

Governance and Funding Reform in the European Higher Education Area

National system analyses

National system analyses: Austria

1 Introduction

This report describes the main changes in governance and funding within the Austrian higher education (HE) system during the previous decade and analyses their effects on the functioning and overall performance of the system. It is based on desk research and a set of about 12 interviews with decision makers and key experts, partly made face to face and partly by phone (for the list of names see chapter 6). The interviewees were asked to give their view on the impact of the reforms in general and especially on the system performance. Furthermore they were asked to give estimates concerning the further development in governance and funding within the Austrian HE system.

2 Governance and funding reforms

General view on the current governance structures in the Austrian HE system The Austrian HE system underwent radical and unprecedented changes. The Reforms restructured the entire HE system. As a result it has become much more diversified. Currently it consists of four types of HEI: 22 public universities and 20 *Fachhochschulen* (institutions offering vocational oriented study programmes / universities of applied sciences) as well as 11 private universities and 17 teacher training colleges (*Pädagogische Hochschulen*). Public universities present the largest sector (233,046 students), followed by the *Fachhochschulen* (31,046 students) and private universities (4,237 students) (Bundesministerium für Wissenschaft und Forschung 2008, p.31, 38, 43). In 2006, a new type of HEI was added: the merger of 51 post secondary colleges for teacher training resulted in 9 public-funded and 8 private teacher training colleges (Bundesgesetz über die Organisation der Pädagogischen Hochschulen und ihre Studien / Hochschulgesetz 2005). At winter term 2008 the *Pädagogischen Hochschulen* had in total 7,928 students (Statistik Austria 2009). These colleges are intended to offer both scientific and vocational education for teaching professions, including teacher study programmes and further education training courses. Teacher training colleges are also expected to carry out research, but they have an extraordinary status: They are not governed by the Federal Ministry for Science and Research (BMWF) such as public and private universities and *Fachhochschulen*, but by the Federal Ministry for Teaching, Arts and Culture (BMUKK).

Accreditation of institutions and their study programmes was a key point from the outset of the foundation of the *Fachhochschulen* and private university sector. Quality assurance is an essential element of the two new types of HEI. Quality is monitored by two national agencies, namely the FH Council (*FHR; Fachhochschulrat*) for the *Fachhochschulen* sector and the accreditation council (*Österreichischer Akkreditierungsrat*) for the private university sector. Instead of compulsory accreditation of institutions or study programmes the public university sector is obliged to establish internal quality management systems. To support this process in 2004 the Austrian Agency for Quality Assurance (*AQA; Österreichische Qualitätssicherungsagentur*) was founded. The AQA is a non-profit organization run by four stakeholders: The Austrian ministry for science and research, Austrian conference of university rectors (*Österreichische Universitätenkonferenz*), Austrian conference of heads of

Fachhochschulen (Österreichische Fachhochschul Konferenz) and the Austrian Students' Union (Österreichische Hochschülerschaft).

In the R&D sector exists two major advisory bodies: The Austrian Council for Research and Technology Development (*Rat für Forschung Technologieentwicklung*) advises the government in all matters related to research, technology and innovation. The Austrian Science Council (*Österreichischer Wissenschaftsrat*) is the main advisory body in all university-related matters. At the operational level, most of the funding for R&D and innovation is managed by three agencies on behalf of the ministries: the Austrian Science Fund (FWF) is the most important body for the funding of basic research, the Austrian Research Promotion Agency (FFG) funds applied research and development and the Austria Wirtschaftsservice (AWS) is specialised in funding start-ups and innovation projects in companies. In addition, the Climate Change and Energy Fund (KLIEN) was implemented in 2007. It provides funding, among other things, for R&D projects that develop sustainable energy technologies.

Three ministries are responsible for Austrian research and technology policy: the Federal Ministry of Science and Research for basic research, i.e. for universities, *Fachhochschulen* and for non-university research institutions such as the Austrian Academy of Sciences and the Ludwig Boltzmann Society. It is also responsible for the FWF. The Federal Ministry of Transport, Innovation and Technology (BMVIT) is in charge of the biggest public budget in applied research. It has a stake in the AWS and in the FFG, to which it contributes the majority of application-oriented research funding. It is the majority shareholder of the Austrian Research Centres (ARC). The Federal Ministry of Economy, Family and Youth (BML) is responsible for innovation support, technology transfer and the promotion of entrepreneurship; it holds the remaining 50% of the FFG and the AWS and it supports the Christian Doppler Research Association (CDG). The Federal Ministry of Finance (BMF) is not directly responsible for R&D policy but it governs the allocation of financial resources and it directly handles the national institutional funding for some research institutions.

Main changes over the last decade

There are big differences between the governance reforms in traditional public universities and the development within the *Fachhochschulen*, which came into existence in the beginning 1990th and started from scratch as a reform model with an innovative governance regime. Public universities were subject to deregulation by implementing instruments and procedures of the New Public Management (NPM). These managerial mechanisms caused a trend of entrepreneurial orientation in organisational structures and management processes of universities. But in view of governmental higher education steering as well as internal university governance university reforms turned out to have many inconsistencies (Nickel et al. 2007). The university sector has developed strong structures over centuries and therefore built up massive resistance against changes. In contrast to that, *Fachhochschulen* are private enterprises with appropriate management structures and a strong market orientation. From the beginning of its implementation the Austrian *Fachhochschulen* sector was not steered by strong governmental regulation but equipped with selfgovernance mechanisms. *Fachhochschulen* are labelled "pioneers of managerialism" (Pechar 2003, p.82) since their internal modes of steering are closer to NPM compared to those of universities. With regard to these divergences the following sections analysis the changes in the two largest sectors of Austrian HE separately.

University sector

There were two waves of reform activities focussed on the reorganisation of public universities: First step was the university act passed 1993 and fully implemented in 1999 followed by the implementation of a new university act in 2002 and its amendment in June 2009.

The university organisation law 1993 (Bundesgesetz über die Organisation der Universitäten / UOG 1993) aimed at a more entrepreneurial and competitive university system by implementing management structures – particularly in the field of university management: target-oriented steering mechanisms, efficient and effective organisational structures as well as increased self-government. Although the government intended to restrict its action to strategic steering, the governmental steering practice hardly changed (Zechlin 2002) So for example there were neither a transparent, indicator-based financing system from the government, nor a strategic political objective which could serve as a basis for target and performance agreements between the Federal Ministry and the universities. The failings of the UOG 1993 reforms quickly led to functional impairment of universities. Both the government and the universities had really broken with bureaucratic traditions, which had increased administrative expenses for universities.

Therefore a second fundamental step towards more deregulation was necessary. In 2002 a new University Act was implemented (Bundesgesetz über die Organisation ihrer Universitäten und ihrer Studien / Universitätsgesetz 2002). These regulations changed governance mechanisms in favour of institutional and financial autonomy, strong leadership and quality management.

- **Full legal autonomy** transformed universities into independent entities under public law. Similar to a broadcasting corporation a university is still subject to national supervision (limited to the question of legality of administrative activities), but is entitled to carry out business activities and is authorized to conclude contracts for its own benefit.
- **Organisational autonomy.** The organisational structure of universities is no longer determined by law, but has to be established by the institutions themselves on a statute.
- **University councils** were created as supervisory bodies for the rectorates. They are composed of members appointed by both the university and the government. Depending on the individual statute of each university the council consists of five to nine members. Half of the members are elected by the senate, the other half is appointed by Federal Government; an additional member is appointed by the members by mutual agreement. University councils represent comprehensive decision-making authorities. Among other duties, they select the rector, conclude the rectors' service agreement, and approve the strategic plan, the organisation plan and the draft performance contract between the university and the Federal Ministry.
- The degree of self-governance was increased as **rectorates** received more decision-making authority. The senate's sphere of competence was reduced from strategic to academic affairs. This increase of power comprises also the **employers' status** of the rectors (*Dienstherreneigenschaft*). After a transitional period (2001 - 2004) the status of academic and administrative staff changed to employees of the university. Since then appointed academic staff as well as newly employed administration staff are no longer public servants, but employees of the respective university. Austrian universities now possessed full autonomy in terms of staffing.
- The introduction of a comprehensive **financial autonomy** made universities creditworthy and gave them the right to have incomes and earn profits. The money still comes from the Federal government as lump sum budgeting but this is now split into 80% funding via contract management and 20% indicator based funding. A performance contract is concluded for a period of three years. It is a contract in public law. The first contracts between state and

universities are valid from 2007 to 2009. Currently negotiations concerning the forthcoming contracts are taking place. The money given on the basis of performance contracts is discussed without transparent criteria for the calculation of the amount of money but in a negotiation process between the Ministry and the universities. The Federal Ministry developed a model that defines eight fields of activities for which contractual management is applicable (Bundesministerium für Bildung, Wissenschaft und Kultur, 2006a):

- human resources development
- research, development and appreciation of the arts
- study programmes
- continuing education
- social goals
- increased internationalisation and mobility
- inter-university co-operation
- specific fields

In addition to the performance contracts, 20% of the university budget are awarded in accordance with performance indicators (cf. Verordnung über das formelgebundene Budget der Universitäten/Formelbudget-Verordnung – FBV). The performance-oriented allocation of funds consists of three indicator groups:

- teaching
- research and development/ appreciation of the arts
- social goals

The amount is calculated via a complex formula that consists of three calculation factors: the first factor derives from value indicators that have been observed over a period of two years. These actual values are set against reference values from earlier periods. The first and the second value form a third factor that is linked to the size of the respective university and turned into a point-based value. This factor is used to calculate the total amount of the formula-based budget.

• An overall assessment of the universities' activities and of their impacts on their quality of performance is provided by an **intellectual capital report** (*Wissensbilanz*). This instrument is unique in European HEI system and covers comprehensive information on at least three fields of university activities (sec. 13 of the University Act of 2002):

- the university's activities, social goals and self-imposed objectives and strategies
- its intellectual capital, broken down into human, structural and relationship capital
- the processes set out in the performance agreement, including their outputs and impacts

The intellectual capital report consists of a wide-ranging set of key numbers, which refers to a maximum of 60 categories pointing out the impact of the human, structural and relationship capital of each university on the performance in teaching and research. It mainly serves the purpose to inform the Ministry and the Parliament (cf. von Eckardstein/Güttel 2005, p. 401). At the same time, it operates as qualitative and quantitative basis for the compilation and conclusion of performance contracts (Verordnung über die Wissensbilanz, sec. 2). The intellectual capital report, the performanceoriented allocation of funds and the performance agreements are in force since 2007.

• On the basis of self-obligation universities are required to develop their own **quality management system**. This comprises the evaluation of the entire spectrum of performances

in the fields of research and teaching. In June 2009 the Austrian parliament passed the amendment of the university act 2002 passed the parliament. Crucial changes are among other things (cf. Bundesministerium für Wissenschaft und Forschung 2009a):

- The role of the university boards is strengthened. The boards now have the right to advertise the rector's position and to decide the filling of the post. Some of the board members will be appointed directly by the Minister for Science and Research.
- In addition to the contracts between state and universities a new instrument is implemented to enable the Minister to intervene at short notice. This instrument is called *Gestaltungsvereinbarung*, a kind of contract mainly determined by the Minister. To make the *Gestaltungsvereinbarung* effective the Minister is allowed to deduct 2% of the budget per year (roundabout 44 million euros per year) and to distribute this money for projects he considers important.
- In all university bodies and committees 40 % of the members have to be female. In the nearer future it is planned to pass a law for giving the three bodies for quality assurance (*Österreichischer Akkreditierungsrat, AQA Österreichische Qualitätssicherungsagentur, FHR Fachhochschulrat*) a new structure. They should merge into one national agency (cf. Bundesministerium für Wissenschaft und Forschung 2009b).

Fachhochschulen sector

Austria has a federal political system consisting of 9 states (*Bundesländer*). Funding of the *Fachhochschulen* comes from three sources: own income, grants from the *Bundesland* and grants from the Federation. Decentralisation is a core governance principle of the Austrian *Fachhochschulen* sector. The *Fachhochschulen* are institutions under private law with the legal structure of a GmbH (limited company / Ltd.), association or private foundation. *Fachhochschulen* are run by a business management, and possess different controlling bodies depending on the type of legal structure. Often the local government of the respective *Bundesland* (where the *Fachhochschule* is situated) is represented in these supervisory boards. The legal basis is the *Fachhochschul-Studiengesetz* (FHStG) passed in 1993.

The main function of the Austrian *Fachhochschulen* is academic education of a specialised workforce for the regional economy (Lassnigg et al. 2003, p. 8). For this reason, study programmes at *Fachhochschulen* are closely interlinked with the demands of private business, and the content of study courses focuses on business administration and technologies. Although applied research and development – mainly in the field of technology – is part of the performance portfolio of the *Fachhochschulen*, it is of minor importance compared to universities. But *Fachhochschulen* are increasingly committing themselves to research and development and play a more important role within Austrian innovation politics (ibid., p. 123). The Austrian *Fachhochschulen* show – like similar HEI types in other European higher education systems – an ‘academic drift’. This means that *Fachhochschulen* are trying to bring themselves closer to universities by strengthening their research activities.

In contrast to the university sector access to study programmes at *Fachhochschulen* is restricted. In their admission procedures, *Fachhochschulen* examine not only the technical qualifications of the applicant, but also check if the prospective student matches the profile of the *Fachhochschule* and the study programme (cf. Messerer/Humpl 2003). Another striking difference between the FH and the university sector is that the state is responsible for overall planning in the *Fachhochschulen* sector on the system level. The Austrian Federation, *Bundesländer* and the *Fachhochschul* Council (a federal authority which is responsible for the admission of study programmes at *Fachhochschulen*) come together periodically in order to compile a development and funding plan for the entire Austrian *Fachhochschulen* sector. The

current plan is valid for the period from 2005/2006 until 2009/2010 (Bundesministerium für Bildung, Wissenschaft und Kultur 2004, p. 22). Although the *Fachhochschulen* are private organisations, the Federation grants them study place funding. For instance together with the *Fachhochschulen* the Federal Ministry for Science and Research negotiate about a financial grant that depends on the number of study places. The budget covers a maximum of 90 percent of the standard cost per study place. The standard cost comprises the current cost (staff and operating expenses) per study place. Financial investments have to be made without state support by the operating company of the respective *Fachhochschule*.

Before study programmes of *Fachhochschulen* can be approved, the providers must undertake an analysis of the needs and possible acceptance of the planned programme concerning actual and possible job profiles in their region. On the basis of these results they are obliged to design didactic concepts for the planned study programmes. The government finances study places according to a maximum of 50 students per programme. A standard cost contribution, related to the estimated number of first year students of a certain programme is granted by the government per year.

In other words, the budget is continuously adjusted to the annually reported number of students. This creates a demand oriented market competition for students. Accreditation of FH study programmes by the *Fachhochschul* Council is a prerequisite for a government grant. After successful accreditation and evaluation the study programme will be approved for a period of maximum 5 years (cf. Clementi et al. 2004). If the accreditation is successful, the study programme in question will be supported by the Federation.

3 Performance improvements in Austrian higher education

In the governance and funding reform project, the performance of national systems has been measured along eight indicators. According to our data, in Austria we find improved performance mainly in following areas:

- a) access
- b) graduation
- c) research output
- d) capacity to attract funds

Access

With an entry rate at tertiary level of 42 % Austria is below the OECD average with 56 % (OECD 2009, table A2.5). But a deeper look at the development between 1995 and 2007 shows an increase about 15 % during this period. The most dynamic sector was those of the *Fachhochschule*: Between summer term 2000 und the end of winter term 2008 the number of student enrolments nearly tripled from 4,217 to 11,674 (Bundesministerium für Wissenschaft und Forschung 2008, S. 10). In contrast to that the other HEI types showed only slight increases.

Concerning access Austrian public universities have to deal with a special problem: In contrast to the *Fachhochschulen* no restriction of access to study programmes exists. Instead, anyone holding a university entrance qualification could enter study programmes of his/her own choice, place, subject and duration. Open access is still considered a central social right that is granted by law (cf. Hödl 2002, p. 26ff.) and derives from the political consensus that education shall be available to everybody. The open access was not modified until a judgement of the European Court of Justice forced the Austrian state to make a change (Europäischer Gerichtshof 2005). The previous Austrian regulation intended to protect Austrian students from international

competition. Non-Austrian students could not apply for a place at an Austrian university unless they held one in their home country. The European Court declared this practice to be unlawful. An immediate storm of applications, particular from Germany and especially for medicine followed. This problem continues and is still unsolved in bachelor study programmes whereas the amendment of university act in June 2009 gave universities the opportunity to restrict the access to Masterand PhD programmes by defining qualitative admission criteria.

On the bachelor level universities now have to implement a special starter programme at the beginning of each study programme. The starter programme could last between a half term and two terms. Students have to complete the starter programme with a successful exam to be able to continue (cf. Bundesministerium für Wissenschaft und Forschung 2009a).

Graduation

The OECD statistics show a significant growth of tertiary graduation rates von 10 % for single year of age in 1995 to 22 % in 2007 (OECD 2009, table A3.2). The OECD average is 39 % in 2007. Also the Austrian statistics show between summer term 2000 and the end of winter term 2006 an increase of student graduations from 19,136 to 28,542. Similar to the development discovered in student access the most dynamic development concerning student graduation shows the *Fachhochschulen* sector. In contrast to that public universities cope with high dropout rates. In 2006 the average dropout rate in the Austrian university sector was 51.4 % (Bundesministerium für Wissenschaft und Forschung, p. 68). From the universities' perspective the main reason for this dramatic figure is the remaining open access, which causes capacity overload and makes it impossible for the staff to support the students sufficiently (Nickel et al. 2007).

Research output

During the last ten years Austria undertook lots of efforts in strengthening the R&D sector. In 2008, Austria's GERD was 2.63%. The growth rate of GERD in Austria between 2000 and 2008 was one of the highest in the EU and R&D expenditures grew faster than GDP at an average annual growth rate of 8.1% (European Commission 2009, p. 9). The largest share of institutional funding in the public sector goes to universities and to several public research institutes. Recent changes in governance, which involves a new-mode of performance-oriented institutional funding, is an important break with the past in the Austrian research system. With these changes, public research organisations are more exposed to competition. In an comparison of world shares of scientific publications between 32 European countries in the year 2004 Austria reached the 13th position (European Commission 2007, figure II.3.1). Even better is its position in a comparison of patent applications per million population between 33 European countries for the year 2003. Here Austrian reached the 9th place (ibid., figure II.4.1). Measures managed by the Austrian Science funds (FWF) account for much of the growth in public funding (Kratky 2009). Among these measures are the 'Clusters of Excellence' initiative and the reimbursement of overhead costs in other cases of project funding. Some instruments, such as the 'Special Research Programmes' and 'National Research Networks', provide substantial medium- to long-term funding for locally or nationally concentrated research efforts.

Capacity to attract funds

Austria's HEI have improved in gathering contributions by private households. One main reason was the introduction of tuition fees in 2001. The Austrian government decided to impose a standard tuition fee amount of 363 euros per student. Foreign students paid twice as much than their Austrian colleagues. At the same time, the Federation created a differentiated system of student funding: Students receiving grants by the state for the financing of their

tuition fees could apply for a partial or complete compensation of their fees. Students who are not entitled to receive a grant by the state can get a subsidised student loan at an Austrian bank for which the Federation will pay two percent of the interest over a maximum period of 14 semesters. According to the tuition fee regulation, all fees remained with the universities.

After a change of government in 2008 tuition fees were nearly abolished in the public university sector. To compensate the universities for the loss of money, the state decided in context of the amendment of the university act in June 2009 to provide 157 million euros per year between 2009 and 2013 (Bundesministerium für Wissenschaft und Forschung 2009a). The money will be divided up between the universities on the basis of the number of student enrolments. After the abolition of tuition fees universities realize currently an enormous increase of student enrolments. *Fachhochschulen* are free to take tuition fees from their students. Although most *Fachhochschulen* take tuition fees the demand for their study programmes is undiminished.

4 Effects of the reforms

Diversification of the HEI

The Austrian HE system experienced a fundamental reorganization. During the last decade three new types of HEI were established: *Fachhochschulen*, private universities and *Pädagogische Hochschulen*. This diversification was accompanied by a significant increase of student enrolments. Most interviewees emphasize the necessity for a better coordination of the Austrian HE system after this period of growth. A first step in this direction was made by the national Science Council by publishing a draft plan for the further development of the national HE area (Österreichischer Wissenschaftsrat 2008).

***Fachhochschulen* as a successful model for more HE permeability**

The most dynamic and positive development concerning student enrolments was evident in the Austrian *Fachhochschulen* sector. In contrast to public universities *Fachhochschulen* are able to restrict the access to their study programmes, to select their students and most of them take tuition fees.

A serious number of interviewees plead for transferring these three mechanisms into the university sector but say at the same time, that they have not too much hope to gain political support for this idea. Furthermore the creation of the *Fachhochschulen* sector in Austria had a strongly positive effect on the permeability of the education system: students from strata of the population that are socially distant from education can be noticeably better mobilised (Lassnigg et al. 2003, p. 83). In the university sector, children from these strata of society are underrepresented. That is why only 6% of first-year students in the winter semester 2004/2005 were children of parents with a low level of education. One third has one parent with a university degree and over eight percent has both parents with a university degree. In the *Fachhochschulen* sector, children of parents with a university degree are clearly less represented; while more often children of parents with professional training take up studies (Statistik Austria 2006, p. 17-18).

Growth of research productivity

Austria invested extensive shares of public budget in strengthening research activities and output. In both fields a remarkable growth is visible, which brings Austria in a clearly improved position in its competition with other European Countries. To support the upturn in the Austrian research area the National Council for Research and Technology Development, which advises the government, publishes regularly strategy concepts. The new one was released in August 2009. One recommendation is a better coordination of Austrian research

sector which had experienced a considerable growth during the last decade (Rat für Forschung und Technologieentwicklung 2009, p. 5).

Enhanced Institutional Autonomy of Universities

Full legal entity of universities has not only increased institutional autonomy, but also produced external pressure on the institutions to develop quickly into a knowledge organisation, which is equipped with adequate management structures and acts economically and goal-oriented. However, the increased legal independence from the government demonstrates a positive impact on human resource management at universities. The fact that academic and administrative staff is no longer employed by the state but directly by the universities leads to a greater flexibility and results for example in an increased number of jobs for young scientists. The Austrian case demonstrates the importance of designing the reform process in a style that makes university management feel at least responsible for it. One of the most significant differences between the two major university reforms in Austria is the process of professionalization that was carried out between the reform waves of 1993 and 2002. During this time manager-rectors and their partially full-time vicerectors aimed at expanding their power in an increasingly autonomous institution. But it is still unclear whether the introduction of university councils has had positive or negative effects in this situation.

A number of the interviewees declare that there was no satisfying balance of power between the two management bodies. Maybe the new regulations in the amended university act will bring this situation further.

Danger of management overload

With the aim of deregulating governmental steering at Austrian universities a wide range of new management instruments was implemented (contract management, lump sum budgeting, performance-based allocation of funds, intellectual capital report etc.). At once universities had to deal with the implementation of this wide range of new steering mechanisms. In this view Austrian politics appear to have exposed universities to an “intervention staccato” (Pellert 2003). Most interviewees see currently a danger of a too extensive loss of energies in the ‘managerialisation’ of universities without achieving substantial results. Furthermore a lot of criticism came up from the interviewees with respect to the performance based budgeting in the university sector. The formula is considered as too abstract and complicated so that no direct effect is perceptible.

Enhanced importance of Quality Assurance

Quality Assurance has become a crucial factor in the Austrian HE Governance. All HE institutions invested a lot of personal and financial resources in establishing internal quality assurance instruments. Currently the trend switches to the implementation of institutional quality management systems. Three external bodies were established to support and control especially the quality of study programmes: One private agency for all HE institutions, one state office for *Fachhochschulen* and one for private universities. Long time these institutions worked separately. This caused a lot of additional work and ineffectiveness. Therefore the three bodies shall merge in 2010 into one body. All interviewees agreed that Austria doesn’t need a strong system of national quality assurance or accreditation agencies. In their opinion HE institutions should be obliged to let their quality management being certified by an external body but this body doesn’t have to be an Austrian agency. It is sufficient if the certifying body is member of the European Quality Assurance Register of Higher Education (EQAR).

Open access as an obstacle for high quality in study programmes

Open access to public universities has however not achieved its purpose of increasing the social permeability of education. Both the capacity overload at universities and the positive effects of

restricted admission at FH support the argument to abolish open access at public universities. The example of the Austrian *Fachhochschulen* shows that it is possible to fix the costs per study place transparently. This calculation can serve as a basis for negotiations between the government and the universities about the number of funded study places. Consequently, universities would be able to influence the number of their study places.

Governance and Funding Reform in the European Higher Education Area

National system analysis: Finland

1 Introduction

This report gives an overview of higher education governance and funding reforms in Finland within the last ten years and the impact of those reforms on the performance of the whole system. The report is based on document analysis and interviews with key stakeholders in Finland.

2 Reforms in governance and funding over the last ten years

The Finnish higher education system comprises of two parallel sectors; universities and polytechnics. The two tertiary sectors are fundamentally different in that the mission of the universities is more academic with theoretical and research orientation. The polytechnics prepare students for practical work.

There are two parliamentary legislations that govern the higher education system, the Universities Act 1997 and the Polytechnics Act 2003. Education is the responsibility of the Ministry of Education. The Finnish National Board of Education (FNBE) works with the Ministry to develop educational aims, content and methods. The universities have the ministry of education as the regulating and supervising authority and the polytechnics have in addition to the ministry the maintaining as supervising authority. The maintaining agency can either be a local authority, a joint municipal body or a limited liability company. The polytechnics and professionally oriented higher education institutions are mostly municipal or private. Universities are maintained by the state and enjoy extensive autonomy. Both the polytechnics and universities are responsible for the evaluation of their own operations and outcomes in conjunction with the Higher Education Evaluation Council. It is worth noting that polytechnics are fairly new in the Finnish higher education system having only started in 1991 on a trial basis and the practice became permanent by 1996.

Higher education institutions develop their curriculum independently or in cooperation with other institutions without the involvement of education authorities. The Finnish matriculation examination provides general eligibility for higher education. In addition, those with a Finnish polytechnic degree, a post-secondary level vocational qualification or at least a three year vocational qualification also have general eligibility for university education. Universities may also admit applicants who have completed Open University studies required by the relevant university or who are otherwise considered by the university to have the necessary skills and knowledge to complete the studies.

Reforms in higher education governance

Binary System: One of the major reforms in the last ten years was the establishment of a non-university sector. Polytechnics were first established 1991 out of trades and vocational colleges. In 2003 the Polytechnics Act passed. Based on this act polytechnics are non-research institutions offering four or five year degree courses that are to serve regional development. There are currently twenty-six polytechnics. Six are run by local authorities, seven by municipal education consortia and thirteen are run by private organisations.

Staffing Issues & Salary: Until 1998 professors were appointed by the head of state. This responsibility has shifted now to the university leadership. This has shortened the appointment of professors and increased the role of peer review in the appointment process. The flexibility has opened up possibilities for appointment of part-time professors and efficient links between industry and universities. In 2006, a new salary system based on work load and performance was adopted instead of the seniority based salary. The universities have the authority to decide on the implementation and application of the system at the institutional level. Different models of salary systems are applied in the polytechnics depending on the legal status of the maintaining organisation.

Quality Assurance: Since 1997 and 2003, universities and polytechnics respectively have been responsible for the evaluation of the quality of their activities. Both of the Acts, state that the institutions are responsible for the evaluation of the quality of their activities. The national quality assurance system is coordinated by the Finnish Education Evaluation Council, FINHEEC which is an independent body assisting universities, polytechnics and the Ministry of Education in evaluation.

Reforms in the funding of higher education institutions

The steering of higher education has been developed towards **management by results** since the late 1980s. Budgeting based on operational expenditure and performance agreements was adopted in 1994. The principle underlying management by results is that the objectives set for institutional activities and the resources needed for their implementation are determined in negotiations between the ministry and each university.

The most notable reform in funding was the shift from line item budgeting to **lump sum budgeting**. It was the cornerstone leading to increased financial autonomy, it is hoped that it will make financial administration more compatible with financial structures of companies. The reforms are supposed to make it possible for universities by 2010 to accumulate private funds, borrow money and make investments in the markets. For the polytechnic sector further legislation is still awaited to streamline lump sum budgeting, mainly because of their ownership structure. The extension of the maintaining agency's financial regulations make a strong point for transformation of polytechnics to a company.

Since 2006, universities have been allowed to **establish university companies** which promote direct interaction with society with a view of generating private funds. There has also been the establishment of the national and regional innovation systems in the forms of policies, organization structures and funding programmes meant to increase creation of infrastructure for partnership.

On-going processes and new reforms envisaged

a) Higher Education Legislation

Currently there are no radical reforms under discussion concerning polytechnics. With respect to universities in August 2009 new legislation was expected to pass parliament substituting the current Universities Act of 1997. The new law comes into effect in January 2010. Changes in the new law concern the legal status of universities, institutional governance arrangements and the ownership of university buildings.

The autonomy of universities is being strengthened by making changes in the legal status of universities. They will become independent legal entities, either in the form of institutions under public law or foundations under private law. In this capacity they will be able to raise private funds easily and are free to decide how to use capital income and to manage their

assets. University staff will no longer be employees of government, but of the respective institution that can then follow its own staffing policies.

Currently universities rent their buildings from government. According to the new law three new regional companies will be established that will be owned by the universities (67%) and the Finnish government (33%). Universities can use their share of the companies as collateral loans.

The role of external stakeholders in the 6 to 14 member university boards is not enhanced. In institutions under public law its members will still be appointed by the senate. The university board is to appoint the rector of the institution.

b) University mergers

Besides the new law other strategies discussed right now are mergers of universities and alliances between universities and polytechnics in order to consolidate the Finnish higher education system. As a result of the mergers the current number of institutions of twenty universities and twenty-six polytechnics will be reduced to fifteen universities and eighteen polytechnics. It is also a goal to establish four alliances between universities and polytechnics by 2020.

The network of universities and polytechnics will be developed so that overlaps in programmes are reduced and administrative and support services are brought together. This will be done through merging universities and polytechnics, intensifying cooperation in teaching, research and shared equipment. In the polytechnic sector already three remarkable mergers have been carried out and the regional network has been made more compact and a service centre for universities has been established.

The Ministry of Education will prepare a detailed action plan for the structural development of higher education by 2010. The profiles of each university and polytechnic will reflect the local and regional development in terms of teaching, research and cooperation with the world of work. One of the most remarkable developments will be the new Innovation University that will be operational 1 August 2009. The new university will comprise the present Helsinki University of Technology, Helsinki School of Economics and University of Art and Design Helsinki. Other major mergers are the joint consortium of the University of Turku and the Turku School of Economics which will be operational in 2011. The University of Eastern Finland formed from the Universities of Kuopio and Joensuu will start operations in 2010 at the latest.

c) Tuition fees

Finnish legislation does not allow for tuition fees from degree students, but this year a new reform passed that introduces fees on a trial basis until 2014 for students from outside the European Union and the European Economic Area coming to study in specialised master's programmes.

d) Performance based funding

The funding of the polytechnics will be developed into a more performance-based direction so that the level of funding will be, more than presently, defined according to the number of graduates and the quality of education. In addition to the structures and funding, the focus of the development of education and research until 2012 will be on internationalization and increased attention to the quality of higher education and research.

e) Admission process

The development of the joint application system developed for the student selection of universities will be operational in its first stage in the academic year 2008-2009. The full joint application system will be operational starting from the selections of 2010-2011. The utilization of matriculation examination grades will be increased in student selections. Universities will also increase their reporting of student selections to secondary level institutions. (Eurybase2007/08)

3 Performance improvements in Finnish higher education

In the governance and funding reform project, the performance of national systems has been measured along the following dimensions and using the uniform international indicators (see technical file for the precise definitions):

- Access: enrolment rate and net entry rate.
- Lifelong learning: mature enrolments and share of new entries above 25.
- Graduation: educational attainment of the population (25-34) and graduation rate.
- Employability: relative earnings and relative employment rate.
- Mobility of students: students from abroad and students studying in other countries.
- Research output: scientific articles and patents.
- Capacity to attract funds: HERD from private funds and from abroad and contributions from private households.
- Cost effectiveness: expenditures per students (in Euros and PPS).

According to our data, in Finland we see improved performance when it comes to the **capacity to attract external funds** with improvements with respect to the percentage of higher education research and development revenue from international sources (+56%) and significant improvements with respect to the percentage of higher education research and development revenue from business and industry (39%) and contributions to higher education institutions by private households (38%). There are also improvements in the field of international **mobility**, with significant improvements (22%) with respect to the percentage of incoming students, but no changes concerning the percentage of students going abroad.

Concerning **research output** the number of patent applications to the EPO and the number of scientific articles per million inhabitants did not improve or change significantly.

There were slight improvements with respect to **cost effectiveness** in the sense of lower expenditure per student in Euro PPS (7%) and compared to GDP per capita (- 2%).

With respect to **access** and **lifelong learning** the net enrolment rate improved 6% and the net entry rate 5%, while the percentage of mature enrolment did not change at all and the percentage of mature entry only improved by 4%.

Concerning employability the relative unemployment rate of tertiary education degree holders improved by 11%, while the relative earnings of the tertiary education graduates did not change.

Generally the Finnish higher education has observed a steady improvement of quality on most of the indicators chosen to determine performance. The second highest improvement was in the level of research and development investments from business sector. Recently, government has had a programme for improvement of research infrastructure at universities making them more attractive partners to other actors of the innovation system. Funding from the National Technology Development Agency (TEKES) requires that a university is cooperating with a company in a subsidized research project.

There has also been an increase in students coming to the Finnish higher education institutions from other countries. This has been attributed to conscious decision by the Ministry of education to increase mobility through initiatives like the European Level Exchange Programme. The Finnish ICT branch makes studying and working in Finland attractive (Nokia-effect). The government's agreement to the Bologna and the Schengen Agreements also aided the increased mobility. A concern was however raised that Finnish students are less willing to move elsewhere to study.

The number of scientific articles published per million inhabitants within the Finnish higher education also increased. In 1998 the ratio was 1597 articles per million inhabitants and in 2008 there were 2359 articles per million inhabitants. The other improvements noted though at low rates are increase enrolment for students aged between 17 – 25, reduction in cost of education of a student compared to the European aggregate and improved employability of graduates.

Background variables:

2% of the Finnish GDP is spent on tertiary education, which is higher than average. The percentage of GDP spent on tertiary education from 2002 to 2005 increased less than average.

The unemployment rate of 6,9% in Finland in 2007 was higher than average while the unemployment rate grew less than average.

In 2008 Finland ranked 6th in the Global Competitive Index, but has fallen back since 2001.

The population of 18 year olds has grown stronger than average and will likely grow stronger than average in the next ten years.

4 Effects of the reforms and other explanations of improved performance

Generally governance and funding reforms are said to have led to the improvement of effectiveness, efficiency and quality of education and research. Current reforms have increased the power of middle management and the university leadership and new and more flexible appointment procedures facilitated the appointment of part-time professors and links between universities and industry.

Funding reforms increased financial autonomy and therefore are widely believed to have led to improved overall performance. Further reforms have made the financial administration of higher education institutions more compatible with the financial structure of companies.

Government investments in research and development have increased more rapidly in Finland than in most other OECD countries, and a target level has been set to four percent of the GDP. In 2006 3,4% of GDP was allocated to GERD. The rate was relatively high in comparison to other countries, but it has grown less than average from 2002 to 2006. The development of research has taken place within the framework of national and regional innovation systems and research programmes. Companies have therefore considered Finnish higher education institutes as attractive partners for cooperation.

The lump sum funding model has been further developed to two components within Finnish higher education. The programme funding, through which part funding of large national programmes is allocated through the university budget. Some of the projects supported through programme funding include the information society programme and improvement of teacher education programmes which are often cross-sectoral. The universities have criticized this development by arguing that the earmarking of funds is decreasing their financial autonomy. A projected solution to this is to include the goals but let the institution earmark the allocated

fund to the specific goals agreed upon. The other component that has developed is the transfer to four year performance contracts include budget frames for the current yearly negotiation, which has been the case despite an agreed frame of three years being in existence

The distinction of objectives of both the universities and polytechnics has created a balancing effect between the supply and demand for professionals in the labour market. It has ensured that the specific needs of the nation in research and regional needs of experts are met through horizontal differentiation of the higher education institutes.

Other factors of influence

With respect of the percentage of higher education research and development funding from international sources and business and industry alike, this seems to be a result of strategic national and European research programmes as well as governmental funds targeting university-business cooperation.

With respect to the percentage of incoming mobile students respondents name the ERASMUS-programme, increased funding through the Centre for International Mobility (CIMO), but also institutional governmental internationalization strategies like an increase in English-taught study programmes and targeted government funding to encourage internationalisation. The improvement with respect to scientific articles per million inhabitants many respondents state that Finland is merely catching up from a very low starting point. Respondents named the growth of the number of university researchers during the 2000s as one reason for improved research commercialisation.

5 Final discussion and appraisal

The transformation of the Finnish higher education has been quite comprehensive within the last fifteen years. There are no major contradicting opinions about the direction and priorities among the stakeholders of the higher education system. The coordination and commitment indicates the shared opinion that the integration of the higher education policy with those of social and economic goals has been the right policy.

The government through the ministry has identified areas that they need to work to improve the higher education system. The first was to increase investment in higher education; particularly in research. In order to achieve this they sought to introduce reforms that would attract investment to higher education. The system of performance negotiations and contracting has shown to be effective for the implementation of the reforms. The partners within the agreements exhibit confidence in the negotiation process that is characterized by trust through an open dialogue. The Finnish government's ability to provide the funds as and when needed and to commit to mid-and-long term plans has created an almost seamless process. Further governance and funding reforms that promoted the inclusion of the business sector ensured corporation between higher education institutions and industry.

It can also be said that Finnish universities took the internationalization challenge very seriously and were very active in the utilization of opportunities provided by European Mobility Programme. The process has been strongly stimulated by support of the Center for International Mobility (CIMO) of to the Ministry of Education. The establishment of the English language programmes at universities and polytechnics have supported and encouraged the internationalization process.