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Funding Systems and their Effects on Higher Education Systems

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Funding Systems and their Effects on Higher Education Systems - International Report

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ABSTRACT

This international study focuses on the funding systems in the area of higher education in the following countries: Austria, Czech Republic, Denmark, Germany, Ireland, Latvia, Norway, Portugal and Slovak Republic. Each individual country study was designed and conducted within an overall common framework by a project partner from the respective country.

By using the stakeholder approach, this study addresses and analyses the effects of funding systems on the higher education system and its institutions. In order to present a comprehensive overview, the study explicitly takes into account the stakeholders' diversity and explores the effects of how funding systems are perceived and assessed differently.

The overall results, as well as a summary report of each country, are presented in this publication. Information regarding the main features of higher education funding systems, the formal, explicitly stated interrelationships between the funding system and national higher education policies is provided. Furthermore, the intended and unintended effects of funding systems on higher education in general and on the basic core tasks teaching and research are described and discussed. Institutional strategic responses to the respective funding systems are outlined. The various stakeholders' points of view concerning strengths and weaknesses of funding systems are explored by the researchers.

This comprehensive report presents an overview of the most important results and conclusions thus far, but cannot presently provide details. The detailed results and stakeholder views have been focused on in each country's individual report. In addition, the main theoretical foundations related to the study results have been briefly described.

The full documentation of this study – including all country reports – is available at the Programme on Institutional Management in Higher Education (IMHE) of the OECD: http://www.oecd.org/edu/higher.

RESUME

Cette étude internationale cible les systèmes de financement de l'enseignement supérieur dans les pays suivants : Allemagne, Autriche, Danemark, Irlande, Lettonie, Norvège, Portugal, République slovaque et République tchèque. Chaque étude par pays a été conçue et menée selon un cadre général commun par un partenaire du projet du pays concerné.

À travers le recours à l'approche des parties prenantes, cette étude aborde les effets des dispositifs de financement sur les systèmes et établissements de l'enseignement supérieur, avant d'en faire l'analyse. Dans le but de présenter une vue d'ensemble exhaustive, l'étude prend clairement en considération la diversité des parties prenantes et explore les effets consécutifs aux différentes perceptions et évaluations des systèmes de financement.

Les résultats généraux, ainsi que les résumés des rapports par pays, font l'objet d'une présentation dans cette publication. Des informations sont également fournies sur les caractéristiques principales des systèmes de financement de l'enseignement supérieur, ainsi que sur les interrelations officielles et explicitement énoncées entre les systèmes de financement et les politiques nationales en matière d'enseignement supérieur. Par ailleurs, les effets recherchés ou non souhaités des systèmes de financement sur l'enseignement supérieur – au sens large autant que sur les activités de base que sont l'enseignement et la recherche – sont eux aussi décrits et analysés. Enfin, les réponses stratégiques des établissements aux systèmes de financement respectifs sont soulignées et les diverses opinions des acteurs concernés sur les points forts et points faibles de ces systèmes sont examinées par les chercheurs.

Ce rapport complet offre une vue d'ensemble des résultats et conclusions les plus importants à ce jour mais ne peut, pour l'heure, fournir de détails. Les résultats détaillés et les points de vue des acteurs concernés ont été observés dans chaque rapport individuel par pays. En outre, les principaux fondements théoriques liés aux résultats de l'étude font l'objet d'une brève description.

La documentation complète sur cette étude – y compris l'ensemble des rapports par pays – est disponible auprès du Programme de l'OCDE sur la gestion des établissements de l'enseignement supérieur (IMHE) : http://www.oecd.org/edu/higher.

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INTRODUCTORY NOTE

This international study focuses on the effects of funding systems on higher education systems. By using the stakeholder approach, this study addresses and analyses the effects of funding systems on higher education on a government and institutional level. This is the specific benefit of the stakeholder approach. In order to provide a comprehensive overview, the study explicitly takes into account the stakeholders' diversity and looks at the effects of how funding systems are perceived and ascertained differently.

The study focuses and explores the following:

- overview of funding systems in the area of higher education;
- analysis of interrelationships between funding systems, policy and strategic goals;
- results of a stakeholders' survey concerning the goals and objectives the higher education system should encompass;
- analysis of the funding systems intended and unintended effects on higher education;
- analysis of the funding system's influence on institutional strategies, goals and objectives including internal budget allocation modes of HEIs;
- identification of core tasks and an analysis of the effects of funding systems on core tasks;
- analysis of available objective data on effects of the funding system;
- analysis of various viewpoints concerning strengths and weaknesses of funding systems.

Within the overall framework of the study, each project partner has defined and clarified the foremost areas of the respective country study (key notions referring to study content, methods and reference time period) according to the particular contingencies. Thus, the variety of system features could be taken into account.

Each individual country study has been designed and conducted within the overall framework by the project partners from the following countries:

- Austria: Franz Stehl, Sabine Reisinger, Michael Kalatschan Institute of Strategic Management, Johannes Kepler University Linz;
- Czech Republic: Pabian Petr, Melichar Marek, Šebková Helena CHES – Centre for Higher Education Studies, Prague;
- Denmark: Evanthia Kalpazidou Schmidt, Kamma Langberg, Kaare Aagaard Danish Centre for Studies in Research and Research Policy, University of Aarhus;

- Germany: Lydia Hartwig Bavarian State Institute for Higher Education Research and Planning;
- Ireland: Mary Kerr Higher Education Authority;
- Latvia: Krumins Juris, Kavale Lucija, Eglite Sandra, Leduskrasta Zane, Puce Juris, Sloka Biruta, Stonis Janis, Zaksa Kristine (all University of Latvia), Rivza Baiba (Higher Education Council);
- Norway: Nicoline Frølich NIFU STEP – Studies in Innovation, Research and Education;
- Portugal: Alberto Amaral, Maria João Rosa, Diana Amado Tavares CIPES – Centre for Research in Higher Education Policies;
- Slovac Republic: Peter Mederly, Ministry of Education.

Uniform guidelines and a set of key questions for each country's study were designed to assess funding systems and enhance mutual learning. All country studies are based on the following key questions:

- What are the main features of higher education funding systems?
- Are there formal, explicitly stated interrelationships between the funding system and national higher education policies? If yes, identify the main features.
- What are intended and unintended effects of the funding system on higher education in general and on the basic core tasks teaching and research?
- Does the funding system influence institutional strategies? If yes, how do institutions respond strategically to the funding system?
- What are the various stakeholders' points of view concerning strengths and weaknesses of the funding system?

This comprehensive report provides an overview of the most important results and conclusions thus far, but cannot presently go into all of the details. The detailed results and stakeholder views have been focused on in each country's individual report (see included executive summaries).

The full documentation of this study – including all country reports – is made available by the Programme on Institutional Management in Higher Education (IMHE) of the OECD: http://www.oecd.org/edu/higher.

1 STUDY RESULTS AND CONCLUSIONS

1.1 Main features of the funding systems of higher education

1.1.1 Funding sources

HEIs are primarily funded by the state: The funding proportion ranges from 20 % to more than 90 % of the total budget however the large majority lies between 60 % and 90 %. The importance and the amount of tuition fees differ according to the overall context of the individual countries. The roles of other funding sources also differ (research agencies, EU, industry, business, property revenues and services to students), but are of increasing importance.

1.1.2 Funding instruments

The following table provides an overview of the manner in which funding instruments are implemented within the nine countries.

Table 2.1 **Main Features of the Funding Systems**

	Austria	Czech Republic	Denmark	Germany	Ireland (new system)	Latvia	Norway	Portugal	Slovak Republic
Performance Agreement	x	x	x	x	x	x			x
Global Budget	x	x	x	x	x		x	x	x
Formula Based Budget	x	x	x	x	x	x	x	x	x
Tuition/Study fees	x			x	x	x		x	x

Note: The instrument of performance agreements is also labelled "development contract, higher education pact, target agreement, performance contract, contractual agreement, development programmes funding". Global budget is also called "lump sum budget or "block grant".

1.1.2.1 Performance agreement

Performance agreements in many countries play a crucial role in the governance mode and the strategic management of the higher education systems. The design and the content vary to a high degree.

There are a variety of legal forms and differing legal obligations/rights included in the agreements. The interdependencies between the degree of goal achievement (performance) and budget allocated vary.

The contents fluctuate to a great extent as well; however, the following issues play an important role:

- input and output related elements;
- strategic goals and objectives;
- institutional strategy;
- strategic development in core areas;
- development of university personnel;
- research, teaching;
- community goals and objectives;
- increase of international exchange and mobility;
- inter-university co-operation;
- number of enrolment places available.

1.1.2.2 Global budget

The proportion of global budgets within the overall budget differ to a high degree and ranges from approximately 50% to more than 90% of the overall budget.

The ways and means of budget allocation vary:

- The various formulas are more or less complex and the range of proportions (%) of the global budget are allocated by formulas.
- The performance agreements include manifold input and output based elements for the allocation of the global budget.

With regard to input related elements, the importance of student numbers in formulas is high. Output related elements refer primarily to scientific performance, graduates and to additional funding on a competitive basis by national institutions.

1.1.2.3 Formula based budget

Formulas allocate various proportions of the overall budget ranging from 20% to more than 90%. Formula types and criteria fluctuate to a large extent. However, the following criteria can be frequently identified in the formula design:

- number of students, number of graduates, number of international students;
- study areas, duration of studies;

- research, number of research projects, publications, staff qualification;
- institutional characteristics, societal criteria.

1.2 Formal, explicitly stated interrelationships between the funding system and national higher education policies

The interrelationships between funding systems and an overall policy in the individual country reports are dealt with differently. To an extent they were identified explicitly; in some cases, it was difficult to obtain a clear picture. However, policy logics are evident in the formulation of fundamental strategic goals and strategies and therefore, emphasis is placed on the definition and description of the HEI's goals and objectives.

The general tendency of HEIs towards development of strategies includes explicitly defining goals and objectives. These primarily contain:

- increasing economic responsibility and autonomy;
- improvement of efficiency and effectiveness;
- international competitiveness;
- quality competition/improvement;
- customer orientation;
- closer cooperation and more funding from the private sector;
- implementation of the Bologna agreement;
- qualitative goals and objectives in regards to teaching and selected basic and applied research areas;
- freedom of academic instruction and research;
- development of doctoral (PhD) studies.

1.3 Effects of the funding systems on higher education and on the core tasks teaching and research

1.3.1 Positive effects of funding systems

A number of perceived positive effects reflect the assumptions of the new public management and governance paradigms and include the following:

- increased autonomy, performance, competition;
- increased effectiveness, efficiency, transparency;
- enhanced internationalisation;
- improved quality;

- innovative curricula;
- improved cooperation with other institutions;
- focus on students' needs and customer orientation;
- high budget flexibility;
- incentive for development and change.

1.3.2 Negative effects of funding systems

Naturally there are also a number of perceived negative effects:

- loss of variety in research and teaching;
- danger: elimination of studies presently not in demand or expensive studies;
- neglect of basic research and basic development;
- negative steering effects through (dysfunctional) indicators in formulas;
- lower quality of research and teaching.

1.4 Influence of the funding systems on institutional strategies

One of the most important questions is how institutions react to contingencies and frameworks. The overall funding system of a state constitutes a crucial situational dimension for the strategic reaction of a single institution. The economic assumption is that all institutions aim at optimising strategy and activities within the given structure. The study results can be interpreted to conclude that – not surprisingly – funding systems are major influence factors on institutional strategies.

The strategies primarily focus on core outputs, scientific and administrative staff and organisation structures and processes. Funding systems, including the generally perceived resource scarcity, increase the awareness of efficiency, performance and effectiveness regarding core tasks as well as the additional activities. An additional important trend concerns investigating the opportunity of acquiring outside funding rather than remaining dependent on state resources, particularly in areas of highly developed industry and market demand. This creates market value and these areas include *e.g.* high technology, business administration, economics, consulting in various other fields.

Another strategy dimension traditionally not of much importance in the past of HEIs is increasing attention to marketing and public relations. The positioning of the outputs and core competencies of an institution with its relevant target groups in science and practice has become a crucial instrument which will have to be developed more professionally.

In many countries, the number of students and graduates determine important portions of the budget. Consequently, strategies are developed aimed at increasing of the number of students per academic year. There is a risk, however, that some of these strategies might reduce the quality of teaching by reducing the level of aspiration, lenient grading as well as increasing the amount of time to complete studies.

1.5 Stakeholders' views concerning strengths and weaknesses of the funding systems

1.5.1 Strengths of the funding systems

The new public management principles and concepts, the funding instruments and their effects are perceived as a major strength on the system and the institutions. These include increasing emphasis on and orientation towards economy, efficiency and effectiveness. Decentralisation and the autonomy of institutions combined with the indirect steering by the centres and the respective accountability and reporting systems are important strengths, particularly with respect to improved transparency, accountability and reporting.

Additional positive effects include fostering the quality of core tasks (research, teaching, third party contracts) and the support of cooperation between HEIs, industry, business and other institutions.

Another essential dimension involves pressure and/or incentives concerning change and innovation on an institutional level.

1.5.2 Weaknesses of the funding systems

There are several perceived weaknesses of the funding systems. A strongly fundamental and common issue is the problem of a scarcity and lack of state resources, which result in a reduction of space for manoeuvre and restricted opportunities for development. The systems are viewed as under-financed for the long term.

Given that there is a tendency towards a short term market orientation (business and industry) and therefore an increase of applied research, there is a risk of reducing basic research that does not result in an appropriate financial return. This could lead to negative long term effects.

Concerning overall HEIs systems reforms, it can be observed that there are rarely overall harmonised reform models including laws and regulations on finance, organisation, internal and external governance, personnel, studies, taxation. Reforms focus on one of these dimensions and do not take into account their interdependencies.

Another important issue is the measurability and comparison of criteria used for budget allocation: the comparison of single institutions with each other poses critical problems because the criteria applied do not reflect individual contingencies and situations and, therefore, provide biased bases for the budgets.

Other weaknesses include generating third party resources since, in general, there is room for improvement. At the same time, it has been criticised that the state relies too much on these resources.

Another frequently stated issue is the vulnerability of small disciplines by the resource allocation modes. There are disadvantages for small, specialised institutions and areas of study as opposed to advantages for the large and powerful institutions.

An emphasis on student related criteria may lead to a decreased level of academic quality in teaching. Separating research and teaching funding results in the tendency that research and teaching are no longer integrated. (However, the question remains if this is actually a problem *e.g.* in undergraduate studies and in areas where it is sufficient to teach on an international level of the state of the art).

1.5.3 Strength or weakness – it depends

As a result of the stakeholder approach used in this study, no generally valid results can be concluded. However current trends and predominant views, depending on the functions and positions of the stakeholders and their institutions in the system, can be determined. This argument can be applied to the following issues which, in turn, can be interpreted as strength or weakness – it depends:

- Competition can be seen as a performance-driving success factor or as destroying science and resulting in cooperation problems between HEIs.

- On the one hand, a reduced role of the state (ministries) and increased autonomy results in higher performance, while on the other hand, autonomous HEIs themselves are not in a position to develop and implement effective governance systems and position themselves in the societal and economic context.

- Tuition fees can endanger open access to HEIs for financially disadvantaged target groups, but can also be an effective steering and control instrument for access to HEIs and promote efficiency in study.

1.6 Problems and issues

Several problematical aspects reduce the optimism concerning the performance orientation and the use of performance criteria as well as the design of the funding systems:

- Output measurement (in particular, related to basic research results and quality of publications) is seen as very difficult, complicated and resulting in inappropriate conclusions and consequences.

- There is a risk of incentive misalignment.

- Due to declining student enrolment, competition among institutions of higher education will increase.

- The establishment of institutional foundations and agencies in order to increase funding modes' transparency, to coordinate overall state funding and to generate additional funding is seen as crucial in many countries.

1.7 Assessment of the study method – the stakeholder approach

In terms of the study method, an interesting question is how the stakeholder approach was perceived by the research teams in the countries. In addition to the generally important questions of how to identify the stakeholders and how to get access to them for an interview, the following strengths and weaknesses were reported:

Strengths

- opportunity to view the research questions from a number of different perspectives;

- relevant starting point for further analysis;

- overview to the extent the stakeholders are familiar with the system;

- less time and resource consuming than quantitative methods (big sample survey);
- high value in different aspects;
- to evaluate the current system and effectiveness of changes;
- to prepare new policy guidelines and alternatives.

Weaknesses

- not responsive to informal level (social/institutional relations);
- differences of opinions between persons and the officially presented institutional statements;
- time and resource consuming;
- less productive due to little differences between several stakeholders.

1.8 Final remark

In conclusion, the following statement (reported by the Czech Republic) may serve to illustrate the various and contrary issues resulting from this approach.

There is an enormous difference on several levels of reality:

- what the institution actually does;
- what the institution officially says it does;
- what other institutions think it did;
- what the individuals in and around it think it does
- what the individuals inside the institutions say it does.

This statement can be related to the famous works of Paul Watzlawick (Watzlawick, 1977) on the perception of reality and the question “how real reality is”.

2 THEORETICAL BACKGROUND

Several theories can be seen as being relevant to describe specific dimensions of the functions and effects towards funding approaches in the systems of HEIs. These theories can also serve as a basis for analysis and the development of propositions and recommendations concerning the effectiveness and efficiency as well as improvement and change.

The following theoretical frameworks and concepts are appropriate instruments to describe, analyse and explain the context and processes of changes and reforms as well as contents and results. Furthermore, they serve as a basis for the development of pertinent recommendations for future approaches.

- New Public Management
- Governance
- New Institutional Economies
- Strategy
- Marketing
- Resource allocation mechanisms
- Organisational Behaviour

2.1 HEIs' context

Since the 1990s, higher education systems in many countries have been characterised by intensified reforms and accelerated rates of change: "What we know about change has changed already". The changes and new demands of society and industry have brought about new challenges to the world of higher education and are directly and indirectly influencing HEIs.

Politicians, managers and leaders continue to search for ways and methods to develop governance and management structures and cope with opportunities and threats brought by a permanently changing environment. Social, industrial and political environments alter demands and expectations change laws and regulations by which HEIs are governed are reformed and funded.

As important reasons for change the expenditure dynamics, in combination with scarce state resources and the challenges for the traditional teaching and research structures, can be identified.

Another directly significant influence on HEIs is a substantial increase in the demand for certain areas of study in many countries. New generations of students are articulating individual needs and emphasise the relevance of teaching to their current or future employment.

Furthermore, regions and nations have focused on HEIs as a promoter of wealth. Higher education is considered a key to improve one's position in an intensifying regional and global competition. Employers

require an educated and skilled workforce as well as relevant choices of curricula and re-training. The individual HEI is therefore confronted with an increase in demand for its traditional products and services (which have to be adapted) and a necessary enlargement of its tasks and responsibilities. Moreover, the industry and other private and public institutions increasingly demand applicable research results and direct technology transfer according to their needs. They must comply as their sectors also are undergoing major changes themselves in a globalised world.

An additional factor that may be considered a major trigger of change is information and communication technologies. The borderless world features information and communication technologies as key facilitator. They are very cost intensive and challenging, but offer a wide variety of new opportunities (as well as threats). The influence of these technologies is enormous: They alter and enlarge the traditional tasks of teaching and research. They change the respective ways of cooperation within and between HEIs and with other institutions, the overall governance modes as well as the way the individual HEI is operated and managed.

Moreover, in modern societies increased importance is being placed on learning and knowledge. Education is deeply influencing socio-economic developments and in turn, these are driven to a high degree by technological innovations resulting in a direct impact on the role of HEIs. There is high (public) pressure on HEIs to prove that their performance capacities can not only cope with the growing perception of the importance of knowledge in modern societies, but better yet, to play the role of a driving force of these developments. If knowledge and research become crucial factors, the issue arises as to what degree the higher education systems can (continue to) focus on their self defined tasks not referring to societal problems.

In this respect, an important policy question is if HEIs should remain in the position of a protected monopoly or if there should be competition created between HEIs and HEIs and other teaching and research institutions on national levels (international cooperation and competition is being fostered traditionally by governments and commonly financed research programmes).

The change of higher education systems brings about new and different tasks for state and institutions. This requires employees of ministries and HEIs to learn and apply new instruments and methods as very often cultural renewal is essential for a successful change process. Qualification and personnel development are becoming increasingly important *e.g.* in the following areas:

- new philosophy of resource responsibilities and resource allocation and use;
- development of new strategies;
- creating a new management culture to establish strategic success factors: orientation towards generating specific benefits for identified target groups;
- relationship management between HEI and state and appropriate negotiation philosophy;
- development of respective training programmes on HEI level, but also on ministerial level.

An interesting and challenging issue concerning reforms in general, in particular funding systems, arises through the fact that there are multiple realities and perspectives depending on the respective stakeholders' values and views.

2.2 New public management

In many countries, major shifts in the political environment have occurred leading to new ideologies of which the belief in the power of management is prominent: preferences for corporate concepts, strong leadership and strategy development are emphasised. The three "E's" move to the foreground: economy, efficiency and effectiveness. These have become important measures and indicators for good governance and best management practice.

From a business administrative point of view, this is a key aspect of new public management, which originates from Westminster countries and has become a global paradigm of role and functions of the public administration as well on the overall systems level and on individual unit level. The focus of the concept basically lies on market orientation by observing market rules and the improvement of effectiveness and efficiency through management. These dimensions are linked to the development and implementation of adequate instruments. Core elements and instruments of new public management are the following (Hood, 1991):

- decentralisation of decision-making processes: politics develop and define the goals and objectives and the agencies are responsible for their realisation (politics do not influence the operative realisation process);

- steering by outcomes or outputs (rather than inputs) and clarification of targets through performance agreements;

- flattening hierarchical structures by the creation of partially autonomous entities and agencies with global budgets;

- introduction of market-type mechanisms and competition between public institutions;

- introduction of private sector management instruments such as cost accounting, marketing, strategic management or human resource management.

Best practice concepts and theoretical models of new public management derived from the public sector and adapted to HEIs' specific requirements are increasingly being introduced in the HEI sector. This means new challenges for both areas: politics (the centre) and the HEIs. The centre has to concentrate on political/strategic issues, steering at arms length, so to say, and there has to be a strict separation between policy formulation and policy implementation (realisation) as well as the change from input and formal rule oriented steering towards output and performance. Since the 1990s, this paradigm shift has become increasingly apparent-and can be characterised by the following features:

- State supervision implies the substitution of government steering by market steering. One of the consequences is the increased importance of third party funding, which leads to increasing uncertainty of resource flows as compared to the traditional state funding. One of the organisational consequences is that the HEI needs more specialists for the creation of contracts, public relations, fund raising concepts (De Boer, 2000).

- A crucial question of high conflict potential is if self-generated resources simultaneously reduce the state budget or not. The other important and controversial issue is the freedom of research and teaching: can the quality be maintained by non-market state financing or also by third party financing of stakeholders who have individual corporate interests and assess the added value of a HEI output in accordance to their goals?

- The governmental strategy to increase institutional self-regulation is linked with demands for institutional accountability on how resources are being used and what the output is. It is the obligation to report to others, explain, justify and answer questions about how resources are being used and to what effect (De Boer, 2000). This can be a controversial issue: on the one hand, supporters of the unconditional concept of academic freedom maintain that reporting leads to control by and dependence to the centre (ministry). It can contradict the fact that science and teaching are values *per se* and therefore only self-control is legitimate. This phenomenon can also be observed within HEIs: reporting to managing administration (rector, president) is often considered bothersome by lower ranked administration (*e.g.* deans, department heads). On the other hand, supporters of the new public management orientation argue that those who finance an institution have the right to be informed about the allocation of resources, achieved performance and to eventually draw conclusions. From this point of view, accountability may strengthen the legitimacy and the position of HEIs and improve performance.

- Clearly, functions of definition, implementation, interpretation and verification were split up and assigned to different parties and different levels of decision making rather than remaining concentrated in the central ministry. For a long time, external HEI relationships were directed solely towards government. Today, multiple stakeholders articulate their interests and demands, which results in complex internal decision making (De Boer, 2000).

- Governmental policies, driven by the ideology of the global market, provide incentives for HEIs to change the mix of research and education from predominately discipline-inspired to market driven systems (De Boer, 2000, p. 8). The actual financing focus on national and international technology programmes is an indicator for the tendency to increase the emphasis of networking, consortia building and contract activities in general. This result in a change of culture: the HEI is no longer a pure public institution, but a hybrid in which different norms and values, public and private ones have to be combined (In't Veld, 1997, cited in: De Boer, 2000, p. 8).

- The HEI is no longer a monolithic institution (or is no longer seen as such), but rather is divided into competing divisions. There are organisational units (or disciplines) with a market demand financing their knowledge that are successful in generating resources and directed more towards applied research and consulting; there are organisational units pursuing basic research not marketable in the short term and organisational units with no markets at all except for the scientific community itself. There is also competition in the field of education: some disciplines may dispose of important research and consulting markets, but have no student demand, others may have both, others neither research nor student markets. In this sense, the competition within the HEI itself concerns the distribution of scarce public resources as well as the possible re-distribution of third party money. Should those who are successful in the market be additionally rewarded with public money or should the "wealthier" disciplines finance the needy ones who maintain to be also of utmost societal value?

- The developments can be seen as major driving forces for the organisational changes and the emphasis on (new) functions such as marketing, strategy, funding, cost accounting, public relations, patents management…).

- The tendency to move away from basic research towards applied contract research is obviously the biggest fear many scholars have: "Academia Inc." or "Academic Capitalism" are, at least in continental Europe, regarded as a threat to academic freedom. On one hand, this increases the value for stakeholders and contributes to explicit societal goals and objectives. On the other hand, this (short-term) interest oriented concept "…puts curiosity-driven research under pressure which

might harm society in the long run. And, stressing contract activities at the expense of traditional tasks may cause a decline in the quality of the traditional tasks" (De Boer, 2000).

- In this context, the relationship between research and teaching in terms of research based teaching is also questioned. This traditional mission of HEIs is reconsidered in the debate of their positioning, benefits delivered, diversification or specialisation: in basic or introductory areas of teaching, there is no need for direct integration with one's own research and new in-house research results. It may be efficient and effective to deliver the actual and relevant (international) developments "state of the art" in the field.

2.3 Governance

Governance and good governance are the terms of the day in practical and theoretical discourses related to the management and steering of institutions in the private and the public sector.

In recent years there has been a change in the vocabulary of administrative sciences from administrative policies and public management reforms to governance. The term became a fashionable one along with terms such as global governance, good governance, corporate governance, public sector governance. In certain respects, governance is a concept that goes beyond new public management, but, in many respects, also includes the new public management elements.

The term is related to the changing role of the state, the relations between the state, its institutions, society and economy and to political governing. It is used as an umbrella concept for a wide variety of phenomena (Pierre and Peters, 2004, cited in: Tiihonen, 2004, p. 44n):

- structure – hierarchies, markets, networks, communities;
- dynamic outcome of processes *i.e.* steering and coordination;
- analytical framework in intellectual terms;

Common characteristic and core question is the role of the state, not only in the political field, but in all policy sectors as well.

Main features are: rules and well functioning institutions are applied to manage a state in a manner that safeguards democracy, human rights, good order and security. Economy and efficiency are followed in the management of public resources.

Good governance accomplishes this in a manner essentially free of abuse and corruption and with due regard for the rule of law.

Key attributes of good governance are the following:

- transparency;
- responsibility;
- accountability;
- participation;

- responsiveness;

OECD work has focused attention on the governance aspect of sustainable development *i.e.* institutions, policymaking, participation of civil society. Sustainable development is about designing effective, integrated policies to meet economic, environmental and social goals.

This complex task refers to several sectors: State and Public Administration, Business organisations and markets, International Relations (global governance), development policies (international financial institutions) and society at large.

Governance means processes aimed at coordination, stability and structure in a world of actors of different sizes, power and resources.

The governance debate explores the interplay between politics, economy/industry and society. It looks at the role of institutions in the development of economics and political economy, the role of public sector institutions for economic performance and growth. The focus is on incentives and information that shape the decision making processes and in which ways the functioning of institutions can be explained (concepts of rationality, behavioural decision making theories).

The view of governance as public management is particularly relevant for describing, analysing and explaining the interrelationship between public sector institutions and the management of these institutions.

In the present public sector management reforms in most OECD countries, governance is regarded as an expression of a fundamental change in the way of managing the public administrative system. The pressure on reforms and regime change increased and new demands were formulated: Decentralisation of power, introduction of market mechanisms, reduction of regulation, less state more market, emphasis on the principles of efficiency and effectiveness and the development of respective and pertinent management tools.

The countries used their own models of public governance reforms; however the following common elements can be identified (Pierre and Peters, 2000):

- reduction of government's role in economic management;
- strategic/macroeconomic management role of the state;
- reduction of the role of the state in delivering public services to citizens;
- greater trust in market mechanisms and civil society organisations;
- greater demands on citizens to manage themselves;
- reform of public administration, increase of efficiency and effectiveness.

Main features of the new regimes are especially true of the following:

- The reforms have strengthened the role of government as a political and strategic leader: it is responsible to develop and steer the strategies for the governing of the public sector. They have reduced the role in the operational day to day business. The separation of leadership and management functions belong to the reform ideas.

- De-regulation and loosening of regulation: Efficiency and effectiveness of structures, new management and financing and budgeting principles are emphasised.
- Core functions of the state are redefined/reduced in content and size.
- Decentralisation, reduction of hierarchies.
- Adoption of market mechanisms for administrative tasks, agencies become independent public corporations.
- Privatisation, deregulation, outsourcing of tasks, provider – purchaser model.
- New contractual relations between the centre and decentralised units based on principal – agent concepts, performance agreements.

Many of these features and principles are being applied to reforms and institutions in higher education systems and are seen as relevant bases for its management. In this sense, the funding systems and their effects can be interpreted and understood better in principle.

Many similarities can be observed in countries all over the world regarding to the contents of change. One major aspect in almost every reform effort is the question of governance structure and the distribution of power and resources.

A major issue of change is the termination of detailed and centralised state regulations and the formal (input oriented) procedures of resource allocation. At the same time, autonomy and responsibility of the single HEI are continually aiming at improved competitiveness, more efficient and effective use of state money and an improved capacity to meet market needs. The traditional governmental funding of HEIs is being questioned. The neo-liberal ideology is not just a fad, but rather a fitting and driving force of current developments. Newly defined roles of government in the sense of "lean" government are based on the concept of reinventing government: the central government establishes broad politics, combines them with budgetary issues, but transfers responsibility for growth, innovation, performance and output to the decentralised institutions. Catchwords such as competition, strategy development, result and goal orientation, customer orientation, market orientation have become frequent and common in the public sector at large and are well recognised in fields of higher education. In higher education this reinvention of government is often described as a shift of paradigm from the state control model (central direct detailed regulation of all key aspects) to the state supervisory model (steering at arm's length, assuring quality and accountability) (De Boer, 2000).

The relationship between state and institutions is characterised by the two dimensions: control and finance. Therefore, most of the reforms include the distribution of power and control, as well as the principles and mechanisms of financial distribution of public funds.

Current international debate shows a widespread tendency that higher education systems are shifting from centralised systems toward decentralised systems. They shift from direct government organisational control to a legal status of more a corporate nature. With respect to financing, the trend shows a shift from incremental to formula based funding, from detailed grants to block grants and from direct (state) to indirect (agencies). Other important issues are decentralisation, autonomy, contract management, budgeting systems, accountability and reporting, evaluation, and, last but not least, competition.

At the level of the respective HEI, the traditional models of university governance with collegial decision making structures and – in several systems – rather high degrees of co-determination (students

and assistant professors having a voice) have been increasingly criticised by politics, industry and society at large. They are considered to show critical weaknesses and incompatibility within changing environments. Supporters of collegiate structures maintain that a HEI can only function and preserve the freedom of research and teaching when the principles of democracy and collegial decision making are applied to a very high extent: in this way, identification with the system and respective motivation of the individual member can be generated. Supporters of a management oriented governance concept argue that decisions made by individuals who can be clearly identified and who are responsible are a necessary precondition for autonomy and effective long term resource allocation: management is a task for full time professionals and not part time dilettantes.

The innovative, entrepreneurial HEI as an autonomous and self-regulating institution with strong leaders is, in many countries, the ideal model of institutional governance. To characterise this concept, Sporn writes:

> The ideal academic organisation operates according to a change-oriented mission with collegial governance structures providing faculty support for adaptation. A professional management and entrepreneurial spirit assist the integration of activities and create adaptive structures. Visionary leaders like presidents, chancellors, or rectors display a consistent commitment to change, spreading it over the campus. Finally, through an incremental change process, adaptive responses are implemented. (Sporn, 1999, cited in: Askling and Kristensen, 2000, p. 22)

This statement can be assessed as wishful or visionary thinking, but, without a doubt, constitutes a major long term goal of change.

In the concept of Public Sector Management (and proven in many cases), it is assumed that a high degree of autonomy, responsibility and accountability results in higher motivation and improved performance. The motivational concepts are derived from motivation theories dealing with individual and group motivation. It is assumed that not only are leaders motivated by structural challenges and room for manoeuvre, but also the scientific and administrative staff is motivated to a higher degree if adequate internal conditions can be created and respective incentives can be designed and implemented. On the other hand, particularly true for management, responsibility and accountability is increased considerably, not only towards the ministry (or parliament), but concerning many legal issues towards the other stakeholders.

2.4 New institutional economics

The New Institutional Economics or Economic Institutional Analysis is a pertinent theoretical model for the design of the exchange relationships between the State and the HEIs.

The model deals with the analysis of markets, organisations and contingencies of the economic relationships between them.

Three main concepts are relevant (Milgrom and Roberts, 1992; Ebers and Gotsch, 1999, cited in: Kieser, 1999, p. 199n):

- Theory of Property Rights
- Theory of Transaction Costs
- Principal – Agent Theory

Each of these concepts contains descriptive and normative issues that can be relevant for the design of contractual relationships between a Centre (ministry) and the single HEI and thus are a basis for performance agreements and the description and analysis of their functioning and effects.

The following themes in particular are discussed:

- Which types of coordination and control concerning the economic exchange between two institutions result in low costs and high efficiency/effectiveness?

- What impacts do coordination problems, costs and efficiency/effectiveness of exchange relationships have on the design and change of institutions?

The answer patterns to these questions are based on four components:

- Institutions regulate the exchange of outputs (goods and services) and property rights;

- Exchange generates costs for both partners;

- Costs have an influence on the efficiency of factor allocation;

- Efficiency co-determines the strategy of institutions, the way of cooperation (and, if possible, the selection of and preference for certain institutions).

Theory of property rights

The Theory of Property Rights poses the following question: What are the consequences of various forms of the design and distribution of property rights concerning the behaviour of actors and the allocation of resources? The underlying assumption is rational benefit-maximising behaviour of the individual actors. In prearranged legal regulations, Property Rights determine who may use resources when, how and to what degree.

Four dimensions are being observed: the right to use a resource (an HEI may use state owned buildings), right of using the return from the resource (an HEI may rent the building and retain the rent), change of form or substance of a resource (an HEI may renovate a building), right to transfer the rights concerning the resource to others (an HEI may sell a building and use the return for its own purposes).

Theory of transaction costs

This theory aims at describing why specific transactions within institutional arrangements can be coordinated and organised more or less efficiently.

Institutional arrangements are the following:

- legal forms of contracts as the basis for the exchange relationship;

- agreed mechanisms between the transaction partners to deal with possibly occurring unplanned changes of costs and/or performance.

This theory aims at determining which types of transactions in which institutional arrangements can be organised most efficiently *i.e.* at the lowest possible costs. Costs are caused by seeking information, negotiations, developing contracts, steering and control.

This theory is of high relevance for performance agreements: how should they best be developed, what should be the contents be, how can they be planned and negotiated most effectively, what steering and control mechanisms should be implemented?

According to these two theories, the structure of property rights and the structure and amount of transaction costs have an influence on benefits and damages for the actors and therefore also determine their decision making. Under given institutional conditions, an actor will choose those forms of resource usage and property rights alternatives that maximise his/her benefit.

Principal – agent theory

This theory deals with contracts and their roles for exchange relationships between a principal (*e.g.* Ministry) and an agent (HEI, university). The principal – for the realisation of the state interests – transfers specific responsibilities and competencies on the basis of a contract or an agreement to the agent who receives the resource and financial basis for the fulfilment and performance.

This concept analyses the contractual design of the relationship between principal and agent under the conditions of information asymmetry between these two and conditions of uncertainty and risk distribution. Furthermore, typical issues and problems of contractual relationships, incentive models, and information and control mechanisms for the efficient management are discussed.

The main issues are: Degree of the principal's information concerning motives, room for action and the agent's factual performance behaviour. The less information the principal has, the higher the risk for him/her that the agent does not pursue the interests and goals of the principal, but (also) his/her own to the disadvantage of the principal. The principal is therefore confronted with the problem how to be assured by contract (agreement) that the agent performs in a manner that corresponds with the principals' interests.

From the perspective of the "new institutional economics" structure, design, contents, role distribution between principal and agent and the rules of the game are the most important dimensions of performance agreements. The description, analysis and development of recommendations can be based in a fruitful way on the three theoretical perspectives of New Institutional Economics.

2.5 Strategy

The study outcomes show that funding systems do have intended and unintended effects on higher education systems, HEIs and their organisation units (*e.g.* faculties, departments, institutes) as well as on their core tasks (*e.g.* teaching, research).

It can be concluded that strategies of HEI as well as of their organisation units are, among other factors, influenced by funding systems. However, the actual influence of funding systems on strategies of HEI is determined by the conditions surrounding the strategy activities.

The output of any strategic activity can be described as the content of strategy; it depends on the manner in which strategies come about – the strategy process. The process is influenced by the set of circumstances (institution, national and international environment) under which it is determined – the strategy context. The organisational purpose as well as the funding system can be viewed as a central impetus for strategy activities. It can be stated that changes of funding systems stimulate strategic activities within HEIs. However, the strategies applied by the institutions are determined by other factors as well.

The results of the study indicate that the first phase of the strategy process has priority. Prof. Morgan (OECD Seminar on Funding Systems, 14th of September, 2006) concludes that much emphasis is given on initiating strategic changes; less on executing. In other words: The country reports indicate that there is a

lot of thought given to analyse the actual position, identify the desired future state and find appropriate steering instruments and tools. Because they focus on why and what within the system should change, instead of how the system will change, many reforms will not lead to the intended effects.

The success rate of strategic change programmes is not very high. According to experts, the failure rate is around 70 per cent. As a result, change management has become an important topic to scientists, professionals and consultants. Their knowledge may be useful in designing and managing successful change programmes and in supporting HEIs in their stage of transition.

Balogun and Hope Hailey (Balogun and Hope Hailey, 2004) highlight a number of important contextual features that need to be taken into account in order to design successful change programmes:

- Time: how quickly is change needed?
- Scope: what degree of change is needed?
- Preservation: what organisational resources and characteristics need to be maintained?
- Diversity: how homogeneous are the staff groups and divisions within the organisation?
- Capability: what is the managerial and personal capability to implement change?
- Capacity: what is the degree of change resource available?
- Readiness: how ready for change is the workforce (scientific and administrative staff)?
- Power: what power does the change leader have to impose change?

These contextual features determine how the change process can be designed and managed (*e.g.* where will the process start, who will be included in which way).

It can be concluded that change design must be context specific, that change formulae should not be applied directly from one context to another and that the transition phase needs to be designed and managed. The study outcomes indicate that more time and resources would be needed for managing the transition phase (for implementing strategies).

2.6 Marketing – diversification, differentiation and market orientation

HEIs (especially autonomous institutions) are expected to improve their own capacity for expansion and renewal. Diversification of the HEI's scope of tasks, generating benefits not only for students and the scientific community, but also for the local, regional and national stakeholders in society and industry, has become a general challenge. In this sense it is expected that HEIs fulfil also direct market oriented tasks.

A key concept for private firms operating in competitive markets is differentiation: In the private business sector, to be able to identify and satisfy the needs of the various target groups is one of the fundamental challenges of any company in order to survive. In addition, it is required to be able to offer a specific, distinct "product" or "service" line for specific and differentiated customers. Any successful private company that wants to segment its overall potential market has to identify the target groups it wants to serve and position its products and services physically, mentally and psychologically in appropriate ways. In this way, it provides the opportunity to attract new customers and motivate traditional customers to remain loyal to the brand. This means a company must be able to generate specific and differentiated

benefits for their target groups and must provide explicit advantages for customers. In marketing, the concept of the "unique selling proposition" (USP) means to gain a comparative competitive advantage, *i.e.*:

- to deliver concrete benefits for the target groups;
- to distinguish the institution in a positive way apart from others;
- to own appropriate resources and know how.

The objective is to position the benefits of the organisation's products or services in the subjective perception of the customer. Therefore, one of the important fields in addition to technical innovation, finance and organisational behaviour is "strategy and marketing".

The improved positioning of HEIs in the diverse "markets" and the improvement of their capacity to compete on national and international level has become a major challenge. The assumption is that a high degree of autonomy combined with strong leadership is an important basis to develop and establish a stronger marketing orientation. As a consequence of this situation, "marketing", with all its instruments of market research, product policy, communication policy, product/service policy and, in many cases, also price policy has become, or will become, an important concept to support the positioning of the HEI in its environment.

2.7 Tendencies of resource allocation

During the last two decades, the public sector has been the object of numerous domestic and international reforms. Funding systems and especially resource allocation mechanisms for state funds are an essential element of the reforms in several countries because of the shortcomings of the traditional input orientated funding with regard to a result orientated management of public administrations (McNab and Melese, 2003, p. 73). Performance-based funding is the most recent funding trend in the public sector. Despite an international trend towards performance-based funding, the approaches of the respective countries differ. On the one hand, how and to which extent performance information is included in budget documents differ and on the other hand, the basis of the budget (cash, accruals) is different (Sterck and Scheers B., 2005, p. 11n).

The higher education sector in countries around the world must also handle challenges comparable to the public sector (*e.g.* ever increasing student demand compared to the increase of financial resources). As in the public sector, performance-based funding represents one of the principal innovations in higher education funding. Typically, state funds of HEIs[1] are allocated based on input criteria (*e.g.* number of students). By linking the funding to some measures of outputs or outcomes rather than inputs, performance-based funding focuses on a completely new perspective. Performance-based allocation mechanisms differ from traditional allocation approaches in the following way (Salmi and Hauptman, 2006, p. 64):

- performance-based allocation mechanisms attempt to reward institutions for actual rather than promised performance;
- the use of performance indicators should reflect public policy objectives rather than institutional needs (*e.g.* size of staff);
- performance-based allocation mechanisms include incentives for institutional improvement.

Regardless of the trend towards performance-based funding, traditional input oriented allocation mechanisms are still used and of importance. In order to show current allocation mechanisms for state budget both input based and performance-based allocation mechanisms are described below (Salmi and Hauptman, 2006, p. 62n):

- **Negotiated Budgets:** Negotiations between government and institutional officials are the traditional method in which HEIs are funded. The levels of funding are decided by means of a negotiation process based on input criteria (*e.g.* historical trends) or on performance-based criteria. If performance-based criteria are used, the result of the negotiation process is typically a performance agreement. Performance agreements are regulatory agreements between government and the respective HEI in which, in addition to the budget level, objectives are determined. Independent from the allocation mechanism, the budget is then typically distributed to institutions as line-item budgets or global budgets.

- **Formula Funding:** Many countries use some form of formula to allocate funds to institutions. The formulas differ between the countries and vary on the basis of which criteria are used. Criteria used in determining funding formulas traditionally include: inputs (*e.g.* size of staff) or enrolments and costs per student. Non-traditional and more innovative formula approaches are priority-based funding and the use of performance-based formula components. Priority-based funding is an approach in which adjustments of the formula are made to reflect national and regional priorities such as critical labour force needs. Another non-traditional funding approach is when performance measures are used to determine all or a portion of the funding formula (payment for results).

- **Categorical Funds:** Categorical funds usually involve the government designating a particular institution or group of institutions to receive funds for a specific purpose *e.g.* to correct past under financing.

- **Competitive Funds:** Competitive funds are an alternative to the more traditional approach of establishing categorical funds. These are usually funded on a project by project basis for the purposes of improving quality and relevance, promoting innovation and fostering better management objectives that are difficult to achieve through funding formulas or categorical funds. The allocation of competitive funds is based on peer reviews.

To conclude, traditional and performance-based allocation mechanisms of state funds are depicted in the table below.

Table 2.2 **Comparison between traditional and performance-based allocation mechanisms**

Traditional	Performance-based
Negotiated budgets: Allocations of state funds are negotiated between government agencies and institutions.	*Performance agreements:* Governments enter into regulatory agreements with institutions to set mutual performance-based objectives.
Categorical funds: Categories of institutions designated as eligible for funds for specific purposes including facilities, equipment and programmes.	*Competitive funds:* Tertiary education institutions compete on the basis of peer-reviewed project proposals against a set of objectives.
Funding formulas based on size of staff or number of students enrolled.	*Funding formulas* based on output (*e.g.* number of graduates per year) or outcome measures (*e.g.* academic ranking of the HEI).

Source: Salmi, J. and A. M. Hauptman (2006), "Resource Allocation Mechanisms in Tertiary Education: A Typology and an Assessment", in *Global University Network for Innovation (ed.) Higher Education in the World 2006 – The Financing of Universities*, Palgrave MacMillan, Basingstoke, U.K., p. 64

2.8 Organisational behaviour

Theories and models of "Organisational Behaviour" are important and fruitful foundations for the description, analysis and development of recommendations concerning organisation design, individual and group behaviour including leadership, organisational change and development. Organisational Behaviour also includes the field of organisational theory, which emphasises structure and process design and behavioural control systems. In principle, it overlaps with the field of management dealing with issues of the three "E's": economy, efficiency, effectiveness.

One main issue of Organisational Behaviour is understanding the behaviour of individuals and groups in systems. A very fruitful approach is understanding the organisational dimensions within which they operate and interact. There are four major dimensions organisation design, planning and control, behavioural processes, and decision making. These can be viewed either as single modules or as the interrelationships of subject of research.

- **Organisation Design:** In particular, this field includes issues of organisation structures as framework for all the activities, authority and responsibility distribution, internal and external factors influencing and determining the design.

- **Planning and Control:** Plans specify goals, objectives, means and resources to achieve them. Control systems monitor and steer the implementation and execution of the plans and provide the basis for feedback and corrective actions. Theories and models of the development and implementation of strategies play a major role in this context.

- **Behavioural Processes:** Concepts of behavioural processes cover areas such as learning, perception, motivation, interpersonal communication, leadership, group behaviour, internal and external interactions, performance, and power.

- **Decision Making:** Models of rational-economic decision making and model of behavioural (non-rational) decision making are used to describe and explain decision making as problem solving processes and develop respective recommendations as to the steering and control of these processes.

Understanding of the facets of systems plays a crucial role for all institutions and organisations as well as for HEIs. The models and concepts of Organisational Behaviour provide opportunities for the in-depth analysis of the interplay of the system's units as well as understanding what is happening within the system's units and how they act and react under given conditions.

BIBLIOGRAPHY

Askling, B. and B. Kristensen (2000), "Towards the Learning Organisation: Implications for Institutional Governance and Leadership", *Higher Education Management*, Vol.12, No.2, pp. 17-42.

Balogun, J. and V. Hope Hailey (2004), *Exploring Strategic Change*, Prentice Hall.

De Boer, H. (2000), "Institutional Governance: Consequences of Changed Relationships Between Government and University", paper presented at an IMHE Seminar, Tokyo.

De Wit, B. and R. Meyer (2005), *Strategy: Process, Content, Context – An International Perspective*, Thomson Learning.

Ebers, M. And W. Gotsch (1999), "Institutionenökonomische Theorien der Organisation", in Kieser A. (ed.) *Organisationstheorien*, Kohlhammer, pp. 199-251.

Hood, C. (1991), "A Public Management for all Seasons?", *Public Administration*, Vol. 69, No. 1, Spring, pp. 3-19.

McNab, R.M. and F. Melese (2003) "Implementing the GPRA: Examining the Prospects for Performance Budgeting in the Federal Government", *Public Budgeting & Finance*, Vol. 23. Issue 2, June, pp. 73-95.

Milgrom, P. and J. Roberts (1992), *Economics, Organization and Management*, Prentice Hall.

Pierre, J. and B. Guy Peters (2000), *Governance, Politics and the State*, St. Martins Press, New York.

Salmi, J. and A. M. Hauptman (2006), "Resource Allocation Mechanisms in Tertiary Education: A Typology and an Assessment", in Global University Network for Innovation (ed.) *Higher Education in the World 2006 – The Financing of Universities*, Palgrave MacMillan, Basingstoke, U.K., pp. 60-81.

Sterck, M. and B. Scheers (2005), "Deckt der Name die Sache? – Zu einer Verfeinerung des Begriffes 'Ergebnisorientiertes Haushaltswesen'", in Hill, H. and D. Engels (eds.), *Bestandsaufnahme und Perspektiven des Haushalts- und Finanzmanagements*, Nomos, pp. 11-33.

Tiihonen, S. (2004), *From Governing to Governance*, Tampere University Press, Tampere, Finland.

Watzlawick, P. (1977), How Real Is Real?: Confusion, Disinformation, Communication, Random House Inc.

NOTES

1. Aside from the direct funding of HEIs, students and their families are funded by state indirectly through family and student aid, study loans, tax benefits, etc.

3 INTERNATIONAL STUDY – GENERAL OVERVIEW

To summarise the results and to provide a general overview over the key issues the following tables were developed based on the key questions. The tables include the main results taken from the country reports. Since the structure of the answers varies to some degree it is not always possible to depict the pictures in a fully consistent way. In the same vein it is important to note, that the length of each country overview does not reflect at all the weight and importance of the arguments. This overview provides a general picture including the most important issues, but cannot go into all the details. The detailed results and views are reported in each country's report.

3.1 Main features of the funding system of higher education

3.1.1 Overview

Country	Main features – overview
Austria	New funding model introduced in 2002; implementation process is still not completed. Federal State budget > 90%, rest: tuition fees, supranational institutions, industry, business and private foundations. Importance is varying from university to university. Universities are funded directly through general funds and indirectly via competitive funds.
Czech Republic	The total sum of money for education/higher education is suggested by the Cabinet and approved by the Parliament. The Ministry of Education negotiates the total sum primarily with the Ministry of Finance. The decision making power on the state budget allocation rests almost exclusively with the Ministry, but the Ministry is obliged to discuss the rules with the so called Representative Commission (composition: Representatives of Council of HEIs, of Czech Rectors Conference, Ministry and Trade Unions). The main part of the **teaching grant** is formula based; a minor part is based on contracts. The largest part of **research funding** is project oriented, small part is formula based. About 50% of total funding is distributed as a lump sum, 50% are earmarked. Input oriented mechanisms allocate about 75% of the budget, output criteria play a minor role, but changes in favour of output parameters are continuously involved. There are **3 types of HEIs**: Public institutions (less than 90% of students) with 82% of total income stemming from public sources. Private institutions (about 10% of students), State institutions (military and police, about 1,5% of students) In many study fields the demand for study places has exceeded the supply during last 20 years.
Denmark	Funding of teaching and research is separated. The state is most important source, annual appropriations. **Funding of teaching**: "Taximeter-principle": tariff paid per passed exam. Output based: money follows students. Grant System for **research funding** **Two tier system:** *Basic grants* allocated by different ministries directly to the institutions. 2% per year is retained for productivity improvements. Returned to universities via the "50-40-10-model": 50%: according to educational grants, 40% according to subsidised research, 10% according to number of awarded Ph.D. degrees.

Country	Main features – overview
	External Grants: Most important: Resources from the Danish Research Council System: Danish Council for Independent Research, Danish National Research Foundation and the Danish Council for Strategic Research and High Technology Foundation. Coordination of these 4 bodies: Danish Research Coordination Committee. 13% from private sources.
Germany	According to the German Constitution, the higher education system in Germany is, in principle, a matter that the individual federal states ("Länder") are responsible for autonomously. **higher education funding** is a **matter of the "Länder"**. The largest portion of funds stems from public sources. Large investments are shared 50:50 between federal and state level (future: no federal funds). Main trends: Adoption of new public management instruments such as: decentralisation, autonomy ("governance at arm's length"), target agreements, formula based funding. Features of selected federal states ("Länder") are described: Baden-Württemberg, Bavaria, Berlin, North Rhine-Westphalia. **General issues:** under-financing, increasing numbers of students, worse student-staff ratios, no restrictions on using funds freely at university level, partial introduction of tuition fees. **Higher education pacts** (contractual agreements) between the Land and the higher education institutions: financial planning security for an election period (4 or 5 years), long term budget cuts agreements are included. These are supplemented by target agreements. **Implications of these trends are:** global budgets, business type accounting, part of funds is formula based (performance and capacity), reporting system.
Ireland	Higher education is primarily funded by state (between 70 and 90 % of total institutional income). Over 90 % of students are in public institutions. The public system is binary, with a university sector and an institute of technology sector. Significant tuition fees for postgraduate and part-time undergraduate students (until 1995 the full-time undergraduate students also had to pay tuition fees) are charged by the universities. In the institute of technology sector the tuition fees are much lower. At present the institutes of technology are directly funded by the government Department of Education and Science (salaries and conditions are also determined centrally). The Higher Education Authority will soon be responsible for funding the institutes of technology in addition to the universities. This is viewed as a positive development by both the HEA and institutes of technology. The funding system described here relates to recurrent funding for teaching and research. There is, in addition, a very significant **separate** stream of funding for **Research** since 1998. This research funding is allocated on a competitive basis on the basis of: strategic planning and focus, inter-institutional collaboration, research quality and impact of research on teaching and learning. **Recurrent funding system 1990-2005 (old system)** *Universities:* Block grants for teaching and basic research informed by unit costs. Method: (a) Average increase in funding applied to each institution and (b) positive or negative adjustment made to grant based on whether total costs were above or below average. In addition, a separate grant of undergraduate tuition fees (course fees multiplied by certified student enrolments). A small proportion of the total amount is distributed through a Target Initiatives Funding scheme (*e.g.* initiatives to widen access, to improve quality of access, improve retention and completion rates). *Institutes of Technology:* Annual negotiation of programme budgets between the individual institutes and the Department of Education and science (incremental system). In addition to this a grant in lieu of undergraduate tuition fees is made based on course fees and certified student enrolments. It is planned that the transfer of funding responsibility for the institutes to the Higher Education Authority will involve the introduction of a formula based funding system. **Recurrent funding system 2006 (new system)** A new Recurrent Grant Allocation Model (RGAM) has been developed. (NB allocation model not a funding model). The new RGAM is being phased in for the universities from 2006. It is

Country	Main features – overview
	intended that over time the institutes of technology will also move from a system of financing based on an incremental budget system to a formula based system. The **new funding system** consists of the following elements: • an annual recurrent grant that is allocated to each institution based on a formula that links student numbers and types, but distributed on "block" grant basis; • performance related elements, benchmarked against best national and international practice, with greater emphasis setting targets and monitoring outputs; • a Strategic Innovation Fund that will be allocated to institutions on a competitive basis to promote innovation generally, but especially in specified areas that support national strategic priorities.
Latvia	Improvements of the funding system in the recent years, at present state budget funding (only for full-time studies at state institutions of higher education; directly linked to number of study places, smallest part of income in many state institutions; only for the most talented students), tuition fees (main funding part; for state and private institutions of higher education) in combination with study loans, rest: EU (share has increased radically since Latvia joined the EU), industry, business.
Norway	In 2002 a new **performance-based funding model** was introduced: Output-oriented formula-based funding based on mainly the number of credits, graduates and publications. In addition, a basic component that is 60 per cent of the total higher education budget. External funding from the Research Council of Norway, other research agencies or contractors in general.
Portugal	Since 1988 by the University Autonomy Law universities have important administrative and financial autonomy and widened academic autonomy. The funding system is a powerful steering instrument as to the implementation of higher education policies. There are **2 main public funding mechanisms:** *Public funding for higher education institutions:* Direct basic funding for teaching, contractual funding (specific issues), direct funding to students (individual grants), indirect funding to students (living, healthcare). *Public Funding for science and technology:* Direct funding based on periodic evaluation (based on number of researchers and level of evaluation); specific programme funding; competitive funding for projects and for staff (individual grants). The **funding system** consists of 3 dimensions: • research: mainly competitive system; • teaching: formula (since 1986) (salaries, other expenditures); • investment: Ministry's approval of development plans. **Formula:** The general opinion is that the formula has been oriented towards promoting the growth of the system. The development of the formula up to date was a complex and conflict prone process between the stakeholders on political and university level. The concrete application of the formula has been difficult, one reason being the inadequacy of parameters. In 2006 besides the number of students, criteria for quality and performance are introduced. As an overall result it can be stated, that the formula has contributed to an increase in resource allocation equity and transparency, to increasing enrolments and improvements in staff management. However, the overall budget did not increase as fast as the enrolments and associated costs. This is one reason for the substantial increase in tuition fees. In addition to these funding sources HEIs have other sources, the most relevant being third party income, which on average is about 24% of total budget (The state budget is about

Country	Main features – overview
	60%, tuition fees 7%, investment 8%). **Science and technology:** The research institutions are placed under the Ministry of Science, Technology and Higher Education and are organised in "Research Units" and "Associated Laboratories". In total there are 433 Research Units, of which 384 are in public universities and 21 Associated Laboratories involving 31 R&D institutions.
Slovak Republic	Most of funding of public higher education institutions comes in the form of subsidies from the State budget. Starting with 2002 according to the new Act on Higher Education, the financial support from the State budget has been granted to the public HEI in the form of the following four subsidies granted on the basis of contract: a) subsidy for running of accredited study programmes; b) subsidy for research, development or artistic activities; c) subsidy for development of HEI; d) subsidy for students' social support. The Act sets out the basic criteria for the allocation of subsidies to public HEIs: a) At defining the amount of subsidy for running of accredited study programmes, the number of students, number of graduates, economic demand of the study programmes, HEI classification among university-type HEIs or non-university type HEIs, quality and other criteria related to provision of teaching, are decisive. b) At defining the amount of subsidy for research, development or artistic activities, the research, development or artistic capacity of the public HEI, the achieved results in the field of science, technology or art, evaluation of research, development, artistic and other creative activity of the public HEI by Accred. Com. within the framework of complex accreditation and classification of the public HEI among research universities, university-type or non-university type HEIs, are decisive. c) The amount of subsidy for development of HEI is based on the selection procedure within the framework of which the individual HEIs submit to the Ministry projects on implementation of their development programmes. At the se-lection procedure the quality of submitted projects, long-term strategy of the Ministry and long-term strategy of the public HEI are taken into account. d) The amount of subsidy for students' social support is based on the students' eligibility for scholarship and at non-vested items of social support the avail-ability of the funds in State budget needs to be considered. The allocation of concrete amount of subsidies to be granted to individual public HEIs is carried out according to the guide, which is being prepared and annually updated by the Ministry. The Ministry is obliged to submit this guide for opinion to the representative bodies of HEIs.

3.1.2 Funding instruments

Overview, details in the tables below

Country	Performance agreement	Global budget	Formula	Others
Austria	Performance Agreements between the ministry and each university	3 years, consists of Performance Agreement (80 %) and Formula based Budget (20 %)	3 years, 20 % of budget	Tuition fees, research funding, other income sources

Country	Performance agreement	Global budget	Formula	Others
Czech Republic	There are no classical performance agreements. Development Programmes funding may be seen as performance agreement based.	Lump sum allocation (50%)	Teaching: formula (approx. 53% of budget) Research: small part (approx. 4 % of budget) Negotiations on the annual increase in funded student numbers.	Research funding, other income sources
Denmark	"Development Contracts"	Lump sum for teaching and research	Teaching	Research funding, other income sources
Germany	Higher Education Pacts, Target Agreements	Exist partially, will be developed further	Part of budget: related to performance and capacity	Tuition fees, research funding, other income sources
Ireland (new system)	Will be portion of annual grant reserved for performance related elements (up to 10%) linked to strategies and outcomes	Formula based block grants for education and research	Core grant: Student numbers by 4 basic price groups ratios. Adjustment for students from underrepresented backgrounds (+33%). Topslice amount for Research SIF: allocated on competitive basis	Tuition fees, other income sources
Latvia	Contractual agreement between rector and minister	----------	Based on number of state funded study places, basic cost per student and tuition cost coefficients	Tuition fees, research funding, other income sources
Norway	----------	Block Grants from the Ministry of Education and Research	3 main components: education, research, basis component	Research funding, other income sources
Portugal	----------	Lump sum for teaching	Teaching	Tuition fees, research funding, other income sources
Slovak Republic	Subsidies granted on the basis of contract	A combination of block grant with dedicated subsidies for selected activities	Formula for subsidies for teaching and partly for subsidies for research	Tuition fees, research funding, other income sources

3.1.2.1 Performance agreement /global budget

Country	Performance agreement/global budget
Austria	3 year global budget, contractual agreements between the Federal Ministry for Education, Science and Culture and each university, 80% of budget. **Main contents:** Strategic goals and objectives, strategic profiles and core areas, development of the university, personnel, research, etc., societal goals and objectives, increase of internationality and mobility, inter-university co-operations.
Czech Republic	**Long-term plans** (strategic documents of individual HEIs). These documents are annually up-dated and elaborated to more details. Funding of contractual parts of the budget takes these strategic documents into account, especially in the funding item **Development Programmes** (funding mechanism based on contracts between the Ministry and the HEI). Development Programmes are relatively small part of the higher education budget that enables the Ministry to implement its ideas about the development of the higher education system.
Denmark	**Global budget**, "Development Contracts": Signed between the Ministry of Science, Technology and Innovation and the universities. Formulation of institutional strategy. Not legally binding, but rather letter of intent stating the strategic areas and the instruments to reach the targets. No automatic relationship between achievements and grants awarded. Future plan: to establish a link.
Germany	Various types of pacts and agreements between state level (ministries) and universities. Guarantee of planning security, however, often budget cuts over a period of years.
Ireland	Annual block grant for teaching and research.(1) Core grant will specifically recognise research performance through topslice and success in attracting students from under-represented groups. (2) Element of **core grant** to be reserved each year (up to 10%) as strategic performance funding. Release of funding linked to institutional strategy and institutional contribution to achievement of national priority objectives (*e.g.* improving access for under-represented groups). Institutions must place outcomes sought at centre of institutional strategy. HEA to provide policy context for institutions, assessment will be against the stated national outcomes. (3) The new Strategic Innovation Fund to be allocated on competitive basis with emphasis on strategies and outcomes. (Significant separate stream of funding for Research allocated on competitive basis).
Latvia	The number of study places funded by state and the number of graduates is affirmed by a contractual agreement between rector and minister.
Norway	----------
Portugal	Lump sum for teaching.
Slovak Republic	The contract on subsidies is signed between the Ministry and HEI. It contains conditions under which the subsidies are provided to the HEI. The extra subsidies provided to the HEI during the year are subject of annexes to the contract. Within the State budget, there exists a perspective 3 year global budget for higher education as a whole, but not for single HEIs.

3.1.2.2 Formula based budget

Country	Formula based budget
Austria	3 years, 20 % of budget **Criteria/ratios:** Teaching, Research and development and exploitation of the arts, societal goals and objectives.
Czech Republic	**Teaching**: The formula for teaching activity is based mostly on input parameters: number of students and the "cost of relevant study programme". Newly also the number of graduates is included into the formula as an output measure. The parameters of the formula and the annual growth in numbers of students are negotiated between the Ministry and the HEIs representatives. **Research:** Formula based part of funding forms approximately 20% of research budget; parameters include the relative number of qualified academics (professors, associate professors), relative amount of money for research gained from other public sources, relative number of master and doctoral graduates (with different weights).
Denmark	**Taximeter-system for teaching, education funding** The Ministry of Education allocates funds based on the taximeter system: direct link between number of students who pass their exams and amount of money. Payment per each student. Exams are weighted; the weights of all exams of a 5-year programme add up to 5. No compensation for students who fail or do not take exams. Tariffs paid per passed exam (taximeter) vary substantially between differ-ent fields of study. The tariff has 3 components: costs of education and equipment; joint costs (administration, buildings etc), costs for practical training (if applicable). No direct links between subsidy and use of money: because of the principle of lump sum granting and self-governing of the institutions, universities are free to transfer funds between education and research. **Issue: quality assurance.** The Danish Evaluation Institute (EVA) evaluates programmes. In addition: traditional system of external examinations: fair and equal treatment of students, monitoring of quality standards, advice and consulting.
Germany	Specific formulas in each "Land".
Ireland	New **Recurrent Grant Allocation Model (RGAM)** **Core funding:** allocated using formulaic approach – funding linked to student numbers and types – 4 basic price groups: *Price Group* — *Weight* a. Clinical stages of medicine/dentistry and vet med — 2.3 to 4 b. Laboratory based subjects (science, engineering.) — 1.7 c. Subjects with a studio, laboratory or fieldwork element — 1.3 d. All other subjects — 1 **Adjustment for students from under-represented groups** (*e.g.* mature, socio-economic disadvantage, students with a disability, etc.). additional weighting of 33% to each student in targeted area (weighting to be reviewed). **Research adjustment**; amount topsliced to recognise research performance: 5% of total core grant allocated on basis: 75% proportion of PhD and Masters Research graduates, 25% on proportion of research income. Recognise need for institutions to diversity sources of income, therefore non-exchequer funding **not** taken into account in funding allocation.

Country	Formula based budget
	Grant in lieu of undergraduate tuition fees allocated separately (eligible students multiplied by fee) Agreed Phasing of New RGAM (university sector) 10% 2006 45% 2007 45% 2008 **Competitive funding** • Separate Strategic Innovation fund (SIF) allocated on competitive basis • Separate Research funding allocated on competitive basis
Latvia	The annual funding of full-time studies is based on definite number of state funded study places for each university, basic cost per student and tuition cost coefficients by study fields.
Norway	**3 main components:** • *Education (25 % of the total allocation):* Based on the number of credits, number of graduates and number of international exchange students. The subjects at the universities and university colleges are divided into six different price categories. The overall budget of this component is not limited. • *Research (15 % of the total allocation):* Two third of the funds is performance oriented and one third is related to quality and strategic considerations. In contrast to the education component this one is limited. The HEIs that perform best in comparison to other institutions do increase their revenues. • *Basis component (60 % of the total allocation)*
Portugal	**HEIs funding consists of:** • teaching formula based funding; • negotiations for investments (new buildings and infrastructure) based on development plans of the institutions; • science and technology funding; • student fees. **Teaching** The formula funding has a tradition since 1986. It applies to the running costs and is negotiated between the Ministry of Education and the HEIs. **The 2006 formula version includes:** • the number of students for all courses approved for public funding; • staff average cost; • teacher/student ratios; • teacher/non-academic staff ratios; • funding depends on reference costs with the same criteria for each institution using a predefined relationship between current expenses and personnel costs (15:85);

Country	Formula based budget
	• quality indicators: level of academic staff qualification (% of PhDs), graduation efficiency rate (# graduates in first cycle), post-graduation efficiency rates (# masters and PhDs). The formula is complex and there is a set of standard ratios as basis for the calculation. The formula varies according to the field of study. **Science and Technology Funding** Since 1996 2 categories of S&T funding were implemented: **Core funding** Specific allocation to S&T institutions by the Portuguese Foundation for Science and Technology based on 3-year evaluation. • basic funding based on number of researchers and evaluation results; • programmatic funding for specific projects defined by evaluators. **Competitive funding** • individual scholarships and advanced training • research and development projects • prizes • other (co-operation models) Competitive funding is carried out through public tender calls. The competitive funding model is relevant for all HEI units. International expert panels rated all candidate institutions and made recommendations for strategies and investments. Quality assessments take into account research performance by international standards and compliance to the recommendations and efficiency of funding use. Positively rated units receive funds per staff with PhD.
Slovak Republic	• Formula for teaching and research comes from input data described in general in the Section 2.1.1. • Formula-based subsidies for teaching present approximately 45 % of the total budget (2006). • Formula-based subsidies for research present approximately 15 % of the total budget (2006).

3.1.2.3 Reporting and other instruments

Country	Reporting and other instruments
Austria	**Reporting:** Annual financial report according to private business law Annual performance report to Ministry Annual "Intellectual Capital Statement" to Ministry (and the public) **Research funding:** Austrian Science Fund (FWF) is most important. **Other income sources:** industry, business and private foundations.
Czech Republic	**Reporting:** Annual report on activities of the HEI and annual report on economic management of the HEI are stipulated by the act.

Country	Reporting and other instruments
	Research funding: Research Plans are most important; several other sources *e.g.* Czech Science Foundation. **Other income sources:** property revenues, services to students, extra teaching activities and study related fees.
Denmark	**Reporting:** Annual financial report, annual performance report. **Research funding:** Research Council System is most important. **Other income sources:** Industry, business.
Germany	**Reporting:** Performance and financial reporting to ministry and Parliament. **Research funding:** *e.g.* Deutsche Forschungsgemeinschaft, EU. **Other income sources:** industry, business.
Ireland	**Reporting:** • annual audited accounts based on internationally agreed accounting standards; • annual budget submission; • reporting on earmarked funding for under-represented groups; • greater emphasis on reporting on strategic plans and on outcomes (vs. targets); • intention of having significant reporting on Strategic Innovation Fund – activities undertaken, objectives obtained as benchmarked against agreed targets and performance indicators. **Other income sources:** *e.g.* Strategic Innovation Fund
Latvia	**Research funding:** Research Council, share of funding from the EU budget is increasing. **Other income sources:** industry, business.
Norway	**Research funding:** Research Council of Norway, EU **Other income sources:** industry, business.
Portugal	**Research funds:** Portuguese Foundation for Science and Technology is the most important.
Slovak Republic	**Reporting:** HEIs submit complex financial annual reports and activity annual reports, the structure of which is prescribed by the Ministry. Based on these, the Ministry makes up an annual report for higher education as a whole and presents it to the Government. **Tuition fees:** have to be paid if the duration of study is longer than the standard length. **Research funding:** research projects by the Agency for Support of Research and Development; sources for funding of research projects received from abroad.

3.2 Formal, explicitly stated interrelationships between the funding system and national higher education policies

3.2.1 Goals and objectives in core tasks in higher education

Country	Goals and objectives in core tasks
Austria	Funding system is seen to be suitable for the support of goal achievement by practically all stakeholders. A final assessment is not yet possible (implementation). **Overall goals:** • increasing responsibility and autonomy of universities; • improvement of efficiency and effectiveness; • international competitiveness; • quality assurance through evaluation and continuous improvements. **Education:** • quality improvements, increase of international orientation, implementation of the Bologna agreement. **Research:** • qualitative goals and objectives (*e.g.* excellent results of research) with respect to selected basis and applied research areas. **Other goals:** • development and exploitation of the arts (universities of the arts); • medical treatment (universities of medicine); • societal responsibilities.
Czech Republic	Different stakeholders have different understanding of the goals of the higher education system and the role of funding in it. **Ministry of Education:** Funding is viewed to be the most important tool to implement higher education policy goals; HEIs are expected to initiate the changes on their own. Funding represents the crucial instrument for indirect steering of higher education institutions by the state. Reforms of funding mechanisms are the key to higher education reforms. **Various (political) stakeholders** put forward different policy goals and propose different funding instruments to achieve these goals. They agree on the issue that a substantial increase of expenditures is an absolute requirement and must reach a critical level in order to improve education and research. **Various policy views (dependent on political representation) include:** human resource development as a basis for prosperity and social cohesion; facilitating access to education, tax alleviations for HEIs; reduction of educational inequalities, increase accountability of HEIs with respect to quality; implementation of study fees; well funded higher education is best strategic preparation for country's future; higher education has to remain state responsibility. **Policy views include:** human resource development as a basis for prosperity and social cohesion; facilitating access to education, tax alleviations for HEIs; reduction of educational inequalities, increase accountability of HEIs with respect to quality; implementation of tuition fees; well funded higher education is best strategic preparation for country's future; higher education has to remain state responsibility.

Country	Goals and objectives in core tasks
Denmark	**General:** Economic decentralisation, activity steering incentives. Autonomy of using grants, subsidies and income within the overall rule framework. Intention: promotion of economic responsibility, higher efficiency and effectiveness. **Education:** Taximeter principle is impetus for user-friendly behaviour towards students. Goal is motivated and qualified students completing their education within the period of time prescribed. Main intended official goals: promotion of efficiency, result and customer orientation, many students and better results are awarded, avoidance of erosion of standards, implementation of a system that is simple, fair, transparent and automatic, promotion of quality competition. **Research:** *Basic grants:* to secure core research activities with regard to budget stability, freedom of research, traditions. *External grants:* To ensure quality of research by competition for all public resources other than basic funds, to simplify the council system and provide transparency of the application options, to ensure strategic research implementation and inter-disciplinarity, to ensure support of basic research and application and industry oriented research.
Germany	**Baden-Württemberg:** "Solidarity Pact" (1997) between ministries (Prime Minister, Finance, Education) and universities: financial planning security (10 years) based on 1997. Cut of 1500 posts within 10 years. Decentralisation, start of global budgets. 1999: Formula based budget part: quantity based part and incentive based part: 10% each of total budget. **Bavaria – 1998:** decentralised financial management: mutual coverage of budget items, transfer between fiscal years. Output related allocation of funds. 2005: Innovation Pact guarantees state funding until 2008, not linked to budget cuts, Optimising Concept, target agreements. 600 posts from universities to a central innovation fund: redistribution on competitive basis. In addition: 140 posts plus € 140 mio for innovation. **Berlin:** Contractual Agreements: strategic goals, extensive autonomy, planning security given a restrictive budget situation, standard performance is required (*e.g.* defined number of study places), major budget cutbacks (2004 – 2009). Global budget differentiated by non-personal funds, personnel, investments (buildings, infrastructure). Performance reporting to Parliament on annual basis. Comparison of costs and performance to assess performance and efficiency. **North Rhine-Westphalia:** 1999 Quality Pact: 10 years planning security, compulsory cut of 2000 posts. Monetary equivalent of 1000 posts for innovation funding. Since 1996 gradual financial autonomy: flexible staff budget, reserve building possibilities. Since 2006: Global budgets. Fund allocation through performance based parameters (20% of total budget).
Ireland	Higher education is central to the achievement of a range of public policy goals, social and economic. For individuals, higher education is increasingly seen as the minimum requirement for personal development and material wellbeing. The higher education sector will meet the many demands now placed on it only if the higher education institutions have a clear strategic vision and engage in effective strategic thinking, planning and implementation. Success will also depend on clarity as to the roles of Government, the Higher Education Authority, the governing bodies and institutional management. Institutions must have a capacity for flexibility and innovation in their response to their environment. While the institutions have for some time demonstrated that strategy plays an important role in their activities and public funding has to a limited extent supported that, the HEA considers that into the future, an important element of funding of higher education should be directed to supporting the strategic orientation of both individual institutions and the sector as a whole, while at the same time providing for stable core funding. The HEA, in a consultation paper on funding published in February 2004 set out the

Country	Goals and objectives in core tasks
	following as the design principles that would underpin a **HEA recurrent grant allocation model.** The model should: • Support institutional autonomy, while providing meaningful account-ability to the various stakeholders. • Promote a strategic approach by institutions to their long-term development, consistent with their existing strengths and capabilities. • Reward institutional responsiveness to national and regional needs. • Increase opportunities for students from all types of backgrounds to benefit from higher education. • Support excellence in teaching, learning and research. • Be transparent and rational. • Provide positive incentives to institutions to diversify and increase their income from non-state sources, consistent with their mission • Provide stability in funding from year to year and encourage efficiency in the use of public funding. • Recognise the extra costs that arise in the case of students from disadvantaged backgrounds.
Latvia	The educational development conception sets the developmental goals of the educational system for the period from 2002 to 2005. This conception was formulated taking into account guidelines set forth in Latvia's long term economic strategy, the National Development Plan and the National Employment Plan. **Main goals are:** • development of a doctoral studies and review salary system in order to attract younger academic staff; • to achieve step by step optimal tuition costs; • guarantee the availability of study and student loans; • review of the pertinent legislation to allow institutions of higher education to attract more funding from the private sector.
Norway	According to the **Ministry of Education and Research** the funding system must support major educational and research policy goals and strategies. The **national committee** that launched the model argued that the funding system should make the institutions better able to perform the tasks assigned to them by society. Both are of the opinion that a funding system based on results is appropriate. Moreover a formula-based funding system increases the possibilities of rational planning. **Education:** Quality, performance improvement **Research:** Quality, performance improvement
Portugal	The funding formula is conceived as a crucial element in the funding system. As the funding covers current expenses only, HEIs are forced to use their earned income for investments not included in the approved development plan. Non-state income is increasingly important. The general opinion is that the funding system is input-oriented emphasising quantitative rather than qualitative perspectives. The overall funding system goals are perceived to be oriented towards the development of the institutions rather than being a consequence of outputs. There are little negative

Country	Goals and objectives in core tasks
	consequences for poor performance.
Slovak Republic	There was a direct link between the single priorities of the national higher education policy ex-pressed in the Programme Declaration of the Government and in the approved Strategy for further development of higher education in Slovakia for 21st century and the measures in the funding system.

3.2.2 Other goals

Country	Other goals
Austria	Development and exploitation of the arts, medical treatment, societal responsibilities, performance improvement, efficiency, rationalisation, increasing synergies, increasing autonomy of universities, improvement of efficiency and effectiveness.
Czech Republic	Performance improvement, efficiency, rationalisation, increasing synergies, better balanced responsibility and autonomy of universities, improvement of efficiency and effectiveness. Satisfaction of structure's demand of labour market, regional development, balance of study offer of various regions (until currently main concentration is in two cities – Prague Brno), development of HEIs' facilities, modernisation enabling increase of effectiveness activities and decrease the demand of human resources.
Denmark	Achievement of national objectives, increased synergies, improvement of quality and performance, focus on international competitiveness, relevance and applicability.
Germany	----------
Ireland	Funding for national objectives in regard to equity of access, transfer and progression of students between courses and institutions, specific funding for increases in student numbers in areas where manpower shortages have been identified.
Latvia	----------
Norway	----------
Portugal	----------
Slovak Republic	To support autonomy and accountability of HEIs, to support competitive environment for HEIs.

3.3 Effects of the funding system on higher education and on the core tasks teaching and research

Due to different survey methods and results the categories of effects differ between the countries (*e.g.* intended/unintended effects, positive/negative effects, differentiation/no differentiation between stakeholders).

Country	Effects
Austria	**Positive effects** • development of strategic profiles and core areas (teaching and research);

Country	Effects
	• increased autonomy; • increasing performance orientation and competition between universities; • enhanced internationalisation; • increased efficiency through sensible and prudent resource allocation; • increased effectiveness through performance orientation; • improved output, productivity and research quality; • improved teaching quality; • innovative and practice oriented studies and curricula; • improved transparency concerning the use of resources; • just and fair budget allocation, change of historically grown budgets; • enhanced liquidity, viability and cost consciousness; • increasing third party contracts and resources; • improved co-operation of universities with business, industry and other institutions. **Negative effects** • "mainstream orientation" of universities and their core tasks; • too narrow strategic profiles and core areas; • loss of variety in research and teaching; • danger: close down of studies not in demand at present or expensive ("unprofitable") studies; • neglect of basic research and basic development and exploitation of the arts in favour of practice oriented and applied research (third party funding); • negative steering effects through (wrong) indicators; • lower quality of research and teaching; • loss of autonomy through increased dependence from external principals (third party funding); • internal centralisation and expansion of administration; • increased administrative burdens at the expense of research and teaching; • reduced coordination (harmonisation) between universities because of increased competition.
Czech Republic	**The Ministry's and HEIs' representatives:** **Strengths:** • both the principle of multi-source funding and the operating mechanisms correspond to international developments; • the diversified funding system (in terms of both mechanisms and budget resources) facilitates a transparent allocation of public expenditures according to

Country	Effects
	policy priorities; • different allocation mechanisms for various budget items enable institutions to seek funding in areas corresponding to its strengths; • the continuous growth of expenditures over the last three years, a rate that facilitates an efficient resource utilisation; • the inclusion of quality evaluation results in virtually all allocation mechanisms; • the allocation of resources to the HEIs enables them to set internal allocation criteria corresponding to their priorities. **Weaknesses:** • long-term under-financing of the higher education system as a whole, low higher education expenditures relative to GDP; • growth of public expenditures have not kept pace with the system expansion; • insufficient resources impede the implementation of the bologna degree structure, increase in both student and academic staff mobility, improvement of conditions for young academic staff, and provision of adequate student services (especially housing); • lack of a long-term contractual funding to enhance stability of development funding; • efficiency of resource utilisation varies between various parts of the system; • low private expenditures on public HEIs; • too strong emphasis on quantitative and input criteria at the expense of qualitative and output ones (in 2004; by 2005, the situation changed, see the list of strengths above). The analysis counts among the strengths the democratic governance of the system, including the obligatory consultations with the representatives of HEIs, which promotes joint responsibility for the eventual decisions. On the other hand, an inefficient character of the decisions-making process ranks as one of the weaknesses.
Denmark	**General** Key issue: optimal balance between input-based and output (performance)-based funding. Input-based funding: no incentives for efficiency, but known basis and certain stability for long term planning. Output-based funding: pro: promotion of efficiency, transparent allocation. Contra: output measurement is difficult, misalignment of incentives, danger of reduction in quality if numbers of students/graduates are crucial; if institutions do not control performance measures and relation between effort and performance measures is unclear, if speed and quantity dominate quality, thoroughness, creativity. Fluctuations of resource allocation and difficulties of long term planning and job security, increase of funding uncertainty. **Education** Major evaluations show that there are no negative trends and that the management of the education sector had improved with a focus on “value for money”, efficiency and effectiveness. The focus is on students’ needs and “customer orientation”. Teachers’ professional ethics prevent increase in positive exams as a consequence of output-based funding. Intensive use of external examiners prevents the passing of unqualified students. The Taximeter is not a system for the regulation of the quality of education. **Research** *Basic Grants:* secure long term planning, independent research, infrastructure. Contra: lack of incentives for efficiency, relevance and societal impact, No mechanisms for assuring the

Country	Effects
	highest quality is funded primarily. *External Grants:* pro: competition is expected to raise accountability, efficiency and quality, research can be directed towards areas and principles (*e.g.* inter- and multi-disciplinarity). The intention was to develop a simplified and strong system. Weakness: system is too complicated; it is complex and not transparent, lack of strategic management and coordination. Politically defined research areas: may harm basic research, weakening of quality norms, short term changes of direction (relevant only for some large programmes). Too many small sized programmes with too little competition in narrow areas.
Germany	**Baden-Württemberg:** Target agreements are regarded as important governance pillars. Achievement of well defined objectives. Support of the development of university profiles, centres of teaching and research **Bavaria:** target agreements are adequate instruments for innovative developments, strategy/goals implementation, definition of relevant monitoring parameters. Target oriented financing is facilitated. Motivation to abandon "sub-critical fields" and to concentrate on innovative areas. High budget flexibility. **Berlin:** Effects of funding and governance have to be assessed in the light of budget restrictions. High autonomy is expected to initiate "powers within universities". Grants for the universities in the western part of Berlin are declining in favour of an increase in the eastern part. Declining grant caused reduction of study places. **North Rhine-Westphalia:** Agreements are seen as main instruments for governance. Importance of a close link between budget and performance is stressed. Development of key data provides information on performance and workload and result in university – internal discussions and sound funding decisions. A monitoring system is to be developed.
Ireland	The new Recurrent Grant Allocation Model (RGAM) has been introduced on a phased basis in the university sector ref 2006. It is intended that a similar model will be phased in the institutes of technology sector at a later date. As it is at an early stage in relation to the introduction of the model, it is not possible to document, at this stage, the effects of the new funding system on higher education and on the core tasks teaching and research. The HEA has engaged a consultant to carry out a risk and sensitivity analysis on the new funding model to examine: • the sensitivity of funding allocations to various aspects of the funding model; • the stability of the funding model, and financial stability for institutions; • possible behavioural implications of funding model; • teaching versus research funding; • other issues. **Possible intended effects:** • transparent, simple and rational; • support institutional autonomy while providing meaningful accountability; • promote strategic approach by institutions to long term development; • reward responsiveness to national needs; • support excellence in teaching, learning and research; • support widening participation; • encourage efficiency in use of funds;

Country	Effects
	• provide incentives for institutions to diversify income. **Possible unintended effects:** • four price subject groupings possibly too small; • effect on student numbers – absolute numbers and distribution; • instability in funding – need for safety net; • diversion of resources from high cost minority subject areas to low cost subject areas (or higher value activities); • possible incentive for diversion of resources from teaching to research;
Latvia	• state institutions often set tuition fees lower than the cost of state budget funded vacancies. this creates quality assurance problems and threats to redistribute budget funding from the state funded places to tuition fee covered vacancies; • because of the increase of research funding in can be expected that institutions will more clearly define their stance towards research activities; • the mechanism of normative allocation of state budget subsidy has resulted in a more stable academic development planning; • because of demographic reasons the institutions of higher education will be forced to attract foreign students; • because of declining student numbers the competition among institutions of higher education will be promoted; • more attention being paid to the demands of the state as a result of increased state funds for graduate and post-graduate studies; • establishment of institutional foundations and agencies in order to attract additional funding (problems are a lack of experience in fundraising and a resistance to donating on the part of society and legislators).
Norway	**Intended effects** **Ministry of Education and Research:** • increase of the quality in research and teaching. **Rectors' Conference:** • encouragement of the institutions to increase quality in research and teaching and to implement more structural changes. **HEI Leaders:** • incentive for development and change; • greater focus on number of students completing programmes and number of publications; • enhances student recruitment and efforts to "take better care" of the students; • improvement of research quality, efficiency and relevance in the long run; • rewarding of research results helps to increasingly concentrate activities on larger programmes and international contacts. **Faculty:**

Country	Effects
	• increase of the time spent on teaching.
Norway	**Unintended Effects** **Rectors' Conference:** • no negative effects on the credit production have yet been revealed. **Researchers' Association:** • focus on popular and inexpensive courses; disappearing of disciplines; • focus on credit production could result in a decrease in the quality of teaching and the time devoted to research activities; • increase in the number, not necessarily the quality, of publications. **HEI Leaders:** • favouritism of institutions with many students; • reduction of funding for educational programmes with weak student recruitment; • promotion of mainstream research; • discrimination of areas of research in which the production of articles/monographs, etc. is more difficult; • possibility that professors may be influenced to give students a passing grade on their exams because the institution's budget is at stake. **Generally:** • negative consequences for research activities in terms of still weak impact on research funding and publishing; • fear that the diversity of research activities may be adversely affected.
	• the separation of funding for teaching and research results in an undesirable gap: research units work on themes different from those in the curricula. academics tend to divide their time among these two tasks, which results in lower efficiency; • the formula parameter "salaries of academic staff" privileges HEIs with adequate teacher/student ratios and higher qualified academics: qualification of academics and careers or the hiring of highly qualified staff is promoted rather than the admission of younger, but (formally) less qualified staff; • there is an increasing use of "invited professors": they have no tenure and their workload is higher than that of staff.
Slovak Republic	The effects of the funding system assessed using the data from recent years are as follows: • substantial increase of new students; • improving the qualification structure of the teaching staff at HEIs; • minimal influence on the rate of unsuccessful students; • improving extent and efficiency of PhD study; • increase of salaries at HEIs comparing to salaries in national economy; • better results in higher education research and development;

Country	Effects
	• increased risk of decreasing quality of education.

3.4 Influence of the funding system on institutional strategies

Country	Influence of the funding system on institutional strategies
Austria	• Universities' strategies, at present, are focused on the development of strategic profiles and core areas. • The funding system is a major factor of influence on institutional strategies • Lack of a plan is assessed differently. On the one hand there are uncertainties with respect to strategy formulation; on the other hand the "bottom-up development process" is seen to be very positive. • Strategic content is emphasised on core performance and output. Positioning strategies are related to value creation strategies (*e.g.* core output, scientific and administrative staff, organisation). • Most frequent and important is a strategy mix of growth, stabilisation and regrouping/retreat strategies. • Budget volume and situational factors are the main determining factors.
Czech Republic	Various mechanisms used for the allocation of individual parts of the public budget have the different impact on institutional strategies. The **formula funding** of educational activity pushes the HEIs to regulate access. The lump-sum allocation allows HEIs to use the finances according to their own priorities. The excessive reliance on formula calculation and on input factors is considered as weakness (implementation of output parameters already started), which influences institutional behaviour. The **development programmes** facilitate the implementation of government policy priorities (funded projects should respect both state and institutional strategies) while respecting institutional autonomy. Priorities of Development Programmes focus on integration of activities of HEIs, mobility of students and academics and improvement of situation of social and health handicapped groups. The **specific research funding** influences the research strategies of the HEIs. It pushes them to promote research and improve the qualification of its staffs. The r**esearch plans** are essential for stable long term planning of research. **Research centres** and other targeted research funding promote excellent research in specific areas.
Denmark	No explicit, direct link between Funding System and Institutional Strategies. However, several impacts: the earmarking of competitive funds for research obliges institutions to focus on politically prioritised areas. The Taximeter-System steers the institutions towards the preferences of the students. Institutions will have to act more strategically.
Germany	Universities perceive the influence of the funding system on their strategy in different ways. **Main aspects are:** • Target agreements are seen as successful and suitable strategic management instrument possibly also leading to more reliability and trust between state and universities.

Country	Influence of the funding system on institutional strategies
	• Close links between funding principles and strategy with positive experience. • Internal fund allocation based partly on parameters, partly on negotiations. Differentiation between needs and performance. Positive experience with internal agreements. • Reallocation of posts resulting in higher flexibility of staff budget and new research foci. Strategies also emphasise basic research and research based teaching, aiming at excellence. • Appointment policy is seen as an important strategic instrument. • Performance oriented fund allocation is increasing the awareness of performance and effectiveness, especially in research. In teaching there is room for improvement.
Ireland	The **Recurrent Grant Allocation model (RGAM)** has specific performance based elements built into the core allocation. The HEA will reserve an element of the annual recurrent grant (up to 10%) pending confirmation of strategic plans that are coherent with, and supportive of, institutional and Government strategy. The new **Strategic Innovation Fund (SIF)** will be allocated on a competitive basis. The process for evaluation of proposals and allocating funding will be based on four key principles, one of which is Strategy. Institutions must demonstrate that a proposal fits within their strategic plans. Institutional proposals must be informed by national policy objectives and national and regional social and economic needs. The emphasis will be on strategies and outcomes.
Latvia	**Main issues of the strategy documents concern:** • personnel development (attracting a new personnel, changes of the structure of academic staff, development of personnel holding doctoral degrees); • curriculum development (new study programmes, compliance with labour market needs, regional and national demands and global trends); • promotion of research activities (regional needs, attracting funding from external sources, particularly from the EU research funds, promoting innovation); • infrastructural development (room repairs, search for new facilities, study and research equipment, library development, information technology development, etc.). **Institutional strategies can be characterised by:** • emphasis on the role of the study process because of the long term shortage of research funding; • emphasis on compliance with national educational market demands rather than global or EU market demands; • less emphasis on the need to attract state budget funding for specific programmes; • little attention paid to the enrolment of foreign students; • increased emphasis on attracting EU funding.
Norway	**Rectors' Conference:** • institutions may act more like market players in research and teaching;

Country	Influence of the funding system on institutional strategies
	• long-term strategies instead of short-term dispositions. **Researchers' Association:** • promotion and strengthening of demanded educational programmes. **HEI Leaders:** • strategies will follow the "flow of money"; subjects with good student recruitment may be given priority; • strategies aimed at increasing educational quality will be adopted; • concentration on fewer subjects/programmes and research projects. **Generally:** • offer of educational programmes according to market demand and enhancement of research quality.
Portugal	The funding system is primarily based on the number of students: therefore it is important to maintain and/or increase enrolments. HEIs develop strategies to attract students: • publicity activities or marketing offices: image improvement has become a crucial success factor; • improvement of service quality (quality of students' life); • development of new courses, even if they are not related to the institution's culture or mission or to local and regional needs; • increasing the duration of courses to retain students in the institution for a longer period of time; • search for alternative sources, especially the establishment of more intensive relationships with the external stakeholders primarily in business and industry; or in some instances the increase of tuition fees to the maximum legal amount. In rare instances higher education institutions may be tempted to resort to "artificial strategies": the aim is to increase students' numbers by using certain counting modes or by increasing examination failure rates.
Slovak Republic	The new funding system led to a change in behaviour of higher education institutions; the higher education institutions became much more active as they got into the environment with the elements of competition in which they must compete for substantial part of funds from the State budget. The new funding system contributed to the fact that in some areas the development in the Slovak higher education took up desirable trend; however, at the same time, this system evoked some negative tendencies, mainly the quality of education at some HEIs can be at risk.

3.5 Stakeholders' views concerning strengths and weaknesses of the funding system

3.5.1 Strengths of the funding system

Country	Strengths
Austria	• performance orientation and creation of performance incentives;

Country	Strengths
	• improvement of planning and steering of the university value chain processes; • fostering of the quality of core tasks (*e.g.* research, teaching, third party contracts); • emphasis on relevance of basic and applied research; • enhancement of resource use flexibility; • enlargement of room for decision and manoeuvre; • 3 years budget; • increase of planning certainty; • improved efficiency of resource use; • improved resource allocation and change of historically developed resource distribution; • increase of pressures towards change and incentives for the identification of potentials of rationalisation and economies; • increase of transparency and understanding of resource distribution; • fostering of the development of profiles and core areas; • autonomous bottom-up development of profiles based on the respective strengths and capabilities; • growth of competition between universities; • improved comparability between universities on national and international level; • promotion of co-operation of universities with industry, business and other institutions.
Czech Republic	Comment: In this part the views of stakeholders except the Ministry are summarised. As it was difficult to distinguish between strengths and weaknesses of these views – the important example were the academic staff's views, which were highly inconsistent, the selected and most important views of various stakeholders were formulated here without taking consideration if they are negative or positive. **Strengths and weaknesses** **Ministry:** see item 2.3 **All stakeholders:** Stakeholders' views on funding of higher education are given by their position in the system. All stakeholders agree that it is necessary to increase overall expenditures on higher education. **Political parties:** As far as higher education policy is concerned, most party platforms offer only broad, but different contours of the preferred funding system. Some promote demand driven funding system with strong role of tuition fees, other supply driven system, basically supported from public sources. **General public:** The majority of the population sees higher education as bringing social as well as private benefits. Thus their opinions on funding are equally diversified. **Representative bodies:** **Czech Rectors' Conference** They agree in the principle with the current funding system, but they would welcome the growth in the formula and lump-sum items with relative decline in the programme funding.

Country	Strengths
	Council of HEIs Further insists on the increase of specific research budget item and distribute it as the lump-sum and calls for more attention to student accommodation. The criticism relates too light weight of quantitative criteria, organisation of research funding and too many research funding providers. **Academic Staff** Considerable part of academic staff did not have any definitive view on the funding system; many respondents in our survey were not able to assess the system or its components as either positive or negative. As regards the different components of the funding system, the formula funding was viewed most negatively. The most positively evaluated mechanism was the targeted research supports. Staff members tend to be more negative towards funding system in general, but more positive when it comes to details. Senior academics are more positive the junior academics.
Denmark	**Education** Majority of stakeholders assess the Taximeter positively and think that it has clear advantages. Despite some shortcomings no better system has been found yet. 25% of respondents disagree that the system functions well. 1/3 state that it should be replaced by another system. 2/3 state that the system could be improved and should be supplemented by other mechanisms. 35% think that the system reduces examination standards, while 44% think that this is not the case. **Research** *Basic grants:* 28% of respondents do not think that the basic grant ought to make up a larger proportion of the total funding. 68% state that there ought to be a stronger link between scientific production and funding. 72% think that there should be a stronger link between reaching of contract objectives and funding. Basic grants are assessed to be important for: budget security, long term planning, structural changes, quality of basic research, flexibility concerning new research areas and innovations. *External grants:* 50% of the respondents think that if the proportion of competitive funds increases, there is a risk of political steering of research. 28% do not think so. 2/3 think, that an increased proportion of external funding leads to more short term employment and problems with long term planning of research and staffing. Competition is seen to raise quality when grants are given to broad areas and in large shares. The Danish National Research Foundation is viewed to be popular with its large, long term allocations, bottom-up approach and the selection of research areas. Competition results in focussing on relevance and applicability and is seen as positive alternative to internal funding. It also strengthens co-operation.
Germany	Paradigm change towards new public management concepts is viewed to be positive. The same holds for global budget, definition of strategic goals and target agreements. Autonomy, increased responsibility, financial controlling and monitoring, annual performance reporting to Parliament and Ministry as well as cost transparency are assessed to be strengths and have to be further developed. Ministerial view: contracts protect funding against cuts. Pluri-annual funding results in higher stability and independence from external influences (*e.g.* elections). Contract negotiations ensure commitment and involvement of the parties. Higher education institutions start negotiations from a "safe position" Autonomy is increased. "Management at arm's length" via target agreements – under conditions of scarce resources – is viewed to be efficient. Internal agreements combined with a performance oriented fund allocation model are a promising concept. In general, the withdrawal of the state from centralised governmental management and increased competition between universities, in principle, is viewed to be positive (however,

Country	Strengths
	also the downsides are recognised).
Ireland	**Old system:** Concerns over transparency, lack of international benchmarking, absence of direct policy signals (*e.g.* access, research). The OECD review team invited submissions from a wide body of interests. Some of the more important submissions to the OECD are summarised here and give an **indication of stakeholders views:** The Committee of Heads of Irish Universities (now Irish Universities Association IUA) strongly advocated "that the conclusion of the OECD that "the art of policy making will in future involve ensuring that public goals are met in higher education through influence rather than direction should inform the Government's approach to the development of the Irish Higher Education". Their submission also stated that "The current practice and philosophy of annual budgets are the antithesis of good planning and damaging to the achievement of all stated and shared objectives". How universities are to be resourced to meet national objectives is a public policy issue. Over-dependence on state funding limits the university autonomy and its ability to act strategically, flexibly and responsively". Also" a flexible and strategic financing model is needed. It should specify outcomes expected, incorporate incentives for national priorities (to replace targeted funding), provide the means for effective macro-management of the system and provide for the balance between autonomy and accountability that empowers institutions and their staffs to take the initiatives necessary to develop and sustain excellence in higher education". The Council of Directors of the Institutes of Technology recommended that a single agency for all higher education charged with oversight of (higher education)policy be established, including planning and implementation. Such a structure will be able to provide the coherence and strategic thrust required. Its perspective will be that of demand rather than supply and its culture should facilitate responsiveness and flexibility. All public funding of higher education should be aligned with the objectives of national policy and disbursed by the proposed single agency. A funding structure based on a unit cost model, multi-annual funding cycles and a medium and long term programmes of capital expenditure should be developed. Higher education should be stimulated to internationalise its services. The Department of Education and Science in its submission to the OECD review group and in its response to the HEA consultation paper emphasized the clearly acknowledged importance of higher education as a leader in driving Ireland's economic development. It said "Future Government public expenditure policy will have to balance many competing long-term and short-term social and economic objectives ….."Particular reference was made to the need to take account of wider policy issues around achieving and maintaining equity of access and developing and protecting overall capacity for meeting national skills needs. While the new RGAM is at an early stage, it has been generally welcomed by all parties. There are issues of detail that need to be further developed with the universities (*e.g.* specific detail on how courses are classified into one or other of the price groupings, definition of student numbers etc). The development of the model will necessitate on-going consultation with all stakeholders.
Latvia	• The tuition fee system makes the higher education more accessible. • Tuition fees are subject to tax advantages. • Study loans offer students financial support (full- and part-time studies).
Norway	**National Committee:** • promotion of self-regulation (market steering); • improvement of the HEIs' capacity for planning and rational operations. **HEI leaders:**

Country	Strengths
	• establishment of study modules enhances the ability to exploit the academic breadth of the university; • boosting of university funds in the long run; • establishment of new courses to attract students; • criteria for allocation of research funding based on the number of publications increases the transparency of research production; • enhances internationalisation of research. **Faculty:** • It is considered a strength that the resources increasingly are allocated according to quality of the research. **Main points:** • promotion of market steering; • improvement of capacity for planning; • increase in the quality of research and higher education; • growth of institutional budgets; • allocation of resources according to research quality and the number of students.
Portugal	The funding formula for teaching is viewed as an adequate methodology to calculate the distribution of government funding. It promotes equity and transparency in resource allocation between higher education institutions (see also "weaknesses").
Slovak Republic	**Strengths of the current funding system are as follows:** • economic management enabling transparency and assessment of real economic state of higher education institutions in a standard way; • existence of clear and univocally defined rules of allocation of subsidies from the state budget to higher education institutions; • transparency of the system of allocation of subsidy from the State budget to higher education institutions; • concrete measures motivating higher education institutions to increase their activities in educational and research areas; • regular increase of subsidies from the State budget to higher education; • specific support for development in selected areas and mechanism of central development projects; • support of access to higher education by the system of social scholar-ships; • existence of motivation scholarships.

3.5.2 Weaknesses of the funding system

Country	Weaknesses
Austria	• Scarce resources and lack of finances for the new legal requirements (university

Country	Weaknesses
	act 2002) result in reduced room for manoeuvre and restricted development opportunities. • Increase in administrative workload and bureaucracy. • Reduction of flexibility of resource allocation and of room for manoeuvre because of (too) scarce basic budgets. • Relatively low competitive budget compared to the basic budget. • Performance measurement based on indicators/ratios: – funding oriented at the past – incomplete picture of performance – problems with regards to research – danger of steering failures – "fictitious objectivity" • Problems of measurability and comparison. • "Economisation" of science and too strong emphasis on economic aspects. • Unfair treatment of small universities, the universities of the arts, of humanities and priority treatment of engineering and natural sciences. • Danger of neglect of research. • Danger of emphasis on teaching. • Lack of super ordinate development of core areas and lack of inter-university coordination. • Difficulties of co-operation because of increased competition between universities. • "Special funds" of the ministry weaken autonomy. • Fragmentation of funding responsibilities between 4 ministries result in parallel activities and problems of coordination and effectiveness.
Czech Republic	• General: long-term under-financing (also relative to GDP). this is seen to effect negatively the quality of teaching and research and results in a limited international competitiveness. • Ministry of Education: "The existing funding system can neither stimulate nor reflect" the ongoing and intended transformation of higher education. • The system includes obligatory consultations between the Ministry and the HEIs. In principle this is seen as strength, however, the decision-making processes are assessed to be inefficient. • Bologna process impeded by insufficient resources. • Room for improvement concerning the stability of development funding. • Little resources generated from third parties (especially for research). • Too strong emphasis on quantitative and input criteria (especially until 2005). • Increasing administrative complexity of financial management on HEIs level

Country	Weaknesses
	because of complex and imprecise rules and the earmarked funding.
Denmark	**Education** *Room for improvement:* No incentives for quality and relevance; element of competition is too limited, less popular courses are waved even if they are important from a societal perspective; low numbers of students result in negative financial effects for the years to come. Dissatisfaction with the actual rates: cuts during the last decade; lack of balance and rationale in the allocation of grants to different educational fields. **Research** *Basic grants:* No clear rationale concerning the allocation of basic grants in relation to quality and achievement of scientific contract objectives. Lacking use of performance parameters reduces incentives and limits quality assurance. Resource allocation based on historical reasons results in difficulties for younger universities to build a stronger research environment and to be competitive. *External grants:* often narrow, no promotion of innovation, some areas have disadvantages, demanding application procedures, increasing proportion limits long term planning, quality assurance is sub-optimal, marginal contribution to long term institutional objectives, focus on areas where funding is available rather than on areas with high competence, strategic management of universities is taken over by funding institutions, increased bureaucracy.
Germany	Increased autonomy results in higher uncertainty for all involved in the phase of change. Parliament's view: Loss of right to execute budget cuts, this weakens the negotiation position
Ireland	The new RGAM is an allocation model and therefore does not guarantee in-creased funding to institutions. As it is at an early stage, it is not possible to identify the weaknesses at this stage. Possible weaknesses could include: • Sensitivity in relation to student number changes. • Diversion of resources from teaching to research or vice versa. • It encourages perverse behaviour *e.g.* in relation to concentration on "cheaper" course options. May undermine existing diversity in the system.
Latvia	**Representatives from the banking sector, Study Foundation, Chamber of Trade and Industry:** • The involvement of three parties (institution of higher education, Study Foundation and the bank) complicates and slows down the loan procedure. **Generally:** • The amount of state funding and especially for research is too low. • Lack of a document describing the funding strategy of higher education. • Inequitable competitive conditions of state and private institutions of higher education. • The funding system does not encourage institutions to improve quality assurance, because the funding is not result-oriented. • Criteria for fund allocation are not clear and understandable. Future long term demands for definite specialists have not been clearly identified. • Different conditions of managing financial resources in the state (regulated by

Country	Weaknesses
	more strict provisions of budget institutions) and private (commercial legislation) institutions of higher education. • Study loans do not completely cover the tuition costs. • There is no direct contact between the bank and the institution of higher education. • No consideration of social factors when rewarding funding (incl. scholarships). • State funds support the most talented among students, but do not stimulate a greater access to higher education. • Difficulty to control and monitor financial resources effectively because of the system of financing, which is channelled through six ministries. • A transparent resource allocation system for all ministries is lacking.
Norway	**HEI Leaders:** • The indicators of the funding model do not reflect the distinctive character of small, specialised institutions (so far lack of measured results or results that are not measured by the indicators such as other types of publications, dissemination and art). • So far exclusion of other types of knowledge dissemination than academic publishing in academic journals. **Faculty:** • teaching suffers from a lack of resources; • fear that the funding model will have an impact on the academic level to pass exams; • fear, that academics who are not conducting research have to do more teaching; • the temptation to increase the number of students beyond departmental capacity will make it difficult to sustain quality; decrease of the level of scholarship – vulnerability of small disciplines; • temptation to lower the academic level required to pass exams; • other types of knowledge dissemination than academic publishing in academic journals should be considered; • teaching should be more closely linked to research. **Main points:** • vulnerability of small disciplines; • temptation to lower the academic level required to pass exams; • increased protectionism as departments try to retain students; • incentives to improve external dissemination have not yet been included; • teaching suffers from a lack of resources; • students' level of knowledge hampers teaching; • teaching should be more closely linked to research.

Country	Weaknesses
Portugal	**General view:** insufficiency of government funding of HEIs. **Polytechnics** perceive themselves as victims of a discriminatory system receiving less funding than universities. Need for full implementation of the Autonomy Laws. The dependency on government is perceived as hindering a better HEI management. The implementation of a multi-annual model is suggested in order to increase efficiency. The **funding formula for teaching** lacks transparency with examples of bad application and inadequate standard values. It depends excessively on students' numbers and other criteria should be applied (students' real cost, results of teaching quality assessment, research quality, faculty qualification). There are various proposals as to changing and improving the formula model.
Slovak Republic	**Weaknesses of the current funding system from the point of view of its principles and rules consist in:** • Despite the regular increase of subsidies from the State budget to higher education in recent years their overall amount has been still insufficient. • The system does not contain efficient possibility to prevent tendencies of decreasing the quality in the areas that make up inputs to the system (motivation to decrease demands on students in entrance procedure, throughout the study as well as in its conclusion, motivation to decrease demands at habilitation and nomination procedure). • The initial introduction of coefficients for personnel demand and economical demand in single fields in 2001 was justified; the higher education system has undergone since then the development on the basis of which it is necessary to re-assess the above coefficients; there is no method avail-able yet on how to do it; likewise, there are no grounds on setting the size of coefficients through which to distinguish the weight of student in individual levels of higher education; having solved the financing of artistic higher education institutions, the problem of artistic faculties or study fields in the field of art in non-artistic higher education institutions still remained open. • The system of indicators used at assessment of research makes more advantageous the economically demanding areas in which higher amounts of funds are allocated within the framework of grants for re-search projects. • Non-addressed provision of contributions for housing from the point of view of individual students (the need of support for concrete students is not taken into account, those who will not get the housing in dormitories and must care for it by themselves, will not get any support), as well as from the point of view of higher education institutions (higher education institution will get a contribution for housing of its students to the extent of housing capacities).

3.6 Other results

Country	Other Results
Austria	----------
Czech Republic	----------
Denmark	Strong indications that major changes will be implemented in the near future. There is no overall, precise reform model for the funding system, but there are several defined areas:

Country	Other Results
	The Danish Government announced that a higher proportion of funding should be allocated based on performance parameters: basic grants will be linked to the development contracts, a higher proportion of the research funding will be allocated based on competition. Higher emphasis will be given on evaluation. The Taximeter-System will be simplified substantially. Tuition fees are intended to be increased. An important issue is the overall funding level of higher education: the Barcelona objective of 3% of GDP for research and development by 2010 is subject to debate. Institutional key stakeholders expressed dissatisfaction with the level and the rate of funding and the progress towards the Barcelona objective for the years to come. A merging process of universities and government research institutes is in progress and is expected to be fully implemented in spring 2007. The aim is to strengthen education as well as research, sharpen the profile and improve the competitive edge of Danish universities.
Germany	Constitutional demand for the maintenance of higher education institutions implies that strategic competences remain with the state. In order to increase autonomy adequate reporting and controlling systems must be introduced. The new system is expected to support sustainable international competitiveness despite decreasing budgets. There is also seen the danger of the imprudent use of new public management Instruments if it is not known how these instruments can improve the system. Target agreements not necessarily are always efficient, transaction costs can be very high. Problems are also seen regarding the precise formulation of objectives. Compared to European top universities the German higher education system suffers from under-financing, higher numbers of students and worse student-staff ratios. The proportion of basic funding to be used without any restrictions is decreasing as compared to programme-related funding. Several states introduce tuition fees.
Ireland	As the new Recurrent Grant Allocation model (RGAM) is at a phasing in stage it is not possible at this time to document the strengths and weakness of the new system.
Latvia	The existing system of taxation does not have any significant effect on the development of the higher education system.
Norway	----------
Portugal	The large majority of academics tend to agree with the idea that teaching is dependent both on students background and the interest/priority teachers put in this activity. They also support the idea that financial resources should be allocated based on the quality of research and on the number of students.
Slovak Republic	----------

3.7 Conclusions and general trends

Country	Conclusions and general trends
Austria	• The basic conception and design of the funding system in the main is (very) positive. • Budget allocation on a three year basis is (very) positive. • The instrument of performance agreement, in principle, is (very) positive.

Country	Conclusions and general trends
	• The formula based budget part is assessed in a very differentiated way. • The allocation of state funds based on a review system for some areas of performance as, for example, basic research, is an appropriate instrument. • The measurement, assessment and control of university core tasks, in general, are viewed to be very difficult challenges. • The instruments mix of accounting/reporting is too manifold. • The intra-university design of budget allocation based on the same principles as the funding system is effective. • The basic funding of the 21 Austrian universities is state responsibility. • A budget volume increase of basic and competitive budgets is demanded. • The relative increase of the state competitive fund as compared to the basic budget is effective and desirable respectively. • Tuition fees are effective, the amount should be differentiated based on different study areas. • The increase of third party funding is positive: it results in an opening of the universities and more intensive competition. • The turning away from a "cameralistic" state accounting system is, in principle, positive. The development process towards private business principles of planning, steering and control is difficult.
Czech Republic	• Increase in proportion of contractual financing (with respect to formula funding). • The principle aim is to achieve, by 2008, the level of expenditure on higher education amounting to 1% of GDP. • More focus on output in comparison of input in budget mechanisms allocation. • More focus on quality by introduction of new mechanisms of evaluation in both teaching and research. • Introduction and development of public – private partnership. • Improve access to higher education for disadvantaged (social, health). • Complex focus on socio-economic situation of the students.
Denmark	• The funding system is in a phase of transition. There have been recent reforms, there will be reforms in the near future. • In general, the present system is assessed to be positive and having clear advantages. • The principles of the Taximeter – System are seen to be functional, the concept of Basic Grants and External Grants for funding research is – in principle – seen to be effective. • However, there are not only intended effects and strengths, also unintended effects and weaknesses or room for improvement can be identified. This includes besides strategic and operational issues in teaching and research funding the overall level of funding of higher education institutions.

Country	Conclusions and general trends
Germany	• All "Länder" have several years of experience with models of performance and capacity related fund allocation. • Parameter models are used for the external funding as well for the university-internal budget allocation. • Target agreements are main governance instruments between Governments and universities resulting also in high requirements concerning responsibility and transparency. • Decentralisation is perceived to improve efficiency and effectiveness of the universities. • Appointment policies are viewed to be major strategic instruments fixing financial decisions in the long term. • Cost and activity based accounting have become important instruments for steering and control.
Ireland	The new Recurrent Grant Allocation Model is being phased in over a three year period in the university sector, from 2006 – 2008 and at a later date for the institute of technology sector. While it is at an early stage, overall it has been well received by all stakeholders. During the phasing in period, there will be on-going consultation with the institutions on the detail of the model and following from this it is anticipated that the model will be further developed and refined. Once implementation of the RGAM is complete, institutions will have responsibility for setting out, in a strategic way, how they will address key internal and national policy issues. It will also be their responsibility to set institutional tar-gets and it will ultimately be their success or failure in reaching those targets that will determine their level of funding. Institutions will be supported in developing and implementing new approaches and it is those that are most innovative which will benefit most.
Latvia	• The rapid growth of the higher education sector in Latvia became possible due to growing demand for higher education, the increase in number and type of educational facilities. • The introduction of a tuition fee system has made higher education more accessible. A significant turning point in the development of higher education is the establishment of a study and study loan programme. The lending process must be simplified. • The mechanism of normative allocation of state budget has resulted in a more stable academic development planning. Increasing student numbers in combination with scarce budgets are a problem. • There exist different conditions for state and private institutions – all players in the market should have the same general conditions. • The existing tax system does not promote involvement of business sector to support the higher education system. • A transparent resource allocation system regarding higher education development for all ministries is lacking.
Norway	The main feature of the Norwegian funding system of higher education is a performance-based system. Almost half of the institutional block grants are allocated according to the number of credits and publications produced. There are formal explicit relations between the funding model and the national higher education policy, as the funding model is part of a comprehensive reform of higher education and is seen as a means of improving quality and efficiency. Both intended and possibly unintended impacts of the funding model are currently being

Country	Conclusions and general trends
	discussed by the different stakeholders. According to the RC and HEI leaders, the funding model provides strong incentives to ameliorate production in higher education. There are several **unintended effects**, such as a reduction in the academic quality of both research and educational programmes and the structural impact on small institutions and disciplines. Faculty fear unintended effects in terms of a decrease in the knowledge required to pass exams. The effects upon faculty's distribution of their time seem limited, as half of the faculty report that they invest more time in teaching and 10 per cent say that they invest more time in research activities. The effects upon research also seem limited since international publishing and the amount of funding received for research are only impacted slightly. External dissemination and funding appear to be impacted to some extent. Concordantly, so far, the funding model seems to influence the production of education while having a limited impact on research activities. In the view of the stakeholders, the funding system influences **institutional strategies**. They expect the incentives it provides to encourage institutions to increase the quality of their educational programmes and research and to implement more structural changes. They believe, however, that it may produce unintended effects and that the consequences have to be monitored. In the view of the stakeholders, the new funding model has both **strengths and weaknesses**. Among the strengths are: promotion of market steering; improvement of planning capacity; increase in the quality of research and higher education; growth of institutional budgets; allocation of resources according to research quality and the number of students. The weaknesses perceived include: vulnerability of small disciplines; temptation of lowering the academic level required to pass exams; reduction of budgets as a consequence of student mobility; increased protectionism as the departments try to retain students; incentives to improve external dissemination have not yet been included; teaching suffers from lack of resources; the students' level of knowledge hampers teaching; teaching should be more closely linked to research.
Portugal	• Funding formula in general is seen as being positive and adequate in a period of higher education system expansion. At present this has come to an end and there is a tendency to pay increasing attention to quality and efficiency. There are needs for formula adaptation to new contingencies. • At government level there is a move to introduce an accreditation system and to promote the internationalisation with a focus on quality. • HEIs must use their earned income for investments not included in the approved development plan: therefore, they have to look for alternative funding sources. Strategic management and increasing autonomy have become crucial factors. • There are tendencies to discriminate institutions due to their re-search quality rather than teaching performance. Since students' numbers are declining government seems to be inclined to keep constant the total funding for teaching and to increase research funding.
Slovak Republic	• (1) In addition to still insufficient amount of funds for higher education from State budget, the most remarkable problem of the funding system appears to be the problem of quality. In the most evident form it is the effort of higher education institutions to recruit and maintain the highest possible number of students up to their successful completion, even at the account of decreasing the requirements. The system should contain efficient tool how to prevent tendencies for decreasing quality. Theoretically, this system does contain an obstacle to these tendencies: the Accreditation Commission has a capacity in such events to intervene and initiate a new accreditation of the given activity. Practical effect of this possibility, however, is null today. • (2) To the problem of decreasing quality it is necessary to point out though that the system does not command to higher education institutions any decrease of quality, admission of excessive number of students and their retention, cost it

Country	Conclusions and general trends
	what it may, just to receive more funds; it is their own decision by which they breach intentionally their duties. • (3) The problem of balanced system of indicators for research performance is not sufficiently resolved at the moment. But the major problem of some higher education institutions in the field of research does not rest in improving the system, but in the fact that their performance in research is unusually low. The same refers to PhD study. • (4) As regards the further development, we are convinced that the selected principles of the funding system are correct and need not to be changed. It is necessary to carry out a detailed review of results of the current application of the system and on its basis to supplement the system and improve its implementation.

3.8 General design and study goals

Country	General design and study goals
Austria	Identification of main stakeholders and Academic Directors of scientific units within universities (Faculty, Institute, Department, Senate) 70 personal interviews with stakeholders, on-line-questionnaire for Academic Directors: contacted 1.432, 27 % response rate
Czech Republic	• **Study design:** policy and strategic documents on the state and institutional levels, secondary research (date from various research surveys), research publications, electronically collected data from survey among academic staff, consultations of the decisive stakeholders • **Study goals:** describe funding systems, asses strong and weak points, international comparisons, share of examples of the good practice
Denmark	**Combination of different research methods:** • policy analysis (based on legislation, political statements, etc.); • document analysis (based on available analysis' and stakeholder opinions published in the press or elsewhere); • statistical analysis; • in-depth interviews with key stakeholders; • survey data (survey among university employees and stakeholders).
Germany	The study concentrates on 4 "Länder" (Baden-Württemberg, Bavaria, Berlin, North Rhine-Westphalia) and 3 decision-making levels (universities, ministries of sciences and research, parliaments). The Bavarian State Institute for Higher Education Research and Planning organised a conference where the individual decision makers (chancellors, heads of the university departments, chairmen of the higher education commission) gave a talk based on the key questions. Furthermore the speakers were asked to hand in written reports; two of the decision-makers were asked by telephone interview.
Ireland	Ireland was in the unique position of having just completed a consultation process on the introduction on a new funding model. At the same time, an OECD review of Ireland's higher education system was taking place. Both of the above processes provided the consultant engaged to write the country report with ready made submissions from the full range of stakeholders. Accordingly Ireland did not need to issue questionnaires or conduct interviews.

Country	General design and study goals
Latvia	Interviews with and a survey (sample of 34 representatives of state higher education institutions and 7 from private higher education institutions) among main stakeholders, analysis of statistics, policy documents and legislation.
Norway	In-depth interviews with leaders and faculty of 3 HEIs, faculty survey (sample of 3.400 faculty members, 60,3 % response rate) and a stakeholder survey, document analysis of national policy documents and documents from 5 HEIs.
Portugal	The research design includes data from interviews conducted in four HEIs and with the Directorate for Higher Education, a survey of academics holding a PhD degree and a stakeholder survey. 29 stakeholders (from universities, polytechnic institutes and the ministry) have answered an on-line questionnaire about the issues of education and research financing. The survey of academics holding a PhD degree at HEIs was conducted using a sample of 5000 academic members from the totality of public universities and polytechnic institutes; 3120 persons answered the questionnaire, which corresponds to a response rate of about 62%.
Slovak Republic	Coincidentally, the elaboration and presentation of the Study within the IMHE Project is overlapping with the end of one important 7-year period in the development of Slovak higher education. So the Study is a document describing the results of this period and it was done with this goal in mind as well.

4 COUNTRY REPORTS – EXECUTIVE SUMMARIES

This overall report includes the executive summaries of all country reports.

Country Study Austria
Franz Stehl, Sabine Reisinger, Michael Kalatschan
Institute of Strategic Management, Johannes Kepler University Linz

Country Study Czech Republic
Pabian Petr, Melichar Marek, Šebková Helena
CHES - Centre for Higher Education Studies, Prague

Country Study Denmark
Evanthia Kalpazidou Schmidt, Kamma Langberg, Kaare Aagaard
Danish Centre for Studies in Research and Research Policy, University of Aarhus

Country Study Germany
Lydia Hartwig
Bavarian State Institute for Higher Education Research and Planning

Country Study Ireland
Mary Kerr
Higher Education Authority

Country Study Latvia
Krumins Juris, Kavale Lucija, Eglite Sandra, Leduskrasta Zane, Puce Juris, Sloka Biruta, Stonis Janis, Zaksa Kristine (all University of Latvia), Rivza Baiba (Higher Education Council)

Country Study Norway
Nicoline Frølich
NIFU STEP – Studies in Innovation, Research and Education

Country Study Portugal
Alberto Amaral, Maria João Rosa, Diana Amado Tavares a
CIPES – Centre for Research in Higher Education Policies

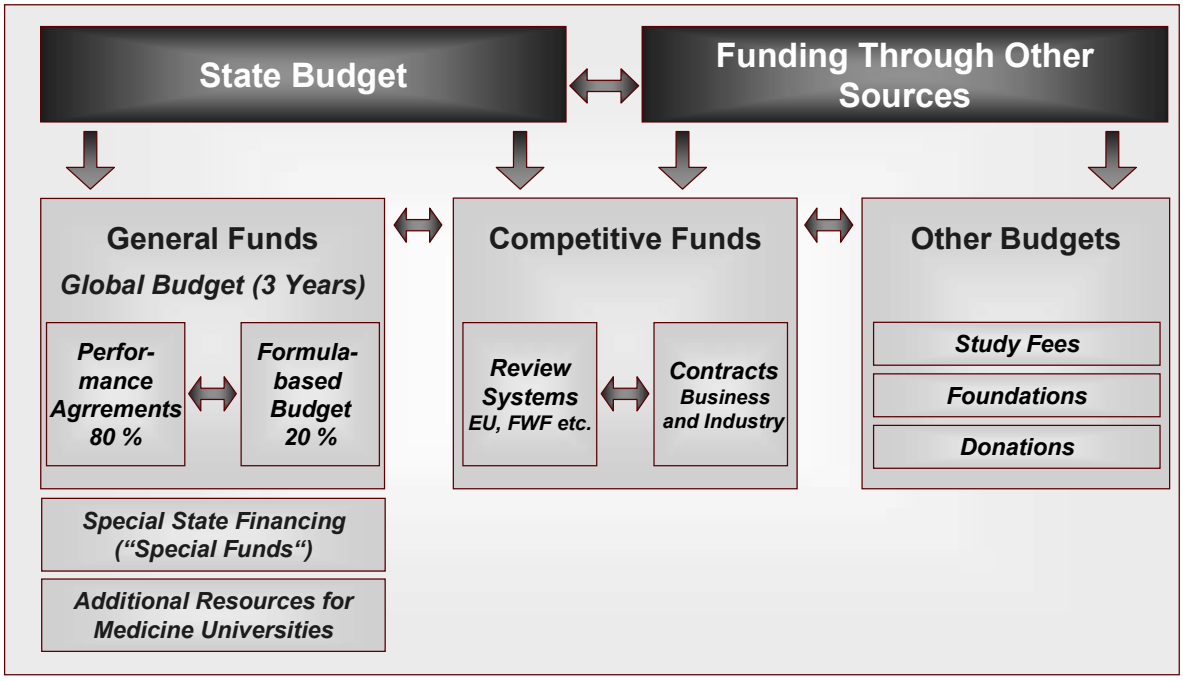
Country Study Slovak Republic
Peter Mederly
Ministry of Education

COUNTRY STUDY AUSTRIA

In Austria[1] there is a wide range of higher education institutions in the post-secondary and tertiary education.[2] In addition to 21 public universities there are 18 Fachhochschulen, numberous colleges as well as 11 private universities. The Austrian study refers to the Austrian public university system (84 % of students, 93 % of Federal Funds).[3] At this point in time the implementation of the overall Austrian university reform is under way and experiences with and information on the new funding system vary to a high degree.

The funding system is depicted in a simplified way in figure 1:

Figure 1: **Funding system of Austrian universities (simplified illustration)**



The study results are based on a set of 70 personal interviews of representatives of all institutions being affiliated with the university system and responses of 380 heads of scientific university units (*e.g.* faculties, departments, institutes) who completed online questionnaires. This way, all representatives of institutions that are affiliated with the Austrian public university system who have respective knowledge have been included in this study.

The Austrian University Act of 2002 is the basis of the fundamental and complex reform of the university system. Major goals are the increase of autonomy and responsibility of the universities and the improvement of their efficiency and effectiveness.[4] Autonomy and hive-off of the Federal system are accompanied by new management concepts and instruments as especially global budgets, performance agreements, reporting based on private sector business law and new roles and responsibilities for the universities and the Federal Ministry for Education, Science and Culture.[5]

The results provide a differentiated picture of strengths and weaknesses of the funding system and of its actual and expected effects on the university system, the universities themselves and their core tasks and performance. Because of the heterogeneity of the statements no clear and unambiguous relationships

between the views and the affiliation to a stakeholder group can be identified. This holds as well for the membership of an organisation (*e.g.* university, ministry) as well for the function within an organisation (*e.g.* university council, rectorate). In a similar way this also holds for a grouping of the views according to the dimensions of discipline, university size and age, regional location, etc.[6]

A summary of views and opinions shows the following key results:

- The basic concept of the funding system is mainly positive.
  - The three year global budget is very positive and results in positive effects.
  - Performance agreements as steering instruments, in principle, are positive. However, there is scepticism concerning the future concrete design and management of this instrument.
  - The formula based budget is assessed in widely differing ways, from being "very positive" to "very negative".
  - The feasibility of measurement, assessment and control of university core tasks in general or for specific core tasks are very difficult challenges.
  - There are too many instruments of accountability and reporting that result in increased work loads for universities (main instruments are: private sector book keeping, performance reports, financial reports, intellectual capital statements). The instruments are assessed in very differentiated ways ranging from "very positive" to "very negative".
  - The allocation of state funds for specific tasks (in addition to the basic state budget) via peer reviews is an appropriate concept to foster these activities.

- The major strengths and weaknesses of the funding system are the following:

Strengths	Weaknesses
• performance orientation and creation of performance incentives; • improvement of planning and steering of the university value chain processes; • fostering of the quality of core tasks (*e.g.* research, teaching, third party contracts) • emphasis on relevance of basic and applied research; • enhancement of resource use flexibility • enlargement of room for decision and manoeuvre; • 3 years budget: increase of planning certainty; • improved efficiency of resource use; • improved resource allocation and change of historically developed resource distribution; • increase of pressures towards change and incentives for the identification of potentials of rationalisation and economies; • increase of transparency and understanding of resource distribution • fostering of the development of profiles and core areas; • autonomous bottom-up development of profiles based on strengths and capabilities; • growth of competition between universities; • improved comparability between univer-sities on national and international level; • promotion of cooperation of universities with industry, business and other institutions.	• scarce resources and lack of finances for the new legal requirements (university act 2002) result in reduced room for manoeuvre and restricted development opportunities; • increase in administrative workload and bureaucracy; • reduction of flexibility of resource allocation and of room for manoeuvre because of (too) scarce basic budgets; • relatively low competitive budget compared to the basic budget; • performance measurement based on indicators/ratios; – funding oriented at the past – incomplete picture of performance – problems with regards to research – danger of steering failures – "fictitious objectivity" • problems of measurability and comparison; • "economisation" of science and too strong emphasis on economic aspects; • unfair treatment of small universities, the universities of the arts, of humanities and priority treatment of engineering and natural sciences; • danger of neglect of research; • danger of emphasis on teaching; • lack of super ordinate development of core areas; lack of inter-university coordination; • difficulties of cooperation because of increased competition between universities.

- Austrian universities are funded to a high degree (> 90 %) by Federal Government.

  – There is a demand for an increase of state General Funds (Basic budget – negotiated in the performance agreements, 80% of the total budget and the formula-based portion, 20%) and for state Competitive Funds (Austrian Science Fund - FWF). Budget increases in recent years have not been perceived as such.

  - In addition, a relative increase of Competitive Funds as compared to General Funds is useful and desirable.

  - The increase of "Third Party Funding" (European Union, industry), in principle, is positive: it results in more open universities (towards business and society) and in increased competition between universities.

  - Study fees are effective, the amount should be differentiated based on different study areas. They are a significant contribution to the university budget.

- The orientation of intra-university funding modes at the overall funding system in principle is functional and effective.

- The overall funding system is useful to support the achievement of university goals.

  - Main university goals are: emphasis on high quality in teaching, research, development and exploitation of the arts (universities of the arts), medical treatment (universities of medicine) and societal responsibilities. All these goals are defined in an international context. In general, the increase of efficiency and effectiveness and the implementation of the new management instruments (as laid down in the University Act of 2002) are seen as major overall goals and challenges.

  - The goals of university reform are supported and promoted by the funding system (increases in responsibility and autonomy of universities, improvement of efficiency and effectiveness).

- Universities start to think and act in strategic ways.

  - All universities develop new strategies focusing on the development of strategic profiles and of core areas (in teaching and research).

  - In the system there is a sense of a "new era" and "intention to change".

  - The implementation of private business accounting principles and modes of planning, steering and control is difficult and time consuming.

  - The transition away from cameralistic state accounting system and budgeting modes, in principle is positive.

- First effects of the new funding system on the university system, the single universities themselves and their core tasks are visible already:

  - Depending on interests and perceptions of the interviewees these effects are assessed to be positive or negative: this refers especially to the effects on goals, objectives and tasks, decentralised steering instruments and private business sector principles and instruments.

  - The affiliation of the stakeholders interviewed to a specific institution and their role and position within this institution have little or no effects on their assessment.

  - Expected effects are frequently related to desired or feared effects of this not yet profoundly tested system in practice.

– The stated and expected effects are manifold as shown in the following table:

Positive effects	Negative effects
• development of strategic profiles and core areas (teaching and research); • increased autonomy; • increasing performance orientation and competition between universities; • enhanced internationalisation; • increased efficiency through sensible and prudent resource allocation; • increased effectiveness through performance orientation; • improved output, productivity, research quality and teaching quality; • innovative and practice oriented studies and curricula; • improved transparency concerning the use of resources; • just and fair budget allocation, change of historically grown budgets; • enhanced liquidity, viability and cost consciousness; • increasing third party contracts; • improved cooperation of universities with business, industry and other institutions.	• "mainstream orientation" of universities and their core tasks; • too narrow strategic profiles (core areas); • loss of variety in research and teaching; • danger: close down of studies not in demand at present or expensive ("unprofitable") studies; • neglect of basic research and basic development and exploitation of the arts in favour of practice oriented and applied research (third party funding); • negative steering effects through (wrong) indicators; • lower quality of research and teaching; • loss of autonomy through increased dependence from external principals (third party funding); • internal centralisation and expansion of administration; • increased administrative burdens at the expense of research and teaching; • reduced coordination (harmonisation) between universities because of increased competition.

– With respect to the major reform goals of the Austrian system mainly positive effects are anticipated for the near term.

Results indicate differing and also contradicting views concerning design alternatives. Change requirements primarily refer to the simplification of the funding instruments and the improvement of the contingencies under which the universities operate and the increase of room to manoeuvre. A large majority of interviewees favours a phase of stability.

NOTES TO COUNTRY STUDY AUSTRIA

1. Detailed background information about the Austrian Higher Education System can be found *e.g.* at the internet website of the Federal Ministry for Education, Science and Culture: http://www.bmbwk.gv.at.

2. Kasparovsky and Wadsack, 2004

3. Dillinger-Paller and Schifko, 2006

4. Bundesministerium für Bildung, Wissenschaft und Kultur, 2005

5. Kasparovsky and Wadsack, 2004

6. Due to the fact that the new funding system is implemented currently the knowledge and experiences regarding the new funding system and its elements differs and may influence the assessment.

COUNTRY STUDY CZECH REPUBLIC

1. Introduction

This paper starts with a brief description of the Czech higher education funding system. It outlines the role of the main actors in decision-making process as well as the mechanisms used for allocating public expenditures that constitute a lion's share of the overall higher education expenditures. The main part of the paper consists of the presentation of the views of the most important stakeholders in the Czech higher education system: political parties, Ministry of Education, representative bodies of HEIs (including their students) and academic staff.

2. Funding system description

The decision-making power in the area of the higher education funding rests almost exclusively with the Ministry of Education. However, the ministry discusses all funding decisions with the representative bodies of higher education institutions – Czech Rectors' Conference and Council of HEIs. Since the higher education policy and funding have not become an area of consensus across the political spectrum, political parties may significantly influence funding policies.

This paper focuses exclusively on the public funding of public HEIs, which comprise more than 90 % of students and a great majority of them obtain more than 90% of their income from public sources. About half of public expenditures are distributed as a lump sum while the other half is earmarked. Input-oriented mechanisms predominate in the budget over the output criteria, constituting roughly three quarters of the budget. The same ratio applies to the share of formula versus non-formula funding. The main portion of the teaching grant is based on a formula while the smaller portion on contracts. In contrast, the largest share of research support takes the form of project funding whereas formula funding constitutes only its smaller part.

The most important changes to the funding system in the recent years have been firstly, the increase in importance of contractual and earmarked allocation mechanisms at the expense of the formula-based teaching funding and secondly, a considerable growth of the share of research support in the overall higher education budget.

3. Stakeholder views on the funding system

3.1 Political parties

All political parties call for an increase of public expenditures on higher education. Left-wing political parties (Communist Party, Czech Social Democratic Party, Green Party) prefer the preservation of the current supply-side model of predominantly public funding distributed to HEIs. One of the left-wing parties, the social-democratic party, has controlled the Ministry of Education between 1998 and 2006. In contrast, right-wing political parties (Christian Democratic Party and Civic Democratic Party) advocate the introduction of student fees and other means of private expenditures as significant features of the funding system. The support of the left-wing and right-wing parties is almost evenly distributed in the population.

3.2 General public

According to recent surveys, about half of the population does not have a clearly developed opinion on higher education funding: significant part of respondents thus express their support for public provision of free higher education, but at the same time assert that it should not be completely free. Anyway, most respondents assign to higher education the lowest priority among other areas of public policy.

3.3 Ministry of Finance

According to the current delineation of competences, higher education funding is within the competence of the Ministry of Education. The Ministry of Finance thus refrains from any official stance on the issue.

3.4 Ministry of Education

Ministry of education considers funding the most important instrument of implementing its higher education policy goals. It mostly relies on the contractual and earmarked funding mechanisms to implement its policy goals. Correspondingly, it has recently raised the share of these items within the higher education budget as part of the overall increase of higher education expenditures in an effort to reform the higher education system.

Nevertheless, the ministry considers the possibility to use the funding system for indirect steering in the direction of government policy priorities to be its major strength. Among other strengths the ministry counts the correspondence of the funding arrangements to international developments (multi-source financing as well as the mixed formula/contractual financing), diversity of allocation mechanisms and budget resources, transparency, inclusion of quality criteria and respect for institutional autonomy. On the other hand, the long-term underfunding counts as the prime weakness, accompanied by a lack of long-term contractual funding, low efficiency of resource utilisation, increasing administrative complexity, and low private expenditures on higher education.

3.5 Representative bodies of HEIs

Both of the HEIs' representative bodies, Czech Rectors' Conference and Council of HEIs, would prefer an increase of the formula-based and lump-sum budget items in the context of an overall increase of public expenditures. They pay considerably less attention to the potential sources of private funding.

3.6 Czech Rectors' Conference

The rectors approve in principle of the current funding system, but call for the strengthening of its formula and lump-sum components (both on teaching and research). This should take place as a part of a significant increase of public expenditures intended to compensate for the long-term underfunding of public HEIs. Because of this und3erfunding has the funding system failed to achieve its intended effects and even negatively affects quality of both teaching and research.

Other funding policy priorities, although considerably less prominent on the conference's agenda, are the introduction of qualitative criteria into the funding system (*e.g.* the number of graduates in the teaching formula) and the potential private sources of funding (*e.g.* demanding that the state eliminates tax obstacles to private investments).

3.7 Council of Higher Education Institutions

The council has called for significant growth of public expenditures in general and of the formula and lump-sum mechanisms (on both teaching and research) in particular. In contrast, the contractual budget items should either remain stable or grow only moderately. The council also criticised too great reliance of the funding system on quantitative criteria as leading to a rapid growth of enrolments and thus endangering the quality of graduates. It thus proposed to reinforce output measures and to introduce new qualitative criteria into funding mechanisms. In addition, the council urged the government to support multi-source financing of public HEIs by changing the pertinent legislation.

3.8 Academic staff

More than any of their representative bodies, the majority of academic staff members are dissatisfied with the current funding system, criticising it for distributing insufficient resources; for being non-transparent, unfair and complicated; and finally, for endangering quality. When asked, quite a large number of respondents failed to find even a single strength of the current funding system. In addition, a considerable part of academics probably do not have any definite view on the funding system, because many respondents were not able to assess the system or its components as either positive or negative.

Professors, associate professors and academics in governance positions hold considerably more positive views on the funding system than academics in the lower ranks of the academic hierarchy.

3.9 Student Chamber of the Council of Higher Education Institutions

The student representative body concentrates on issues involving students. Student representatives oppose student fees as contradictory to the constitutional right to education and therefore advocate state's central role in higher education financing. In addition, they call for the introduction of student loans to help the students to cover their study-related expenses, for the transformation of student-related expenses (*e.g.* accommodation and meals) to direct grants to students and for the equal eligibility of students at private HEIs to these grants. Their further demands include an increase of doctoral scholarships as well as of specific research and mobility funding.

On a more general level, student representatives hold that the Czech funding system should combine both formula and contractual mechanisms to prevent expansion of enrolments at the expense of quality. Preference for public funding does not prevent student representatives from supporting multi-source financing: non-profit foundations and private companies should become more interested in supporting teaching activities at public HEIs while the state should facilitate private expenditures especially by adapting the tax legislation.

4. Conclusions

Our review of stakeholders' views on higher education funding suggests their strong correlation with the position in the higher education system. The central stakeholders in the Czech higher education system, the Ministry of Education and the representative bodies of HEIs, accept the current framework of funding arrangements, but seek to shift the balance between the system components in order to strengthen their influence. While the Ministry of Education prefers contractual and earmarked mechanisms as means to implement its policy priorities, representatives of HEIs favour formula-based and lump-sum funding that enhances their financial stability and autonomy. This resulted into a compromise between these two actors: while the share of contractual and earmarked funding has been steadily rising in the past decade, the mechanisms most preferred by the ministry have reached only 7% of the budget.

The results of our academic staff survey shows that the support for the current system among academics is considerably lower than among their representatives. Two factors explain this tension: Firstly, the positive assessment grows with the growing rank in the academic staff hierarchy as well as among academics involved in institutional governance. Secondly, the representatives are nominated by HEIs' official bodies and most of them come from the rank of professors and associated professors. Other surveys have also shown that professors and associate professors display significantly more satisfaction than those at the bottom of the academic hierarchy. Obviously, senior academics are able to influence the system to be more responsive to their interests.

Student representatives accept the current funding system as well because their priority is to secure predominantly public funding of higher education and thus to avoid student fees. However, they do not oppose charging fees from students enrolled in continuing learning courses, as these students are not represented in the student representative body.

This reliance on public funding is in line with the position of the Czech left-wing political parties; one of them, the Czech Social Democratic Party has controlled the Ministry of Education in the 1998-2006 period. The only call to significant challenge to the current funding system thus comes from outside the system, mostly from the right-wing political parties (Christian and Civic Democrats) and from several public finance and public policy experts.

All stakeholders nevertheless agree on the necessity to increase public expenditures as a precondition to implementing any significant changes. This suggests that the expenditures on higher education must reach a certain critical (as perceived by the actors) level for the funding system to have any significant impact on the higher education system. Bellow this critical level, all expenditures would presumably be spent on the maintenance of status quo irrespective of the funding mechanisms through which they are delivered.

5. Study design and methods

The study is based primarily on two types of data:

- The chapters on political parties, Ministry of Education and representative bodies of HEIs rely on content analysis of their policy documents.

- The chapter on academic staff is based on survey of more than 500 academic employees of public HEIs. Quota sampling was based on the data about the numbers of academic employees of various positions in all public higher education institutions.

COUNTRY STUDY DENMARK

1. Types of higher education institutions

Denmark has three types of higher education institutions (HEIs) administered by three different ministries. There are 12 university institutions operational under the current University Act. Some are multi-faculty institutions covering many disciplines and some are specialised in specific fields. A second group of HEIs consists of a large number of non-research based institutions offering tertiary educations. Finally, there is a third group of 20 institutions offering tertiary educations within the sphere of culture. Among these a few offer educations on master level, conduct research and have established PhD-schools. The higher education institutional structure is in the process of transformation. The Government wishes to reduce the number of institutions by merging universities and public research institutions. The aim is to strengthen education as well as research, sharpen the profile of Danish universities and improve their competitive edge. The merging process is expected to be fully implemented in spring 2007.

2. Types of higher education funding

Funding of teaching and research are separated in Denmark. In general, the most important source of funding for HEIs is the subsidies provided for by the state in the annual appropriation acts (Ministry of Science, Technology and Innovation, 2003a).

Funding of education – the taximeter principle: Danish higher education receives funds from the Ministry of Education to provide education through the taximeter system, which links funding directly to the number of students who pass exams. The teaching component is based on a unit-cost principle, where an amount of money is paid to the university for each student who passes exams. The taximeter varies substantially between different fields of study and the current tariffs are predominantly historically determined. There is, however, no direct link between subsidies and consumption. Because of principles of lump sum granting and the self-governing nature of the institutions, universities are free to re-allocate their funds between education, research and joint expenses. The principles and incentives of the taximeter principle are thus reflected to varying degrees (Ministry of Science, Technology and Innovation, 2003a).

Quality assurance is achieved through different mechanisms. The Danish Evaluation Institute (EVA) performs regular evaluations of the educational programmes. A negative evaluation has no direct financial consequences for the institution, but in principle the Minister can intervene if performance is not improved. Another important counterforce to the erosion of academic standards is the system of external examination.

Funding of research at HEIs: Denmark has a two-tier system for resource allocation to research. The first tier is the basic grants from the Financial Act allocated by the different ministries directly to the institutions. The second tier comprises resource allocation from the National Research Councils, strategic research programmes, foundations, R&D funds from the different ministries and private funds.

The basic research grant is allocated as a lump sum to institutions. The level of the basic grant is to a very large extent calculated on an incremental basis. Basic grants are not earmarked for specific research purposes. Contrary to most of the other grants and sources of income of the universities, basic grants are allocated to research as a predominantly non-specific activity related funds.

In addition to the basic grants, the universities have considerable revenues partly in the form of subsidies from research councils, the EU, private foundations and donations, etc., partly in the form of

operating income obtained in return for services they have sold on market terms. Both groups of revenues are dependent on performance as the size of these revenues is directly related to the ability of institutions to attract subsidies from external sources in competition with other research institutions and to sell services on market terms. In 2004, app. 35 percent of the total research funding was external funding. The level of the external grants varies between the different research areas with health, technical and natural sciences attracting the greatest share. In addition to these sources of external grants, funding can also be achieved from private funds, firms and organisations. In 2004, app. 13 percent of the total research funding came from private funds, firms and organisations (Danish Centre for Studies in Research and Research Policy, 2006).

3. Formal, explicitly stated interrelationships between the funding system and national higher education policies

In Denmark, there is no straightforward link between the funding system and the institutional strategies. The universities sign development contracts with the Ministry of Science, Technology and Innovation. However, a university development contract is not a legally binding document and differs from a classic development contract in the sense that there is no automatic relationship between reaching the set targets and the grants awarded. But even though, there is no direct link between the funding system and institutional strategies, the funding system has an impact on institutional strategies in several ways. Firstly, the taximeter system steers the institutions towards the preferences of the students and secondly, the earmarking of competition funds for research forces the institutions to focus on politically prioritised research areas.

Funding of education: The intention of the taximeter system – linking money to student activities - is to give HEIs an impetus to demonstrate user-friendly behaviour towards the students. In order to achieve the highest grants, universities need motivated and qualified students that pass their exams and complete their education in the period of time prescribed for their studies. Key-arguments for the system have been: to promote efficiency and to induce educational institutions to become more results-oriented and customer-focussed; to link the allocation of grants to educational production; to avoid erosion of standards; to implement a system that is simple, fair, transparent and automatic and finally to promote quality-competition among HEIs (Ministry of Research and Information Technology, 1998).

Funding of research: The basic grants are research appropriations allocated to secure the core research activities of HEIs. Basic research grants are allocated on the basis of considerations such as budget-stability, freedom of research and historical traditions. Budget stability enables institutions to plan and steer the research activity. However, a small part of the basic grants are already now activity-dependent and further changes in the direction of increased activity-dependency can be expected in the near future.

A number of overall targets for the allocation of external grants were stated in relation to latest reforms: to ensure quality of research through open competition; to simplify the organisation and structure of councils, bodies and especially programme committees to provide researchers with a better overview of application options; to ensure with a stronger management that strategic research is implemented on its own terms and that cross-disciplinary efforts within all areas of research are taken into consideration; to continue to ensure support of basic research activities and at the same time ensure support of strategic, application-oriented research (Ministry of Science, Technology and Innovation, 2003b).

4. Intended and unintended effects of the funding system on higher education and on the core tasks teaching and research

Funding of education – intended and unintended effects of the taximeter principle: The taximeter principle is primarily a funding system, which means that the quality of education should be safeguarded by other measures (Ministeriet for Videnskab, Teknologi og Innovation, 2004). Nevertheless, the debate on quality in Denmark is often linked to the taximeter system.

A number of evaluations of the taximeter system have been performed in the last decade. Main conclusions in the period from 1995 to 2005 have been that no negative trends could be found in evaluations of the study programmes. On the contrary, the Danish Evaluation Institute has actually found that the system has resulted in more focus on student needs and a more open attitude towards students' suggestions (CPB, 2001; Undervisningsministeriet, 2000, 2001 & 2005; Ministeriet for Videnskab, Teknologi & Innovation, 2004).

Funding of research – intended and unintended effects: Basic research grants secure the institutions long-term planning and steering of activities. Furthermore, the basic grants enable institutions to initiate research, which cannot achieve support elsewhere. Basic grants enable the institutions to maintain buildings, infrastructure, etc. through periods of falling revenues from other sources. However, the Danish allocation of basic grants has been criticised for lacking direct incentives for efficiency, societal relevance and impact. Another weakness of the system is the fact that there are no mechanisms assuring that the funding finds the way to the institutions where the highest quality is being produced.

The second tier of research funding, the external grants, has several intended effects. Competition is expected to raise accountability, efficiency and quality, and by earmarking some of the grants there is a possibility of directing research, not only towards certain areas, but also towards certain operational principles such as inter-, pluri- and transdisciplinarity. However, it has also been emphasised that the current allocation system of external grants has several unintended effects. A weakness has been that researchers have had to deal with a complex and non-transparent system. The main aim of the most recent reform of the appropriations system was to attain a simplified and strengthened structure. Whether this objective has been achieved is disputed (Kalpazidou Schmidt, 2006a and 2006b).

Other unintended effects have in particular been identified in relation to the earmarked funds: strategic research programmes may neglect basic research when funding systems prioritise politically defined research areas. The increased time spend on applications and reporting is another unintended effect as well as the feeling of a constant re-orientation towards shifting short-term targets (Floris, 1995: 6-7). It is also argued that the competition in connection with narrowly defined research programmes is often too limited in a small country like Denmark, resulting in lower research quality. This creates uncertainty as regards the quality and legitimacy of the programmes (Aagaard, 2000). Finally, it is argued that external grants, due to low overheads and requirements of co-financing, tend to tie the basic grants and thereby limit strategic decision making of HEIs.

5. Stakeholders' views concerning strengths and weaknesses of the funding system

Based on a large amount of collected data including more than 2500 faculty members from all the Danish HEIs answering an on-line questionnaire, 50 survey-answers received from key stakeholders, a number of in-depth interviews, official documents and various types of published material from a broad group of stakeholders, viewpoints concerning strengths and weaknesses of different aspects of the funding system of HEIs have been identified. The survey was conducted during 2005 and 2006. A combination of quantitative and qualitative data has been used.

Funding of education: The quantitative data from the survey reveal that the majority of the stakeholders are positive towards the taximeter principle as such. However, app. 1/4 of the respondents disagree with the statement that the taximeter system functions well. Likewise app. 1/3 of the respondents agree with the statement that the taximeter system should be replaced by another system. Finally, app. 2/3 of the respondents agree with the statement that the system could be improved and should be supplemented with other mechanisms. With regards to the question of whether the existing system forces the institutions to reduce the standards with regards to exams, 44% of the respondents disagree with this statement, while 35% agree.

The patterns in the quantitative data are largely supported by the qualitative data. In general, the majority of stakeholders are positive towards the taximeter principle as such. It is emphasised by many that the system has clear advantages as it states direct demands to institutions on quantity and indirect demands on quality issues. Despite its shortcomings several stakeholders mention that a better system yet has to be presented. However, the stakeholders also point to a number of problems in relation to the present system, and the general viewpoint is that there is room for substantial improvements. It is in particular emphasised that there are no direct incentives to pursue quality and relevance; on the contrary some state that the system has opposite effects. It is also underlined that the element of competition is (too) limited, not least as a consequence of lacking information for students. This weakens the incentive mechanisms. Furthermore, the system tends to fail less popular courses, which nevertheless are important seen from a societal perspective. Last, but not least, there is significant dissatisfaction with the actual rates. The basic rates have been cut repeatedly during the last decade, but in recent years, removed funds have been returned to the universities in another allocation form. Stakeholders emphasise also the lack of balance and clear rationale in the allocation of the rates between different educational fields.

Funding of research: *Basic grants:* The quantitative data from the survey show that only 28% of the respondents disagree with the statement that the basic grant ought to make up a larger proportion of the total funding. At the same time, however, a large majority of the respondents (68%) agree with the statement that there ought to be a stronger linking between scientific production and funding. Likewise 72% of the respondents agree with the statement that there ought to be a stronger linking between achieving objectives of university development contract and funding.

The qualitative data support the quantitative data. The stakeholders emphasise the importance of basic grants for budget security and long-term planning as well as for structural changes and the quality and outcome of basic research. It is also underlined that basic grants allow flexibility in relation to changing conditions and adaptability to new research areas and innovations. Nevertheless, a number of stakeholders also point to problems with the existing allocation of basic grants. It is in particular emphasised that the rationale in the allocation of basic grants in relation to quality, scientific production or achievement of contractual objectives is unclear and that lack of use of performance parameters weakens existing incitement mechanisms and limits quality assurance. It is also stated that allocation of resources based on historical reasons makes it difficult for newer universities to build a stronger research environment and be competitive.

While the stakeholders agree on the above mentioned general viewpoints, there are some differences in opinions with regard to the optimal balance between internal and external funds. The HEIs are not surprisingly more in favour of a large share of basic grants, than external stakeholders. The Danish Rectors Conference underlines that the basic grants are the foundation of strategic actions and the fundament of the ability of institutions to offer a broad spectrum of education throughout the country. Furthermore, they argue that a share of basic grants is tied to co-financing of external projects, so that in reality the amount of free funds is more limited than assumed. This observation is supported among others by the Danish Advisory Council of Research Policy. However, there is a general openness among all stakeholders

including the HEIs themselves to the idea of linking allocation of basic grants to performance parameters, even though many acknowledge that the formulation of these parameters is a very complex task.

External grants: The quantitative data from the survey reveal that half of the respondents agree with the statement that if the proportion of competition funds increases there is a risk for political steering of research. Similarly app. 2/3 of the respondents agree with the statement that an increased proportion of external funding leads to more short-term employment and problems with long-term planning of research and staffing.

The qualitative results of the stakeholders study concerning the competition funds are mixed, and do not completely support the scepticism noticed in the quantitative data. In general the importance of competition is recognised, but as the quantitative data indicate, the proportion of this measure and the terms and conditions related to it are highly disputed. On the one side, the majority of stakeholders point to a number of advantages in relation to the use of competition grants. It is argued that competition (a) raises quality, when grants are given to broad areas and in large shares; (b) enables higher attention on relevance and applicability; (c) offers an alternative possibility of funding for research, which cannot be funded internally and finally (d) strengthens collaboration.

The stakeholders also draw attention to a number of weaknesses in relation to the existing system. It is argued that competition grants often are (too) narrow in scope and do not promote originality, creativity and novelty; that not all scientific areas have the same possibilities of attracting competition funding and that applying for competition grants is very resource demanding. It is also argued that an increasing proportion of competition grants limits the possibilities of long-term planning and that there are major problems with the embedment of such funds. Finally, according to stakeholders, such grants often contribute only marginally to achieving long-term institutional objectives because universities get forced to focus on areas where funding is available rather than on areas where they have a high competence. This trend may well move the strategic management of universities from the institutions to funding agencies and organisations.

6. The future of the Danish funding system

There are strong indications that further major changes targeting the funding system of HEIs will be implemented in the near future. The Danish Government has recently presented an ambitious Globalisation Strategy (Statsministeriet, 2006). A number of recommendations in this strategy focus on the existing funding system:

- From 2008 basic funding of universities will be based on evaluations of the institutions' ability to reach objectives given in a development contract. The quality of university research will be evaluated by international, independent, expert panels and a "quality barometer" for research based on internationally acknowledged indicators will be established.
- Universities will develop concrete goals as regards the use of R&D in society.
- Universities will compete annually for large, long-term, research projects.
- More funding will be allotted to strategic research of importance for the development of society.
- 50 percent of public R&D funding will be competitive by 2010 (as opposed to 1/3 today).
- Public R&D investments will reach 1 percent of GDP within 2010.

Furthermore, the Government intends to simplify the taximeter system substantially. It is though worth noticing, that one of the most criticised aspects of the taximeter system – the difference in rates between different educational areas - has been given no attention. In addition to these Government statements, a high profile Commission of Welfare has very recently proposed changes towards greater tuition fees (for foreigners) and stronger incentives in the allocations from the State Educational Grant and Loan Scheme, which is the most generous among the OECD countries.

Also the institutional structures are in the process of transformation. The Government presented a plan to reduce the number of institutions by merging universities and government research institutes. The aim is to strengthen education as well as research and thereby sharpen the profile of Danish universities and improve their competitiveness (Statsministeriet, 2006).

7. Conclusions

The current Danish system with the taximeter system, the basic grants and the external grants as the three main sources of funding for the HEIs, has a number of strengths and weaknesses and a number of intended and unintended effects.

The taximeter principle as such is by the majority of stakeholders perceived as fairly well-functioning. It is underlined by many that the system has clear advantages in the fact that it states direct demands on quantity and indirect demands on quality. However, the stakeholders also point that there is room for substantial improvements. It is in particular emphasised that there is a problem with the actual taximeter-rates. First of all, the basic rates have been repeatedly cut during the last decade (some of these funds have though been returned to the HEIs in other forms of revenue) and secondly, there is a lack of balance and clear rationale in the allocation of rates between the different educational areas.

The basic grants are perceived as the most central part of the funding system. In general, the perception among stakeholders is that the basic grants provide budget security and enable long-term planning. In addition, the basic grants enable structural changes and give the possibility to institutions to be flexible and adaptable to changing conditions. At last, these grants are important for the quality of basic research. Some stakeholders also point to problems with the existing allocation system of basic grants and in particular with the lack of use of performance parameters. Another important unintended effect is the apparent large share of basic grants tied to co-financing of external projects. Accordingly, the factual amount of free funds at HEIs is more limited than assumed.

Finally, the analysis reveals a number of advantages and disadvantages in relation to the use of competition grants. It is acknowledged that competition raises quality, when grants are given to broad areas and in large shares and that competition enhances applicability and collaboration. However, competitive grants are often too narrow in scope and do often not promote innovation, creativity and reflection. It is argued by many that an increased proportion of competition grants (as it is expected to be introduced in the near future) will limit the possibilities for long-term planning for the HEIs and force them to focus on areas where funding is available rather than on areas where the institutions have a high competence. A consequence might well be that strategic management of the universities will be moved from the institutions to the funding agencies.

REFERENCES TO COUNTRY STUDY DENMARK

Aagaard, K. (2000), *Dansk Forskningspolitik – Organisation, virkemidler og indsatsområder, Rapport 2000/9*, Analyseinstitut for Forskning.

CPB Netherlands Bureau for Economic Policy Analysis and CHEPS (2001), *Higher Education Reform: Getting the Incentives Right*, CPB Netherlands Bureau for Economic Policy Analysis, The Hague, and CHEPS, Enschede, The Netherlands.

Danish Centre for Studies in Research and Research Policy (2006), *Forskning og udviklingsarbejde i den offentlige sektor 2004: Metode og datagrundlag Institutionsliste*, Danish Centre for Studies in Research and Research Policy, Århus, Denmark.

Floris, T. S. (1995), *De strategiske forskningsprogrammer og deres afsmitning på grundforskningsmiljøerne*, AKF Forlaget, København.

Kalpazidou Schmidt, E. (2006a), "Higher Education in Scandinavia", in Forest, J. and P. G. Altbach (Eds.), *International Handbook of Higher Education, Part Two: Regions and Countries*, Springer, New York, pp. 517-538.

Kalpazidou Schmidt, E. (2006b), "Management of Knowledge and Organizational Changes in Higher Education: The New Danish University Act", *International Journal of Knowledge, Culture and Change Management*, Vol. 5, No. 3, p. 147-156.

Kalpazidou Schmidt, E. (2004), *Research and Higher Education in the Nordic Countries – A Comparison of the Nordic Systems. Working Paper 2004/3*, The Danish Centre for Studies in Research and Research Policy, Århus, Denmark.

Ministeriet for Videnskab, Teknologi og Innovation (2003), Lov om forskningsrådgivning m.v. 29. January, Copenhagen, Denmark.

Ministeriet for Videnskab, Teknologi og Innovation (2004), Forenkling af bevillingssystemet på Universitetsområdet; Taxameterudvalgets rapport, Copenhagen, Denmark.

Ministry of Research and Information Technology (1998), *Governing and Management of Universities in Denmark*, Ministry of Research and Information Technology, Copenhagen, Denmark.

Ministry of Research and Information Technology (1998), *Funding of Higher Education*, Ministry of Research and Information Technology, Copenhagen, Denmark.

Ministry of Science, Technology and Innovation (2003a), *Danish Universities – at the Brink of Transition – Background report to the OECD examiners panel*, Ministry of Science, Technology and Innovation, Copenhagen, Denmark.

Ministry of Science, Technology and Innovation (2003b), *Act on Universities of May 28, 2003 (Translation) Explanatory notes*, Ministry of Science, Technology and Innovation, Copenhagen, Denmark.

Rektorkollegiet (2003), *Universitetsuddannelser for Fremtiden*, København.

Statsministeriet (2006), *Fremgang, Fornyelse og Tryghed*, København.

Undervisningsministeriet (2000), *Taksteftersyn: Hovedrapport og bilagsrapport*, København.

Undervisningsministeriet (2001), *Taxametersystemet for de videregående uddannelser; Rapport fra Undervisningsministerens Idé- og Perspektivgruppe*.

Undervisningsministeriet (2005), Styringsanalysen – analyse af uddannelsesområdets styringssystem, København.

COUNTRY STUDY GERMANY

1. Main Features of the higher education system

As per March 2006, Germany had a total of 1.9 million students and 334 **state and state-approved higher education institutions** that are of different profiles: 117 **universities**, 159 **Fachhochschulen** (universities of applied sciences), and 58 **colleges of art and music**.[1] Solely universities and equivalent institutions of higher education have the right to award the doctorate (Promotion) and a post-doctoral qualification to teach in higher education (Habilitation). Research (particularly basic research) and the promotion of junior academics are also distinctive features of universities.

According to the German Constitution (Basic Law) the **higher education system** in Ger-many is, in principle, a matter that the individual **federal states (Länder)** are responsible for autonomously. Because of this so called principle of state sovereignty in cultural affairs, the legal position of the higher education institutions, their financing as well as the instruments of governance and management are regulated by the respective higher education acts of the Länder. The universities are incorporated in the state administration as public corporations - this particularly concerns budget, economic and staff matters. Their **annual budgets are part of the Länder budgets,** which are adopted by the respective Länder parliaments.

The great majority of funding for higher education is provided from **public sources**. As the institutions of higher education are public institutions of the Länder, consequently, their current expenditure for research and teaching (salaries, material and operating costs) are being primarily funded through the Länder budgets. Costs for larger investments such as buildings and large scale scientific equipment have been shared so far between Bund and Länder at fifty per cent each as part of the joint task of construction in higher education. Recently, a lengthy debated reform of federalism has been adopted by the parliament with the aim to de-merge the competences between Bund and Länder. As a result, the Länder will receive no funds for large investments from the Federal Government in future.[2]

In recent years, the ideas of new public management (NPM) have been gradually adopted in higher education in Germany. New public management in German higher education focuses on a model of governance that ensures autonomy at decentralised level, but assures that central targets are achieved via competitive business instruments.

In consideration of the fact that Germany is a federal state and that the individual federal states (Länder) are responsible for funding higher education, the national study for Germany has to be based on the individual higher education systems of the Länder. The German study[3] describes the funding and governance structures in **four Länder** within the Federal Republic of Germany with different political and financial conditions: the territorial states **Baden-Württemberg, Bayern** and **Nordrhein-Westfalen** and the city state **Berlin**. Out of those Länder four traditional, research oriented universities with high student numbers were chosen as reference points: The **University of München** (Bayern), the **University of Heidelberg** (Baden-Württemberg), the **University of Münster** (Nordrhein-Westfalen) and the **Free University Berlin**. All these universities are among the ten major universities in Germany. In this context, the study concentrates on three main groups of stakeholders and decision-makers: the university chancellors, the heads of the university departments in the ministries of sciences and research in the respective Länder and the chairmen of the higher education commissions in the respective Länder.

2. Formal, explicitly stated interrelationships between the funding system and national higher education policies

In all Länder included in the study and beyond, the following instruments are used to establish a relationship between funding and strategic objectives of national higher education policies: **higher education pacts** or contracts have been concluded between governments and universities. They grant planning security for the time of an election period, whereas, in return, the universities committed themselves to financial cuts to a greater or lesser extent; in some Länder, these funds are being reinvested into the higher education sector for strategic purposes. The planning security is appreciated highly by the universities in times of declining public budgets. By globalising the university budgets and making them more flexible, the Länder delegate responsibility in financial matters to the institutions. In addition, a large number of competences on behalf of staff, appointments, examinations and internal management are assigned to the universities.

All Länder have some years of experience with models of **performance and capacity-related allocation of funds**. The part of the budget varies what is allocated according to parameters. Universities also use parameter models for their internal fund allocation. In particular the appointment policy of the universities is considered as an important instrument to manage resources because it fixes financial decisions from strategic aspects on a long term. Furthermore, target agreements are used as instruments of governance between Land and universities. Some universities already have positive experiences with target agreements between university board and faculties. Because more financial autonomy and planning security results in high requirements for responsibility and transparency, the universities implement cost and activity accounting. In addition, standardised reporting systems are being developed.

3. Stakeholders' views concerning strengths and weaknesses of the funding systems

Ministries withdraw from many areas of centralised financial governance and management in order to obtain better results in higher education policy. The shift from an input-oriented model of detailed governmental management to an output-oriented model is characterised by the use of **target oriented funding based on performance parameters** and the introduction of instruments of business administration such as **target agreements** and **cost and activity accounting**. Most Länder are in a state of changeover. The old instruments do not work as before and the new ones are currently being implemented. From the point of view of the ministries, the cooperation between the state and the universities in the process of reform will facilitate the adoption of new government instruments as well as an effective use of funds. However, the state is aware that it must not replace centralised governmental management by detailed input requirements when implementing the new instruments (*e.g.* target agreements). More responsibility for the universities has to be associated with less exertion of influence by the state.

The **parliaments** have approved the way the state withdraws from centralised governmental management. They retain the duty to **provide a legislative framework**. However, the scope of Parliaments decrease by the time they withdraw from detailed governmental management. In parts, the loss of strategic competences is being regretted because the state remains the main source of finance of the higher education institutions. As the universities are funded by public resources, the state is also responsible that finances are being used in an economical way and that universities assume responsibility for this. Hence, universities are requested to give an annual report on the attainment of the stipulated goals and the use of their resources.

The **universities** appreciate the new form of "distant governance" (arms length governance) and make better use of their financial resources by implementing new models of internal fund allocation and target agreements. However, the experiences made with the new instruments are different and have to be seen in connection with the policy of the individual Land.

4. General trends

For several years, two general trends of the German finance system could be observed: On the one hand, the German higher education system suffers from **under-financing,** which becomes apparent by comparing large research oriented universities in Germany with European top universities. Moreover, the German universities have higher numbers of students and worse student-staff-ratios. On the other hand, the proportion of basic funding that can be used without restrictions is decreasing while the **proportion of programme-linked earmarked funding is increasing**. This effect contributes to split up the universities' foundation of finances and can affect the strategic aim of a research university to promote outstanding research by concentration on research and not by short-term pressure to acquire funds.

Baden-Württemberg, Bayern and Nordrhein-Westfalen will open up an additional financial source for the universities by introducing **tuition fees** up to 500 Euros per semester in 2007. Tuition fees are designed to improve student support and the range of courses offered. In the long run, ministries and universities hope to achieve more motivation of students. However, universities have to meet the challenges that are associated with the introduction of tuition fees. Apart from setting up an appropriate management they have to make provisions that grants for student scholarships and loans will be provided, and there have to be rules for exemptions. Anyhow, tuition fees will not solve the financial problem of the universities.

In the course of change from an input-oriented to an output-oriented concept of governance, the ministries of sciences increasingly take over **strategic tasks** in respect of the general framework and objectives of higher education, contractual agreements between state and universities, and counselling and support of the institutions.

NOTES TO COUNTRY STUDY GERMANY

1. Figures according to Hochschulrektorenkonferenz, www.hochschulkompass.de

2. This does not concern the joint task of funding research, which refers mainly to the large sector of extra-university research and to the central public funding organisation for academic research in Germany, the Deutsche Forschungsgemeinschaft.

3. See Beiträge zur Hochschulforschung 1/2006 for complete information.

COUNTRY STUDY IRELAND

Introduction

At the time of this OECD study, Ireland was in the unique position of having just completed a consultation process on the introduction of a new funding model. At the same time, an OECD review of Ireland's higher education system was taking place. Both of these processes provided ready made submissions from the full range of stakeholders. Accordingly Ireland did not need to issue questionnaires or conduct interviews to prepare this report. Ireland's country study, therefore, focuses on the "old system" of recurrent funding for universities and its effects, the "new system" and its intended effects as well as the reasons for changing the system.

National background

Ireland has a higher education system primarily funded by the State. Over 90% of students in higher education in Ireland are in institutions of a public nature, *i.e.* they are established under laws specifically relating to higher education. The public system is binary, with a university sector and an institute of technology sector. They are long established, one being over 400 years old, others trace their original establishment back 150 years, (the two most recent were established in 1989). The Institutes date, in the main, from 1970 though some have their origins in 19th century foundations.

The universities charge significant fees to postgraduate and part-time undergraduate students. Until 1995 the same position applied in relation to full-time undergraduate courses. The Government then decided to introduce free tuition fees for full-time undergraduate students (EU) and to recompense the higher education institutions for fee income thereby foregone. In both sectors the State is almost the sole provider of funds, accounting for between 80 and 90% of total institutional income. Even when fees were charged to undergraduate students the proportion of income provided by the State never fell below 70%.In 2006 the HEA will have funding responsibility for the whole of the higher education sector.

Changing management structures and culture in Irish higher education

The present OECD/IMHE study on funding systems and their effects on higher education has been undertaken at a time of great change in this area in Ireland. A momentous change in regard to the arrangements for the funding of institutes of technology in which nearly half the total number of students in Ireland are enrolled is about to take place. It is intended over time that these institutions will move from a system of financing based on an incremental budget system to a formula based system, as used for the universities. It is intended that management will have greater responsibility and accountability and scope for entrepreneurial activity than ever before. While the existing system operating in the university sector has been broadly satisfactory, there have been some criticisms over the years. Among these is the perceived need for greater transparency in the system, increased responsiveness to national objectives and greater scope for the institutions by encouraging initiative and managerial entrepreneurship. This has resulted in a new financing mechanism being introduced in 2006 and it will be fully developed over the next few years. It parallels general government policy for the Irish public sector with an emphasis on delivering on nationally and regionally identified objectives and needs, value for money, and with an overall emphasis on developing institutions that are more strategically focused and outcomes oriented.

The Government in 2003 invited the OECD to review the Irish higher education system. The report of this expert group, published in 2004 contained recommendations of relevance to the funding system and

the Government in April, 2005 announced a number of decisions in this regard. All of this activity has contributed to the Authority's considerations of the matter and there has been no shortage of useful comment from the various stakeholders on the matter which, of course, they see as vital to their future.

Funding system 1990-2005

The HEA allocates core recurrent funding annually through a system of block grants that cover both teaching and basic research. The core recurrent funding allocation to the universities up to 2005 was informed by a formula based unit cost system, the main inputs to which are the audited financial statements and certified student enrolments of the universities. In addition, a grant is made in lieu of undergraduate tuition fees, which is based on course fees multiplied by certified student enrolments. Earmarked funding for increases in the output of graduates with particular skills deemed to be in short supply is provided in the form of a grant per additional student. A small proportion of the total amount of the recurrent funding of the universities is distributed through a Strategic Initiatives Funding scheme, which is an incentive funding scheme used to promote the development of particular policy priorities of the Department of Education and Science and the HEA. Initiatives that have been funded in the past include major initiatives to widen participation, to improve equality of access, to promote excellence in teaching and learning, to improve retention and completion rates, etc.

Institutions may allocate the funding internally as they see fit. Work on this system commenced in 1990 and it was fully operational in 1995.

Development of new funding allocation model

With the aid of a consultant the HEA reviewed the main features of the funding mechanisms used in higher education systems in a number of other countries and regions, including a critical meta-level analysis of the principles underlying them, with a view to identifying examples of best and successful practice of relevance to the system in Ireland

The Authority having considered the matter at length and in considerable detail prepared a consultative document for consideration by all the stakeholders. The proposed revised funding model had the following objectives:

- to support institutional autonomy, while providing meaningful accountability to the various stakeholders;
- to promote a strategic approach by institutions to their long-term development, consistent with their existing strengths and capabilities;
- to reward institutional responsiveness to national and regional needs;
- to support excellence in teaching, learning and research;
- to increase opportunities for students from all types of backgrounds to benefit from higher education;
- to provide positive incentives to institutions to diversify and increase their income from non-state sources, consistent with their mission;
- to provide stability in funding from year to year and encourage efficiency in the use of public funding;

- to be transparent and rational; and

- to monitor and review outcomes, but not give rise to disproportionate compliancy costs.

Using these design principles the funding framework envisaged by the HEA in its consultation paper was as follows:

"Core" funding linked to student numbers and types, but distributed on a "block" grant basis, *i.e.* the internal allocation of funds is at the discretion of the institution. Money should "follow the student". The funding rate and criteria should be relatively simple, transparent, rationally based and equitable as between institutions and reflect cost differences between subject disciplines and students categories. Some performance related elements should be included in the "core" funding formula (*e.g.* intake and output rates). Ideally these should be benchmarked against best international practice. Share of performance related funding should be sufficiently large to influence institutional behaviour positively, while at the same time it should not put at risk the financial stability of the institution.

Strategic funding to be provided in priority areas and to be allocated on a competitive and performance related basis.

In this regard the HEA proposed that about 10% of the overall block grant, possibly rising to 15% over time should be made available to support "the development of strategic long-term planning and processes" in institutions, and that this should be evaluated by an "independent assessment panel comprising both international and Irish members"

Major new initiatives to be funded on a competitive basis, *e.g.* new faculties, research programmes etc; experimental and innovative programmes to be provided, as appropriate, on a pilot basis, after which they should be evaluated and either abandoned or mainstreamed.

Finally, diversification of funding sources would be encouraged.

While this project was in train, the Government invited the OECD to review Irish higher education. The top level international team appointed by the OECD for this purpose invited submissions from a wide body of interests and it generated a considerable amount of innovative thinking from all stakeholders on the existing third-level system, including its financing. These documents were widely circulated and were of considerable help to the Authority in finalising its design of a new funding mechanism.

HEA revised funding mechanism

The Authority held a seminar in October 2004 at which the feedback from stakeholders to the consultation document and the observations of the OECD Review Group on the model were considered. This seminar afforded considerable insight into the advantages and disadvantages of the proposed model, pitfalls and gaps, and what the institutions most wanted to see in any scheme. The OECD report had stated that the model must provide implicit strategic direction for the higher education system, that the block grant mechanism should be kept as simple and transparent as possible, that the core grant should include some element for research and that there needed to be explicit recognition in the model of the importance of widening participation. At the seminar there was

agreement on the need for core funding to be associated with output measures on Access and Retention and for it to recognise research success through possible indicators such as PhD numbers, publications and research income earned. The model was finalised in 2005 and a detailed description of the

mechanism was circulated to the institutions and the Department of Education and Science. The new system was used in part in the allocation of the grant for 2006.It will be fully operational in 2008.

The following is a summary of the three separate, but related elements of the model:

- An annual recurrent grant, allocated to each institution using a formulaic approach. Clarity, transparency and fairness as to how the institutions are funded are key objectives, with uniformity of core grant funding for students in the same broad areas, regardless of the institution at which he/she chooses to study and recognition of the extra costs that arise in the case of students from certain backgrounds, *e.g.* socio-economic disadvantage, disability, mature second-chance students. Ninety-five percent of annual recurrent funding is allocated on the basis of student numbers in four broad subject weighted price groups. The remaining five percent is allocated using specific research performance criteria.

- Performance related elements, benchmarked against best national and international practice, with greater emphasis on setting targets and monitoring outputs. The HEA will reserve an element of the annual recurrent grant pending confirmation of strategic plans that are coherent with, and supportive of, institutional and government strategy, and which deliver appropriate outcomes.

- Mechanisms that will promote innovation generally, but especially in specified areas that support national strategic priorities. A Strategic Innovation Fund will be established that will be allocated to institutions on a competitive basis. The funding methodology will have specific emphasis on coherent strategies and inter and intra-institutional collaboration.

The model is being phased in over a three year period, 2006 – 2008. During this period there will be on-going consultation with the institutions on the detail of the model and following from this it is anticipated that the model will be further developed and refined.

Once implementation of the HEA Recurrent Grant Allocation Model is complete, institutions will have responsibility for setting out, in a strategic way, how they will address key internal and national policy issues. It will also be their responsibility to set institutional targets and it will ultimately be their success or failure in reaching those targets that will determine their level of funding. Institutions will be supported in developing and implementing new approaches and it is those that are most innovative that will benefit most. While it is early days in relation to the new funding model, it is already apparent that institutional strategic plans are more focused on National priorities and related targets and outcomes.

COUNTRY STUDY LATVIA

The Education Law passed in 1991 triggered radical changes in the development of higher education in Latvia. It legitimised the democratisation and decentralisation of higher education. State budget funding was shifted to full-time studies only. The Education Law enabled studies for tuition fees and establishment of private sector in education.

During 1991-2005 a number of higher education institutions and colleges grew from 14 to 57, but enrolment of students from 46 to 131 thousand. Currently enrolment in studies funded from central and local government budget constitute 23 per cent from the total enrolment. More than ¾ are enrolled in studies for a tuition fee. In addition to five state founded universities, 15 higher education institutions and 16 colleges there are 14 private higher education institutions and 7 private colleges.[1]

In 2004 the total funding of higher education in Latvia was 99.3 million LVL[2] or 1173 LVL per student, of which state budget funding was 40.8 million LVL or 1607 LVL per student. Share of higher education finding in GDP is equal to 1.3 per cent, of which state budget funding is 0.55 per cent.[3]

Latvian country study refers mainly to the Latvian public higher education institutions system. The study is primarily based on qualitative research methods. Views of different groups of stakeholders are analysed on the basis of personal interviews and focus group discussion results. Among stakeholders one could find representatives from the Ministry of Finance, Commercial banks, Ministry of Education and Science, Ministry of Economics, Ministry of Regional Development and Local Government, Higher Education Council, Employers and Students associations. Survey was performed among members of the Rectors' Council and University Professors' Association - 29 of the respondents were rectors and vice rectors, nine were department heads.

According to the Law on Institutions of Higher Education (1995) "institutions of higher education shall be financed by the founders thereof. The financial resources of State institutions of higher education shall be formed from the resources of the State general budget, as well as other income that institutions of higher education earn by performing activities for the realisation of the aims specified in the constitutions thereof"[4]. The number of study places to be financed from the funds of the State budget in an institution of higher education is determined by the Minister for Education and Science on the basis of a proposal of the Council of Higher Education.

Based on Cabinet of Ministers regulation, a normative financing principle was implemented in Latvia from the year 2002. According to this regulation, the annual funding of full-time studies is based on definite number of state funded study places for each university (this number along with the number of graduates is affirmed by a contractual agreement between rector and minister), basic cost per student and tuition cost coefficients by study fields. Students enrolled for a tuition fee may receive credit for studies. The obtained credit shall be paid back or extinguished in accordance with the procedures prescribed by the government.

The main features of the existing funding system of higher education in Latvia are:

- State budget funding is channelled through six ministries – Education and Science, Agriculture, Health, Interior, Defence and Culture.

- State budget funding forms the smallest part of income in many state institutions of higher education.

- Tuition fee revenues are significant in the financing of study programmes in social sciences and humanities. The institutions of higher education define tuition fees themselves, but students have a free choice to choose an institution and study programme.

- There are several state defined differences between state and private institutions of higher education in the management of financial and other resources resulting in inequitable operations of these institutions. Differences include accounting, real estate ownership, staffing, purchasing procedures, etc.

- State budget subsidy for research has been inadequate during the whole transition period to market economy. Assigning of funds by National Research Council is characterised by restrictions by research areas (certain areas receive no funding at all).

- The cooperative ties between universities and the private business are inadequate and irregular. The researchers' own personal initiative efforts are a key factor.

- Interviews with members of the Higher Education Council revealed following issues:

- Institutions of higher education have inequitable access to state funding because of the differences in financial resources between ministries.

- Inadequacies in existing funding *vis à vis* real costs of study programmes.

- Funding of technical, natural, and arts study programmes has for a long time been quite low and can be characterised as regressive.

- Funding has been inadequate in those specialisations that are necessary for development of national economy, and since these needs have not been assessed the available funding does not always reach its true goal.

- No information about long term market demand.

Major strengths and weaknesses of the existing funding system and development of higher education are the following:

Strengths	Weaknesses
• The funding system of higher education is continuously being improved. • Given insufficient state budget funding, the tuition fee system is developing at both state and private institutions of higher education, making higher education more accessible. Tuition fees are subject to income tax advantages. • A comprehensive study and student loan programme has been established. Graduates of higher education institutions can apply to have their loan discharged from state budget. • Scholarships awarded by the state have become bigger. • In recent years, state budget funding for research and development has increased. • After entering the European Union, the share of EU funding at the institutions of higher education has increased radically.	• Lack of unified document describing the funding strategy of higher education. Funding issues is included as part of various policies and planning documents, that are not always in agreement with each other. • The current system of awarding state budget subsidy does not encourage institutions to improve quality assurance, because the funding is not enough results oriented. • Study loans for the most part do not completely cover the tuition costs. • Inadequate funding of PhD studies. • The collaboration between institutions of higher education, employers and professional associations is weak. • Existing legislation does not encourage the participation of the employers in the funding of education of their factual and potential future employees.

Interviews with stakeholders as well as analysis of statistics, policy documents and legislation lead us to the following conclusions about the funding and its effect on the development of higher education in Latvia:

- A transparent resource allocation system regarding higher education development for all ministries is lacking. It is recommended to establish competition procedures to ensure more transparency of funding activities.

- The mechanism of normative allocation of state budget subsidy at institutions of higher education has resulted in a more stable academic development planning. However, there is no guarantee of special normative compliance with real needs of educational institutions, especially in the field of modern technologies. Increased state budget funding in the higher education sector would make create opportunity to increase number of graduate and post-graduate students.

- State budget funding support the most talented among students, but do not stimulate a greater access to higher education among the nations poor.

- Introduction of a tuition fee system has made higher education more accessible. A significant turning point in the development of higher education is the establishment of a study and a student loan programme. The lending process, however, must be simplified.

- Different conditions of competition exist for state and private institutions of higher education. All players in the market should have to comply with the same rules regarding managing of financial resources, asset management, language of instruction and rights to claim for state budget subsidy.

- The existing tax system does not promote involvement of businesses sector to support the higher education system, making it difficult for an employer to invest in the education of his employees, nor does it facilitate collaboration in education and research with institutions of higher education. All business transacted with institutions of higher education related to training or to research should qualify for tax advantages.

- The higher education funding system directly affects the institutional strategies. Market concerns are dominating more and more in strategic documents. Recently more emphasis is being placed on attracting funds via research and other projects.

- Some institutions of higher education have established foundations in order to attract additional funding. However, the results are less than satisfactory. Deterring factors include lack of experience in fundraising and a resistance to donating, both on the part of society as well as legislators.

Course for further improvements

54 per cent of principals of higher education institutions consider the present system of financing as unsatisfactory, 41 per cent rate it as satisfactory, but needing significant improvements. Only 5 per cent of the respondents feel that the present system does not need any improvements.

There is no consensus among the leadership of Latvia's institutions of higher education regarding the most appropriate system of higher education funding from the state budget. 42 per cent of the respondents feel that the state should continue to allocate budget subsidy according to determined enrolment numbers, 27 per cent feel that funding should follow the student and 23 per cent believe that institutions of higher education should be funded based on outcomes. All the private university administrators believe that funding should follow students, who choose in which institution to study. Only eight respondents feel that the state should not fund higher education institutions at all, but all students should pay tuition fees and apply for study loans.

Due to many suggestions coming from the main players on higher education market a working group to draw up a draft of the Law on Higher Education was formed by the Minister of Education and Science. That group, led by rector of the University of Latvia and composed of some authors of this study, has finalised discussions. Among expected effects from the new Law are: innovative research and practice-oriented curricula, increased performance orientation and competition between institutions of higher education, improved cooperation of higher education establishments with business, industry and other institutions. The first draft of the Law was presented on the 9th of August 2006 to the social partners, who will elaborate few innovations. The rest should be done and decided by politicians and parliamentarians.

NOTES

1. Education institutions in Latvia at the beginning of the school year 2005/2006. Statistical Data Collection. Riga: CSB, 2006, pp. 11, 58.

2. 1 LVL is approximately equal to 1.4 EUR.

3. See: Reports on higher education of Latvia at http://www.izm.gov.lv.

4. (1995) *The Law on Institutions of Higher Education*, November 2, Section 77 (1)

COUNTRY STUDY NORWAY

In 2002 a new funding model for higher education was introduced in Norway in response to concerns about the cost effectiveness of higher education, and with the aim of stimulating student progression and enhancing the development of new, attractive study programmes. Promoters of the reform viewed the previous funding system as the cause of structural imbalance between research funding and education funding. In their opinion research funding had been far too closely linked to education and the number of students, allowing for too little discretion in the separate funding of research according to its particular needs and considerations. To some extent the new funding system separates the funding of research and education within institutional block grants (UFD 2005: 74).

This report sums up intended and unintended effects of the new funding model on higher education and on the core tasks of teaching and research[1]. The term "effects" refers to the impacts of the model as perceived by various stakeholders. The report sums up the present points of view concerning the funding model.

Several data sources have been applied: document analysis, in-depth interviews and survey data. The empirical basis consists of written documentation collected during the spring 2005 from the Ministry of Education and Research and five HEIs. In-depth interviews with leaders and faculty at three HEIs were undertaken. The faculty survey was conducted in the spring 2005; the sample consisted of 3,400 faculty members from a representative sample of universities and university colleges. Two thousand persons answered the survey, which corresponds to 60.3 per cent of the sample (Michelsen and Aamodt 2006). Finally, a stakeholder survey (autumn 2006) of informants from the Ministry of Education and Research, Ministry of Finance, Rectors' Conference, Researchers' Association, Quality Assurance Agency, and rectors and directors of the HEIs was conducted. The Rectors' Conference, Researchers' Association and 17 of a total of 36 HEIs took part in the stakeholder survey.

The main feature of the Norwegian funding system of higher education is a performance-based system. Almost half of the institutional block grants are allocated according to the number of credits, graduates and publications produced. In addition to the performance-based allocation mechanisms, slightly more than half the institutional block grants is a historic component. There is however differences both between the institutions and, depending on the institutional allocation models, inside each institution as well concerning the performance-based share of the budget.

There are formal explicit relations between the funding model and the national higher education policy, as the funding model is part of a comprehensive reform of higher education (the Quality reform) and is seen as a means of improving quality and efficiency together with several changes introduced as part of the reform (inter alia a new degree system and new commitments to quality assurance).

The Norwegian funding model has recently been approved and is still being developed. There have been both changes in the model originally approved as well as new performance parameters being included in the model or being under consideration.

The Norwegian stakeholders consulted for the purpose of this investigation do perceive both strengths and weaknesses of the funding system. Several impacts, both intended and unintended are currently discussed.

Both intended and possibly unintended impacts of the funding model are currently being discussed by the different stakeholders. According to the Rectors Conference and HEI leaders, the funding model provides strong incentives to ameliorate production in higher education. There are however several unintended effects as perceived by the stakeholders, such as a reduction in the academic quality of both research and educational programmes and the structural impact on small institutions and disciplines. *Inter alia* faculty fear unintended effects in terms of a decrease in the knowledge required to pass exams. The effects upon faculty's distribution of their time seem limited, as half of the faculty in the faculty survey report that they invest more time in teaching and 10 per cent say that they invest more time in research activities. The impacts upon research also seem limited since international publishing and the amount of funding received for research are only impacted slightly according to faculty's answers on our survey. External dissemination and funding appear to be impacted to some extent, measured in terms of the faculty survey. Concordantly, so far, the funding model seems to influence the production of education while yet having a limited impact on research activities as it is measured when asked if the reform has made faculty devote more time to research activities or made them publish more internationally. However, since the national funding model did not include a performance measure of publications until 2005, these answers cannot directly be linked to the funding model. They should rather been interpreted as a response to the total reform as well as seen in the light of the institutional allocation models in which several of the institutions have developed performance measures of research.

In the view of the stakeholders, the funding system influences institutional strategies. In the stakeholder survey they expect the incentives the funding model provides to encourage institutions to increase the quality of their educational programmes and research and to implement more structural changes. The stakeholders believe, however, that it may produce unintended effects and that the consequences have to be monitored. Possible unintended effects include an increase in the number, not necessarily the quality, of publications, or the emphasis on publishing resulting in mainstream research being given priority, rather than more critical research. In addition, the funding model could lead to greater focus on popular and inexpensive courses. Also, the quality of the educational programmes could be called into question, as focus is directed towards increasing credit production. Finally, it is reported that HEIs could be penalised for not achieving the results measured by the indicators of the model, and at the same time not receive remuneration for results that are not measured.

In the view of the stakeholders, the new funding model has both strengths and weaknesses. Among the strengths are: promotion of market steering; improvement of planning capacity; increase in the quality of research and higher education; growth of institutional budgets; allocation of resources according to research quality and the number of students. The weaknesses perceived include: vulnerability of small disciplines; temptation of lowering the academic level required to pass exams; reduction of budgets as a consequence of student mobility; increased protectionism as the departments try to retain students; lack of resources for teaching; teaching hampered by the students' level of knowledge; and finally a closer link of teaching to research should be established.

To conclude, Norway has a performance based funding system that is newly introduced and still being developed. The system is part of comprehensive reform of higher education. Several intended and unintended effects are currently discussed. The main theme of this discussion is the questions whether the model promotes quality and at which costs. The funding system is seen as influencing the institutional strategies – the main question discussed by the stakeholders is if it makes the institutions more responsive. A complex picture of strengths and weaknesses are reported by the stakeholders – their main theme is if the model increases quality in addition to quantity, and if it increases quantity.

BIBLIOGRAPHY TO COUNTRY STUDY NORWAY

AHO (2004a), *Strategisk plan. Arkitekthøyskolen i Oslo*, Oslo School of Architecture and Design.

Frølich, N. (2006), *Offentlig politikk for høyere utdanning: Endringer i finansiering – endringer i faglige prioriteringer? Kvalitetsreformen møter virkeligheten*. Delrapport 1. S. Michelsen and P. O. Aamodt. Oslo, NIFU STEP, Rokkansenteret, Universitetet i Bergen.

HF-UiO, (2003a) *Forskning med tellekanter – høringsuttalelse fra Det historisk-filosofiske fakultet*, University of Oslo, Faculty of Arts.

HSF (2001a), Oppfølgjing av kvalitetsreforma. Drøftingssak. Møte 27.9.2001, Høgskulestyret, Høgskulen i Sogn og Fjordane: Sogn and Fjordane University College.

HSF (2002a), Strategiplan for Høgskolen i Sogn og Fjorande 2002-05: Sogn and Fjordane University College.

HSF (2002b), Budsjettdokument 2001-2003 for Høgskulen i Sogn og Fjordane. Styret for Høgskulen i Sogn og Fjordane: Sogn and Fjordane University College.

HSF (2003a), Budsjettdokument 2002-2004 for Høgskulen i Sogn og Fjordane. Styret for Høgskulen i Sogn og Fjordane: Sogn and Fjordane University College.

HSF (2004), Intervjumateriale 29.-30.11.2004.

Michelsen, S. and P. O. Aamodt, (eds.) (2006), Evaluering av Kvalitetsreformen. Delrapport 1. Oslo, NIFU STEP, Rokkansenteret, University of Bergen.

MN-UiO (2003a), Forskning med tellekanter - Høringsuttalelse fra Det matematisk-naturvitenskapelige fakultet: University of Oslo, Faculty of Mathematics and Natural Sciences.

NLH (2004a), Intervjumateriale. 30. august - 1. september 2004.

NOU (2000). Frihet med ansvar (Mjøs-utvalgets innstilling), 14.

Stortingsmelding (2000-2001), Gjør din plikt - Krev din rett. Kvalitetsreform av høyere utdanning. Tilrådning fra Kirke-, utdannings- og forskningsdepartementet av 9. mars godkjent i statsråd samme dag. St.meld. No. 27.

Stortingsproposisjon (2001-2002), Det kongelege Kyrkje-, utdanning- og forskningsdepartement. St.prp. nr. 1 (2001-2002) For budsjetterminen 2002. Utgiftskapitla 200-297 og 2410. Inntektskapitla: 3200-3297, 5310 og 5617.

UFD (2005), *OECD Thematic review of tertiary education. Country background report for Norway*, The Norwegian Ministry of Education and Research.

UFD (2005a), St.prp.nr. 1 (2005 - 2006) For budsjettåret 2006.

UiB (1999a), Strategisk plan for Universitetet i Bergen. Vedtatt av Det akademiske kollegium 25.03.1999: University of Bergen.

UiB (1999b), Budsjettforslag 2000 (råbudsjett). Kollegiesak 20, møte 4.2.1999, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (1999c), Saksliste, møte 4.2.1999, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (1999d), Orienteringssak - Budsjett 1999 - KUFs tildelingsbrev til UiB, DAK-sak 23b, møte 25.2.1999, Det akademiske kollegium: University of Bergen.

UiB (1999e), Utviklingstrekk ved fakultetenes budsjettgrunnlag på 90-tallet. Dak-sak 154 (1999), møte 11.11.1999, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (1999f), Budsjett 2000. Fordeling av bevilgninger. Dak-sak 174, møte 9.12.1999, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000a) Budsjettforslag 2001. Dak-sak 27, møte 24.2.2000, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000b), Sakliste, møte 11.5.2000, Det akademisk kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000c), Orienteringssak: Opplegg for budsjettbehandling m.v. i Kollegiet høst 2000. Dak-sak 82d, møte 15.6.2000, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000d), Konsekvensjustert St.prp. nr. 1 (1999-2000) for nettobudsjettering (post 50). Dak-sak 130, møte 28.9.2000, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000e) NOU 2000: 14 Frihet med ansvar: Om høgre utdanning og forskning i Norge. Dak-sak: 134, møte 28.9.2000, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000f), Dokumentasjon av ressursgrunnlaget for fakultetene. Dak-sak 4, møte 27.1.2000, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000g), Ressursgrunnlag for fakultetene - innstilling fra en arbeidsgruppe. Dak-sak 145, møte 26.10.2000, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2000h), Budsjett 2001. Dak-sak 172, 14.12.2000, Det akademiske kollegium, møte 14.12.2000: University of Bergen.

UiB (2001a), Implementering av Kvalitetsreformen i høyere utdanning - oppnevning av styringsgruppe. DAK-sak 105, møte 1.11.2001: University of Bergen.

UiB (2001b), Ressursgrunnlag for fakultetene - innstilling fra en arbeidsgruppe. Dak-sak 113, møte 29.11.2001, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2001c), Budsjett 2002. Dak-sak 121, møte 13.12.2001, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2002a), Budsjettforslag for 2003. Dak-sak 11, møte 21.2.2002, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2002b), Ny finansieringsmodell - intern oppfølging. Dak-sak 64, møte 12.9.2002, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2002c), Ny finansieringsmodell - intern oppfølging. Dak-sak 77, møte 24.10.2002, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2002d), Budsjett 2003. Dak-sak 110, møte 12.12.2002, Det akademiske kollegium, Universitetet i Bergen: University of Bergen.

UiB (2003a-a), Budsjettforslag 2004. Styresak 14, møte 20.2.2003, Universitetsstyret, Universitetet i Bergen: University of Bergen.

UiB (2003a-b), Kvalitetsreformen - en utdanningsreform også for næringslivet: University of Bergen.

UiB (2003b), Budsjett 2003 - oppfølging av utdanningsreformen. Styresak 24b, møte 3.4.2003, Universitetsstyret, Universitetet i Bergen: University of Bergen.

UiB (2003c), Budsjett 2004. Strategiske prioriteringer. Styresak 79, møte 23.10.2003, Universitetsstyret, Universitetet i Bergen: University of Bergen.

UiB (2003d), Budsjett 2004. Styresak 93, møte 27.11.2003, Universitetsstyret, Universitetet i Bergen: University of Bergen.

UiB (2004a), Kvalitetsreformen ved Universitetet i Bergen: University of Bergen.

UiB (2004b), Budsjettforslag for 2005. Styresak 15, møte 19.2.2004, Universitetsstyret, Universitetet i Bergen: University of Bergen.

UiB (2004c), Kvalitetsreformen - resultater og funn fra høsten 2003: University of Bergen.

UiB (2004d), Budsjett 2005. Strategiske prioriteringer. Styresak 65, møte 23.09.2004, Universitetsstyret, Universitetet i Bergen: University of Bergen.

UiB (2004e), Budsjett 2005. Strategiske prioriteringer. Styresak 79, møte 21.10.2004, Universitetsstyret, Universitetet i Bergen: University of Bergen.

UiB (2004f), Budsjett/årsplan 2005. Styresak 94, møte 25.11.2004: University of Bergen.

UiB (2004g), Utdanning: Resultatrapport for studieåret 2003-2004: University of Bergen.

UiB (2004h), Budsjettforslag for 2006. Styresak 5, møte 17.2.2005: University of Bergen.

UiO (2000a), Langtidsplan 2000-2004 - Universitetet i Oslo. University of Oslo.

UiO (2002b), Ny finansieringsmodell - intern oppfølging. Notat 24.4.2002. Universitetsdirektøren. University of Oslo.

UiO (2002c), Sakskart til møte nr. 8/2002 i Det akademiske kollegium, tirsdag 5. november 2002: University of Oslo.

UiO (2002d) Sakskart til møte nr. 4/2002 i Det akademiske kollegium. Universitetet i Oslo: University of Oslo.

UiO (2003a), Årsplan 2003: University of Oslo.

UiO (2003b), Forskning med tellekanter. Publiseringsutvalgets innstilling. Rapport fra arbeidsutvalg nedsatt av rektor ved Universitetet i Oslo: University of Oslo.

UiO (2003c), Ressursfordeling ved Universitetet i Oslo. Diskusjonsnotat fra Universitetetsdirektøren til universitetsstyret, 25. mars 2003: University of Oslo.

UiO (2004a), Sakskart til møte nr. 7/2004 i universitetsstyret: University of Oslo.

UiO (2004b), Protokoll fra møte nr. 7/2004 i universitetsstyret: University of Oslo.

UiO (2004c), Årsplan/fordeling 2004: University of Oslo.

UiO (2004d), Finansieringsmodellen - innhold, forskjeller og utfordringer: University of Oslo.

UiO (2004e), Intervjumateriale. 20. - 23. april 2004.

UMB (2005), Strategisk plan 2005 - 2008. Universitetet for miljø- og biovitenskap.

NOTES TO COUNTRY STUDY NORWAY

1. See the comprehensive version of the report on the web.

COUNTRY STUDY PORTUGAL

1. Main features of the funding system

During the last three decades the Portuguese higher education system has undergone significant changes. Among these changes there was a fast massification of the system and its diversification, with the emergence of a binary system and a strong private sector. Portugal has also followed the western European generalised trend towards the development of a policy model based on institutional autonomy and stronger self-regulation, with the State reducing its level of intrusive regulation and moving to a more supervisory role. Nevertheless, despite the increased autonomy of public higher education institutions, the state has remained an important partner in the higher education system[1] (Teixeira, Rosa and Amaral 2004), the funding system of higher education still being a very powerful steering instrument to implement national higher education policies.

The major component of the funding of Portuguese public higher education institutions comes from the state budget and consists of three separate strands: funding for teaching covering salaries and other current expenditures, funding for research and funding for investment. Funding for investment results from the Ministry's approval of each institution's development plan. Funding for research is allocated mainly through a competitive system, being the research funds normally allocated directly to research institutions[2] on a competitive basis and are therefore not accounted for in the regular budget of universities.

Funding for teaching has been allocated by a funding formula since 1986, whose establishment is related with growing institutional autonomy. The formula applies to the running costs of public institutions of higher education, and it is negotiated between the institutions and the Ministry of Education. The formula has been through several changes and adaptations, but it is fair to say that until 2003 it was based on inputs, and did not contain indicators that would explicitly take into account the quality or efficiency of the institution. Briefly it can be said that this formula has contributed to an increase in resource allocation equity and transparency, to promote increasing enrolments and it allowed for improvements in staff management efficiency. Under this financing framework there was no relationship between funding and quality assessment.

More recently as the gross participation rate (20-24 years) is already over 50% and as the number of candidates to higher education is starting to decline due to demography, further increasing enrolments is no longer a political objective and the government has designed a new formula that will increasingly consider institutional performance by moving into a more output oriented approach.

The stakeholders views presented are based in in-depth interviews and survey data[3]. The research design includes data from interviews conducted in four HEIs and with the Directorate for Higher Education, policy analysis, a survey of academics holding a PhD degree and a stakeholder survey. Interviews were conducted in four representative HEIs, universities and polytechnics, old and new, large and small. In all of them the Rector/President as well as directors from some faculties/schools were interviewed. In the two universities interviews were also made to their top administrative leaders. 29 stakeholders (from universities, polytechnic institutes and the ministry) answered an on-line questionnaire about the issues of education and research financing, specifically about the functioning of the funding system and its unexpected impacts and side effects. Finally the survey of academics holding a PhD degree at HEIs was conducted using a sample of 5000 academic members from the totality of public universities and polytechnic institutes.

2. Intended and unintended effects of the funding system on the higher education tasks of teaching and research

Interviewees recognised that the funding formula, by using as one parameter the average salaries of the academic staff, intended to privilege HEIs with adequate teacher/student ratios and better-qualified academics. Therefore, it favoured the academic qualification of academics and their career promotion or hiring better qualified academics, rather than preferring new admissions of younger, but less qualified teachers.

The fact that the public funding of higher education institutions for teaching was distinct from the funding for research created, in the opinion of some interviewees (namely Faculties/Schools Directors), an undesirable gap between these two activities. Frequently, research units worked on subjects diverse from the themes associated to the Curricula. On the other hand, academics tended to divide the time allocated to these two tasks, which contributed to lower efficiency. In one stakeholder's opinion this leads "to the impoverishment of education and, thus, of the society."

Another unintended effect of the funding system has been the increasing use of "invited professors", not inserted in the academic career, which has the double advantage of not being tenured and having a higher work load than normal staff. On the other hand as the law does not allow for the payment of extra time, some people complain that sometimes they are asked to work extra hours without adequate institutional recognition.

3. Influence of the funding system on institutional strategies

As the funding system is primarily based on the number of enrolled students, HEIs were well aware of the major importance of maintaining or increasing their student populations. Three different possible strategies to cope with this new (or renewed) concern were mentioned by the stakeholders included in our study. Firstly, HEIs increasingly assumed as an important institutional task attracting more students, either recurring to explicit strategies of direct publicity or by using more sophisticated methods, such as creating marketing offices to improve the institution's public image. Secondly, HEIs may use a strategy based on improving the quality of their services, namely those that influence the quality of the students life, aiming both at preventing enrolled students from leaving the institution and at attracting more new ones. Finally, and on a more negative tone, some interviewees mentioned that institutions might be tempted to keep or increase students' enrolments recurring to "artificial" solutions, which can be seen as a perverse effect of the funding system[4]. For instance they put forward the hypothesis that a HEI in a problematic situation, might resort to "tricks" such as information system bugs that counted as students those who have graduated. On the other hand the formula did not create incentives to pedagogic efficiency since a way to increase enrolments might just be increasing failure rates[5].

New courses were an alternative way for increasing students' enrolments. These courses usually had an attractive denomination, even if without relation with the HEI culture or mission or with local and regional needs, therefore having a dubious employment rate. Another strategy was increasing the duration of courses, without goals related with quality, but just to maintain students in the institution.

The funding system induced HEIs to resort to different strategies to deal with their financial needs that exceeded the state contribution. In this way, a renewed interest emerged on the establishment of relations (such as technological transfer partnerships) with the external community, especially the entrepreneurial world.

The stakeholders also perceived a marked influence of the financing system on research strategies. It was mentioned that the existent highly competitive system could easily lead to the promotion of certain

research areas, more output oriented, instead of others, traditionally less appealing for the global market and consequently less financially attractive. Stakeholders also mentioned that the difficulties that some of the bigger research units faced, due to unusual delays in obtaining financing from the Foundation of Science and Technology, had made them more open to the possibility of developing alternative funding sources (providing services to the community in general, and the industry in particular).

4. Stakeholders' views concerning strengths and weaknesses of the funding system

The answers given to the stakeholder on-line questionnaire showed that more than half of the respondents (20 in 29) disagreed (14)/fully disagreed (6) with the proposition "the present higher education financing system is satisfactory". In the interviews the central criticism directly or indirectly made by the stakeholders was the insufficiency of government funding to HEIs. Polytechnic Institutes felt themselves as the first victims of a discriminatory system, receiving less funding than Universities. This was a reflex, in their view, of an explicit policy to minimise polytechnic education relative to university education.

One of main weaknesses of the funding system focused by interviewees was the need for the full implementation of the Autonomy Laws. The excessive dependency on government (Ministry of Finances and Ministry of Science, Innovation and Higher Education) seemed to hinder a better management of HEIs. The interviewees that had financial responsibilities in Universities suggested the implementation of a multi-annual model to increase the efficiency of their work by allowing a prospective analysis. Also there were claims that the financing system did not reward good management practices.

Nevertheless our interviewees considered that the funding formula was an adequate methodology to calculate the distribution of government funding. Its weakness was lack of transparency, with examples of bad application and inadequate standard values. Its excessive dependency on students' numbers was frequently criticised, and all stakeholders made proposals about different criteria to be considered in the formula. Some of the more frequently mentioned criteria were the student's real cost, the results of teaching quality assessment, research quality and faculty qualification. The specificities of each HEI were also a concern of our stakeholders, which should be taken as a starting point to calculate funding allocation. On the other hand, some propose a funding system that completely covers current expenses, including maintenance and functioning costs and faculty and staff salaries. Others prefer a funding system based on outputs, taking effectiveness as the central criteria, although there was the conscience that this might have unintended effects[6]. In a similar vein, another proposal suggested the recognition of the HEIs with best results, rewarding them with extra funding.

The research financing system was mainly seen as not satisfactory[7] due to several factors. Polytechnics claimed that it practically did not recognise this type of institutions because of their limitations regarding post-graduation. It was also mentioned that as this type of funding was channelled to the research units (by-passing the governance structure of the higher education institution), the actual research budget of higher education institutions was very limited, which hampered the set-up of long term research strategies.

For stakeholders another weak point of the present research funding system was that it did not allow for innovations[8], as was further elaborated by one of our respondents "The financing of research leads to homogenisation of knowledge production, especially because what is stressed is mainly the 'commercial' knowledge linked to the entrepreneurial field".

The fact that the government decided to finance research on a more competitive basis, using foreign experts to evaluate the quality of research teams and projects has resulted in a system of direct financing of research units bypassing institutions, which might explain some of the negative comments. It needs to be recognised that after the implementation of the new funding system the research sector made significant

progress. For instance, in recent years the number of new PhD holders has been increasing at an annual growth of 12%, while in terms of publications, Portugal presented between 1995 and 2000 an average annual growth rate of almost 16%.

Finally, the large majority of academics tended to support the idea that financial resources should be allocated based on the quality of research and on the number of students.

5. Conclusions

The introduction of a funding formula was in general seen as positive and adequate for a period of the higher education system's expansion. At present, as the expansion period has come to an end, there was tendency to pay increasing attention to the quality and efficiency of institutions, which meant that the formula needed to be adapted to the new circumstances.

At governmental level there was a move to introduce an accreditation system and to promote the internationalisation of the system by using foreign reviewers, which would foster the relevance of quality of teaching and research. Therefore, at governmental level there seemed to be increasing tendency to link funding to quality.

HEIs were compelled to use their earned income for investments not included in the approved development plan. For this reason they had developed alternative financial support without contribution from the State. The productivity of each institution assumed an increasing important role on its management strategy, evolving to a situation of wider autonomy from state funding.

Recent developments indicated that there would be a tendency to discriminate institutions due to their research quality rather than by its teaching achievements. Indeed as the number of students was declining due to several factors including demography, the government seemed to be inclined to keep constant the total funding for teaching (in nominal terms) while substantially increasing the budget for research. In principle the budget for research will increase 100% over the next years and will contribute to differentiate institutions.

NOTES TO COUNTRY STUDY PORTUGAL

1. Teixeira, P., M. J. Rosa and A. Amaral (2004), "Is there a Higher Education Market in Portugal?", in P. Teixeira, D. Dill, A. Amaral and B. Jongbloed (eds.), *Markets in Higher Education*, Kluwer, Amsterdam.

2. The main higher education research institutions financed by the Ministry for Science, Technology and Higher Education (MCTES) are organised in "Research Units" and "Associated Laboratories".

3. The opinions expressed by the Portuguese stakeholders refer to the formula that has been used to calculate the public higher education institutions budget for 2004 and 2005, which included poorly designed, quality-related parameters. For the 2006 budget, the Government elected in 2005 has adopted a new formula that aims at allocating the available total budget to the public higher education institutions, while progressively introducing criteria related to quality and to performance. The new formula does not calculate an absolute value, but merely allocates the available budget plafond to the institutions, thus avoiding the idea of cuts to the calculated values. It should be noted that under the current context of excess capacity, higher education institutions compete for students, so that the number of students represents some level of performance, at least in terms of the attraction capacity for each course/institution. This "new" formula is based on the overall number of students, but includes the following quality factors: qualification of teaching staff (measured by the faction of PhDs in the total number of teachers) and graduation rates (measured by the number of first cycle graduates and the number of master and PhD degrees awarded).

4. More than half of the stakeholders that answered the on-line questionnaire agreed (15) or fully agreed (8) with the proposition "If allocation of resources is based on the number of enrolled students, higher education institutions could be tempted to enrol students with insufficient knowledge, which is unethical both in relation to the students and for the society."

5. More than half of the stakeholders that answered the online questionnaire agreed (16) or fully agreed (6) with the proposition "the present financing system is not satisfactory as it does not give incentives to students in order to complete their studies as early as possible."

6. Almost all of the stakeholders that answered to the on-line questionnaire agreed (17) or fully agreed (8) with the proposition "If the funding system allocates resources to HE institutions based on total number of students achieving their BA, institutions could be tempted to reduce their quality control requirements in order to get more resources".

7. More than half of the stakeholders that answered to the on-line questionnaire disagreed (20) or fully disagreed (2) with the proposition "The present research financing system is satisfactory".

8. Half of the stakeholders that answered to the on-line questionnaire agreed (12) or fully agreed (4) with the proposition "The present research financing system does not allow innovations" (9 of the remaining respondents were neutral).

COUNTRY STUDY SLOVAK REPUBLIC[1]

1. Characteristics of the funding system of higher education

In the modern history, two crucial years are of importance for the Slovak higher education system: the year 1990, in which the new Act No. 172/1990 on Higher Education was adopted and which brought along academic freedoms to HEIs after the period of their central management by government, and the year 2002, when the enactment of the Act No. 131/2002 on Higher Education has launched implementation of the reform of the Slovak higher education system.

The study is focused on the period following after adoption of the Act of 2002. This Act has meant the beginning of profound changes resulting, in addition to full implementation of principles laid down in the Bologna Declaration, in the changes of the economic and legal status of HEIs as organisations and in the changes to the system of allocation of funds from the State budget to HEIs.

The basic change in the field of economic management of HEIs after 2002 consisted in their transformation from the State budgetary organisations to organisations of the type of "public HEI". The public HEI has been introduced by the Act as a statutory institution with a non-profit character.

The transformation of HEIs as for economic management consists of three groups of changes:

- transition to multisource funding, including the new way of economic management of State budget resources;
- changes in relationship of HEIs to property – they have become owners of the property;
- transition to budgeting of accrued revenues and costs, and to accrual accounting.

The above principal changes have practically removed all financial technical restrictions in economic area existing in the previous period and created for public HEIs the necessary space for their creative activities. It was also necessary to solve the problem of increasing of total amount of subsidies from the State budget to the higher education sector, and the way of their allocation to individual HEIs.

As regards the increase of total amount of funds to the higher education sector, at the adoption of the Strategy of Further Development of Higher Education the government bound itself in August 2000 to annually raise this amount. The bond has been kept including in 2006.

2. Interrelationship between the funding system and the State higher education policy

The current reform of the higher education system in Slovakia, the essential part of which is the reform of its financing, took place during the office of two governments since October 1998 to June 2006. The governmental priorities in higher education have been since 2002 directly supported by individual measures of the current funding system.

3. Main development trends in Slovak higher education and their link to the funding system

To assess the effects of the funding system on the higher education system, we have selected some characteristics of the system and evaluated their development trends during the recent years.

Numbers of new students entering HEI: The data on number of new students in public HEIs (State HEIs before 2002) and on their percentage in population aged 18 years (since 2003 aged 19) are shown in Table 1. The period considered is characterised by stable growth in number of new students, the rate of which slacked mildly over the years 1996 – 2000. After 2001 an ascending trend in number of new entrants is evident. Linear trend of inter-year growth in the period 2001 – 2005 is 1,8-times higher than the one in 1990 – 1995.

Table 1. **Data on number of new students in the academic years 1990/91 to 2005/2006**

Form of study/year	1990	1995	2000	2001	2002	2003	2004	2005
Number of new students in the full-time form of study	13 404	20 809	24 279	24 270	26 974	24 150	32 488	35 542
% of population aged 18 (19)	*15.9%*	*21.8%*	*27.2%*	*27.2%*	*30.4%*	*27.2%*	*36.7%*	*41.3%*
Number of new students in part-time form of study	1 868	3 881	9 665	12 763	8 057	15 057	15 718	17 254
% of population aged 18 (19)	*2.2%*	*4.1%*	*10.8%*	*14.3%*	*9.1%*	*17.0%*	*17.7%*	*20.1%*
Total	15 272	24 690	33 944	37 033	35 031	39 207	48 206	52 796
% of population aged 18 (19) [2])	*18.1%*	*25.9%*	*38.0%*	*41.5%*	*39.5%*	*44.2%*	*54.4%*	*61.4%*

System of students' social support: The field includes social scholarships, student loans and support of student housing and catering.. A more remarkable progress has been achieved in social scholarships only.

Qualification structure of university teachers: HEIs have been motivated by the funding system to increase the qualification of their teachers. The data on qualification structure demonstrate tendency of increasing qualification level of academic staff: the number of teachers with the pedagogical-scientific degree "professor" has increased by 19,8 % and the teachers with PhD. degree by 24,5 % since 2003.

Ratio of unsuccessful students: The data does not indicate any significant relation between the new system of funding and the percentage of unsuccessful students.

PhD study: A special support of the full-time PhD study in previous years manifested itself in both the increase in number of new vacancies of full-time PhD students (by 100 %) and the increase in successfulness of the PhD study (180 graduates in 2002 vs. 343 in 2005).

Funding of public HEIs from the State budget: One of the most important problems of Slovak higher education identified in the strategy of 2000 was its long-year insufficient funding. The government has therefore committed itself from 2001 to annually increase the funds for higher education. Development of higher education funding is shown in Table 2.

Table 2. **Funding (public) higher education sector in 2000 – 2006**

Year	2000	2001	2002	2003	2004	2005	2006
Expenses for public HEIs from State budget (approved budget in million SKK)	**5 109**	**6 196**	**7 456**	**8 361**	**9 440**	**10 350**	**11 514**
Increase compared to 2000 in current prices in %		21.3%	45.9%	63.7%	84.8%	102.6%	125.4%
GDP (in million SKK)	908 800	989 300	1 073 600	1 175 600	1 325 500	1 429 800	1 531 400
Share of total expenses for higher education in GDP	**0.56%**	**0.63%**	**0.69%**	**0.71%**	**0.71%**	**0.72%**	**0.75%**
Inflation as at 2000 in %		**7.1%**	**10.6%**	**20.1%**	**29.2%**	**32.8%**	**36.1%**
Increase as compared to 2000 in prices 2000 in %		**13.2%**	**31.9%**	**36.2%**	**43.1%**	**52.6%**	**65.6%**
Number of full-time students	88 192	90 446	92 140	97 932	97 759	106 194	113 197
Increase in number of full-time students in % compared to 2000		2.6%	4.5%	11.0%	10.8%	20.4%	28.4%
Number of part-time students	29 240	33 060	38 948	38 990	44 494	50 367	56 309
Recalculated number of students (part-timers with coefficient 0,3)	96 964	100 364	103 824	109 629	111 107	121 304	130 090
Sum for the recalculated student in prices of 2000 (in thousand SKK)	52.7	57.6	64.9	63.5	65.8	64.3	65.0

Salary-related development in higher education in relation to average salary in the national economy: Average annual growth in salaries in the higher education sector was roughly by 50 % higher than average growth of salaries in national economy.

Development of the structure of allocation of subsidies to public HEIs from the State budget in relation to quantitative and qualitative parameters: the development of allocation of subsidy from 2002 to 2006 led to gradual strengthening of the weight of criteria aimed at performance in research and according to project quality (see Table 3).

Table 3. **Structure of allocation of subsidy according to groups of criteria**

Item/Year	2002		2006	
Allocated according to historical principle	643 344	**8,7%**	175 488	**1,5%**
Allocated according to performance in education	4 081 331	**54,9%**	5 205 415	**45,2%**
Allocated according to performance in research and according to quality of development projects	717 925	**9,7%**	2 656 579	**23,1%**
Allocated in other ways (*i.e.* specificities, social support)	1 994 481	**26,7%**	3 476 518	**30,2%**

Research and development funding in public HEIs: The total amount of funds for higher education science and technology in the course of 2002 to 2005 more than doubled. The amount of funds that the public HEIs received for research projects through Agency for Support of Research and Development has

substantially grew up, too. In 2005, the public HEIs became the most successful sector from the point of view of receiving these funds. On the other hand, the capacity of HEIs to receive research grants from abroad has not practically changed during the period considered.

4. Strengths and weaknesses of the funding system for higher education

At the overall assessment of the funding system it may be stated that:

- Within the framework of the profound reform of Slovak higher education, which was carried out by implementation of the new higher education Act, the new funding system represented, besides implementation of the principles of Bologna Declaration, the most significant change that had substantially influenced the operation of Slovak higher education.

- The transformation of HEIs from the State budgetary organisations to statutory institutions regulating their economic management according to new rules including the use of accrual accounting enables them to make their real economic state more transparent and to assess it in a standard way.

- By the transformation of HEIs jointly with evident annual increase of subsidy from the State budget to the higher education sector, the long-lasting problem of its insufficient funding has started to be solved.

- The new funding system led to a change in behaviour of HEIs; the HEIs became more active as they got into the environment with the elements of competition in which they must compete for substantial part of funds from the State budget.

- The new funding system contributed to the fact that in some areas the development in Slovak higher education took up desirable trend; however, at the same time, this system evoked some negative tendencies.

Strengths of the current funding system are as follows:

- economic management enabling transparency and assessment of real economic state of HEIs in a standard way;

- existence of clear and univocally defined rules of allocation of subsidies from the State budget to HEIs;

- transparency of the system of allocation of subsidy from the State budget to HEIs;

- concrete measures motivating HEIs to increase their activities in education and research;

- regular increase of subsidies from the State budget to higher education;

- specific support for development in selected areas including the central development projects;

- support of access to higher education by the system of social scholarships;

- existence of motivation scholarships.

Weaknesses of the current funding system *from the point of view of its principles and rules* consist of the following observations:

- Despite regular increase of subsidies from the State budget to higher education in recent years, their overall amount has still been insufficient;

- The system does not contain efficient options to prevent tendencies of decreasing the quality in the areas that make up inputs to the system (motivation to decrease requirements on students in entrance procedure, throughout the study as well as in its conclusion, motivation to decrease demands at habilitation and nomination procedure);

- Initial introduction of coefficients for personnel demand and economic demand used in the formula in 2001 was justified; the higher education system has undergone since then the development on the basis of which it is necessary to re-assess the above coefficients; there is no method available yet on how to do it;

- The system of indicators used at assessment of research makes the economically demanding areas in which higher amounts of funds are allocated within the framework of grants for research projects more advantageous;

- Non-addressed provision of contributions for housing from the point of view of individual students as well as from the point of view of HEIs.

There are also several weaknesses of the current funding system coming *from the way of its implementation*.

In connection with the preparation of the study, we have addressed the Rectors of public HEIs and Deans of faculties as well as some other members of HEIs with a request to express their opinions on the current system of funding. More than 30 replies came. As for the strengths, the replies contained only attributes presented among those in section 24. As regards the weaknesses, a majority of the replies are contained among weaknesses shown in sections 25 and falling under the section 26, but other comments and proposals were also submitted.

In addition to the statement about still insufficient funding from the State budget, the most frequent objection is something like: “the funding system forces the HEIs to chase, cost it what it may, after the growth in student numbers”.

Conclusion to the part on assessment of the funding system

In addition to still insufficient amount of funds for higher education from State budget, the most remarkable problem of the funding system appears to be the problem of supporting quality.

As regards the further development, we are convinced that the principles of the funding system are correct and need not to be changed. It is necessary to carry out a detailed review of results of the current application of the system and on its basis to supplement the system and improve its implementation.

NOTES

1 . During preparation of the material, the author Peter Mederly acted as Director General for Higher Education at the Ministry of Education of the Slovak Republic**.**

2. In 2005, this portion represents up to 66.9%, along with new students of private HEIs.

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