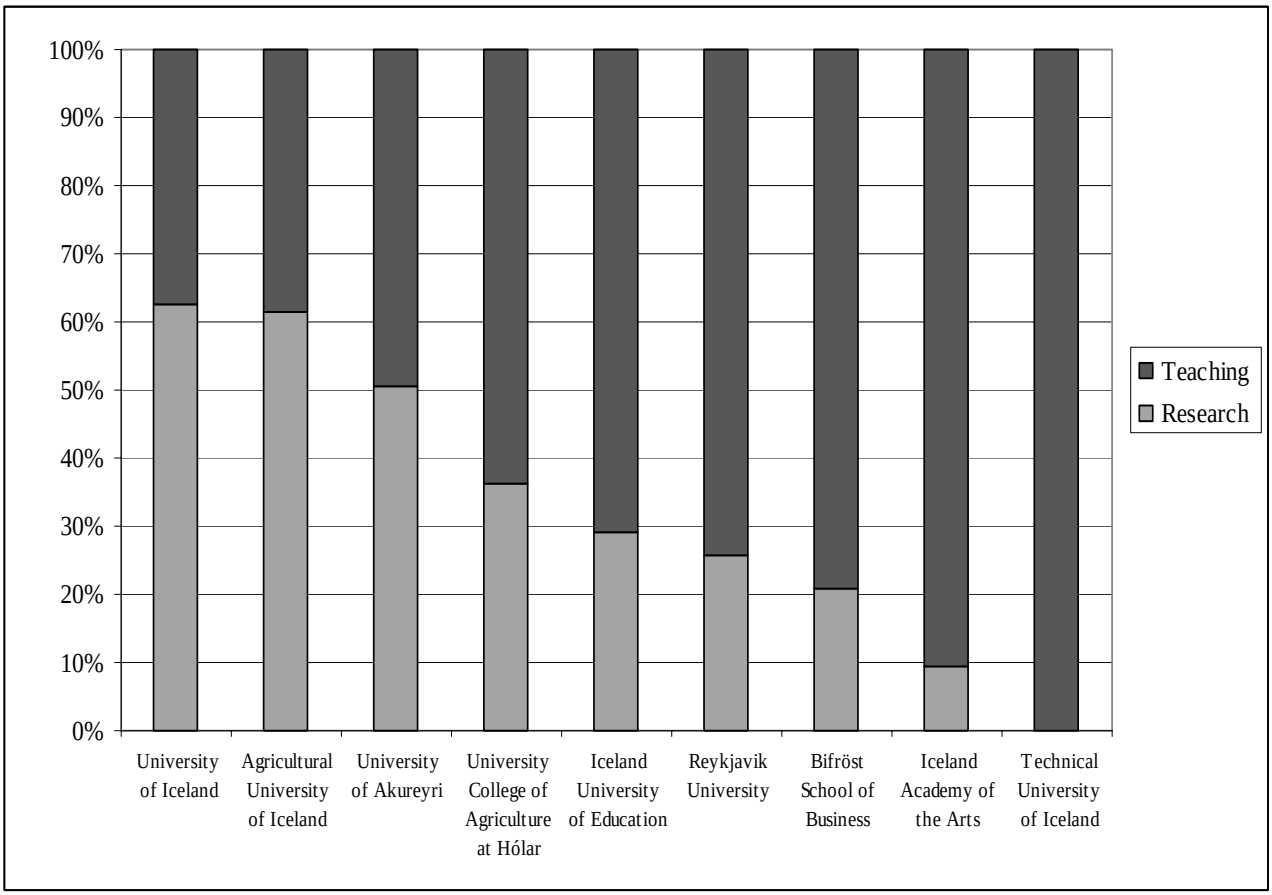
E. Operation costs for libraries, research and computer facilities and formation expenses that is depreciated in 2-5 years (varies between disciplines).

F. Interior construction costs (varies between disciplines)

G. Costs relating to facilities (varies between demands of disciplines)

Source: Icelandic National Audit Office, 2005.

A1.33. Internal expenditure ratio between research and teaching (2002)



Source: Ministry of Education, Science and Culture – Accounting separation of HEIs for 2002 and Ministry of Agriculture

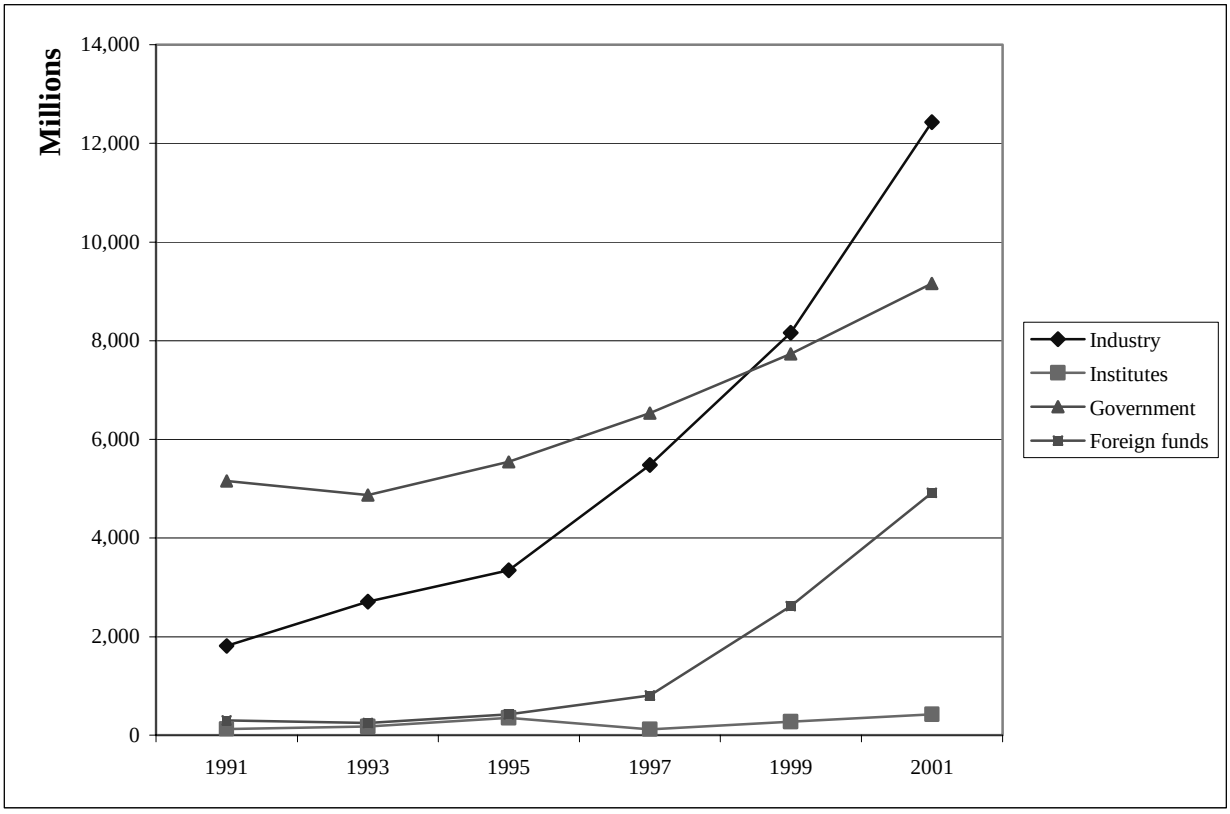
A1.34. Annual tuition and registration fees at HEIs in €

Institutions and programmes:	€
University of Akureyri	406
University of Iceland, excluding MBA	406
University of Iceland, MBA*	20,938
Reykjavik University, diploma, BSc and BA degrees	2,350
Reykjavik University, MS degree	6,250
Reykjavik University, MSIM (Master of Science Investment Management)	7,500
Reykjavik University, MBA*	26,250
Reykjavik University, MBA Global eManagement*	31,250
Hólar University College	625
Iceland University of Education	406
The Agricultural University of Iceland	406
The Icelandic Academy of Arts	2,063
Technical University of Iceland	406
Bifröst School of Business	1,788-2,563

*Tuition Fees Cost for 22 Month Programme and Institutions Receive no Teaching Appropriation from the State

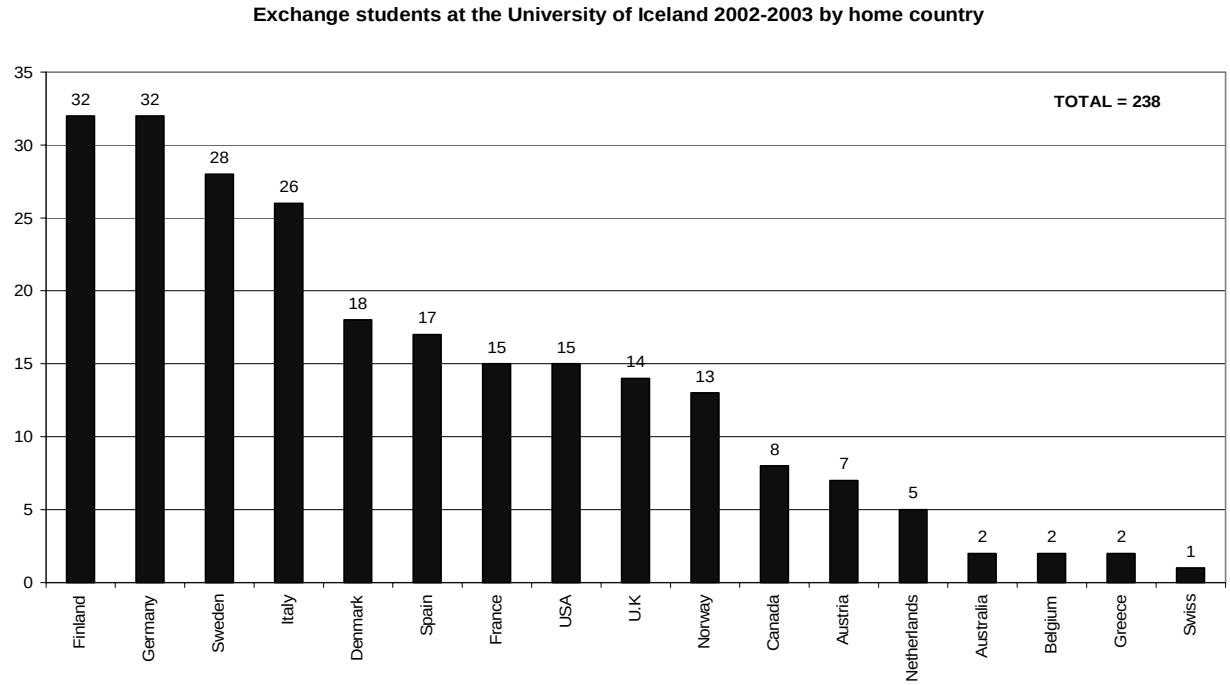
Sources: Icelandic National Audit Office, 2005

A1.35. Sources and level of total R&D expenditure in Iceland 1991-2001 in constant prices of 2005 in ISK (Millions)



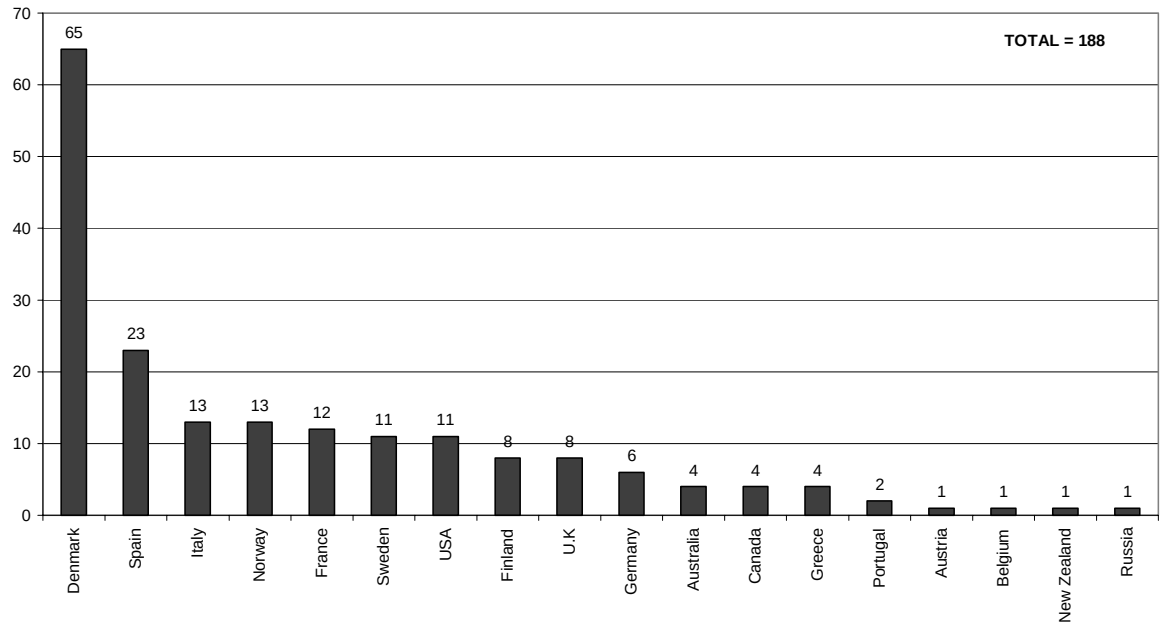
Source: RANNÍS

A1.36. Exchange students at the University of Iceland 2002-2003 by home country



Source: International office at the University of Iceland

A1.37. Exchange students from the University of Iceland 2002-2003 by host country



Source: International office at the University of Iceland

Annex II: The Universities Act no. 136/1997

CHAPTER I
Scope of the Act and role of universities

Article 1

This Act shall apply to those educational institutions providing higher education. The provisions of Chapter IV of the Act shall, however, only apply to state-run universities. Detailed rules on the activities of universities can be found in the special Acts, Regulations, guidelines, statutes or charters of the universities.

Article 2

A university is an educational institution which also carries out research, if so provided for in the rules applying to the activities of each individual institution. A university shall provide its students with the education to independently pursue scholarly projects, innovation and fine arts, and to perform various work in society for which higher education is required. Universities shall disseminate knowledge to the general public and provide society with services by means of their knowledge.

Article 3

State-run universities shall be independent national institutions under the administrative authority of the Ministry of Education, Science and Culture and administered as provided for in the specific legislation on each institution. Universities may be self-governing institutions which operate in accordance with a ratified charter. Private parties may establish universities upon receiving the consent of the Minister of Education. All universities shall have independent financing separate from the National Treasury.

Article 4

The Minister of Education shall supervise the quality of the education provided by universities and ensure that they comply with the provisions of this Act and the specific instructions which apply to each of them. The Minister of Education may grant operating permits to universities funded by private parties if they operate in accordance with statutes or charters ratified by the Minister of Education.
Should a university which has been granted an operation permit fail to fulfil the provisions of this Act, of specific instructions which apply to it, or the demands made concerning instruction and research, the Minister of Education may revoke its operating permit.

Article 5

The Minister of Education shall lay down general rules on the following aspects:
1. the manner in which each university is to fulfil its obligations concerning control of the quality of instruction, instructor qualifications and the arrangements for external quality control;
2. the manner in which each university which has a research role is to fulfil its obligations concerning control of the quality of research and utilisation of funding provided for research;
3. complaints from or referral rights of students in cases where they consider their rights to have been infringed upon. Such rules may include provision for complaints from students to be dealt with by a special appeal committee with the right to issue a final ruling.

CHAPTER II
Students and instructors

Article 6

Students commencing university study must have completed a secondary school diploma (*stúdentspróf*) or comparable course of studies, or have an equivalent level of maturity and knowledge in the estimation of the administration of the university in question.
It must be ensured that university entrance requirements and study standards correspond to what is currently demanded in recognised universities in similar fields abroad.
Universities may set specific additional entrance requirements if necessary, including requiring students who fulfil the above-mentioned requirements to sit for entrance examinations or assessment examinations.

Article 7

University instructors must have completed at least a Master's degree or have equivalent knowledge and experience in the assessment of an evaluation committee. They shall, furthermore, demonstrate sufficient achievement in their work to give them recognition in their professional field. Detailed provisions on evaluation committees, demands made of instructors, their qualifications and work obligations, shall be laid down in a special Act and Regulation or the statutes or charter for each university.

CHAPTER III
Organisation of instruction

Article 8

The administrators of each institution shall decide on the organisation of instruction, study and evaluation, as well as the arrangements for research.

Article 9

Instruction in universities shall be organised into courses which are valued in course-units. A full programme of study shall normally consist of 30 course-units per study year, and shall reflect all student work and class attendance.
Study at university level shall conclude with a degree, awarded when a student has successfully completed examinations in all courses and satisfactorily completed the projects included under the study programme for the degree in question.
The Minister of Education shall issue a list of recognised degrees and what they entail.
Detailed provisions on instruction, study and degrees shall be laid down in Regulations or the statutes or charter for each university.

CHAPTER IV
Administration of state-run universities

Article 10

The administration of each university shall be entrusted to the Senate, Vice-chancellor (*rektor*), faculty meetings, faculty councils and deans, if the university is divided into faculties.

Article 11

The Senate shall issue final rulings in the affairs of the university and institutions connected to it, shall further their development and formulate their overall policy. The Senate is the supreme decision-making body in each institution unless otherwise provided for expressly in this Act or in the special Act applicable to each university.
Should legislation provide for a university to be divided into independent institutions, the administration of each shall be transferred from the Senate to the administrations of individual institutions. The Senate shall then serve as a forum for consultation among the institutions and advisory body, and shall have ultimate authority in specifically designated areas.

Article 12

The approval of the Senate is required for the following, unless otherwise provided for expressly in the special Act or Regulation applicable to each university:
1. the organisational structure of the institution, including the structure of its faculties;
2. . the framework budget and plan of operation for the institution, including the framework budget and plan of operation of each department;
3. the university instructional guide.

Article 13

The Senate of each institution shall be comprised of up to ten representatives, including the Vice-chancellor, who is a member *ex officio* and the chairman of the Senate. Up to five representatives of the university instructors shall sit on the Senate in accordance with detailed provisions in the special Act for each institution. Students shall elect up to two representatives in proportional voting for two-year terms in accordance with detailed provisions in the special Act for each institution. The Minister of Education shall appoint up to two representatives for two-year terms. In universities with faculties, where the ultimate decision-making power rests with the Senate, its members may not, as a rule, stand for election as Deans nor serve on the faculty councils, nor may they occupy administrative positions in the faculties.
The Senate shall elect a vice-chairman and secretary from among the university representatives sitting on the Senate. The vice-chairman shall serve as the substitute for the Vice-chancellor in the absence of the latter.
In the case of tie vote in the Senate the Vice-chancellor shall cast the deciding vote.

Article 14

The Minister of Education shall appoint the Vice-chancellor for a five-year term following the nomination of the Senate concerned, in accordance with detailed provisions in the special Act for each institution. Applications shall be invited for the position.
Only an individual who has completed a graduate degree at a university and has administrative experience may be appointed to a position as Vice-chancellor. The appointment of a Vice-chancellor may not be extended without advertisement.
A Vice-chancellor may not be relieved of his duties without seeking the opinion of the Senate and obtaining the approval of the majority of its members for so doing.

Article 15

The Vice-chancellor is the head of the university administration and its supreme representative in dealings with individuals and institutions both within and outside of its jurisdiction. He shall, in general, supervise the activities of the university and shall take the initiative in policy formulation by the Senate in university affairs. The Vice-chancellor is ultimately responsible for the hiring of all university employees unless otherwise expressly provided for by law. Between sittings of the Senate, the Vice-chancellor shall have the authority to make decisions on behalf of the Senate in all university affairs which do not concern substantial financial matters of the institution nor involve changes to its organisation.

Article 16

If a university is divided into faculties each faculty must be considered as a basic unit of the institution. In a university which is not divided into faculties, all activities of the university shall be under the control of the Senate. The Senate shall decide on division into faculties.

Faculties shall control their internal affairs within those limits prescribed by law and the Regulations for each university. The administration of each faculty is entrusted to the dean, faculty meeting and faculty council.

Detailed provision shall be made for elections to the faculty council, the election of representatives to the faculty meeting and the election of the Dean in the special Act or Regulation for each institution.

Article 17

The Senate may, upon receipt of proposals from a faculty, divide the faculty in question into departments. Each department shall elect its directors and chairman.

Article 18

Detailed provision shall be made concerning the jurisdiction and working practices of, and relations between, the Senate, the Vice-chancellor, the Deans, faculty meetings, faculty councils and departments in the special Act, Regulation and guidelines for each institution.

CHAPTER V
Finances

Article 19

Each state-run university shall receive an independent allocation from the national budget. The Minister of Education shall make proposals on allocations on the basis of the budget and plan of operations of each university for a five-year period. The Minister of Education may conclude an agreement with each institution for services and projects and payment by the state for such in order that the universities may assume increased operational responsibility.

The Minister of Education may conclude an agreement with a university operated by private parties which has been granted an operating permit as referred to in Article 4 to handle specific education at university level in return for the payment of a certain amount for the service from the National Treasury.

Rules shall be laid down in the specific legislation, statutes or charter of each university concerning payment required from students for study at the institution in question. Rules shall be laid down in the specific legislation for each state-run university on the raising of own revenues for services offered by the institutions.

Article 20

In determining the financial allocations to universities the following factors shall be taken into account:

1. Allocations for instruction shall be based on the number of students in full-time study. The Minister of Education shall lay down rules on instructional costs, including a definition of full-time study for this purpose, and on the calculation of the number of students in full-time study.
2. Allocations for research, innovation and development in those universities which have a research role, shall be based on the number of tenured instructors and special contributions to research projects and service institutions. The Minister shall set detailed rules on contributions for research.
3. Allocations for accommodations shall be based on the number of tenured instructors, the number of students and the special facilities required by the programme of study. The Minister shall set detailed rules on contributions for accommodations.

Article 21

Agreements reached by the Minister of Education with private parties as referred to in the second paragraph of Article 19 shall provide specifically for the following:

1. studies offered and study requirements;
2. the estimated number of students in each subject;
3. what services the university provides;
4. the estimated number of instructors;
5. information on study achievement;
6. how payment from the National Treasury shall take place during the period of the agreement.

These agreements shall be reviewed annually, having regard to the number of students and studies offered. At such time the contracting parties shall settle any outstanding accounts due to discrepancies in the estimated and actual costs. Before the conclusion of the period of the agreement the Minister of Education shall have an evaluation carried out of the overall operations of the university in question.

Article 22

State-run universities may, with the consent of the Minister of Education, participate in R&D undertakings which are joint-stock companies, self-governing institutions or companies with limited liability, and which carry out production and sale for the purpose of exploiting and developing the results of research currently underway at the university. The Senate of the university in question shall control the institution's holding in such an undertaking.

Article 23

Each university receiving financial contributions from the National Treasury must hold an open annual meeting where the university finances and principal aspects of its plan of operations are presented.

CHAPTER VI
Co-operation between universities

Article 24

Universities shall consult and co-operate with one another to utilise optimally the human and material resources at their disposal and encourage the cost-effective provision of varied university education. To this end universities shall set rules, for instance, on mutual recognition of parts of study programmes.

A co-operation committee for university level education shall be appointed on the basis of this Act. It shall consist of the university Vice-chancellors. The committee shall meet regularly to discuss matters concerning university education. The committee shall give opinions on questions referred to it by the Minister of Education or individual universities.

CHAPTER VII
Entry into force, etc.

Article 25

This Act shall enter into force 1 January 1998.

Annex III : The Icelandic Student Loan Fund Act 2004

Entered into force on 29 May 1992.
Amended by the Act No. 67/1997 (entered into force 1 August 1997), the Act No. 157/1998 (entered into force 1 January 1999), and the Act No. 95/2002 (entered into force 31 May 2002).

Section I. Role and Governing Board

Article 1

The role of the Icelandic Government Student Loan Fund is to guarantee those covered by this Act the opportunity to study, irrespective of their financial position.

The Fund shall offer loans at educational institutions that require preparatory study comparable to university studies in Iceland.

Article 2

The Loan Fund may offer student loans to students other than those covered by the definition in paragraph 2, Article 1, provided that they are pursuing special studies. The board of the Fund shall specify the rules regarding which special studies qualify for loans.

Article 3

The aim shall be that loans made under this Act shall be sufficient for each student to cover the cost incurred by the studies as well as the cost of living, taking into account the size of his family.

The board of the Fund may take into consideration the student's place of residence and other factors which may affect his financial position.

The board of the Fund shall set further provisions concerning the allocation of student loans.

Article 4

[The Minister of Education shall appoint the board of the Fund as follows: one member nominated by the Student Council of the University of Iceland, one member nominated by the Association of Icelandic Students Abroad, one member nominated by the Association of Icelandic Vocational Students, one member nominated by the Minster of Finance and three members without nomination, one of whom shall be the chairman of the board and the other vice-chairman.][1)]

The board shall be appointed for a two-year term. The terms of appointment of the representatives of the Ministers of Finance and Education shall, however, be restricted to the periods of office of the ministers who appointed or nominated them if they remain in office for shorter periods. Deputy members of the board shall be appointed in the same manner, and for the same length of time.

If votes on an issue to be decided by the board are evenly divided, the chairman's vote shall determine the outcome.

[After receiving a proposal from the board, the Minster of Education shall appoint a manager to a five-year term. The manager shall select other staff.][1)]

[1)] Act No. 67/1997, Article 1.

Article 5

The role of the board of the Fund is:

1. to offer student loans to students,
2. to manage the Fund's finances and to draw up budgets,
3. to gather information concerning students' loan requirements,
4. to make rules regarding how student loans are offered,
5. [to make decisions in cases of uncertainty involving individual loan recipients and in other cases, its decisions being recorded in writing. The board's rulings may be referred to an appeals committee, cf. Article 6. [1)]][2)]
6. to gather information on the structure and length of study at the institutions for which loans are offered,
7. to monitor students' academic achievements and diligence,
8. to handle publications and other publicity activities concerning the work of the Fund.

[The board of the Fund may appoint sub-committees composed of board members in order to examine individual matters and make proposals to the board of the Fund.][2)]

The board of the Fund may entrust the payment and recovery of loans, and other day-to-day business, to banking institutions.

Bookkeeping for the fund shall be conducted in accordance with the instructions of the State Accounting Office.][3)]

[1)] Thus in the Law and Ministerial Gazette, presumably an error for Article 6 a. [2)] Act No. 67/1997, Article 2. [3)] Act No. 95/2008, Article 8.

Article 5 *a*

The Minister of Education shall appoint an appeals committee consisting of three members and the same number of

alternates (cf. Article 5) for terms of four years at a time; its members shall be qualified lawyers. The chairman and vice-chairman of the committee shall meet the same conditions for appointments to the position of district court judges.

The committee shall determine whether the rulings of the board of the Icelandic Student Loan Fund are in accordance with the provisions of legislation and regulations. The committee may uphold, amend or invalidate decisions made by the board of the Fund. The committee shall give reasons for its rulings, which shall be final. Conclusions reached by the committee shall be determined by the majority of its votes. The minister shall set working rules for the committee. [1)]

In other respects, procedure in handling cases shall be subject to the Administrative Procedure Act.][2)]

[1)] Regulations No. 79/1988. [2)] Act No. 67/1997, Article 3.

Section II. Student Loans

Article 6

In no case shall a student loan be offered until the student has presented a certificate satisfying the required attendance and academic achievement.

The student shall receive a grant to cover interest, which is intended to reimburse him for the capital cost in connection with his support in accordance with his entitlement to a student loan at any given time. The grant shall be paid when the loan is disbursed and shall be based on the average interest and borrowing fees charged by the banks and savings banks at the given time, in accordance with further rules to be set by the board of the Fund.][1)]

In general, the student shall be permitted to take a loan for every term that he is engaged in study, though not for a longer period than is considered appropriate for the given subject and the institution at which the course of study is pursued.

Student loans shall not be offered unless the student's studies are progressing in the normal way.

A student who receives a loan from the fund shall sign a bond on taking the loan and present a declaration by at least one person saying that he accepts personal responsibility for the repayment of the loan, with interest and indexation adjustment, up to a stated maximum amount.

The board of the Fund may offer a loan for an amount up to that for which a guarantee has been given under paragraph 4. [2)] If a student applies for a loan greater than that for which a guarantee has been given, he must produce a new bond in accordance with paragraph 4. [2)]

The board of the Fund shall decide the conditions the recipients of loans and the guarantors are to meet. Guarantees given by one or more guarantors may be terminated provided the student produces other sureties which are accepted as sufficient by the board of the Fund.

The board of the Fund may charge a fee with respect to the loans it offers.

[1)] Act No. 67/1997, Article 4. [2)] Now paragraph 5.

Article 7

[Loans made by the Fund shall be index-linked. Indexation shall be based on the changes in the consumer price index of the Central Bank of Iceland (cf. the Act No. 12/1995). Indexation adjustment shall be calculated as from the first day of the month after the loan has been offered, or the disbursement of individual parts thereof, until the first day of the month in which payment is made.][1)]

If a change occurs in the calculation basis for the consumer price index or the way in which it is calculated, a three-man committee shall determine how indices calculated on the new, amended, basis are to be related to older indices. This committee shall be appointed as follows: the Central Bank shall nominate one member, the Supreme Court shall nominate one member, and the Director of Statistics Iceland shall be the chairman of the committee.

The loan period of student loans shall be unspecified, repayments being made according to Article 8 until the loans are repaid in full.

Repayment of loans shall begin two years after the completion of studies. The board of the Fund shall define when studies are to be considered completed in accordance with this Act and make rulings in cases of uncertainty.

Interest on loans made by the Fund shall be variable, though at no time higher than 3% per annum on the principal of the debt. Interest shall be calculated from the time that studies are completed. The Government, acting on the proposals of the Minister of Education, shall make further decisions regarding the interest rates on student loans at any given time in accordance with this Article.

[1)] Act No. 67/1997, Article 5.

Article 8

Annual repayment of loans shall be twofold. It shall consist, on the one hand, of a fixed sum to be collected during the first half of the year, irrespective of the income of the person concerned, and, on the other hand, of a supplementary payment which shall be collected during the second half of the year and depend on the person's income from the previous year.

[The fixed sum shall be ISK 52,698, based on the consumer price index of 177.8 points, unless the amount of debt owed, including interest and indexation adjustment, is lower. This figure shall change each year in accordance with the consumer price index on January 1st of each year.

The supplementary payment shall consist of a certain percentage of the previous year's tax base for municipal income tax purposes. This percentage shall be 4.75% for instalments of the bond. The percentage for subsequent instalments shall be 7%. The fixed payment according to paragraph 2 shall be deducted from the supplementary payment according to this paragraph.

The sum according to paragraph 3 shall be multiplied according to the proportional change in the consumer price index between July 1st in the year in which income is earned and July 1st in the year in which repayment is made.][1)]

Debtors shall pay collection expenses on the due date for each instalment.

The board of the Fund may grant partial or total exemptions from annual repayments according to paragraph 1 if sudden and substantial changes occur in the personal circumstances of the debtor, e.g. if he becomes seriously ill or is involved in an accident which substantially reduces the amount of disposable fund in his possession and his ability to earn an income. The board of the Fund may also grant exemption from the annual repayment according to paragraph 1 if studies, unemployment, illness, pregnancy, care of children or other comparable circumstances result in substantial financial difficulties for the recipient of a loan or his or her family.

A debtor who applies for exemption under paragraph 6 shall submit to the board of the Fund detailed information regarding his property, allowances and other matters which the board regards as having a bearing on the matter.

Loans may be repaid more quickly than is specified in this Article.

[1)] Act No. 67/1997, Article 6.

Article 9

Each repayment instalment shall consist of principal, indexation adjustment and interest. The principal of the debt shall change in accordance with the changes occurring in the index as specified in Article 7 from the initial index figure to the first due date, and subsequently in accordance with the changes occurring in the index between the due dates.

The debtor shall undertake the payment of annual interest in accordance with Article 7 on the principal of the loan when this has been calculated. Interest shall be calculated as from the time that studies are completed, and shall be paid retrospectively on the same due dates as the instalments.

In cases of arrears, repayments may be secured by legal attachment without a previous court order or out-of-court settlement. The same applies to outstanding instalments of a debt which is made due for payment under Article 11.

Instalments which come due after the death of the recipient of the loan shall be waived automatically.

Article 10

If the taxation laws are amended during the repayment period of a loan such that a substantial change is made in the definition of the tax base for municipal income tax purposes as compared with the present definition, then the maximum annual repayment under Article 8 shall be levied on a base to be determined by a three-man committee. This committee shall be appointed as follows: the Minster of Education shall nominate one member, the Minister of Finance another, and the Director of Internal Revenue shall be the chairman of the committee. The committee shall seek to set rules on the calculation of the base on which repayments are to be calculated such that the maximum annual repayment made by each debtor shall be as nearly as possible the same as it would have been if no amendment had been made to the tax laws.

If a loan recipient's tax base for municipal income tax purposes is estimated, this estimate shall be used as a basis for calculation. If it comes to light that the tax base for municipal income tax purposes has been overestimated or calculated at too high a figure, and that the loan recipient has therefore paid too much, the excess amount shall be repaid to him with interest at the rate that applies to ordinary savings bank deposits at the given time.

[If a loan recipient is not liable for tax in Iceland on all his earnings and property during the repayment period, he shall be given the opportunity to send the Fund certified information on his income, in which case the maximum annual repayment amount shall be determined accordingly. If he does not do this, or if his information must be considered implausible and it is accordingly not possible to establish his true tax base for municipal income tax purposes, then the board of the Fund shall estimate his tax base for municipal income tax purposes in order to calculate the annual supplementary payment. If it is found that this estimate is incorrect, then the provisions of paragraph 2 shall apply.][1)]

[1)] Act No. 67/1997, Article 7.

Article 11

If repayments of a student loan are in substantial arrears, the board of the Fund may make the entire loan due for repayment.

The board of the Fund shall also have authority to do this if it comes to light that a loan recipient has understated his income on his declaration.

An increase in the amount of the supplementary payment which comes about when a loan recipient's tax is re-assessed shall fall due immediately, and the highest rate of arrears interest allowed by law shall be calculated on it from the due date of the supplementary payment which has been increased.

Article 12

If a student who has drawn the full loan to which he is entitled is able only with difficulty, in the opinion of the board of the Fund, to pursue in studies because of physical disability, the burden of supporting children or a spouse or other reasons, he may be granted an additional loan from the Fund, providing that the benefits he receives under the current social security legislation are taken into account. Loans of this type shall be offered on the same terms as

ordinary student loans.

[The board of the Fund may also offer ordinary loans on the same terms as ordinary student loans to cover setbacks other than those mentioned in paragraph 1, e.g. if the student is temporarily unable to pursue full-time studies because of the structure of studies in the educational institution, or if illness results in the student's not managing to fulfil examination requirements.] [1)]

The board of the Fund may offer ordinary loans in the form of bonds which are index-linked and bear interest comparable to the general rates of interest on bank loans at the given time. Interest shall be calculated from the date of disbursement of the loan. The maximum loan period shall be 10 years. The board of the Fund shall make further rules regarding the granting of loans under this Article.

[1)] Act No. 67/1997, Article 8.

Article 13

The board of the Fund may decide that students from the other Nordic countries who are resident in Iceland and pursue studies in Iceland have the right to student loans under this Act in the same way as Icelandic students, providing that they do not draw support from their home countries.

The provisions of this Article may also be applied to other individual foreign nationals if Icelandic students enjoy comparable rights in their home countries.

[Citizens of states in the European Economic Area who have worked as employees in the European Economic Area for at least five years (*cf.* the Act No. 47/1993) shall be entitled to assistance in order to pursue work-related studies if they have come to Iceland in connection with their work and been domiciled in Iceland for one year. The same shall apply to their spouses and their children who are under the age of 21 or are supported by them in Iceland.

The condition for the granting of a loan from the Fund is that the person concerned has been domiciled in Iceland for one year before the course of study begins. Icelandic citizens shall nevertheless normally retain their entitlement for two years after transferring their legal residence to another country.][1)]

[1)] Act No. 67/1997, Article 9.

Article 14

Applicants for loans shall submit with their applications all information considered relevant by the board of the Fund for a decision regarding the making of student loans.

Applicants shall state in their applications for loans whether they wish to receive full loans according to the rules of the Fund or smaller amounts.

Educational institutions in Iceland to which this Act applies shall be obliged to provide the Loan Fund with the assistance necessary for the implementation of this Act, including information on the progress of applicants' studies.

Tax authorities shall be obliged to provide the Loan Fund with information necessary for the implementation of this Act.

Information of a personal nature which is made available to the Loan Fund under this Article shall be treated as confidental.

Section III. Working Capital, etc.

Article 15

The Loan Fund's working capital shall consist of:

1. Sums repaid under this Act and interest on, and instalments of, older student loans.
2. Contributions from the State.
3. [Loan capital. The Fund may not, however, take loans by means of the issue and sale of bonds and other repayable debt instruments to the public.][1)]

The annual operating expenses of the Fund shall be met from the Fund's working capital and from borrowing fees (cf. Article 6).

Each year, the board of the Fund shall draw up a budget for the Fund for the following year in the same manner as other bodies of the state do.

The Fund's annual accounts shall be approved by the board of the Fund and audited by the Icelandic National Audit Office. They shall be published in the Law and Ministerial Gazette.

[1)] Act No. 67/1997, Article 10.

Article 16

The Minister may issue further provisions on the implementation of this Act regulations in the form of regulations. [1)]

[The board of the Fund shall set rules [2)] regarding matters other than those covered by this Act and the regulations issued under paragraph 1.

These rules shall be approved by the minister and published in the Law and Ministerial Gazette.][3)]

If the student organizations so wish, the board of the Fund may deduct membership fees from loans, providing the students involved state a request to this effect in their loan applications.

[1)] Regulations No. 602/1997, cf. No. 363/1999. Regulations No. 79/ 1988. [2)] Advertisement No. 368/2003. [3)] Act No. 67/1997, Article 11.

Article 17

… [1)]

[1)] *Act No. 157/1998, Article 2.*

Article 18

[If a debtor under this Act is at the same time repaying a student loan made under the Act No. 72/1982 or an earlier Act, he shall first repay in full loans taken under this Act. The repayment ratio of 4.75% shall also apply to those who took loans since 1992 with a repayment ratio of 5-7%. Repayment of older student loan debts shall be deferred until loans taken under this Act have been repaid in full.] [1)]

[1)] *Act No. 67/1997, Article 12.*

Article 19

This Act shall take immediate effect.

Annex IV: Rules on quality control in higher education 666/2003

Rules on quality control in higher education

I. Objectives

Art. 1

The objective of quality control in higher education is to maintain and raise the quality of teaching in higher education institutions (HEIs), to improve the organisation of HEIs, to promote greater responsibility of HEIs for their own activities, and to ensure their competitiveness in the international arena.

II. Quality assurance systems in higher education institutions

Art. 2

An HEI shall fulfil its obligations to monitor quality of teaching by having a formal quality assurance system. One aspect of this is systematic internal evaluation by the HEI, or units within it, and formal consideration of the evaluation by the HEI, with the purpose of improving teaching. The work of teachers shall also be systematically evaluated. The HEI shall promulgate a description of its quality assurance system. The Ministry of Education, Science and Culture may at any time request information relating to the quality assurance system.

III. External quality control

Art. 3

External quality control of higher education teaching may cover an HEI as a whole, specific disciplines, departments, study programmes, faculties, or other specified units within the institution. External quality control may also extend to several HEIs or units at the same time. External quality control covers all factors concerned in teaching, including management, human resources, study assessment, student affairs and facilities.

An HEI shall meet the expenses of its self-evaluation from its funding. The Ministry of Education, Science and Culture meets the costs of external review.

Art. 4

The Minister of Education, Science and Culture determines when an external review shall take place as provided in these rules, and what the focus of the review shall be. The minister shall appoint for this purpose a peer review group, which shall be responsible for carrying out the review. Appointments to a peer review group shall take account of the following:

a. A peer review group shall comprise 3-6 people. The group shall include individuals who meet some of the following criteria: qualifications in the relevant field of scholarship, or extensive experience of work in higher education, of quality control and of employing graduates.

b. No member of the peer review group may have any links to the institution evaluated.

c. At least one member of the group shall be employed outside Iceland.

The work of a peer review group shall be subject to guidance and a letter of appointment from the Minister of Education, Science and Culture, and it shall have a secretary who organises its work and writes its report. The Ministry of Education, Science and Culture shall issue a schedule for the review, its time-frame and its costs, and guidelines for self-evaluation, and shall monitor the implementation of the review.

Art. 5

The rector of the HEI appoints a self-evaluation group and its chair. The chair organises and is responsible for the self-evaluation, and writing of the self-evaluation report. He/she also liaises with bodies inside and outside the relevant HEI and organises the peer review group's site visit. The self-evaluation group shall comprise at least four and not more than six members, who shall correctly reflect the internal organisation of the unit being evaluated. They shall all work within the relevant unit, and the group shall include representatives of faculty, students and administration.

Art. 6

After self-evaluation has been completed the peer review group visits the institution, verifies the self-evaluation report, examines other factors it may deem necessary, and submits a report on its findings. The peer review group shall complete its report within two months of the conclusion of the visit to the HEI. Before the peer review group submits its final report,

representatives of the relevant HEI shall be given the opportunity to comment upon the factual content of the report. The peer review group shall consider the HEI's comments and then complete its report for submission to the Ministry of Education, Science and Culture.

Art. 7

The report of the peer review group shall be promulgated in its entirety. Within three months of the promulgation of the final report, the relevant HEI shall promulgate its report on its response to the findings. Within two years of that time the Ministry of Education, Science and Culture shall ascertain whether and how the HEI has responded to the findings of the external review.

Art. 8

These rules are issued on the basis of authority provided in para. 1 art. 5 of the Universities Act no. 136/1997, and they shall take effect immediately. Rules no. 331/1999 on quality control in higher education teaching shall also be abrogated from that time.

Ministry of Education, Science and Culture, 12 September 2003.

Davíð Oddsson.

Guðmundur Árnason.

Annex V : Expenditure on higher education

The statement was published on September 30, 2004 in the Weekly Web Release on the homepage of the Ministry of Finance: http://ministryoffinance.is/media/wwr2004/wwr71-300904_ahj.pdf

Does the OECD underestimate Iceland's expenditure on education?

According to a recent report of the OECD, Iceland's total expenditure on education amounted to 6.7 per cent of GDP in 2001, placing Iceland in fourth place amongst the OECD countries and moving up by two places from the previous year. There are a number of indications that the expenditure of the central government and local governments are underestimated in this report and that Iceland has in fact devoted 7.2 per cent of its GDP to education in 2001, placing it in second place. The OECD bases its report on information from Statistics Iceland which at present is reviewing its classification of expenditures for education in light of international standards and the changing field of education in general in recent years. A comparison between countries can be useful but should also be viewed with caution because educational systems as well as their financing differ between countries so as to make it difficult to draw up uniform statistical reports.

In the OECD report, the Icelandic central government are estimated to have spent 19.7 billion krónur on education in 2001. Upon closer inspection of the Treasury accounts it appears that expenditure on education has been under-counted by at least 1.8 billion krónur. The bulk of the difference is at the university level and is to be found in investment outlays, costs of participation in research, development and educational activities under EU auspices, appropriations to research funds and institutes, the teaching activities of the University Hospital and the expenditures of the National Library on student services.

A part of local government expenditures on nursery schools should also be included in educational expenditures, rather than in the category of social services. Total local government expenditures on nursery schools amounted to 6.4 billion krónur in 2001. If 2 billion of this amount is counted as education, Iceland has spent 7.2 per cent of its 2001 GDP on education, placing the country in second place amongst OECD countries alongside the United States. The OECD report concludes that Icelanders have devoted 0.9 per cent of GDP to education at the university level. Including the above changes, the percentage rises to 1 per cent and further to 1.3 per cent if the government expenditure on the Student Loan Fund is included.

It should also be noted that central government expenditure on education has increased considerably in recent years, or from 2.89 per cent of GDP in 2001 to 3.06 per cent in the 2004 fiscal budget. If both local government and households have increased their expenditures at the same pace as the growth in GDP, total expenditures on education will probably amount to 7.4 per cent of GDP in the current year. More precise figures will be available once Statistics Iceland has reviewed its classification of expenditures.

Refrences

Altbach, P. G. & Teichler, U. (2001). "Internationalization and Exchange in Globalized University". *Journal of Studies in International Education*, 5(1), 5-25.

Assessment rules of the Remuneration Committee of professors from December 19, 2002.

Bologna Follow-Up Group (2005). Bologna Process Stocktaking, Norwegian Ministry of Education and Research. http://www.bologna-bergen2005.no/Bergen/050509_Stocktaking.pdf

Boyne, G. et al. (2003). *Evaluating Public Management Reform. Buckingham*. Open University Press: Buckingham.

Byggðastofnun (2003). Árskýrsla 2003 (Year Report 2003, The Regional Development Institution), Reykjavík. http://www.byggdastofnun.is/media/skyrslur/arsskyrsla2003.pdf (22. February 2005)

Edvardsson, I. R. (2001). "University education and residential trends in Iceland". *Scandinavian Journal of Educational Research*, 45 (3), 249-268.

Enders, J. (2002). "Higher Education, Internationalisation, and the Nation-State: Recent Development and Challenges to Governance Theory", Paper prepared for the CHER conference, Vienna, Austria.;

ESIB – The National Unions of Students in Europe (2005). Bologna with Students eyes: Bologna Analysis 2005. Socrates. (May 2005).

Esping-Andersen, G. (1990). *Three Worlds of Welfare Capitalism*. Cambridge: Politiy.

European Commission (2001). Women and Science: Review of the situation in Iceland, Helsinki Group on women and science. http://europa.eu.int/comm/research/science-society/pdf/women_national_report_iceland.pdf. (15. January 2005)

European Commission (2003). *Diploma Supplement – State of Implementation*, European Commission, June 2003

European Commission. *Iceland: National Report on the Bologna Process*. http://www.bologna-berlin2003.de/pdf/Iceland.pdf (11. November 2004)

Eurydice (2005). Focus on the Structure of Higher Education in Europe 2004/2005: National Trends in the Bologna Process. Brussels, Eurydice, the information network on education in Europe.

Fjármálaráðuneytið (2004). Ný þjóðhagsspá fyrir árið 2004-2010, Nr. 6.

Frenc, N. (2001) *Financing of Higher Education – A Nordic Perpective.* The Principal Consultant, N & S Consulting Services, The United Kingdom.

Froestad, W. & Bakken, P. (2004). Students' involvement in Quality Assestments of Higher Education in the Nordic Countries. Nordic Quality Assurance Network in Higher Education, http://www.kka.fi/pdf/nordic/student.pdf.

Hannibalsson I. (2004) *Rannsóknir í Félagsvísindum V*: *Viðskipta- og hagfræðideild.* Reykjavík háskólaútgáfan, pp. 257-274

Hannibalsson, I. (2002). *Performance based financing of teaching and research at the University of Iceland*, Business Administration, University of Iceland.

Hannibalsson, I. (2005) *Skýrsla nefndar um reiknilíkan frá 13. janúar 2004* the University of Iceland.

Jónasson, J. T. (2004). Higher education reforms in Iceland at the transition into the twenty-first century. In Ingemar Färgelind and Görel Strömqvist (Eds.), *Reforming Higher Education in the Nordic Countries. Studies of change in Denmark, Finland, Iceland, Norway and Sweden* (pp.137-188). Paris: International Institute for Educational Planning.

Jónasson, J.T. & Arnarsdóttir, J.R. (2001). Símenntun í Atvinnulífinu. Símenntun á Íslandi III. Reykjavík: Félagsvísindastofnun HÍ (November 2001). http://www.mennt.net/files/{72fa09e5-ea3f-4fb6-b85c-6775f0d8ad0b}_simenntun%20og%20atvinnulifid.pdf

Jónasson, J.T. (2004b). What determines the expansion of higher education? Credentialism, academic drift, and the growth of education. Ingjaldur Hannibalsson (Ed.), *Rannsóknir í félagsvísindum V. Viðskipta og hagfræðideild. Erindi flutt á ráðstefnu í október 2004* (pp. 275-290). Reykjavík: Félagsvísindastofnun Háskóla Íslands, Háskólaútgáfan.

Jónsson, G. (2003), *Scandinavian Journal of History,* The Icelandic Welfare State in the Twentieth Century.

Kristinsdóttir, A. Matthíasdóttir, Á. & Macdonald, A. M. (2001). Úttekt á fjarkennslu við Kennaraháskóla Íslands. Rannsóknastofnun KHÍ: Reykjavík.

Marijk C. & van der Wende (2001). Internationalisation policies: about new trends and contrasting paradigms. *Higher Education Policy* 14, 249-259.

Menntamálaráðneytið (1998). Símenntun-afl á nýrri öld (Life-long learning – a power for a new century); and The Ministry of Education, Science and Culture (2001). Memorandum on Life-long Learning. Reykjavík.

Menntamálaráðuneytið (2002). Konur í vísindum (Report: Women in Science, The Ministry of Education, Science and Culture March 2002), Reykjavík.

Menntamálaráðuneytið (2004). Skýrsla vinnuhóps um háskólasetur á Vestfjörðum (Report: University Residence in Westfjords). Reykjavík: Menntamálaráðuneytið. http://bella.mrn.stjr.is/utgafur/vestf.pdf (09.06.2005).

Menntamálaráðuneytið (2004). Skýrsla vinnuhóps um háskólasetur á Vestfjörðum (Report: University Residence in Westfjords). Reykjavík: Menntamálaráðuneytið. http://bella.mrn.stjr.is/utgafur/vestf.pdf (09.06.2005).

Menntamálaráðuneytið (2005) Þátttaka Íslands í 5. rammaáætlun Evrópusambandsins um rannsóknir og tækniþróun 1999-2002. Reykjavík: Menntamálaráðuneytið.

Menntamálaráðuneytið. (2002) *Konur í vísindum á Íslandi.* Reykjavík: Menntamálaráðuneytið.

Ministry of Education, Science and Culture (2001). Memorandum on Lifelong-learning: Report from Iceland. Reykjavík, July 2001. Online: http://europa.eu.int/comm/education/policies/lll/life/report/iceland_en.pdf (09. May 2005)

OECD (1987). *Review on National Polices for Education in Iceland*. OECD: Paris.

OECD (1997). *Economic Surveys: Iceland*. OECD: Paris

OECD (2003) *Education at Glance*. OECD: Paris.

OECD (2003b). Economic Survey of Iceland, OECD observer, www.oecdobserver.org.

OECD (2004). *Education at Glance*. OECD: Paris.

OECD (2004b). *On the Edge: Securing a Sustainable Future for Higher Education*. Paris: OECD.

OECD (2004c). OECD for Internationally Comparative Education Statistics. Paris: OECD.

Office of the Icelandic Prime Minister (2004). *Science and Technology Policy*, The Science and Technology Policy Council. Forsaetisraduneytid: Reykjavik.

Ólafsson, S. (1999), *Íslenska leidin. Almannatryggingar og velferd í fjölthjódlegum samanburdi.*

Óskardóttir G. (1995). *The Forgotten Half: Comparison of Dropout and Graduates in Their Early Work Experience –The Icelandic Case*. Reykjavik: University of Iceland.

Ragnarsson, H. (2005). Listamenn og doktorar - um gæði háskóla og faglegar kröfur til háskólakennara í íslenskum háskólum, *Morgunblaðið,* August 21, 2005.

Ríkisendurskoðun (2004). Háskólamenntun: Námsframboð og nemendafjöldi. Reykjavík: Ríkisendurskoðun.

Ríkisendurskoðun (2005). Háskóli Íslands. Stjórnsýsluúttekt. Reykjavík: Ríkisendurskoðun.

Science and Technology Policy Council (2004). Resolution of the STPC. Reykjavík: The Prime Minister's office. http://eng.menntamalaraduneyti.is/media/mrn-enski/resolution_of_the_Science2004.doc

Sigfúsdóttir, I. D. (2005). An Evaluation of Scholarly Work at the University of Iceland. A study carried out for the Ministry of Education, Science and Culture in Iceland.

Statistics Iceland (2005) Skráðir nemendur í framhalds- og háskólum haustið 2004. *Hagtíðindi.* Statistics Iceland: Reykavík.

Stefánsdóttir, D. (2001).Vocational education and training in Iceland: Short description. Cedefop Reference series.

Þátttaka Íslands í 5. rammaáætlun Evrópusambandsins um rannsóknir og tækniþróun 1999-2002. The Ministry of Education, Science and Culture 2005.

Icelandic Research Council (2004) *Greining á rannsóknar- og þróunarþáttum í fjárlagafrumvarpi 2005 með samanburð við fyrri frumvörp, fjárlög og ríkisreikninga.*

Þorgrímsdóttir, S. (2003) *Challenging the Slow Motion of Gender Equality – The Case of Iceland.* University of Iceland, Reykjavik.

van der Wende, M. C. (2001). Internationalisation policies: about new trends and contrasting paradigms. *Higher Education Policy* 14, 249-259.

Vilhjámsson, R. (2005). Gæðavandi íslenskra háskóla. *Uppeldi og menntun,* 14 (1), 141-150.

Vísinda- og tækniráð (2005). Ályktun vorfundar 2005 [Science and Technology Policy Council: A Resolutotion, Spring 2005]

Laws, regulations, rules, resolutions and government's contracts:

Act on Equal Statues and Equal Right of men and women 96/2000

Act on Income Tax and Asset Tax 90/2003

Act on Intellectual Property Rights of Employees, no. 72/2004

Act on Public Support for Scientific Research No. 3/2003

Act on Science and Technology Policy Council no. 2/2003

Act on the Issues of Disabled People no. 59/1992

Agricultural Education Act no. 57/1999 revised: no. 71/2004

Allocation rules of the Icelandic Student Loan Fund 2005-2006: http://www.lin.is/Um_LIN/English/Rules_2005-2006.pdf

Higher Education External Review: Guidelines for self-evaluation Cp. Rules on quality control in higher education no. 666/2003: http://bella.mrn.stjr.is/utgafur/selfevaluation.pdf

Icelandic Student Loan Fund no. 21/1992: http://www.lin.is/Um_LIN/English/LIN-Act_2005.pdf

Law on the Iceland University of Education

Law on the University of Akureyri no. 40/1999

Law on the University of Iceland no. 41/1999: http://eng.menntamalaraduneyti.is/Acts/nr/2434

Ministry of Education, Science and Culture (2005). Higher Education External Review: Guidelines for self-evaluation (Cp.Rules on quality control in higher education no. 666/2003): http://bella.mrn.stjr.is/utgafur/selfevaluation.pdf.

Regulation on Appropriation to Higher Education Institutions no. 646/1999

Regulation on Income Tax and Asset Tax no. 483/1994

Resolution of the Science and Technology Policy Council June 8, 2004: http://eng.menntamalaraduneyti.is/media/mrn-enski/resolution_of_the_Science2004.doc

Rules on Quality in Higher Education no. 666/2003.

Science and Technology Policy Iceland: http://bella.mrn.stjr.is/utgafur/visindaensk.pdf

Universities Act no. 136/1997: http://eng.menntamalaraduneyti.is/Acts/nr/2434

Internet sources:

Agricultural University of Iceland (Landbúnaðarháskóli Íslands) - http://www.lbhi.is/

Bifröst School of Business (Viðskiptaháskólinn á Bifröst) – www.bifrost.is

Central Bank of Iceland (Seðlabanki Íslands) - www.sedlabanki.is

Directorate of Labour in Iceland (Vinnumálastofnun Íslands) - www.vinnumalastofnun.is

Eurydice – www.eurydice.org

General Budget (Fjárlagavefur Fjármálaráðuneytisins) - www.fjarlog.is

Hólar University College (Hólaskóli, Háskólinn á Hólum)- http://www.holar.is/

Iceland University of Education (Kennaraháskóli Íslands) – www.khi.is

Icelandic Academy of Arts (Listaháskóli Íslands) – www.lhi.is

Icelandic Centre for Research (RANNÍS) – www.rannis.is

Icelandic Parliament (Alþingi) – www.althingi.is

Ministry of Agriculture (Landbúnaðaráðuneytið) - http://www.landbunadarraduneyti.is/

Ministry of Education, Science and Culture (Menntamálaráðuneytið)- http://www.menntamalaraduneyti.is/

Ministry of Finance (Fjármálaráðuneytið)- http://ministryoffinance.is/

OCED (Organization for Cooperation and Economic Development)– www.oecd.org

Office of International Education (Alþjóðaskrifstofa háskólastigsins) - http://www.ask.hi.is/

Prime Minister's Office (Forsætisráðuneytið) - http://www.forsaetisraduneyti.is/

Reykjavik University (Háskólinn í Reykjavík) – www.ru.is

Rural Development Agency (Byggðastofnun) – www.byggdastofnun.is

Statistics Iceland (Hagstofan Íslands)- http://www.hagstofa.is

Technical University of Iceland (Tækniháskóli Íslands) – www.ru.is

University of Akureyri (Háskólinn á Akureyri)– www.unak.is

University of Iceland (Háskóli Íslands)– www.hi.is