WHITE PAPER

ON TERTIARY EDUCATION

Ministry of Education,
Youth and Sports

Prague, January 2009

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INVESTMENTS TO THE EDUCATIONAL DEVELOPMENT

Graphic Layout and Printing are cofinanced by the Europian Social Fund and the State Budget of the Czech Republic witihin the frame of the Individual National Project "Tertiary Education Reform", No. CZ.1.07/4.200/06.0003.

CONTENTS

FOREWORD

The *White Paper on Tertiary Education* (hereinafter referred to as the "White Paper") is an expert document devoted to the reform of Czech tertiary education. This English translation is intended for scholarly and political discussion, both in the Czech Republic and abroad. In terms of content, the White Paper does not envision the Czech Republic as a closed system needing to cling to narrow solutions and demanding only a singular approach. Rather, the White Paper situates the Czech system of tertiary education in an international context and as a whole reflects recent European and global trends in tertiary education reform.

The need to propose a framework for reforming tertiary education stems not only from the necessity to adapt as quickly as possible to trends in tertiary education that will broadly determine the competitiveness of advanced countries in future decades; it also stems from the unfavourable budgetary development of higher education institutions (hereinafter HEIs) in the past few years. The authors of the White Paper and representatives of HEIs agree that the level of higher education financing in recent years (particularly on a per student basis) has not reflected the potential of the Czech Republic, and that without a turnaround in these unfavourable trends higher education institutions will not be able to meet the demands posed on them. We assume that in conjunction with the reform of tertiary education, as conceived in the White Paper, public expenditures for higher education will gradually increase to a level common in advanced countries.

The structure of the submitted document is based on the functions that the system of tertiary education plays in modern society and the ways it adapts to the changing requirements of its environment. In addition, the White Paper describes the basic instruments and mechanisms that should be used for the efficient management (both externally and internally) and financing of the whole system. The individual chapters of the document concisely articulate their main arguments, points of departure, and context.

Since the document identifies the main objectives of tertiary education reform and describes the potential ways of achieving them, and since it seeks to foster scholarly debate, it does not contain detailed analyses, studies or calculations. Such information will gradually be prepared, alongside other documents and studies specifying individual steps of the reform process as well as calculations of the potential costs.

WHAT THE WHITE PAPER ON TERTIARY EDUCATION IS AND IS NOT

- The White Paper is a conceptual and strategic document that states the direction in which tertiary education in the Czech Republic should develop in the next ten to twenty years.
- It articulates what the needs of society and the expectations of government and external actors are vis-à-vis the activities of tertiary education institutions (i.e. higher education institutions and post-secondary professional schools).
- It provides a conceptual basis for legislative amendments that will make it possible to realise the above expectations.
- It provides scientific support for political decisions about to how to reform the system of tertiary education in a long-term horizon through a number of interconnected steps.
- With the aim of providing a long-term vision of the further development of tertiary education, it not only provides individual proposals that are consistent with the government's mission statement (and thus could be implemented during this term of office), but also a broader set of proposals that could be implemented by future governments.
- The White Paper is not a detailed analytical document containing a technical description of the necessary steps and changes.

The White Paper has been prepared for both the main stakeholders in tertiary education and the general public, and its publication is not an end in itself. It is only one output of a process that defines directions and pathways for further elaboration, such as changes in the diversification of systems of education, new management concepts (at both the national and institutional levels) and cost-sharing on the part of students.

In terms of research and development, the White Paper draws on the *Reform of the System of Research, Development and Innovation in the Czech Republic*. In this respect, it particularly highlights the need to bring together research and education as much as possible, and consequently also the societal demands that are placed on the implementation of research and development reform. Such a direct coupling of research and education will contribute to the entrepreneurial and innovation potential of future generations.

The order of the individual chapters corresponds with the selected conceptual framework. The aim of the proposed changes is to create a structure of the tertiary education that will:

- make it possible for colleges and universities to provide state-of-the-art education within their respective missions, and thus participate in strengthening the historically rooted prestige of our country as a European centre of education;
- further strengthen the autonomy of HEIs and their responsibility for their own development;
- enable the further development of the necessary cultural and social functions of tertiary education;
- make it possible for all interested applicants to pursue tertiary education by removing or significantly mitigating social and other barriers in access to tertiary education, while also diversifying academic programmes;
- strengthen the responsibility of institutions (providers) and students (clients) for the quality of education and learning;

- fulfil the expectations of employers and the needs of society relating to the quality and quantity of human resources (including all forms of lifelong learning);
- contribute to the production of new knowledge and the enhancement of the innovation potential of the economy through research and development activities.

A necessary condition for meeting the above prerequisites is not only the establishment of the system as a whole, but also its openness and diversification. The system will contain various types of institutions and different aspirations, visions and objectives; each institution will fulfil three basic missions: education, research and development, and thirdly, services for society more generally. Individual tertiary education institutions (hereinafter TEIs) will carry out the above missions to an adequate extent and quality, and will implement management and evaluation mechanisms at all levels.

The main instrument for the establishment and operation of such a structured system of tertiary education is the appropriate arrangement of financial flows between both the state and individual TEIs as well as between these institutions and individuals (or between educational and other social institutions). The following factors are vital to the architecture of the system:

- Openness of the system in terms of its support for creativity, which is essential both for the prosperity of the country and for technological progress;
- Role of certain institutions in taking care of the national and world cultural heritage;
- A close nexus between the demand for study and employers' expectations about the qualifications of graduates.

Likewise, it is also necessary to devise an appropriate system of governance (between the state and tertiary education institutions, as well as within those institutions) and further strengthen the autonomy of institutions while also emphasizing their responsibility to the public.

All implemented steps and processes have to take into account the equality of opportunity, so that talent is not uselessly wasted. Thus an important precondition for the success of tertiary education reform is the corresponding alignment of the secondary level of the educational system, including its tasks and objectives, responsibilities towards society, and its changing expectations and conditions. The reform of the whole system has to be seen as an iterative process, in which one may proceed neither only from the lowest levels upwards nor only from the highest levels downwards. From the perspective of the whole system, what is important is not only preventing lower levels from becoming barriers to fulfilling the mission of higher levels and vice versa, but also about their mutual inspiration, complementation and harmonisation. The implementation of objectives enshrined in the White Paper will be closely linked with the *White Paper on Primary and Secondary Education* under preparation.

The submitted document does not contain detailed analyses. The analytical source material (Green Paper) for this document was the report *Tertiary Education in the Czech Republic* (2006), which also served as the source material for work on the *Thematic Review of Tertiary Education*. The White Paper also reflects a number of other analytical documents (national and international); all major sources of information are duly quoted in the text.

In addition to all the above functions, the White Paper also fulfils another vital objective: it serves as a strategic framework for the implementation of selected projects financed from EU Structural Funds in the 2007-2013 programming period.

A CONCISE OVERVIEW OF THE STATE OF THE CZECH TERTIARY EDUCATION SYSTEM

Strengths

- Continued interconnection between education and R&D activities.
- Developing cooperation between education institutions and the private sector.
- Standardised accreditation process.
- Gradual introduction of principles of the Bologna process (hereinafter referred to as the "Bologna process").
- A straightforward system of formula funding.
- Involvement of representatives of HEIs in decision-making about major issues of the development of HEIs and in the legislative process.
- Favourable regional coverage of the Czech Republic by TEIs.
- High social prestige of academic staff.
- High economic returns on investment into higher education.
- Great importance attached to higher education for success in life.
- Active role of HEIs in taking care of the country's cultural heritage and its development.

Weaknesses

- Significant under-funding and minimal guarantees to the amount of funds allocated by the state.
- The low ratio of the adult population with higher education and large differences between age groups.
- The low ratio of graduates of short-cycle study programmes entering the labour market.
- The high rate of failure to complete studies, particularly at technical colleges and universities.
- Poor interconnection and low transferability between and within levels of higher education at different HEIs and between post-secondary professional schools and HEIs.
- Incongruence between applicants' choice of study and the labour market demands of graduates.
- Excessive dependence of public HEIs on public resources.
- A cumbersome and inefficient management system with imbalanced powers and responsibilities and unsatisfactory legislation affecting all parts of tertiary education.
- The low economic interest of HEIs in the quality of education provided and in the long-term success of graduates; the absence of price signals in the system.
- Absence of a standardised information system on HEIs and their evaluation.
- Sometimes, only a mere formal restructuring of programs in line with the Bologna process has been pursued.
- Large inequalities in the chances of achieving higher education and in the barriers of entering tertiary education, as represented by the selective system of education at lower levels.
- Low level of transparency in investment policy, which is quite susceptible to political and lobbyist pressures.
- Weak engagement of private financial entities in investment projects.

Opportunities	Threats
• Consensus reached by the main stakeholders and political representation that the system of tertiary education is in need of reform. • Strengthening the autonomy of HEIs in their decision-making, most notably in financial matters. • Greater institutional diversification; satisfying various demands for higher education. • Reducing inequalities in access to higher education and increasing the influx of talents into the system of tertiary education. • The possibility of transforming some post-secondary professional schools into the higher education system. • Introduction of short, practice-oriented study programmes. • More efficient allocation of funds with regard to the type of provided services. • Significant increase in the number of graduates of professionally oriented study programmes. • Greater number of older students, with teaching tailored to them. • Greater influx of private resources both from cost sharing on the part of students and from companies. • Greater internationalization (foreign students, teachers). • Robust involvement of TEIs in further education. • Opportunities for a closer interconnection between quality research and development and tertiary education. • Establishment of institutes or other bodies within universities focused on internationally recognized research. • Establishment of institutes or other bodies within universities focused on cooperation with the business sector in education and development.	• Lack of public funds as a result of fiscal constraints and different political priorities. • Particular interests of stakeholders take precedence over an attempt to implement a deep reform of the system of tertiary education and post-secondary professional education. • Absence of funds for establishing a system of paid-as-you-go loans and deferred tuition fees. • Reluctance of a large number of HEIs in accepting the need for a greater diversification of the system (continued belief that all public HEIs can have the nature of a university). • Loss of competitiveness in tertiary education, which has an impact on the competitiveness of the economy. • Large inequalities in the opportunity of attaining higher education and low mobility, which can lead to an increase in social tensions. • Continuous institutional rivalry among HEIs and the Academy of Sciences of the Czech Republic, and insufficient willingness on both sides to continue transforming both systems, mainly in the field of research and development. • Poor use of funds in Operational Programmes aimed at enhancing research and development excellence at HEIs and at developing the whole system of tertiary education. • Insufficient coordination of tertiary education reforms and reforms of primary and secondary education and research, development and innovation. • Ongoing loss of talent.

CHAPTER 1

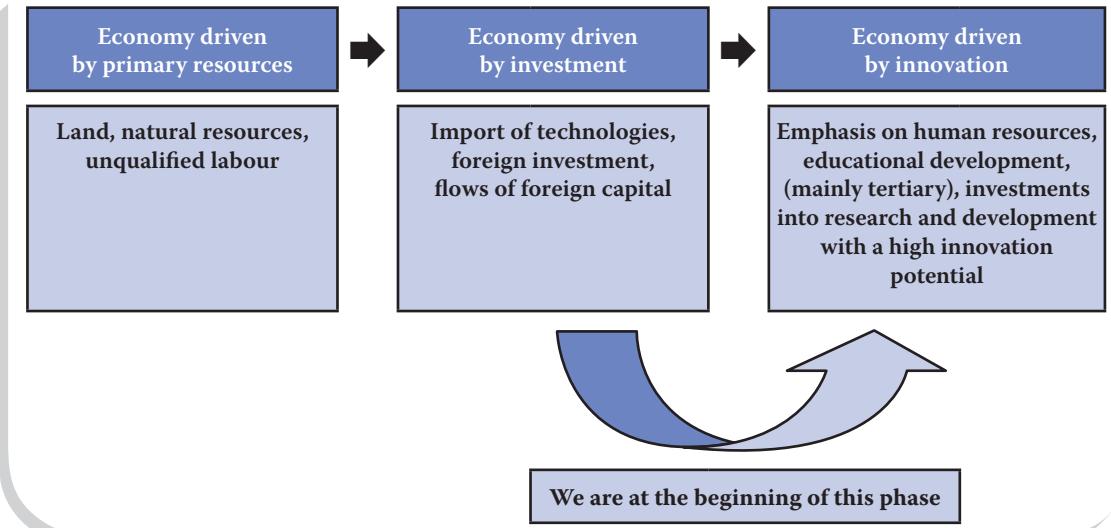
TERTIARY EDUCATION

1.1. Tertiary Education in the Czech Republic and its Role

1. Societies from all over the world face global challenges, such as migration and population diversification, deepening differences between the rich and poor, the emergence and growth of social exclusion and increased criminality. Moreover, they are transforming into knowledge-based societies with economies driven by new discoveries and subsequent innovations. The greatest values originate from creative people and creative work. The modes of getting to know the world and implementing new pieces of knowledge are being enhanced by trends in conjoining rational and creative means of cognition and discovery. Countries that fail will be left with carrying out routine work done by people or machines. Without the healthy development of its educational system, Czech Republic will gradually become an assembly plant of Europe, pressured by long working hours and a deepening decline in real wages.

DIAGRAM 1.

Development Phases of Economic Systems
(According to Michael Porter: "The Competitive Advantage of Nations", 1998)



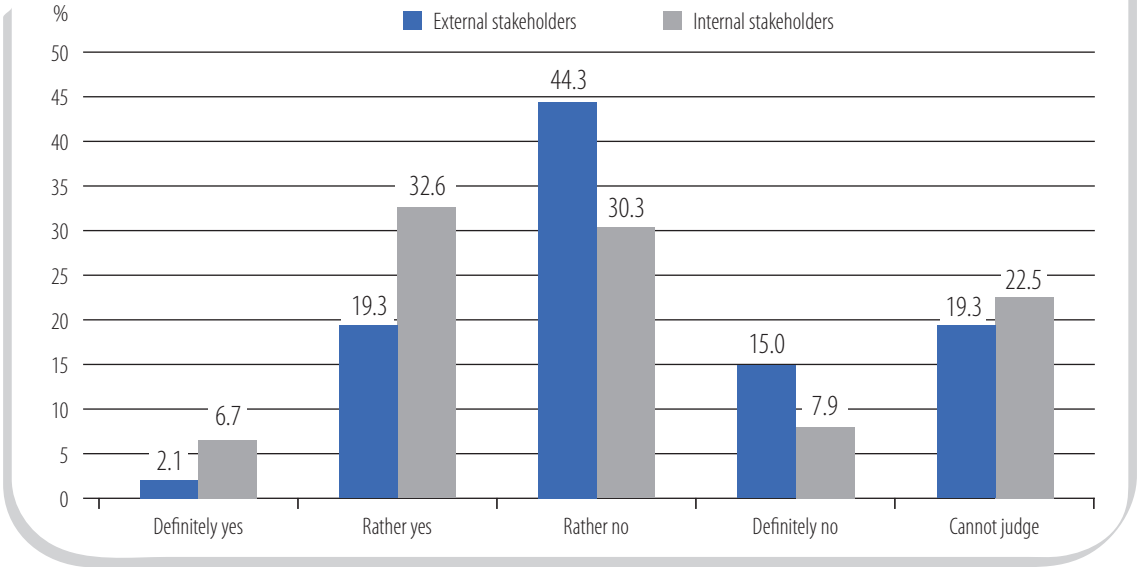
2. In this context, the importance of all three main roles of tertiary education is expanded and deepened. In addition to the traditional challenges of quality, efficiency, and equal opportunity, **educational activity** has to confront new challenges. These include the challenges of maintaining a maximum education across an entire active life (lifelong learning), the ability of both individuals and organizations to learn continuously and rapidly, and the challenges of creativity, initiative and innovation, knowledge of people and society, and the use of soft skills. The direct **interconnection between education and research and development** is not only an important motor of cognition and innovation in general, but also a main source of the creativity of college and university graduates. **The social role of universities** not only makes a fundamental contribution to the care and development of cultural heritage, but also an increasingly important direct impact on economic development at the regional and

global levels. At the same time, the number and importance of external actors who constantly demand changes in the educational system are increasing. Changes leading to greater flexibility, openness and innovation are the most beneficial.

3. Post-communist countries, the Czech Republic included, did not undergo a gradual development like other developed countries and many reforms started to be implemented only after 1989. The educational system during the time of the Czech economic transition managed to cope with major challenges posed by modern society in a far shorter time than in traditional democratic countries. In a mere 18 years, tertiary education in the Czech Republic underwent major quantitative and qualitative changes. The number of institutions and students increased, a large degree of research and development activities was transferred to HEIs, self-governance principles were introduced in college and university management, schools started to participate in international cooperation, post-secondary professional schools and private HEIs were established, academic study became structured, etc. These facts were also emphasized several times by international teams of experts, including the OECD team that prepared the study *Thematic Review of Tertiary Education: Country Note Czech Republic* (File et al. 2006). The above project was initiated to help OECD member states identify problems in their educational systems and find an optimal model towards which they should strive. The authors of the study note that *"the system of [Czech] tertiary education [is] distinguished by high levels of institutional autonomy, academic self-governance and (almost) full public funding of higher education. The key policy approach in this re-building of the system was a return to a Humboldtian model of university education and research, and of the relationship between the state and higher education."* However, the experts believe that the **existing profile of tertiary education** (its structure, mode of financing, etc.) **will not be able to meet the requirements for a richly diversified system** that would be open to European and global trends and would at the same time fulfil the needs of the development of the Czech Republic in the context of its growing knowledge society.

CHART 1.

Question: The overall development of the tertiary sector of education is in line with the strategic needs of regions (Matějů 2007)



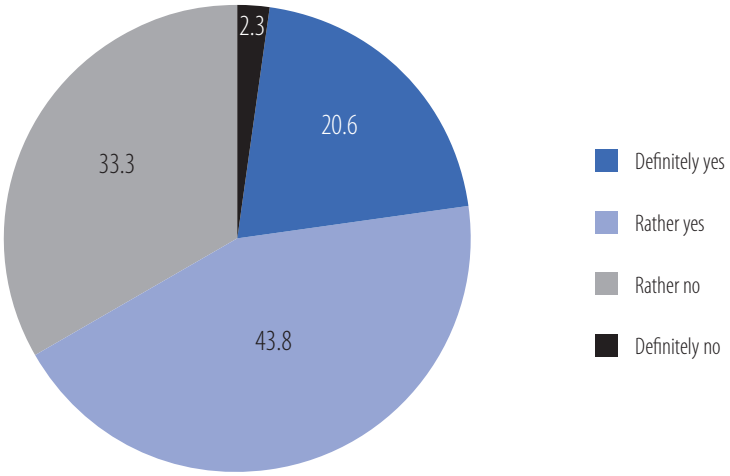
4. Demands for reforming tertiary education are also evident from the results of an opinion poll of selected stakeholders carried out as part of preparations for the White Paper (Matějů 2007). The respondents took a particularly critical stance toward the following areas: the limited ability of higher education institutions to flexibly respond to changes taking place on the labour market and the qualifications required by employers; the imbalance of powers and responsibilities between boards of trustees, administration and academic senates of HEIs; poor

conditions for fostering cooperation between HEIs, the business sector and other entities; and inability of HEIs to cooperate with the private sector. Furthermore, there is consensus that the overall development of tertiary education and research carried out at HEIs is not in compliance with the strategic needs of regions and the Czech Republic as a whole, and that research carried out at our higher education institutions is not state-of-the-art.

5. Results of a survey of college and university students in 2006 (SOU 2006) indicate that even students themselves see the situation of higher education in the Czech Republic in a fairly critical way. Over a half of the respondents believe that higher education needs a major reform and only a negligible number think that it does not need any reform.

CHART 2.

Question: Our higher education needs a fundamental reform that would enhance the quality of education provided (Matějů 2007)



6. The proposed major changes to tertiary education in the Czech Republic have to be implemented with respect to **numerous circumstances and risks**. Competition among education providers is on the rise and educational demand is increasingly difficult to meet. Budgetary constraints on public resources will not change much, nor will the global market for highly qualified graduates and academic staff. New generations of students will show a greater interest in the relation between their studies and their relevance for the labour market. Lifelong learning will pose greater demands for the form and content of the education on offer. The response of the whole system and individual universities to these challenges must not put the social and cultural role of universities at risk and must not make them subordinate to the sphere of policy and narrow employer interests. All proposals contained in the White Paper take the above circumstances into account.

1.2. Challenges of the Czech System of Tertiary Education

7. One of the most important factors leading to successful educational development is the establishment and long-term maintenance of relations between employers and the whole tertiary education system (in addition to their links to research and development). Employers and the private and public sectors are particularly dependent on the **quality and number of graduates** who enter the labour market each year. Employer and professional associations hence cannot be indifferent to the situation in tertiary education, and must pay more and more attention to it (see e.g. the document *Industry's Strategic Needs for 2008–2011*, prepared by the Confederation of Industry of the Czech Republic). In general, employers are beginning

to regard the situation of all levels of the educational system as unsatisfactory, and are demanding **major changes to it, including tertiary education**. These activities have to be seen as one of the key indicators of the responsiveness of stakeholders and the environment to the functioning of the tertiary education system.

8. It also has to be pointed out that employers' needs can only be fulfilled in a **diversified system of tertiary education** in which there is a relatively large segment of institutions providing higher education with a strong professional component and having very close links with employers and other partners in relevant professional fields. However, a long-term objective of the whole system has to be the **quality of graduates' knowledge and skills** in general. Carefully designed graduate preparation, directly according to the requirements of individual partners, should be on the other hand implemented by institutions (or their parts) that are closely and professionally linked with those partners, above all in the context of lifelong learning. This will eliminate the risk of deforming education as such. Along with the increasingly important role of further education, employers should gradually and more intensely cooperate with the tertiary education sector in ensuring the continuous development of the knowledge and skills of their employees.

9. The Velvet Revolution of 1989 ended several decades of political censorship in teaching and interventions in university admissions, restoring academic freedoms. However, that in itself could not remove the **deformation caused by** the gradual **shift of research** to institutes of the Academy of Sciences of the Czech Republic, which occurred after World War II, with the USSR as a role model. University associate professors and professors were perceived as internationally important researchers and teachers, but the small number of those positions did not reach the **staffing levels needed to ensure the quality** of study programmes for accreditation at many newly established faculties and HEIs. The problem grew even greater after 1999, when the Higher Education Act (No. 111/1998 Coll.) came into effect, which made it possible to establish private higher education institutions. As a result, there has been an increase in so-called "flying professors" – i.e. academics with multiple positions and affiliations, some of which are mere formalities – at public HEIs and departments of the Academy of Sciences of the Czech Republic. Such professors often serve as guarantors or teach courses at several HEIs and are not permanently based there, except for occasional lectures and consultations. This naturally has an impact on both the quality of education (including the supervision of annual, bachelor's, master's and doctoral theses) and on the quality of their scientific work. At the same time, the existing formal requirements for academic staff actually limit or even eliminate the possibility of attracting well-prepared **teachers with practical experience**. Furthermore, in part due to low mobility, the Czech Republic still perpetuates a **traditional mode of human resource development**, in which the academic staff members of tertiary institutions are recruited predominantly from their own graduates.

10. Already at the end of the 1990s, it was clear that in international comparison Czech academic staff with "advanced" academic titles, such as professors, were among the **oldest in the world** and the least mobile, both domestically and internationally (Tollingerová 1999). Unfortunately, no radical improvement has yet occurred, and the continued unfavourable state of the age structure of academic staff and the very strong age-dependence of individual categories (assistant professor, associate professor, professor) have also been confirmed by recent research (Matějů, Vitásková 2005).

11. The quality of teaching is also affected by the **teaching load** of teachers and the class load of students. Over the last two decades, the concurrent use of highly conservative teaching methods and the mass nature of education have led courses to be taught in a far too formal manner, i.e. with overcrowded seminars in which students do not receive the necessary feedback, consultations and ongoing checks of their academic performance. There is also no time for enhancing the qualifications and expertise of teachers at HEIs. However, numerous courses could be conducted more efficiently by experts from the field and the traditional style of teaching should be replaced by a project-oriented approach that highlights related soft skills

(management, cooperation and team communication, definition of deliverables, meeting deadlines and quality, etc.).

12. **The internationalisation of study** is absolutely **insufficient** at most schools with respect to the direct interaction of Czech and foreign students (if there are indeed any other foreigners than Slovaks; the existing system is such that that schools make them attend other, tuition-based courses in which they are isolated from the presence of their Czech peers), the use of foreign literature, and the incorporation of study abroad during one's studies. As a result, graduates are not adequately prepared for further studies abroad, for finding employment on the international labour market, or for foreign work environments. Similarly, students only rarely use literature in their original foreign languages, which they should be taught to do. In the best case scenario, high-quality Czech translations are available, but usually students learn literature in the form of notes and commentaries written by their professors. This manner of engaging with texts does not compel students to search for information, evaluate it, correctly utilize it, or to present it.

13. The Czech system of tertiary education lacks **guarantees and credible projections of the financial resources** of individual TEIs, even in the short-term horizon of more than a year. Since the capital investment policy for the development of HEIs is not transparent, it is practically **impossible to devise and fulfil the long-term strategic development plans of individual institutions.** The fields of study that do not have many opportunities for direct cooperation with industry, but which play a key role in the broader social function of universities (e.g. artistic fields and humanities) are the most sensitive to this.

1.3. Target Situation

14. The aim of the reform is the stabilisation of an open system of autonomous institutions of tertiary education and research and development that independently organize their constituent parts and functions so as to best compete in a competitive regional, national and global environment. In order for the system to operate more efficiently than at present, it is essential to ensure: (i) academic freedoms and academic autonomy, (ii) the openness of TEIs towards external social interests, (iii) a transparent environment with clearly visible results (successes and failures) of the activities of individual colleges and universities, and a (iv) healthy competitive environment among tertiary institutions.

15. For this purpose it is desirable to:

- Increase the diversity of the whole system of tertiary education, i.e. broaden the autonomous decision-making of individual institutions about their internal structure and profile, while clearly supporting excellence in all aspects of work;
- Expand the organisational and economic autonomy of individual TEIs so that their internal structure, management and control processes correspond with the selected mission within the system;
- Enhance the national and international mobility of academic staff who perform teaching activities;
- Better define and expand shorter, professionally oriented study programmes (e.g. the expansion of two-year professional programmes and a substantial increase in the overall adaptability of graduates of bachelor's programmes, and hence their professional success; opening up the whole system to rising demand);
- Create conditions for the concentration of state-of-the-art research in research-oriented centres (e.g. faculties or suitable alternatives to higher education research institutes);
- Create conditions stimulating the cooperation of TEIs, oriented towards development and innovation with external partners;

- Involve external actors in the management of individual HEIs commensurate to their type; increase the quality of feedback and support of managerial elements of governance, such as strengthening accountability and efficiency;
- Increase the role of private resources in tertiary education (public resources will be insufficient in other policy areas as well), i.e. strengthen multi-resource financing:
- Create more favourable conditions of cooperation with the business sector; foster greater willingness to participate from both sides;
- Introduce a suitable model of cost sharing on the part of students that would increase the interest of public higher education institutions in the future employability of graduates; also, admit more foreign students;
- Mitigate social barriers in access to higher education, i.e. better utilise the potential of human capital and provide targeted support for talent;
- Create an efficient system of financial aid for students;
- Enhance the overall permeability between and within the levels of the educational system and improve conditions at the level of secondary education (transferability, the preparedness of applicants at all levels of study, aspirations);
- Significantly increase the involvement of TEIs in lifelong learning, whether with or without the direct cooperation of commercial partners.

16. Recommendations

a) Extensively transfer to HEIs the responsibility and competency for selecting the structure and internal governance of their economic management, human resources and quality controls, including the content and form of education activities (this competency of selection will presumably not apply to Institutes of Professional Education, whose management bodies will be more strictly defined by law).

b) Require a standardised evaluation of teaching quality by students and by means of objective indicators (e.g. the success of graduates, peer review of the knowledge and skills of graduates, the teaching methods and approaches used, etc.) as a fundamental basis for evaluating the quality of an institution, or its organisationally autonomous segments, for the purposes of financing and accreditation.

c) During evaluations, take into account the development of students' soft skills, their attained knowledge and skills in individual programmes of study, and possibly involve expert practitioners in educational activities.

d) Create a public information system on HEIs and the results of study (on-line) that will provide detailed standardised information not only about schools, but also about individual fields of study at those schools.

e) Pursue an extensive internationalisation of study; changes in the concept of education related to active knowledge, skills, and excellence at the international level should be supported in large part by project schemes financed by the Operational Programme Education for Competitiveness.

CHAPTER 2

STRUCTURE OF THE SYSTEM

2.1. Current Situation

17. Five key factors have played a particularly large role in modernising and enhancing the dynamics of the development of tertiary education in the Czech Republic over the past 15 years:

- The gradual implementation of the model of structured study as part of the Bologna process;
- A visible increase in the expenditures for higher education;
- An increase in the number of accepted applicants;
- The transfer of some research and development activities to HEIs and creating the space for the development of the private higher education sector.

However, all the above changes face a number of structural problems that have remained unresolved, particularly in terms of the establishment of the system of Czech higher education stipulated by Act No. 111/1998 Coll. and its subsequent amendments, and in terms of the way in which the Bologna process has been implemented. The Czech tertiary system still remains fairly unitary (despite the sizeable implementation of the three basic types of study: Bachelor's, Master's and Doctoral), contains non-systemic elements, and is still not flexible enough. According to OECD strategic documents, this is one of the greatest weaknesses of European higher education as a whole (OECD 2006).

18. From the current 26 public higher education institutions, all but two have the status of being universities. However, at many of those institutions, master's and doctoral programmes have been accredited only due to formal guarantees given by full and associate professors from other HEIs with better academic staff. There may also be a similar problem at private HEIs. The attempt, at all cost, to have all three levels of study at all public HEIs and their individual faculties has been marked by the protracted and unsuccessful debate about the need to divide TEIs into research universities, schools dedicated to teaching, and institutions providing job-oriented programmes (Institutes of Professional Education). Only the first of the above categories has been straightforwardly seen as a full-fledged university, whereas the other types of school are perceived as lower-quality. Bachelor's programmes are often seen only as preparation for master's programmes; they are not sufficiently diversified in their academic focus, and there are an inadequate number of bachelor's programmes that clearly focus on the practical skills needed by graduates.

19. We should pay special attention to the role and position of post-secondary professional schools. These schools were first established in the mid-1990s and for a certain period were a substitute for lower types of higher education, particularly practice-oriented bachelor's programmes, which did not exist then. In the course of the development of post-secondary professional education, a large number of institutions offering this type of study were established, many of which were attached to secondary schools. Post-secondary professional schools were quicker and more efficient in learning to cooperate with employers and in orienting themselves on the practical training needed for skilled employment. As a result, post-secondary professional school graduates are currently among the most successful on the labour market. However, the Higher Education Act (No. 111/1998 Coll.) does not include

those institutions within the system of tertiary education (they are regulated only by the Education Act) and thus their role in the system of tertiary education is not duly enshrined in legislation. Demographic decline, which is a primary threat to the existence of post-secondary professional schools, is at the same time paradoxically reflected in the establishment of new institutions. Numerous institutions establishing new post-secondary professional schools are clearly responding to the falling number of secondary school pupils.

20. Higher education institutions follow a stabilised and technically well managed accreditation process, including the authority for granting appointments. However, the accreditation of academic programmes and their fields of study, which includes the verification of formal standards in terms of the number of associate professors and professors and the required infrastructure (including the number of sanitary facilities, etc.), has undesirable effects both in the area of human resources and in the appointment process at individual institutions.

21. Unfortunately, the accreditation stipulated in legislation does not govern post-secondary professional schools, for which there was no standard accreditation process guaranteed by the Accreditation Commission until 2005.[1] The gradually implemented process of accrediting post-secondary professional schools is still relatively easy compared to HEIs, which raises further doubts about the prospect of post-secondary professional schools within the system of tertiary education. Some post-secondary professional schools made use of the opportunities opened by Act No. 111/1998 Coll. and gradually transformed themselves into HEIs. Such schools began to cooperate with already existing HEIs and provide joint (mainly bachelor's) programmes. However, the majority of post-secondary professional schools have continued in their current state and do not consider further transforming into HEIs. In addition to problems of academic personnel (the inability to meet the qualification requirements on HEIs imposed by the Accreditation Commission) there are also economic reasons for not transforming. Most of post-secondary professional schools only have a small number of students (ranging in dozens). Due to all of the above factors, post-secondary professional schools were not included in the Bologna process, which further deepened the divide between post-secondary professional schools and higher education institutions, and thus brought them closer to post-secondary education.

2.2. Proposed Changes to the Structure of the System

22. All steps leading to the transformation of tertiary education have to take into account the fine network of synergies and relations in which the system has developed, as well as the needs of the Czech society and economy in a global world. In this context, it is important to consider the main objectives included in the OECD recommendations. Both the European Union, which is searching for a model of tertiary education rooted in historical and cultural traditions and that can quickly adapt to global changes, and nation-states with tertiary education systems that have reached the greatest dynamism and competitiveness, should serve as a reference point for discussing the changes to the structure of the tertiary education system that are needed.

1 The Accreditation Commission for Post-secondary Professional Education launched its activities on June 2, 2005. The activities of the Commission follow the relevant provisions of Act No. 561/2004 Coll., on pre-school, primary, secondary, post-secondary professional and other education (the Education Act), and Regulation No. 10/2005 Coll., which has provisions on post-secondary professional education, which are further supplemented by the Statutes of the Accreditation Commission. As part of the accreditation process, the Accreditation Commission assesses the educational programmes of post-secondary professional education from the content and professional points of view and informs the Ministry of Education, Youth and Sports of its assessment. It also assesses other items related to post-secondary professional education submitted to it by the Minister of Education, Youth and Sports. The establishment of the Accreditation Commission has had a major positive impact on assessing the quality of individual post-secondary professional schools, as a result of which educational standards began to emerge at post-secondary professional schools for the first time.

23. The following measures are needed to create a strong and flexible system of tertiary education:

a) The establishment of a single and mutually interconnected system of tertiary education, where all elements are clearly grounded in legislation.

b) Increasing the differentiation of TEIs in terms of the type and level of provided services. The rational allocation of funds (which is tied to the national quality management system) should serve as an instrument for reaching this objective.

c) Expanding the academic choices available in tertiary education so that opportunities better reflect the needs of the labour market and the challenges of global society, including a significantly enhanced role of higher education institutions in lifelong learning.

d) Full implementation of the Bologna process both in terms of the introduction of structured studies, and in terms of the introduction of new rules for evaluating quality based on the knowledge and skills of graduates.

e) Support for bachelor's programmes that produce graduates with strong professional profiles.

f) Stronger linkages between lower types of tertiary education and practice (mainly two-year programmes and bachelor's programmes).

The system will logically create a structured whole, internally permeable and compatible with other similar systems in the advanced world and will bring results that can compete globally. The system has to provide foundations for both for top research and for educating professionals for their practice, based on a long-term strategy and allocation of funds related to it. These objectives will be reached with the help of three main instruments: **system alignment, system differentiation and system structuring**.

24. The diversification of the objectives of bachelor's programmes has to be accompanied by a clarification of the position of graduates of bachelor's programmes on the labour market (mainly by the state as an employer). A large number of HEIs and faculties should offer study programmes that emphasize the development of key competences necessary for **direct employment**[2]. These competences should be achieved in the curriculum

- by including practice-oriented courses that taken into account their subsequent diverse practical applications in broader fields of study;
- by involving students into (predominantly applied) research, development and innovation (which can be done at all undergraduate programmes, either internally or in direct cooperation with a commercial partner);
- by including courses with the involvement of major regional and local employers (industrial companies, state administration and local government, professional associations), preferably in conjunction with lifelong learning.

Such practice-oriented and professional programmes (whether offered separately or as an option in the fulfilment of requirements for more general programmes) will make it possible for graduates to find better employment. It will also tackle another painful problem of Czech tertiary education, namely the relatively high dropout rate and the high average duration of unsuccessful studies. The latter shortcoming (highlighted e.g. by OECD reports) leads not only to the inefficient utilisation of funds, but also contributes to the low ratio of the adult population with tertiary education.

25. The quality of master's and doctoral programmes, measured mainly by the skills of graduates, will have to be further emphasized. This objective may be achieved by significantly

2 The degree of high practical content has to reflect the given field of study: it would be different in the case of civil engineers training to manage construction projects and for humanities graduates preparing for various positions in the state administration and for other administrative work.

increasing the accountability of individual institutions for the knowledge, skills and future employment of graduates. Both the specification of accreditation procedures and financial instruments at the national level will be subordinate to this objective, including the recognition of the large expenditures needed for carrying out the programmes in the required quality. The support and clear definition of competences of graduates of practice-oriented bachelor's programmes will make it possible for a large part (gradually up to 60%) of those entering tertiary education to graduate with a Bachelor's degree with sufficient quality to enable them to enjoy a competitive position on the labour market. From the viewpoint of the system as a whole, all bachelor's programmes will continue to enable entry into studies at the master's level, irrespective of their degree of professional or theoretical orientation. Hence, the distinction between academically-oriented and professionally-oriented programmes should not be based in legislation, but rather has to be defined with respect to the content and objectives of specific programmes as well as with regard to the type of institution offering them. Such a diversification will not only foster the **opening up of the tertiary sector**, but also necessary **enhancements in the quality of education at the master's and doctoral levels**.

26. Post-secondary professional educational institutions exist in many European countries. Everywhere, people are searching for ways to harmonise those institutions with the overall system of tertiary education. For the Czech Republic, it will be beneficial to have some post-secondary professional schools transformed into educational institutions offering short-cycle programmes (two-year programmes at most; practice-oriented education). Those institutions that meet the necessary conditions will also be able to obtain accreditation for bachelor's programmes. This model is known, for example, in the Netherlands, where 'hogescholen' offer two-year programmes that provide 120 ECTS credits and that enable both valuable employment opportunities and increased qualifications for bachelor's study (Focus on Structure 2007: 240-244). The basic difference between these institutions and the current post-secondary professional schools will lie mainly in their clear separation from secondary schools (mainly in terms of staffing); in their accreditation process, which will be guaranteed by a single Accreditation Commission for all tertiary education institutions; in the implementation of principles of the Bologna system, i.e. introducing a credit-based grading system for individual fields of study in accordance with ECTS rules; in the evaluation of the quality of those institutions, based on the skills and knowledge of graduates; and last but not least, in the possibility of having a substantial amount of obtained credits recognized in closely related tertiary education programmes. It is highly likely that only some of the existing post-secondary professional schools will be able to meet the above conditions. The remaining schools will either cease to exist or will transform and provide a different type of education, e.g. post-secondary educational courses provided as part of lifelong learning. This approach makes it possible to broaden the availability of tertiary education and make the whole system truly open and flexible.

A New Conception of Accreditation

27. The process of accrediting educational activities at the national level will grant individual institutions the accreditation to provide education, always for clearly defined **broader fields of study** and types of programmes (beginning with short-cycle two-year programmes, bachelor's and master's programmes up to doctoral programmes, and always for clearly defined professional fields[3]). This process will be implemented on the basis of evaluating the results of those programmes (e.g. the employability of graduates, their achievements in research, development and innovation) and the organisation of individual institutions, including their autonomous **quality management systems**. TEIs will make autonomous decisions about the structure and listing of individual programmes in all fields and types of study for which accreditation has been granted to them; they will do this on the basis of internal accreditation procedures. Systemization of programmes will still be a responsibility of central administration,

3 In a certain sense, this should be similar to the ways businesspersons or entrepreneurs attain time-limited licenses for their activities, rather than the existing manner of accrediting individual fields of study.

since formula funding will be linked to it. The new strengthened position of the Accreditation Commission will have to be also reflected in its composition and infrastructure, including the engagement of external actors (employers, public administration representatives, etc.).

28. The accreditation of bachelor's programmes will be based on standards that **take into account the chosen focus of the given tertiary institution** in order to prevent practice-oriented bachelor's programmes from being assessed by the same parameters as purely academic-oriented programmes. In this context, for example, the following parameters will be newly applied:

a) The degree of creative activities financed from private resources in the overall scope of support for creative activities;

b) The percent of teachers having work experience outside higher education institutions (at least 3 years);

c) The extent of students' work experience (the percent of credits attained in study programmes);

d) Cooperation with the commercial sector;

e) Success of graduates on the labour market.

An additional financial instrument for fostering practice-oriented programmes will be the establishment of appropriate mechanisms (mainly in the tax system) that encourage more companies to implement and participate in the above programmes (e.g. by providing the basis for professional training or cooperation in the area of work experience).

29. Even though quality management in individual institutions will be an autonomous issue, it has to rely on a set of nationally standardised (and updated, if need be), and **primary quantitative, indicators** on which derived assessments and potential comparisons of institutions can be based. Any such devised metric, by itself, cannot be the only source for accreditation or other evaluative and benchmarking procedures.

30. The spontaneous diversification of the whole system of tertiary education will not be possible without changing the supervision of the state over qualifications standards governing human resources. TEIs will **autonomously set and develop their own systems of employment and qualification standards** in a manner that reflects the selected profile of the institution and its faculties (i.e. internal career systems that specify the requirements for teaching positions, including associate professors and professors, will replace the existing appointment procedures stipulated in legislation). At the national level, the supervision of the standards of academic staff will be maintained, in part through the introduction of a national **register of academic staff** that will be used in accreditation applications and in evaluations of HEIs for assessing the actual staffing used in educational activities.

Classification of Individual Institutions and their Parts

31. The newly established financial, institutional and legislative basis for tertiary education will define clear conditions for both teaching-focused centres and for those focusing on top research. These two fundamental functions of HEIs will not be divided; rather, resources will be allocated in a more efficient manner. The aim is to classify three basic types of institutions or their parts, namely **research-, education- and practice-oriented institutions**. The establishment of criteria for evaluating research will play a major role in this respect, and the whole system will be devised in such a way so as to be efficient, flexible and transparent, while at the same time adequately prioritizing the combination of excellent research and teaching activities.

32. The classification of TEIs thus cannot (and must not) be done by any bureaucratic process. It has to be the result of a natural process of utilising the **comparative advantages** that specific institutions have. We can expect the following factors to play a major role:

- The structure of financing according to sources, purpose and quality (education, research, development, innovation, and other activities). It has to be noted here that for most schools the possibility of using comparative advantages (mainly in the field of education) will remain considerably limited until tuition fees are introduced, which will serve as one of the natural instruments for differentiating among predominantly "educational" institutions;
- The share of research, development and innovation (hereinafter R&D&I) pursued by an institution (the percent of funds obtained through research and development). This principle of differentiation will be implemented as an expected consequence of the current reforms in R&D&I, and the amendment to Act No. 130/2002 Coll., on support for research and development from public resources;
- The type and focus of the offered study programmes;
- The regular evaluation of results of educational and scientific activities;
- The mode of management through which each tertiary education institution selects a management model within a statutory defined leeway, which will best suit the nature of its present and future focus.[4]

33. Indicators used for the classification of given institutions will include the following:

- Share of revenues in the fields of research, development and innovation/education, share of tuition fees in financing the institution;
- Share of support from international resources in the overall support for research, development and innovation;
- Performance in research, development and innovation per academic staff (e.g. according to the *Methodology for Evaluating the Results of Research, Development and Innovation* prepared by the Council for Research, Development and Innovation);
- Implemented types of study programmes;
- Share of students of doctoral study programmes in the overall number of students;
- Lectures conducted by teachers having at least the Ph.D. or by external experts whose applied research results, innovative entrepreneurship, etc. are at the level of formal qualifications;
- Share of teachers having work experience outside HEIs or who have worked abroad (at least 3 years);
- Degree of students' work experience (the percent of credits attained in study programmes);

34. In the context of this typology, it will be necessary to adequately re-adjust both the required documentation and the subsequent evaluation of parameters used for the accreditation of individual institutions. The achievement of excellence will also be defined for all types of institutions. The actual categorisation of an institution or its part should not be a sign of quality per se. Each HEI will be able to pursue the relevant activities of all of the above types of institutions at the same time, according to its consideration and opportunities, including the provision of practice-oriented educational programmes. In addition, the new legislation will make it easier to establish purposeful consortia of TEIs, public research institutions and other partners. This will lead to new opportunities for interweaving education, research and development activities and to better interconnect learning, science and practice (see Chapter 6). The adoption of the above measures, together with the reform of research and development financing – on the basis of which the financing of HEIs will far more reflect the results of research, development and innovation – will also gradually lead to emergence of top research

4 It is clear that in the case of a large research university, the role of academic principles of self-goverance will be greater than in other tertiary education institutions, such as schools focusing on the provision of practice-oriented bachelor's programmes.

centres at higher education institutions and to greater collaboration with other public and private institutions focusing on research and development.

35. Recommendations

a) A legislative amendment on evaluation procedures for the internal accreditation of study programmes and fields of study at TEIs, including the transfer of many current responsibilities from the Accreditation Commission to TEIs.

b) Strengthen the Accreditation Commission and shift its objective to the granting of accreditation to institutions that pursue educational activities in broader areas, based on proven organisational, performance and financial parameters.

c) Establish a structure of required parameters for accreditation and financing that would lead to the spontaneous differentiation in the internal organisation of larger TEIs in line with the generally accepted typology, as well as to the external diversification of the whole system at the national level.

d) To fully incorporate short-cycle programmes pursued by post-secondary professional schools into a single system of tertiary education, both from the legislative point of view and from the lens of accreditation and financing.

CHAPTER 3

RESEARCH AND DEVELOPMENT

3.1. The Present and Target Situation of Research and Development at Higher Education Institutions

36. The White Paper conceives of research and development in the framework of the *Reform of the System of Research, Development and Innovation* prepared by the Research and Development Council (RDC 2008; hereinafter referred to as the "R&D&I reform"), adopted by the Czech government on 26 March 2008 and gradually implemented. The White Paper therefore focuses on specific issues concerning higher education institutions, particularly the preparedness of human resources for R&D&I and on the governance of research units within HEIs (see also Chapters 4 and 5). Documents prepared by the Research and Development Council have served as the basic source of information for the preparation of the White Paper, such as the *Analysis of the Existing State of Research, Development and Innovation in the Czech Republic and a Comparison with the Situation Abroad* (both the 2007 and 2008 editions), *The Evaluation of Research and Development and its Results in 2007* and the *White Paper on Research, Development and Innovation in the Czech Republic* (Klusáček et al. 2008). Vital information is also contained in the analytical part of the *Competitiveness Yearbook – Czech Republic, 2006-2007* (Kadeřábková et al. 2007) and the *Green Paper on Research, Development and Innovation in the Czech Republic* (Klusáček et al. 2008). Within the European and OECD context, numerous analytical and strategic documents pertaining to R&D&I have been prepared. The OECD document *Science, Technology and Industry Scoreboard 2007* is an essential analytical resource in this regard.

37. Beginning in the late 1990s, there have been ongoing debates at various levels on the need to differentiate HEIs between those that focus on research and those that focus on other activities (see Chapter 2). The spontaneous diversification of the system of tertiary education is taking place in relation to research, and analyses show that funds for research and development are concentrated in a small number of HEIs. This positive development will continue through an emphasis on high-quality research results (e.g. articles in high-impact journals, international patents, scientific monographs in some research areas, etc.). Due to the large degree of heterogeneity of most HEIs in the Czech Republic, it is clear that the basic typology cannot address HEIs as a whole, but rather their parts (e.g. faculties and higher education institutes). However, the formal classification of "research universities" per se is not a positive instrument for supporting R&D&I at higher education institutions. The debate on the issue is itself becoming a competition in which all HEIs in the Czech Republic are engaged in (not being a "research university" is perceived as a failure). This has negative implications for the development of tertiary education as well as for the system of R&D&I (e.g. bogus research, flooding the Information System on Research and Development with useless pseudo-results, the widespread notion that "research" at HEIs comprises everything other than direct teaching, etc.). Furthermore, research and development face a challenge of how to define excellence in the results of rational research and creative knowledge. To be sure, the appropriate response to this challenge of the reform process is not to pit "exact" and "soft" sciences - or technical and artistic schools – against one another, but rather to emphasize the equality of rational and creative learning processes.

38. With regard to the development of R&D&I in the system of tertiary education, it is essential to amend legal regulations and commonplace practices in the following areas:

a) Basing institutional financing on the results achieved in research and development (which would include changes in the financing of doctoral study) while retaining (and further expanding) the possibility of project-based financing; this has the benefit of not preserving the existing structure and hence would not foreclose the possibility of financing for new research teams and institutions;

b) Changing the framework for qualifications in tertiary education in order to support academic mobility, the intergenerational replacement of academic staff in a timely manner, and the involvement of expert practitioners (including practice in research institutes independent of HEIs, and work experience abroad);

c) Increasing inter-sectoral mobility and supporting academic entrepreneurship.

39. The institutional financing of research and development will be largely based on the allocation of resources to major providers of R&D&I funding according to the results of fundamental and applied research achieved during past five years by institutions in their administartion (a set of fomulas is being developed for this purpose by the Council for Research and Development). This should to reduce the production of useless and mediocre results and help achieve the sought-for diversification and hierarchical differentiation of research and other institutions (e.g. faculties, institutes or other university bodies), without the need to legislatively classify the nature of the "research" of a given institution. At the same time, decision-making about funds for long-term research pursued by institutions will be shifted from the ministerial level (granting of research projects) to their own management. Whether the institution utilises the funds to obtain (or retain) qualified staff, to invest in new technology and equipment, to cooperate with other institutes, etc. will depend only on it, with the precondition that the funds have to be used for research and development. The generated results will serve as a starting point for future revenues in a long-term stabilised system of financing.

Doctoral Study

40. Higher education institutions have the full responsibility for preparing the next generation of scientists and researchers. In the 1990s, the existing form of doctoral study (ISCED 6) replaced the outdated model of research training as a kind of employment in a research institution. However, in practice doctoral study is not in essence pure study, but rather a type of training similar to that performed by medical doctors before their qualifying examinations. Current legal regulations neither require nor clearly support the participation of doctoral candidates in the research or teaching work of their home institution, even though this is an entirely irreplaceable dimension of achieving qualifications in R&D&I. Compared with the current situation, the accreditation of doctoral programmes should be far more intertwined with the results of R&D&I that the higher education institution has achieved (e.g. *Evaluation of Research and Development and its Results in 2007*), and not almost exlusively with formal indicators like the number of professors it has. At minimum, the standardisation of the quality of doctoral graduates is essential within relatively homogeneous groups of study programmes. The reform of R&D&I modifies the system of allocating funds to so-called specific higher education research (carried out by students pursuing accredited doctoral or master's programmes and immediately linked with their education), which currently serves as a major source of financing for doctoral study, in order to fulfil its objective (supporting research carried out by students, mainly those in doctoral study), but at the same time to strengthen the role of competition and usefulness. In terms of the possible adjustments in the formula funding used in doctoral study (see Chapter 6), this positive change entails considerable risks for the financing of home institutions of doctoral study. This is why it is necessary to pay considerable attention to the targeted allocation of funds for "specific research" pursued by HEIs. In addition to a modified version of financing for specific research, there should also be concurrent targeted support from the Czech Science Foundation and the Technological Agency of the Czech Republic, whose establishment is currently under way.

41. The existing system of close cooperation between some HEIs and research institutions (e.g. public research institutions established by the Academy of Sciences of the Czech Republic) in implementing doctoral study programmes has to be further expanded so that both types of institutions take a greater role in the management, evaluation and financing of R&D&I. It would also be appropriate to facilitate the introduction of corporate scholarships for individual students of doctoral study programmes (the student would have an obligation towards his/her future employer) and encourage the listing of doctoral dissertation topics in cooperation with firms and corporations (and their direct participation in the costs related to R&D&I).

The Position of Professors and Associate Professors

42. The system of qualifications for academic staff in the Czech Republic is extraordinarily cumbersome (see the views of OECD experts and representatives of the business sector). For legislative and traditional reasons, the scientific and academic titles of associate professor and full professor are perceived as having lifelong and countrywide validity, even though specific conditions for habilitation and professorial appointment procedures depend on the home institution. The value of those titles is often inconsistent, even in similar fields. The question of accepting titles obtained under different conditions at other HEIs or abroad also poses difficulties. The unsatisfactory age composition of the academic staff in a number of HEIs is a result of the above system, as is the very low representation of foreign experts in the academic community, particularly in leading positions (such as departmental chairs). Furthermore, the existing system makes it difficult for highly qualified experts from practice or from abroad to become fully involved in the academic qualifications hierarchy. It has recently become clear that the present situation combines an inability to prevent different qualitative levels of the habilitation and professorial appointment process, along with the considerable motivation to inflate titles, which is based not only on the personal motivation of individual staff members, but also at the level of HEIs (accreditation procedures).

43. The White Paper therefore proposes the introduction of a **transparent system of "professorial" functional positions** at HEIs, which will be linked with the mandatory career guidelines of HEIs. The system will be maintained **within the scope of the internal guidelines prepared by individual institutions**, which will be responsible for the public definition of their qualifications criteria (however, their nomenclature does not have to be unified at the national level). Even though this issue is exceptionally sensitive in Central European conditions, it will introduce a system whereby standard professorial positions will be decided upon by TEIs and not by the state, and tertiary institutions will themselves be responsible for their reputation. In effect, this situation will lead to the elimination of institutional attempts to unreasonably increase the number of associate professors and professors (deliberately, at the price of devaluing the importance of formal titles).

44. The Czech Republic is a country with an extraordinarily low share of private funds in expenditures for R&D&I in the public sector. A major barrier in this respect is that companies show insufficient demand for the results of R&D&I, which is presumably caused not only by a lack of funds in small firms, but also by the emphasis of those companies in utilising a cheap labour force and producing products with lower added value (Klusáček et al. 2008). The weak motivation of those active in R&D&I to pursue applied research and to transfer knowledge is a major barrier to cooperation; the lack of agency-based resources for the transfer of research knowledge by HEIs also has an unfavourable impact.

45. The simplest and cheapest way of supporting collaboration between businesses and HEIs is to make the former perceive colleges and universities as an opportunity for improving their innovation potential by shifting or expanding a certain part of R&D&I from their own research centres to higher education institutions. For that purpose it is vital to create an environment where full professorial positions may be established that will be linked with a specific commercial partner that reasonably participates in their financing. On the basis of agreements with particular HEIs, the business sector will thus be able to establish and finance

professorial positions for which a recruitment procedure will be organised without requiring long-term teaching experience at the respective higher education institution. Such a professor has to be a fully equal member of the academic community of the given HEI.

Shared Infrastructure

46. Most of the time, achieving excellence in research and development in today's climate requires costly infrastructure and the constant upgrading of instruments and equipment. Thus a single research institution can rarely ensure the long-term quality of the research environment and at the same time fully utilise the purchased technologies. If it does, such investments require the specific administration of the costly infrastructure to be included in its internal organisational structure. It is therefore necessary to promote legislative reforms that would enable the greater autonomy of TEIs in being part of legal entities or in the purposeful establishment of such entities. Associations of, and cooperation between, organisations having a different legal status and different founders should also be supported financially. This financing should be tied to the system for reporting results in R&D&I. The above legislative changes will make it possible for public higher education institutions, public research institutions and other research organisations to establish consortia that will meet the conditions set forth in the *Community Framework for State Aid for Research and Development and Innovation* and to apply for public support for R&D&I.

47. Priority financial support should focus on consortia able to utilise research infrastructure, particularly for educating students and researchers as well as for collaborating the business sector. HEIs should be able to create institutions focused mainly on research and development activities (and doctoral study programmes) that operate in a highly autonomous form inside the relevant HEI. They should also be able to create independent units at the level of existing public research institutions, or alternatively entrust them with property management (it should not be necessary to transfer ownership from the HEI to such public research institutions). Even though existing higher education research institutes may seem to be a suitable organisation unit, their actual position in the system of tertiary education is vague: they represent a mixture of "nascent faculties," specialised research institutes, and more or less service institutions. Facilitating the maximum possible congruence of the legal and economic positions of such internal university institutes with the status of public research institutions would require autonomous decision-making about their management at the level of individual HEIs.

3.2. Recommendations for Reaching the Target Situation

48. Solutions to a wide range of specific problems in R&D&I in the system of higher education institutions have to be widely debated and assessed by experts from the point of view of their function and compatibility with the overall reform of the R&D&I system and with other aspects of tertiary education reform (e.g. financing educational activities, management and self-governance, evaluations of quality). Legislative amendments on public support for R&D&I and the status of public research institutions are essential (see RDC 2008).

49. Recommendations

a) To modify the management and self-governance system of TEIs thereby increasing their autonomy, including conditions for the purposeful establishment of functional equivalents to public research institutions within public higher education institutions.

b) To introduce rules of institutional and targeted financing that will support individual HEIs and their units in autonomously pursuing their ambitions, and which will effectively apply international standards of excellence; such rules should replace attempts at formally (or even statutorily) classifying TEIs (research/other). However, special support has to be granted to fields taking care of the cultural heritage, purely regionally-based fields and other types of creative activities outside the established system of R&D&I support, i.e. largely the development of artistic activities at HEIs.

c) To embed systemic instruments that support the interconnection of institutions pursuing R&D&I and higher education institutions into an overall system of financing R&D&I in the Czech Republic, either at the level of international excellence or in direct commercial innovations.

d) To fundamentally transform the rules for accrediting doctoral programmes (according to the production of the given institution working in R&D&I).

e) To fundamentally reform the qualifications and career system: the system of academic titles (including professorial positions) should be interpreted as an internal issue of HEIs based on the internal career guidelines of those institutions.

CHAPTER 4

COOPERATION WITH THE BUSINESS SECTOR

4.1. Preconditions for Commercial Cooperation

50. For centuries, universities have guaranteed the **freedom of thought and inquiry** and ensured vital **reflections on societal issues and topics**. They have always needed academic freedoms and autonomy for this purpose. At the same time, they have always facilitated the **intergenerational transfer of knowledge.** In addition to this, TEIs are gradually being transformed through the key role they play in the **production of knowledge and the generation of the innovation potential** of society**.** As tertiary institutions gradually become centres of innovation processes, the direct economic and social impact of their activities changes at the regional, national and international levels. The new status of tertiary institutions cannot be described using any general categories of common processes or procedures. The general services tertiary institutions provide to society are specific and are formed differently at different institutions by means of concrete regional, economic and political contexts. Since this public service constitutes another major set of university activity alongside education and research, we will use the term "**third role**" in the subsequent text to denote this function.

51. The pursuit of the newly emerging cooperation between TEIs and the business sector is a very complex process due to the basic linkages and overlaps between state administration and national and regional policies, industrial and service sectors, and educational institutions. Despite their autonomous status, the relevant actors have become closely interconnected.[5] Recently, we could observe a number of complex processes in the Czech Republic to this effect, as well the gradual process of linking all the three domains, resulting in mutual interaction that has brought about organisational changes within institutions. New entities have emerged, such as contact centres; technology transfer centres; strategic alliances of enterprises and universities; networks of academic, private and government research institutions; business incubators, etc. These activities are still haphazard and virtually uncoordinated in terms of objectives and effects.

52. The implementation of projects related to the "third role" must be a natural process resulting from structural, economic and legislative changes, or, possibly, from the use of several general support instruments, rather than from narrow and one-off targeted interventions. As the Czech Republic does not have a transparent classification of publicly funded education and research and development providers according to the type of activity and performance, it is not possible to define common procedures for implementing the "third role" at the level of various types or institutional categories. However, it is possible to formulate and justify principal steps towards supporting and implementing the "third role" of TEIs at the national level in the context of overall tertiary education and research and development reforms.

53. Changes in the actual framework will not be effective without an active approach on the part individual stakeholders. Successful implementation of the "third role" of universities will require that institutions, regions and ministries/state administration bodies pursue, among other things, the following:

5 This web of relationships and links is metaphorically described using the term Triple Helix that was coined in the mid-1990s (Leydesdorff and Etzkowitz 1996).

a) Major changes in managerial approaches at all levels of strategic management (at universities, in regions, and at the national level) including a real (although implicit and non-formalised) categorisation of TEIs.

b) Patient and thorough analyses of the opportunities and risks in various regions, and the sensitive timing of steps and political decisions.

c) The systematic implementation of a set of principal legislative amendments:

- Allocation of subsidies for research and development that would be targeted to encourage and facilitate cooperation with the business sector;
- Changes in the legal status of students in the labour code (including the basic definition of doctoral students in the labour code);
- Definition of governance structures and powers for TEIs that facilitate the effective institutionalisation and management of commercial relations (including the establishment of organisations providing specific services to be used by one or more R&D institutions);
- Legislation and rules concerning research results funded from public resources (realistic and reasonable provisions ensuring access to research results "for all under the same conditions" so as not to hinder commercial cooperation);

d) Establishing or strengthening appropriate institutionalised units within TEIs (or regionally shared units) that will lead to the professionalisation of knowledge and technology transfer;

e) Incentives for firms to invest in R&D in cooperation with the public sector (at present, companies are often unprepared to respect the real costs on the part of service providers);

54. The need to change the attitudes of academic staff will constitute a long and complex process. Their professional identity is, to a large extent, rooted in the clear separation of their research work from commercial goals and the commercial use of research results. It is neither appropriate nor desirable to expect a fundamental change in the behaviour of academic staff in general. However, academics in senior positions will be required to exhibit a large set of business skills that lie outside the scope of their traditionally defined roles. Academic staff in a knowledge society should not only be genuine experts in their relevant disciplines, but also increasingly take on the role of project managers with excellent organisational and communication skills. By using these skills they will be able to "sell" the outcomes of their work quickly and effectively and find new partners, particularly from the private sector, for their future research work. The same applies to tertiary education graduates who will gradually assume management positions in the business sector. TEIs must create favourable conditions for this development.

4.2. Instruments for Achieving the Target Situation

55. Virtually all of the successful strategies across various countries are based on the same prerequisites. In our discussion, we draw on the research on these practices in 10 countries (Technology Centre of the Academy of Sciences of the Czech Republic 2007):

a) Legislative as well as financial support for the establishment of agencies providing specific services focused on the commercialisation of R&D results, or at least for the professionalisation of these activities within the actual institutions.

b) Direct financial and legislative support for the establishment of research teams and positions on the border between public research and development and the business sector.

c) Indirect support for the use of R&D in the form of tax instruments.

d) Public support for clusters and platforms bringing together public R&D institutions and enterprises.

e) Direct state intervention in setting up and funding several centres of excellence dealing with both applied and basic research, as well as the transfer of results and the direct involvement of business partners.

We can consider the sixth prerequisite obvious, and thus not mentioned in the relevant studies:

f) The **existence** of relatively sound and **well-financed tertiary education institutions** where basic educational and research activities reach high international standards and are independent of the success of commercial activities in the short run.

None of these points involves direct public funding for TEI "third role" activities. Rather, these points concern either support activities or provisions that can ensure a qualitative and organisational framework for the desired processes.

56. The first four types of intervention 55 a)-d) are currently being introduced in various forms in the Czech Republic. However, their impact on the tertiary education sector is still very small. The main reason appears to be the insufficient coordination between various ministries and the lack of true centres of excellence. Interventions under 55 e) are envisaged in the Operational Programme Research and Development for Innovation, including the necessary links between supported centres of excellence and educational activities.

57. In the context of the reform of tertiary education, we should pay particular attention to the last (implicit) prerequisite - 55 f). Only institutions that meet these criteria can invest systematically in commercially viable R&D projects implemented with partners as part of their educational practice. It is only on these foundations that a genuine transfer of technology can be achieved repeatedly and over the long term (licences for intellectual property, spin-offs, etc.) and that long term commercial or co-funded projects can be implemented. If we take a realistic view of the resources available in the Czech Republic in the medium term, the reform of the tertiary sector (particularly concerning financing) needs to pay specific attention to the existing achievements in R&D&I, including technology transfers and the existing cooperation with the business sector.

58. Best practices from abroad can be taken into account in the process of preparing and implementing policy interventions. One common practice consists in introducing **agency services for supporting the transfer of technology and knowledge.** In the countries under review, the interventions focused on entities established by R&D institutions, or possibly by regional authorities (e.g. there is a special law that enables TEIs to set up agencies providing specific services; there are regional technology centres in Denmark, and regional centres for technology services in Ireland). Interventions also focus on the establishment of state agencies that take various forms (e.g. Technology Clinics and the TUPAS Funding service in Finland, the National Institute of Technology Management in Ireland, and the VINNOVA state agency in Sweden). The *National Innovation Policy of the Czech Republic for 2005-2010* sets out this type of intervention in part V.2.3. The policy (supported, among other sources, from the Operational Programme Enterprise and Innovation) has so far been implemented in the context of support for innovation in small and medium enterprises. However, with respect to the need for technology transfer, the policy lacks long-term stability in terms human and economic resources.[6] The funding of projects in the Czech Republic is needlessly bound to the accumulation of capital assets and the short term start-up of operations of the companies concerned (the Prosperity programme in the Operational Programme Industry and Enterprise). This means that, at present, we have several relatively well-functioning units, but have unclear prospects.

59. Another type of support consists in **joint research teams made up of companies and public research and development institutions.** In the foreign experiences examined,

6 The experience of English companies with a similar focus suggests that roughly eight years are necessary for stabilising the level and scope of services (e.g. Isis Innovation in Oxford or Cambridge Enterprise).

this support involves interventions for creating platforms for setting up joint technology infrastructure of public R&D institutions and companies (e.g. the Innovation Consortiums scheme in Denmark). Moreover, the interventions focus on the creation of interdisciplinary research and development teams across a wide spectrum of institutions (e.g. the Interdisciplinary Research Teams and Industrial PhD Initiative in Denmark, Industry Led Research Networks in Ireland), on direct funding of R&D implemented jointly by public and private sectors (e.g. so-called "innovation vouchers" in the Netherlands, the SBIR and STTR programmes in the USA), and on supporting the continuous mobility of human resources between the public and private sectors (e.g. Knowledge Transfer Partnership in the UK). This function is embedded in the *National Innovation Policy of the Czech Republic for 2005-2010* (part V.2.1.). However, only parts of the policy concerning support for R&D&I in SMEs have so far been implemented. The impact on the activities of public R&D institutions can be seen, above all, in the areas of traditional cooperation between enterprises and technical universities (defectology, metrology, testing etc.). A broader scope of opportunities should be offered within intervention 2.4 of the Operational Programme Education for Competitiveness.

60. In many countries, **tax incentive conditions for cooperation** between the public and private R&D sectors are modified on a continuous basis.[7] In the Czech Republic, this type of support is incorporated in the documents on the planned reform steps of the Ministry of Finance. The taxpayer (as a legal entity) should have the opportunity to support the implementation of R&D projects and deduct the relevant amount from their taxed income up to a specific multiple (a specific amount) of the actual costs of the R&D project and the valid tax rate in the current tax year, combined with a multiple of the increase in R&D expenditures compared to a given moment in time, and later in comparison with the prior tax period. Tax allowances will also be allowed for purchasing research from tertiary education institutions. Moreover, emphasis will be placed on whether or not the assets generated by means of R&D and the related yields are allocated in the territory of the Czech Republic.[8] In its proposed form, we can expect a very positive impact on the implementation of the Lisbon process in the Czech Republic.

61. Clusters and technology platforms are soft interventions that support the establishment of umbrella associations of enterprises and R&D representatives in the public sector. Apart from traditional clusters focusing on joint ventures of private firms, the acquisition of raw materials, the provision of consumer services, etc, associations are being set up that share technology infrastructure and human resources for research and development, but also for innovation in general. In the Czech Republic, such interventions were made possible as part of the Operational Programme Industry and Enterprise. So-called technology platforms are far more important, in which private and public R&D institutions can share a broad spectrum of laboratory devices, testing rooms and, possibly, semi-operational units. This type of intervention is also supported via the EU Framework Programmes. The technology platforms scheme was also discussed in detail as part of the Operational Programme Enterprise and Innovation. However, a number of aspects concerning this type of support appear to have been omitted from the materials that are currently in use. From the perspective of TEIs, it would be desirable to reach similar effects through an appropriate selection of projects within the Operational Programme Research and Development for Innovation.

62. Many countries have witnessed direct state intervention and concentrated support leading to the establishment and operation of several **field-specific or regional centres of excellence**. Examples include the Leading Technological Institutes scheme in the Netherlands, The Christian Doppler Research Association in Austria, and the VINN Excellence Scheme in Sweden. In the Czech Republic, the opportunity is opening up to carry out similarly successful

7 In Denmark, they even attempted to increase the deductibility level up to 150% in some types of projects. However, this measure was not proven as beneficial and it is being abolished.

8 For details see "Reform of Income and Property Tax" on the website of the Ministry of Finance (http://www.mfcr.cz/cps/rde/xchg/mfcr/xsl/ref_verej_financ_dan_ref_38996.html).

interventions, particularly via the Operational Programme Research and Development for Innovation. These opportunities could be relevant for a wide range of institutions and their organizational units within prioritised fields of research. Such interventions will only be fully effective if a balance is struck between support for excellence at the level of applied basic research and support connected to the training of global elites for R&D and applied research at the level of so-called regional R&D centres. At the same time, we should carefully monitor the standards for the financing of the revitalisation and development of public R&D units in the City of Prague that are not eligible for funding from operational programmes.

63. Recommendations

a) The new concept of financing tertiary education and R&D institutions must lead to a diversification of sources so that it facilitates the establishment of centres of tertiary education that would be stable in terms of financial and human resources and that would focus on applied basic research as well as the direct transfer of technology and knowledge.

b) The existing centres for the support of technology transfer (whether units within R&D institutions or independent entities) should be evaluated for their actual performance. Instruments should be introduced to provide select centres with public support and thus ensure their stability for at least 6-8 years. Possibly, this infrastructure should be complemented (not replaced) by a government agency with central operations.

c) The financial components of interventions of 55 a), b), and d) are being prepared as part of the Operational Programmes Enterprise and Innovation and Education for Competitiveness. The experience of similar programmes abroad should be analysed in detail and the potential of sectoral programmes at the ministry level and operational programmes should be utilised in 2009-2015.

d) Direct incentives for companies to cooperate with the public R&D sector should be introduced in the Czech Republic in the form of so-called "innovation vouchers" that have worked well in the Netherlands.

e) The existing proposal of the Ministry of Finance to modify the tax system concerning indirect support for the services of the public R&D sector should be implemented (see paragraph 60)

f) The impact of the existing support for clusters and technology platforms should be evaluated. Long-term public support should be provided to boost their functions that are related to R&D carried out through cooperation between the public and private sectors. Possible synergies between the Operational Programmes Enterprise and Innovation and Education for Competitiveness should be assessed carefully, including an analysis of experiences of similar programmes abroad.

g) Interventions within the first and second priorities of the Operational Programme Research and Development for Innovation should be focused primarily on the development of several large centres with extensive expert and application capacities.

CHAPTER 5

GOVERNANCE AND SELF-ADMINISTRATION

5.1. Governance and Self-administration: Main Problems to be Solved[9]

64. Clark's triangle from 1983, though very simplistic, is the basic starting point for analyses of this topic. Clark used the triangle to differentiate three extreme types of governance: a centralistic model (where the state plays a decisive role in tertiary education), a market-oriented model (where supply and demand and external stakeholders have key influence), and an academic self-administration model (where academic staff and students play a fundamental role). Over the last 18 years, the Czech system of tertiary education has undergone a revitalisation and very rapid transformation from the centralistic model to a model exhibiting major features of self-administration by the academic community. However, each of the models mentioned above has, in its extreme form, distorting and even dangerous effects over the long term. Theoretical studies as well as feedback from employers have expressed the view that the role of external stakeholders (i.e. employers, leading cultural figures, state administration, the non-profit sector, etc.) in the governance of tertiary education should be strengthened.

65. The typologies of governance of the tertiary sector also distinguish between **state governance** and **state supervision.** State supervision is characteristic of the condition of Czech tertiary education system (accreditation, funding, and to a lesser degree also the evaluation of quality). Gradually, the state has begun shaping the main strategic directions (the Bologna process, support for research and development). The main instruments in this area include strategic, long-term plans and development projects. However, their use has so far been insufficient and not very effective. This is particularly the case in the approach to capital asset investments (so-called "programme funding"), which clearly fails to meet European standards. The level of autonomy of TEIs in their capital spending is very low: they are highly dependent on the decisions made by the Ministry of Education, Youth and Sports (hereinafter MoEYS). This has a significant distorting impact on the otherwise positive pressures in place to enhance the strategic management of TEIs.

66. The system of governance of the entire sector of tertiary education is strongly dependent on its structure. Non-university tertiary education institutions (and post-secondary professional schools) have become an important part of the sector. In addition, there are fundamental differences between university-type institutions in terms of size, the breadth of their fields of study (e.g. multidisciplinary traditional universities versus far more homogenous smaller institutions focusing on technology, agriculture or the arts), and in terms the emphasis they place on quality and excellence (particularly in research). Moreover, the legal status of institutions varies (public, state, private institutions); there are differences in the modes of education (emphasis on on-site versus distance learning), in the types of degrees awarded (bachelor's, master's and doctoral), and in the degree of research and development in their activities.

67. Tertiary education is, to a degree, being transformed into a mass system. This gives rise to the incorrect inference that this must result in a reduction of quality standards. Above

9 The White Paper's analysis of governance and self-administration draws on the findings of the OECD Tertiary Education Review team, which has fully sorted out and assessed the problem area. (See the *Thematic Review of Tertiary Education. Czech Republic: A Country Note*. Paris: OECD, 2006).

all, we have to clearly define what the quality of education is and how it can be measured.[10] The fundamental step to address the negative effects of growing student enrolment is the differentiation of tertiary education institutions. This makes it clear, however, that a uniform system of governance cannot be applied to all institutions (as the existing legislation stipulates). This concerns both external and internal governance mechanisms. At the same time, it should be stressed that the choice of governance model at all levels must clearly correspond to the mission of each specific institution. A functional management model that is in line with the institution's mission should be a prerequisite for the accreditation of the institution and a key element in its evaluation (the fit between the mission and the results attained) and quality.

68. The main obstacles to the development of the entire system of tertiary education in the context of its current governance and administration include:

a) The cumbersome nature of central administration, of individual TEIs and their organizational units; their slow response to the needs of external stakeholders;

b) The low capacity to put institutional strategies into practice successfully;

c) The low level of adaptability to changes in the external environment (e.g. in the areas of research, development and innovation, in the implementation of the "third role," and regional aspects)

d) The improper tendency (embedded in legislation) to blur institutional management and responsibilities (university and faculty administration) with academic self-governance; the latter of which should be in the jurisdiction of academic senates;

e) The low capacity to target resources (human and financial) for key projects.

5.2. The Target Situation in Governance and Self-administration

69. Legal regulations concerning the internal structure of institutions of tertiary education will be limited to:

a) The definition and implementation of the role of state supervision – i.e. the obligations and powers of the Ministry of Education, Youth and Sports, the Council for Tertiary Education and other statutory bodies of state administration including accreditation procedures and the principles of public institutional funding;

b) The delimitation of basic functions of direct financial management, self-administration and audits that will have to be performed within the internal organisation of individual institutions; TEIs should retain a high level of autonomy in codifying these functions in their statutes and in other internal regulations;

c) Other specific regulations concerning the rights of individual institutions in joining consortia, establishing new legal entities and participating in business activities in line with the Community framework for the public funding of research, development and innovation.[11]

The definition of these functions will have to differ depending on the type of TEI. It seems useful to enumerate and describe the basic components of governance that must be present,

10 The definition, evaluation and management of the quality of tertiary education will be the subject of one of the projects within the Operational Programme Education for Competitiveness (IPn Hodnocení terciárního vzdělávání – "Evaluation of Tertiary Education"), the outcomes of which will be used in the process of implementing tertiary education reform. An overview of the problems that will have to be addressed is presented in the study "Přístupy k hodnocení kvality terciárního vzdělávání" ("Approaches to Quality Evaluation in Tertiary Education"), that can be found on the website of the Ministry of Education, Youth and Sports in the section White Paper on Tertiary Education (background study).

11 In particular, this concerns the possibility of establishing R&D institutions with the status of public research institutions, commercial R&D organisations or special-purpose service organisations – either independently or jointly with third parties.

but it would not be appropriate to provide a detailed description of only one of the possible models of implementation. It will be up to each institution to select the appropriate way to ensure that all the components are included.

70. The current practices and roles of the Ministry of Education, Youth and Sports in most matters are in line with European trends. The main exception is the financing of investments in capital assets (so-called "programme funding") that should be transferred to the decision-making competency of TEIs (the role of capital asset development funds). The role of the MoEYS would then be more focused on strategic management. Apart from legislation and administration of the budget, this role also includes the administration of the National Qualifications System. In terms of MoEYS's relationship to institutions of tertiary education, increasing importance is being attributed to the detailed (not only formal) examination of strategic, long-term plans of TEIs that should effectively take into account at least medium-term economic outlooks of individual institutions (in the form of a contract), the evaluation of annual reports and the use of instruments of targeted (purpose-linked, project-linked) funding in line with national strategies. It is proposed that the MoEYS should, in a number of issues, be bound by the standpoint of the Council for Tertiary Education (its structure and powers will be mentioned later). This specifically concerns the issue of appointing and dismissing members of boards of trustees. Regarding the registration of internal regulations, it will be appropriate (in line with the aforementioned intention to allow a high level of autonomy in establishing the internal structure of institutions) to examine not only compliance with the law, but also its correspondence with the proclaimed mission of the institution. However, if the Ministry disagrees with something, the disagreement should be justified by an obvious inconsistency that threatens the functionality or the stability of the institution.

71. The Council for Tertiary Education (hereinafter CTE) should be a body **appointed by the government** and assigned with **policy, coordination and advisory roles.** It should ensure a balanced strategic influence on the development of all parts of the tertiary education sector. To achieve this, it should draw on the cooperation of a wide range of stakeholders (the academic community, employers, culture, the non-profit sector, etc.). It is recommended that CTE members be appointed by the government, similar to the Accreditation Commission and the Council for Research and Development. The term of office of a CTE member should be six years (for the first term of office, lots will be drawn for two-, four- and six-year terms – see the Accreditation Commission). When appointed, a CTE member should not face the possibility of dismissal (with the exception of the CTE chairperson, who should be a member of the government), but shall be obliged to comply with a number of provisions concerning conflict of interest, the incompatibility of the position with some other positions, integrity, etc. The CTE should be accountable to the government. It is assumed that the CTE will closely cooperate with the Ministry of Education, Youth and Sports, particularly at the level of strategic decisions. The CTE should propose nominations for members of the boards of trustees of public tertiary education institutions, and to express views on the principal documents of TEIs. As for the appointment of members of boards of trustees of public TEIs, MoEYS should be bound by the proposals submitted by the CTE. The CTE should have 18 members of whom at least one half should consist of members of the academic community. The chairperson of the CTE should be a member of the government. In addition to academic community representatives, CTE members should also include well-known and highly respected figures in the area of research, development and culture, Czech and foreign tertiary education experts, employers, and representatives of the financial and non-profit sector. The CTE should decide on the proposed composition of the boards of trustees of public TEIs. The actual appointment of members of the board of trustees would be carried out, as has been the case so far, by the Minister of Education, Youth and Sports. The CTE should also decide on proposals to dismiss members of the board of trustees. Moreover, the CTE should take decisions on remuneration of members of boards of trustees. The CTE should give their standpoint on the following:

- the National Qualifications System for tertiary education;
- the statutes of tertiary education institutions, which it shall recommend to MoEYS for registration;
- the strategic plan of the MoEYS for tertiary education and its annual updates;
- the annual report of the MoEYS on the situation in the sector of tertiary education and on financial management in the sector;
- strategic plans of tertiary education institutions and their annual updates;
- annual reports of tertiary education institutions (the reports should contain information both about their operations and their financial management);
- other strategic matters concerning tertiary education.

72. The system of accreditation described in Chapter 2 will **reduce the administrative burden** at the central level, and will at the same time lead to the autonomous and spontaneous differentiation of the internal structure of tertiary institutions. Accreditation for a defined scope of educational activities should be understood in terms of an institution's preparation for specific qualifications described in the National Qualifications System[12] by pursuing study programmes in the relevant area and type (short-term professional programmes, bachelor's, master's, and doctoral programmes). The Accreditation Commission must serve as an important agent for implementing the government strategy adopted for tertiary education. Moreover, the Commission must provide, to a larger degree than before, a platform for reaching consensus on this strategy while taking into account the interests of external stakeholders, the obligations of the Ministry of Education, Youth and Sports and the missions of tertiary education institutions.

73. The fundamental reform of the accreditation scheme also requires a **change in the scope and depth of the evaluation of TEI activities**. It is essential that a shift take place from examining formalised preconditions for activities towards analysing the outcomes of those activities. It would be desirable that this evaluation be based on multiple criteria, that it respect international standards and, if necessary, that it be carried out by several independent entities (specialised agencies certified within the European Education Area), which is an example of best practices abroad. Accreditation should definitely not focus on formal attributes (e.g. the number of associate professors and professors) and technical features (facilities). Rather, it should focus, among other things, on the overall governance system of educational activities, including the evaluation of their quality, etc. Accreditation should, first of all, focus on the fulfilment of basic (minimum) standards that are measurable and stable – mainly those concerning graduates. Individual tertiary institutions will create their own internal mechanisms for accrediting fields of study, subjects etc., and for the evaluation of quality.

74. Legislative bills on various functions in the governance and management of institutions will **maintain the presence of boards of trustees, rectors and the academic senates of universities.** However, their powers and obligations will change. The details of the internal structure of tertiary education institutions will not be subject to law, but will be the responsibility of the institution itself. This will always require that the institution take into account its own strategic goals and provide decisive arguments for its internal structure. The proposed changes should increase the influence of external stakeholders and ensure correspondence between responsibilities, powers and obligations at all levels. The large degree of autonomy and the possibility of choosing a TEI management model represent changes that will require implementing effective audit and evaluation mechanisms. These mechanisms will regularly provide assurances to the leadership of the institution and to other stakeholders that the given institution does not waste public and other resources.

75. The influence of external stakeholders will be particularly evident at the strategic level, as well as at the level of audit and evaluation. It is therefore very important that external

12 This framework is currently being prepared and is receiving minimal attention from the public.

stakeholders be represented in the Accreditation Commission, boards of trustees (with the modified competencies) and scientific boards (with partly modified competencies). External stakeholders clearly include not only representatives of the regional public administration and entrepreneurs, but also representatives of research institutions, cultural entities, the non-profit sector, and graduates of the relevant institution.

76. The role of the board of trustees will increase in importance. This body will serve as an instrument for overseeing and influencing basic strategic decisions of the institution. The board of trustees should also have audit and evaluation functions in relation to the management of the institution. The powers of the board of trustees must be balanced with its accountability to the Minister of Education, Youth and Sports (or the CTE). Members of the board of trustees will be appointed by the Minister as before, but the Minister will be bound by the CTE proposal.[13] Moreover, the board of trustees should be involved in the selection of key management figures, i.e. the rector in particular.

77. There will continue to be a strong representation of external stakeholders on the **scientific board**, including those from outside tertiary institutions (research organisations, experts from industry). The scientific board should primarily deal with strategic plans for research, development and other creative activities, the overall institutional strategy (including cooperation with industry), and issues relating to human resources and qualifications (appointment procedures for senior positions requiring high qualifications that will replace the current procedures for appointing associate professors and professors and that will be entirely within the purview of the TEI). The scientific board at TEIs that do not carry out research may be replaced by a different body (an artistic board, etc.); alternatively, the existence of such a board may not be necessary.

78. Academic senates of tertiary education institutions will retain their indispensable role in discussing and approving (not developing) the internal regulations of an institution. It is essential to ensure that the mandate of a member of the academic senate is sufficiently strong and that would be based on his or her accountability to the academic community. In financial matters, the members of the academic senate will provide their view on general budgeting rules, but their role should be particularly important in terms of audit and oversight. Another major role of the academic senate will consist in the evaluation of all activities, with an emphasis on its evaluation of the quality of educational activities. Moreover, the academic senate should play an indispensable role in evaluating the provision of services – particularly those that are of major importance to students (accommodation, meals, scholarships, cultural, sporting and other free-time activities). Members of the academic senate can, together with members of the board of trustees and scientific board, take part in the election of key leadership positions in the institution. The composition and the roles of academic senates and scientific boards within the internal structure of institutions should remain within the purview of each TEI, but it should be in line with its mission (or type of activities carried out).

79. The basic procedures for the selection of rectors should be specified in law and can differ depending on the type of institution. The following basic procedures should be considered:

a) selecting a rector through an appointment process initiated by the board of trustees;

b) electing a rector by the board of trustees based on nominations presented by its members;

c) electing a rector by the board of trustees based on nominations presented by the academic senate (or the scientific board);

13 In a model situation, a third of the members of the board of trustees could be nominated by regional bodies and major professional associations, and another third could be nominated by the Ministries of Finance and Education, Youth and Sports. The final third would be nominated by the academic community (from among students, alumni, etc.). The requirements specified by law or internal regulations can vary depending on the type of institution (oriented towards research, education or vocational training).

d) electing a rector at a joint meeting of the board of trustees and the academic senate based on nominations presented by members of both bodies.

80. The details concerning the selection, election and possible dismissal of executive officers will be set out in the institution' internal regulations. In the process of registering the internal regulations, the fit between the procedure chosen and the mission of the institution will be examined. One major precondition for the performance of the rector's function is the candidate's proven capacity to manage the institution and fulfil its mission. The powers of the rector stipulated in legislation and in the institution's internal regulations must correspond to the high level of accountability involved. The selection of candidates for these positions cannot be conditional on belonging to the academic community of the relevant institution, their academic titles, etc. The rector should be responsible for the overall human resource policy of the tertiary education institution. He or she should also have the power to decide, in line with existing legal provisions, on scholarship policies and student or tuition fees.

81. The relationship between the rector and executive officers directly subordinate to him or her must be described in detail in the internal regulations of the institution. In larger institutions of tertiary education, there is likely to be a distribution of responsibilities for the design, delivery and evaluation of study programmes within the mandate given by accreditation. Similarly, the rector will be responsible for the implementation of research and development and, if necessary, other creative activities in line with the strategic plan of the institution; however, some of these powers and responsibilities will be delegated to various organizational units of the institution. The rector must have the right to dismiss executive officers directly subordinate to him or her if they grossly violate regulations or if they repeatedly act in conflict with the mission of the institution as a whole. The responsibility for human resource issues and labour relations, as stipulated in legislation, must rest with the rector. The delegation of authority to subordinate executive officers must be addressed in the internal regulations of the institution.

82. Students are key clients and partners of tertiary education institutions. They are therefore represented in the academic senate and play a significant role, among other things, in the evaluation of the quality of the educational process and the services provided. Through their representatives in the academic senate, students express their views on key strategic documents and are involved in the process of approving the institution's internal regulations. Student organisations are also important in terms of students' involvement in the life of the institution and acquisition of practical work experience. Support for these organisations by TEIs should be formalised – e.g. via long-term contracts.

83. Members of the academic staff are expected to perform both educational and research functions. They will be represented in academic senates. **Each tertiary education institution can modify the definition of the term "academic staff" so that it corresponds to the mission of the institution.** For example, research-oriented institutions will require that all members of the academic staff have a Ph.D. or an equivalent qualification. For teaching staff (in the position of lecturer), their pedagogical work will be predominant. Conversely, scientists will be predominantly carrying out research and development activities. It is at the discretion of each institution to decide whether a member of the teaching and research staff (and other staff) will be represented in its academic senate.

84. The proposed solution involves, understandably, many pitfalls and critical prerequisites:

- The Ministry of Education, Youth and Sports will not have the ability to set up competent and effective boards of trustees that would fulfil the overall objectives of TEIs, that would act effectively, and that would not become instruments for pursuing short-term, narrow or local business or political interests. This risk can be minimised by an appropriate method of establishing the CTE, which will select members of boards of trustees.
- Resistance on the part of the existing academic community, including students, which stems, among other things, from a general distrust of politics; the CTE and the MoEYS must not

confuse the professional and personal qualifications of members of boards of trustees with political and economic perspectives. The very division of powers between the two bodies is designed to eliminate such risk factors.

- The unfortunate accumulation of problems resulting from TEI's low level of funding, which coincides with the need to implement fundamental reforms (TEI budgets will have to deal with restructuring costs; the reforms are virtually impossible to be implemented successfully and painlessly during a time of restrictive financial policies). This risk is a serious one, and it will be up to political leaders to reduce it as much as possible.
- The low level of support for change on the part of external stakeholders (employers, state administration, regions). It is therefore necessary to consider the financial remuneration for members of boards of trustees - independently of the budget of the given TEI (but, of course, proportionally to its annual turnover, while taking into account its results, etc.). The discussion so far indicates that this risk is relatively low, as there is evidence that there is considerable interest by external stakeholders in the reforms.

85. Recommendations

a) To enact legislation stipulating general rules for the management and self-administration of tertiary education institutions, and to provide each institution the discretion to choose a specific model of management in line with its mission.

b) After the new law is designed, considerable attention should be paid to the preparation and selection of members of boards of trustees. They should then be entrusted with the task of approving new statutes for TEIs.

c) To establish the CTE, which should reduce the fear of political influence on the tertiary sector at a time when boards of trustees are being formed and when fundamental strategic issues are being implemented. The CTE would also increase the quality and relevance of decision-making at a strategic level. The legal position of the CTE should be similar to that of the Accreditation Commission.

CHAPTER 6

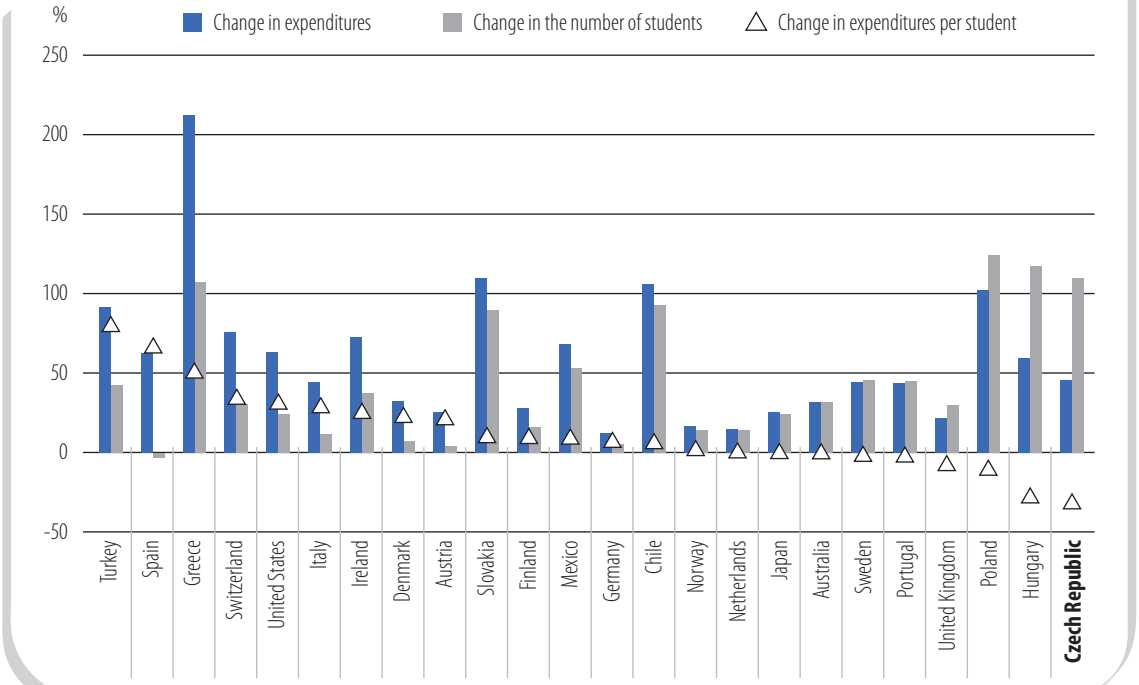
FUNDING

6.1. The Current State of Affairs

86. Among OECD countries, the Czech Republic spends far less on tertiary education than the OECD average. This is caused, to a degree, by the lower level of Czech economic development (OECD 2008). Measured in terms of expenditure per student, many OECD countries saw a decrease in public spending in 1995-2004 (OECD 2008, 4/5)[14] along with a growing number of students. In the Czech Republic, this steep increase in the number of students was not accompanied by the corresponding increase in expenditure. Therefore, the Czech Republic underwent the fastest decline in the level of expenditure per student within the OECD as a whole.

CHART 3.

Change in overall expenditure per student in tertiary education between 1995 and 2004
(OECD 2007, Education at a Glance)



87. The significant increase in the enrolment of students at Czech TEIs in recent years has contributed to a decrease in the long-term excess of demand over supply, which has had qualitative and structural implications that are mentioned in the introductory chapter. The insufficient size of the labour force with tertiary qualifications has translated into one of the highest private returns to tertiary education within OECD (OECD 2008d/165, 182). Although

14 This is how we will cite the individual paragraphs of *Thematic Review of Tertiary Education. Synthesis Report, Chapter 4 (Funding)* in this chapter.

the demand for tertiary education in future years will be weakened by continuing demographic decline, there will be many other factors working concurrently and against this trend:

- For decades to come, the overall demand for tertiary education will continue to reflect the unfulfilled and deferred demand on the part of the middle-aged population with secondary qualifications; even with the current numbers of students admitted, it will take the Czech Republic several decades to reach at least the average OECD levels in terms of the proportion of the population with tertiary education;
- There will be a further increase in the proportion of secondary school graduates in degree-granting fields who will be qualified (also with respect to the introduction of framework educational programmes) to enter tertiary education and will want to pursue it;
- There will be a growing demand for continuing education by age cohorts that already achieved tertiary education, which is the result of the extention of people's productive life;[15]
- There will be more intense pressures for increasing the formal educational requirements in numerous professions for which a secondary education was previously sufficient;
- The role of education as a factor in the quality of social interaction, personal recognition and life success will be increasingly important;
- There will be an increasing effective demand for tertiary education from abroad;
- In comparison with OECD countries, the Czech Republic has an average graduation rate along with a relatively long average enrolment period for those who do not complete their studies (OECD 2008d/92,96);
- There is empirical evidence that, over the long term, the costs per student in tertiary education generally tend to grow faster than unit costs in the economy as a whole (OECD 2008, 4/35);
- At the current level of expenditure per student, the Czech system of tertiary education will neither be able to meet quality requirements nor satisfy demand.

88. Stringent fiscal controls within the EU, in terms of deficit spending and public debt levels, as well as in the unwillingness of the majority population to agree to a significantly higher taxation level will, in the Czech Republic and in many other EU countries, prevent a major increase in public spending on tertiary education in real terms (OECD 2008, 4/32). Although tertiary education will be essential for long-term GDP growth, for increasing living standards, and for enhancing the quality of life in general, other major public programmes, such as the health, social and pension systems, will increasingly compete for public resources in the future as a result of the rapidly ageing population. Increases in public spending on tertiary education will therefore be subject to public preferences and political priorities. In light of this reality, it would be irresponsible to base the reform of tertiary education on the optimistic assumption that there will be a massive increase in the funding of tertiary education from public resources.

89. The system of formula funding has gradually eroded, which is the result of the many concessions given to individual institutions during negotiations between their representatives and MoEYS. Also, the existing mechanism of funding places little emphasis on quality and demand.

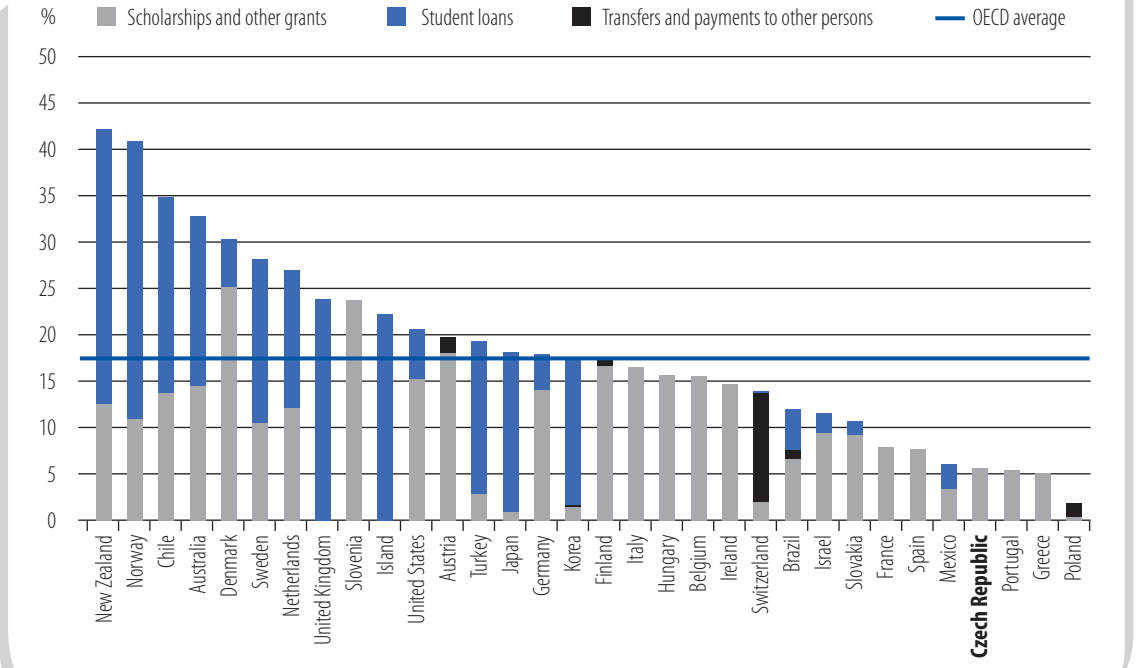
90. Indirect financial support for students via educational institutions and parents in the Czech Republic does not sufficiently guarantee equal access to education (see Chapter 7). In terms of the system of indirect support, as well as the absence of direct student support in the form of accessible student loans (OECD 2006/147, 155; OECD 2008d/271, 288, 290), the situation of the Czech Republic is similar to other post-communist countries like Croatia,

15 Eurydice data (2005) indicate that the average age and age range of students in tertiary education is far lower in the Czech Republic compared to Scandinavian countries.

Estonia and the Russian Federation (OECD 2008, 4/53,102). This undesirable state of affairs in terms of international comparison is illustrated in Graph 4.

CHART 4.

Public subsidies for households and other private entities as a percentage of total public expenditure on tertiary education (2004) according to the type of subsidy.



Source: OECD 2007 (Education at a Glance)

91. The proportion of private expenditures by households and other entities on tertiary education remains very low compared to other OECD countries (OECD 2008d/246, 248).

92. The existing dual system of financing, in which students at private HEIs cover all of the direct costs of their education while these costs are paid by the state for students at public HEIs, was established as an emergency solution to the growing demand for tertiary education at the end of the 1990s. This is partly the result of the inability or unwillingness of the state to be responsive in funding a sufficient number of available seats at public HEIs. For historical reasons, the situation has developed in a similar way in other post-communist countries like the Russian Federation, Croatia, Hungary, Estonia and Poland (OECD 2008, 4/62). In such dual systems, public support claims to be preferentially based on merit. However, study aptitudes and aspirations are only partly the result of students' effort and merit. Family background and previous educational opportunities, which, to reiterate, are to a large degree conditional upon the socio-economic backgrounds of students and not their own merit, play a major role in this context (see Chapter 7 and OECD 2008, 4/62). In this light, the Czech dual system of student support seems unfair and unsustainable (OECD 2008, 4/63-64, OECD 2006/112).

6.2. Principles of Change

93. Financial instruments represent a major regulatory component of a system in which TEIs operate on an autonomous basis. Along with the legislative framework and instruments of state supervision, accreditation and the monitoring of quality, the system of funding must form a balanced framework that not only provides a sufficient amount of properly allocated financial resources, but also ensures the desirable incentives for all parties involved to use the resources effectively.

94. Reform of the institutional environment of tertiary education should start from the situation described above, consider new economic opportunities and challenges, take account of the trends in tertiary education financing in OECD countries, and learn from both good and bad examples. It is desirable to preserve and, if need be, further enhance the strengths of the existing system (OECD 2006). Fundamental changes must be particularly made in those areas where international comparisons and empirical analyses point to weaknesses. For a number of practical reasons, often due to historical development, it is not possible to take one country's system of funding and apply it to another. It is important to find an appropriate combination of mutually compatible and time-tested approaches used in various countries, and in some cases opt for unique solutions. The educational systems in Sweden, Finland, the Netherlands, the UK, Australia and New Zealand offer the largest set of features that may be inspirational for the Czech case. The "Scandinavian" experience is inspirational, above all, for its general and direct student financial aid scheme. OECD comparisons convincingly show that this approach reduces inequality in access to education more than indirect support. However, unlike Scandinavian countries, given the Czech Republic's current level of taxation and demographic prospects, we cannot expect massive increases in public funding support for tertiary education in the medium or even the long term. This is why it is necessary to seek inspiration in countries that succeed in more markedly incorporating private sector resources in the funding of the system while having fewer social barriers in educational access compared to the Czech Republic.

95. A modern system providing broad access to diversified forms of tertiary education cannot succeed without a larger role for self-regulatory mechanisms, real competition among providers and their commitment to the long-term employment prospects of graduates (OECD 2008, 9/62, 104–106). This requires that tertiary education applicants and all stakeholders involved have good information not only about educational opportunities and quality, but also about the situation on the labour market (OECD 2008, 4/68). Moreover, we should also pay heed to the fact that self-regulatory mechanisms can neither function nor are compatible with the long-term aggregate excess of demand and the absence of price signals. Such signals ensue from the way graduates' achieved education is recognized in terms of their remuneration and positions on the labour market.

96. From a realistic point of view, we believe that a satisfactory increase in the level of funding for tertiary education can only be achieved through a simultaneous increase in both public and private resources (OECD 2008, 4/26-34). However, private resources will remain a complementary source of funding. Even after the reform, the share of funding from public resources should still predominate, which would reflect the existence of positive externalities (OECD 2008, 4/10–13). It is matter of political priorities and commitments that an increase in private funding will not lead to a decrease in public funding. Improving productivity and efficiencies in the allocation of resources should also lead to an increase in the level of available resources.

97. A larger inflow of private resources into the system can only be ensured by means of introducing tuition fees, the repayment of which would be deferred and dependent on income. To be sure, private resources flowing into the system from businesses do not account for a major proportion of overall funding in any European country, and we cannot expect that the situation in the Czech Republic would be any different. By contrast, tuition fees will increase students' and institutions' rational behaviour and responsibility in their decision-making, and will begin to play the very important (and still missing) role of a price information signal (OECD 2008, 4/66–67). This informational role is essential for the functionality of regulatory feedback mechanisms that lead to the increased effectiveness of the system in terms of allocation and productivity. We can expect that the benefits of tuition fees will outweigh the potential negative effects and technical difficulties (Eurydice 1999: 182 and OECD 2008, 4/49).

98. Following the example of Scandinavian and other countries, we recommend transforming indirect student support into direct support in the form of *study grants, student loans and*

targeted means-tested scholarships.[16] These forms of direct financial aid should be available to students regardless of their financial situation or willingness of their parents to support their studies. Introducing universal direct financial aid for students in the form of loans will open up space for the involvement of private sources and will not have a negative impact on access to education. The introduction of direct student support must necessarily be accompanied by measures strengthening the responsibility of both students and institutions: tuition fees, a more consistent application of formula funding, better mechanisms for internal and external quality evaluation, increased transparency of processes and, in particular, learning outcomes (see this and other chapters). This chapter describes the links between the new elements of student support, on the one hand, and the repayment mechanisms and sources of funding, on the other. The principles of direct student financial aid are presented in Chapter 7.

99. Changes in funding should be assessed with the recognition that few problems have perfect solutions; in that light, the goal is always to seek the right balance between costs and benefits. The new funding mechanism will require streamlining the quality control system (accreditation, internal and external evaluations, certification of the quality of processes and outputs) and making it easier access to well-structured and user-friendly information (OECD 2008, 4/68, 9/73–81). The funding mechanism must also take into account the fact that decision-makers at all levels tend to optimise their behaviour, which can lead to the weakening of the formula funding scheme and the destabilisation of the whole system. It is also necessary to minimise the space for manipulating the way results are reported by ensuring their transparency and verifiability. Self-regulatory mechanisms should thus not be too complicated.

100. A robust regulatory and transparent legislative framework should be maintained in those areas where the functional conditions for competitive mechanisms have been severely weakened. It is also necessary to preserve the systemic role of the state and its institutions in those areas where there are imperfections in the market for human capital, such as significant positive externalities and incomplete information about the risk of investment in human capital. The system must encompass adequate protections against risks associated with investing in human capital (OECD 2008, 4/14–18). However, the state does not need to get involved in every market failure; often an appropriate initiative, or regulatory or coordinating measure, will be sufficient.

101. Most changes, particularly in the short run, will have partially negative effects on a number of stakeholders. However, the impact of reforms should not be evaluated in the light of partial, short-term effects and interests, but viewed in terms of their overall long-term effects on education in the country and the advancement of research, development and innovation. It would be desirable to limit the temporary negative impacts on specific stakeholders through the implementation of a transitional period.

102. The proposed system of funding consists of components that complement one another and that are closely linked to reforms in the area of governance and quality. The ill-conceived weakening or omission of one area of reform may have a negative impact on the operation of the system as a whole.

103. It is important to differentiate between the way the system works after the reform (i.e. after the funding mechanisms have become settled and stakeholders have become used to them), and the transitional period of gradually implementing reforms, learning, and striking new balances. The appropriate sequence of reform steps will be very important during the transitional period.

16 For a detailed description of the benefits, see 1999/186.

6.3. Funding instruments

104. The system of funding tertiary education rests on four pillars:

a) The formula funding of education from public resources;

b) Student financial aid from public resources (see also Chapter 7);

c) Private resources from individuals and enterprises;

d) Public funding of research (see also Chapters 3 and 4);

Formula funding

105. Formula funding is the most common mechanism for allocating the bulk of public resources to tertiary education in OECD countries, including the Czech Republic. Formula funding is often recommended for its transparency, predictability and its ability to minimise the space for pursuing particular political interests, lobbying and even corruption (OECD 2006/100). Formula-based grants to institutions (also referred to as the "*educational grant*" in the text below) should continue to reflect not only differences in the costs of various programmes, but also in the existence of positive externalities – i.e. primarily the societal benefits from education that individuals do not take into account when making their own decisions (OECD 2008, 4/8–18). Technically, formula-based payments (the educational grants) should still be sent directly to educational institutions.

106. The existing system of formula funding should be applied more consistently by minimising opportunities for ineffective behaviour on the part of students and institutions while also providing opportunities for increased diversification.[17] This requires the following:

- The implementation of transparent and functional mechanisms for allocating cost coefficients to newly developed programmes; the implementation of these steps may be time-consuming, but its completion is not a condition for the implementation of other reform steps;
- The funding coefficients should be, in line with global trends (OECD 2008, 4/73, 76), established in a way that places more weight on the outputs (graduates), assuming that effective quality control systems are in place (both external and internal) and guaranteed by accreditation;
- The educational grant should only be provided to qualified residents of the Czech Republic for the standard length of study at every degree level, and only once in their lifetime; following the introduction of a uniform credit system, educational grants may be linked to the number of credits achieved;
- The educational grant should not distinguish between modes of study, and in the case of longer study periods (i.e. combined and distance modes) the amount of the grant should be lowered proportionately to the study period; this will create the opportunity for further diversifying the length of study, which is a necessary means of supporting the educational opportunities of older or employed citizens with families (linked to lifelong learning);
- Setting an appropriate ratio between the funding coefficients for bachelor's (particularly professionally oriented) and master's study programmes to ensure a real diversification of bachelor's programmes (i.e. the diversification of the professional profiles of graduates of those programmes);
- Decreasing the weight of inputs in the formula component of the funding of doctoral studies (i.e. the number of students), while increasing the weight of Ph.D. graduates;[18] most

17 The existing system of formula funding for the standard length of study + 1 year does not motivate students to complete their studies in a timely manner, and does not motivate institutions to design sufficiently flexible and appropriately demanding study programmes. The unjustified prolongation of studies must be addressed by educational institutions through their own incentive mechanisms; the real costs of lax attitudes and abuses must be borne by the institutions and not be covered from the overall tertiary education budget.

18 The formula-based block grant is currently used to finance an excessively high proportion of doctoral students who do not complete their studies.

importantly, resources should be provided, to a greater extent than at present, on the basis of the results of research, development and innovation (see Chapter 3 for details). In no case should the reforms result in the decrease in the volume of subsidies; improved targeting should facilitate a major increase in resources for doctoral students of those institutions that effectively train high quality Ph.D. graduates.

107. It is desirable to considerably reduce the volume of public resources allocated outside of formula funding and to transfer those resources into the formula-based subchapter of the budget. Resources outside formula funding should only be allocated to institutions in justified cases.[19] As in Finland, Sweden, the Netherlands and Australia (OECD 2008, 4/97), we recommend that integrating the great majority of the current capital subchapter of the budget into the formula-based subchapter. This will make the allocation of capital resources more transparent and will better reflect educational demand.[20] At the same time, this will eliminate one of the mechanisms by which public TEIs have been able to pursue particular political interests. Responsibilities for implementing investment plans will be transferred to educational institutions, which have the best and undistorted information about their own possibilities and conditions. Moreover, this will also open the opportunity for diversification based on the comparative advantages of institutions (OECD 2008, 4/163–165). For investment projects, autonomous institutions will take over the role of investors and will be responsible for their own management and strategic decisions (OECD 2008, 4/98). Moreover, this will also lead them to interact with investment banks, which will improve supervision over their financial plans as well as their preparation and implementation of investment projects. Of course, this step must be accompanied by the freeing of existing restrictions on the timing and purpose of public subsidies and contributions to public TEIs. Transferring the capital subchapter of the budget into the formula-based subchapter should take place during a several year transitional period; the Ministry of Education, Youth and Sports should only retain a certain amount of resources to tackle unexpected emergency situations.

108. It would be beneficial to introduce public financial aid for students at private TEIs that would reflect the existence of positive externalities of education. One possibility would be to provide the educational grant to students at private TEIs less the capital component, which is similar to what is common in so-called "regional education" (all levels except tertiary)[21] as well as in a number of other countries (OECD 2008, 4/176–177). This would do away with the unequal status of individuals studying at public and private tertiary education institutions and it would also level out the competitive environment. However, the change envisions that tuition fees at public TEIs should be introduced, the level of resources for public TEIs should not be decreased, and that private TEIs should not charge tuition fees exceeding the tuition fee limit for the corresponding programme at public TEIs.

109. The provision of educational grants should take the form of *contractual funding* (OECD 2008, 4/59). Institutions should have a guarantee that the value of the educational grant, in real terms, will not decrease in subsequent years for students already admitted.[22] The value of the educational grant in real terms should only change in the case of newly admitted students. Such components of contractual funding are needed so that institutions can develop medium or possibly even long-term development plans (OECD 2008, 4/166), which are essential for taking out loans for their investment projects (see above). This is yet another reason for reforming the way the state budget is constructed and for complying with medium-term expenditure frameworks.

19 For example, in order to ensure conditions for disabled students, in cases such as the co-funding of projects implemented jointly with the private sector, and for some EU projects.

20 This does not concern investment in research capacities that will be managed by the Czech Science Foundation and the Technology Agency of the Czech Republic.

21 This system works well, over the long term, at the level of secondary education, and it is even more justified at the tertiary level. Most students at private TEIs are enrolled in programmes with a low coefficient to economic demand, so the financial burden would be lower than what would correspond to the proportion of students at private TEIs.

22 This means admitting new students, retaining the existing ones and producing graduates.

110. An increase in the number of financed (contracted) students should, more than is the case now, reflect significant differences in excess demand at various institutions. The increase should be derived from the situation in the previous period – i.e. the capacity of the institution to contract an appropriate a number of students for tuition fees close to the cap levels, and to ensure an appropriate rate of study completion. In this way, the existing *numerus clauses* principle, which fails to properly reflect the disproportion between supply and demand, will be weakened. The expansion of educational opportunities will preferentially be directed to those areas where demand significantly outstrips supply.

111. Competition among institutions in attracting tertiary education applicants should help rationalise educational provisions: diversifying, adjusting study content to meet external conditions, providing more flexible modes of study, and pressuring institutions to carry out high quality strategic planning.

Student financial aid, grants and loans

112. Each student should be entitled to a *basic study grant* (BSG) once in his or her life for a uniform level for a standard length of study at both public and private TEIs, regardless of the type of study programme and form of study. Financial resources for the BSG should be obtained by transforming various forms of indirect support without affecting the overall budget (see Chapter 7). In order to motivate students to complete their studies in a timely manner, a mechanism could be introduced whereby the BSG would be transformed into a *special loan* if the standard length of study were to be exceeded in a major way.[23] This special loan would not have to bear any interest in real terms.

113. Each student should be entitled to a *basic student loan* (BSL) – for all types of programmes and forms of study (on-site, combined, distance), including students at private institutions. The BSL would consist of two parts: BSL for *living costs*, and BSL for *tuition fees*. The ceiling of the BSL for living costs could be derived from the official subsistence level. The maximum level of the yearly and overall loan amounts can be decreased at higher ages in order to motivate people to invest in their education when they are younger. The entitlement to the BSL for living costs should be limited roughly to the standard length of study plus 1 year.

114. The maximum level of the BSL for tuition fees should be defined according to the level of tuition fees charged by public TEIs. Students at private institutions should be entitled to the BSL under the same conditions as students at public institutions in similar study programmes and modes of study. If there is a substantial and evident public interest in increasing the number of graduates in certain fields of study, it would be possible to increase the ceiling level of loans or grants as an incentive for studying in those fields (OECD 2008, 9/97–98). However, financial support provided by employers in these "preferred" fields or professions (e.g. financial contributions directed towards the repayment of student loans for tuition fees) – would be a more effective and motivationally consistent approach. This ensures that additional public support is better targeted only at the graduates who actually work in the relevant profession of public interest.

115. The support system must be complemented by targeted *state means-tested scholarships* for students from low socio-economic backgrounds[24] where a student loan may not suffice. Means-tested scholarships should be preferentially available in the first year of study when it is difficult for students to assess their study aptitudes and when they can have more severe fears of failing in their studies. However, it may be assumed that, in a competitive environment, institutions themselves will be motivated to offer their own merit-based scholarships to talented students who face social and economic disadvantages.

23 This solution would be in line with the general rules for the administration of public resources that are returned to the state budget if the conditions under which they were provided were not met.

24 Weak socio-economic background has to be documented using plausible evidence: e.g. whether the student was a juvenile from a children's home, whether the student has parents who do not have a secondary education diploma ("*maturita*"), parents' level of income, disability status, etc.

116. When the system is fully operational it may be possible, as the budget allows, to expand entitlements to the BSL to cover Czech students' costs of studying abroad in recognised programmes, as well as to cover students at post-secondary professional schools or other institutions as part of support for lifelong learning.

Deferred and income-contingent repayment of tuition fees

117. Deferred and income-contingent repayment of tuition fees – as it works, for example, in the UK, Australia, New Zealand and the Netherlands (OECD 2008d/289) – refers to the possibility that students postpone the payment of their tuition fees until after graduation (*deferred tuition fee*), the instalments of which are calculated as a percentage of their income in excess of a specific minimum level (*income-contingent repayment*).[25] The essence of the mechanism is briefly described below. Comments on how the framework could be possibly implemented in the Czech Republic are presented separately.

118. The students will have the opportunity to pay the tuition fee immediately. The willingness or unwillingness of doing so cannot be taken into account by the TEI during the admissions process. One possible consideration is to introduce incentives for paying the tuition immediately by offering a discounted tuition rate. This would lead (i) the better-off students to pay their tuition immediately, which would increase the resources available in the loan fund to help students in need – i.e. for loans to a larger number of applicants or for higher loan amounts. Second, (ii) because the interest on the tuition is exempt while students are enrolled, this interest exemption represents a discount, although indirect. It will always be possible for a student to defer the payment of tuition fees until he or she begins to earn money. In this case, the TEI will obtain part of the tuition fee immediately from the ongoing system of loan financing (a *deposit on the deferred tuition*, which we can also refer to as a *direct tuition fee*). The payment of the remainder of the tuition fee will be delayed (*delayed payments*) and repaid by the graduate depending on his or her income. It is also important to set what proportion of tuition will be represented in the *direct tuition fees*. Every set of parameters has its pros and cons. The higher the proportion of direct tuition fees, the more resources will be immediately guaranteed and available to TEIs, but the higher the financial requirements for establishing the ongoing system of loan financing. Conversely, the higher the proportion of delayed payments, the less guaranteed income TEIs will have, but this will lead to a proportionately higher level of commitment by TEIs in the success of their graduates on the labour market and in building alumni networks. At the initial stage of the reform process, it would be desirable to place a lot of weight on direct tuition fees, which takes into account both the shorter decision-making horizons of TEI administrators and the uncertainties generated by the transitional period. Then, as the new system of institutional management becomes fully operational and the new competitive self-regulatory mechanisms begin to work, it would be possible to increase the weight of *delayed tuition payments*.

119. It would be very desirable to cap tuition fees at public TEIs, which provides those institutions the space to engage in cost-driven competition. The ceilings should be differentiated according to the proportion of private returns from education in the given field. The ceiling for bachelor's programmes should be lower than for master's programmes. The tuition fee ceilings for each year should be set well in advance in order to allow institutions to announce binding fee levels for new students before the beginning of the enrolment period. Institutions would only be able to increase the fee during the duration of a student's enrolment by taking into account the official inflation index. Increasing fees above the inflation rate should only be possible for newly commenced studies. The fee charged must be the same for all students in a given study programme. The level of fees at private tertiary education institutions should not be capped. However, a private TEI would be entitled to the educational grant only if its tuition fee is less or equal to the ceiling set for tuition fees for the corresponding programme at public TEIs.

25 For example, an employee with tertiary qualifications who earns 150% of the wage of an employee with secondary qualifications will, after a repayment of 10% (of the amount exceeding the wage of a secondary school graduate) is paid, receives a net wage at the level of 145% of the wage of the employee with secondary education.

A more detailed description of the loan repayment mechanism

120. It is important to set the parameters for the BSL instalments in a way that strikes a balance between an appropriate repayment schedule and incentives sufficiently strong for encouraging quick repayment. At the same time, attention must be paid to the appropriate trade-offs, as all concessions in the repayment or in the rate of interest decrease the amount of resources that can be provided in the form of loans.

121. The obligation to repay the loan should commence when the student ends enrolment. Interest on the loan also begins to accrue at that time. The suspension of repayment should be possible only under clear and strictly defined conditions. A faster repayment of the loan should also possible.

122. The instalment level should be determined[26] as a percent[27] of an amount exceeding the clearly identified minimum income level, which is best expressed as a parameter that is well-understood and provided by the Czech Statistical Office. The lower the income level is set, the faster the loans will be repaid; that will make more resources available in the system for further loans, and/or setting a lower rate of repayment. The repayment obligation should be derived from the graduate's taxable income in the given year; however, it would be advisable for the graduate to make regular, advance instalments, which would be reported in an annual tax statement for the given year.

123. The repayment obligation ends upon the repayment of the entire loan amount and interest. When an extremely long period (e.g. 25 years) elapses and the likelihood of repayment is low, it is possible to consider writing off the debt for the sake of reducing administrative costs. It is also possible to write off the debt for persons who permanently take care of family members (e.g. care of elderly or disabled family members) or to postpone repayment for persons taking care of children of preschool age. However, all allowances must be covered by other debtors in the form of higher interest, or by all taxpayers in the form of contributions to the system from the state budget.

124. Employers can support selected students during their studies by making contributions to their *direct tuition fees*.[28] They may also support graduates by contributing to the repayment of their loan, thus expressing a real interest in having the individual in the particular job. This form of support is possible even in the public sector, where employment is of great societal importance and where the state is, for various reasons, unable to pay competitive wages (e.g. teachers, healthcare staff, security forces).[29] The potential and appropriateness of tax allowances for such forms of study support should be examined.

125. The payment of interest on the student loan should be an important incentive for people to repay the loan in a timely manner. If the real interest rate was low or even zero, the incentive for paying off the loan in a timely way is reduced, which also opens the door for unwanted financial arbitrage. In arbitrage, students would take loans even if they do not need them, and they would deposit the money in investments with high interest rates. We should keep in mind that subsidised interest rates are only partially desirable, and may, on the whole, be very costly and may reduce the available amount of resources to be lent to more applicants in need. Interest payments should be suspended in clearly defined situations, such as long-term illness, disability, maternity leave, parental leave (under certain conditions), etc.

126. The real interest rate on the loans should cover the costs of servicing the debt, administrative costs related to the loan scheme, losses incurred through the incomplete collection of instalments, and the allowances granted. The last item should be understood as a kind of cost sharing in the risk of investments in education. These costs may be shared not only

26 This is a major difference between deferred tuition fees and ordinary consumer loans or mortgages.
27 With the possibility of progression.
28 This possibility is envisioned in new income tax legislation under preparation.
29 The advantage of the mechanism is that state support will be only granted to those graduates who work in these fields.

between graduates repaying their loan, but also taxpayers in the form of regular contributions from the state budget. The *delayed* part of tuition fees can bear a lower interest rate, which TEIs can decide on their own when they set tuition levels (which can be a competitive price instrument).

127. The obligation (debt) should be paid off in the following order: debt to the ongoing system of loan financing (loans for deferred tuition fees), debt to the tertiary education institution (deferred tuition fees) and debt to commercial institutions (commercial loans, if included in the system). If the student has debts (deferred tuition fees) with more than one educational institution, the instalments would be paid in the order of preference according to when the obligation was established, or simultaneously according to loan proportions (using a ratio of the amounts owed).

128. After the system becomes fully operational it would be possible to consider its expansion. For example, the collection of instalments as part of individual income tax could be expanded to cover *student loans* provided by commercial entities. Of course, those would have a lower priority in terms of repayment compared to debt repayments to the system of loan financing and to educational institutions.

6.4. The implementation framework

129. Deferred tuition fees should be incorporated in the legal system at the first stage of reform. The ceilings should be set at zero. Tuition fees would be effectively introduced by increasing the ceilings at the second stage of reform, after the first reform steps have been successfully completed (i.e. the introduction of basic study grants, basic student loans for living expenses, the repayment mechanism, education savings, and strengthening the formula funding mechanism). Tuition fees should only be introduced with newly commencing bachelor's and master's students.

130. The administration of educational financial aid, including loan repayments and debt collection, should be an integral part of the individual income tax system.[30] This is the only way – while using the existing administrative apparatus – to maintain low costs and ensure a high degree of efficiency in collecting payments. Those lower costs and efficiencies translate into a lower rate of interest. The administrative, technical and legal aspects of administering the system must be co-ordinated with the reforms of the tax system as a whole, particularly in the areas of individual income tax and the collection of social and health insurance.

131. New forms of student financial aid and tuition fees will require an additional administrative infrastructure. However, the economic and social benefits of these instruments will far outweigh the costs of their operation. The additional administrative burden will only have a relatively little impact on educational institutions, since part of the existing agenda (means-tested scholarships) and most of the new agenda (provision of loans, grants and collection of instalments) will be implemented outside tertiary institutions. TEIs will be responsible, above all, for updating student information in the relevant section of the integrated student information system (a register).

132. The introduction of additional instruments for the funding of tertiary education and student financial aid will require additional agendas. The key agendas include: the agenda on the maintenance of the student information system (educational institutions); the agenda on the provision of loans and other payments to students (commercial banks); the agenda on the collection of loan instalments (the tax system); the agenda on the ongoing system of loan financing; including the time structure given to the loans (financial institutions); the agenda for setting the parameters of system financing; the analytical agenda; and the agenda on supporting the information system.

30 This includes individual income tax, as well as the possible combined collection of individual income tax and health and social insurance.

133. Specific institutional arrangements should be proposed on the basis of the experiences of countries that use similar funding instruments, while taking account of the specific conditions of the Czech Republic. One option is to integrate most of the agendas into a new institution – *The Central Administration for Funding Tertiary Education*[31] (OECD 2008, 4/178), provided that it will be possible to create the relevant legislative framework for such an institution. An entirely different alternative is to divide the agendas among the existing institutions (Ministry of Education, Youth and Sports; Ministry of Finance; Czech-Moravian Guarantee and Development Bank; and the Czech Tax Administration). There is also the option of separating the agendas relating to formula funding and non-financial activities (which would remain at the level of the MoEYS) from the other financial agendas, such as student loans and instalments, which MoEYS cannot handle due to legislative and technical reasons.

134. When the system is operational, BSLs will be financed from collected instalments on a continuous basis. Resources for starting up the BSL scheme should be obtained by means of a one-off deposit either from the state budget, privatisation revenues or via a state loan (or a loan with state guarantees) obtained in financial markets.

135. It would be very desirable to implement an integrated information system that would contain not only the student register, but also the financial aid agenda (BSL for living costs and for tuition fees and special student loans) and the agenda on the repayment of deferred tuition fees. The integrated system will, among other things, generate aggregate indicators on the earnings of graduates of individual institutions and programmes.

136. The operation of the tuition fee system and the impact of the loan/repayment mechanism on access to education for various social groups must be systematically analysed from the moment the system is launched. Comprehensive information in the integrated information system can be used for this purpose. These analyses will form one of the foundations for the continuous modification of system parameters.

137. One of the main objectives of such analyses would be to identify reasons for the insufficient interest in studying science and technology, on the basis of which appropriate measures would be proposed. However, the main motivation for studying in these disciplines must be professional and career opportunities – i.e. the willingness on the part of employers to offer graduates of these programmes sufficiently attractive financial and other terms. Educational institutions should continue to have the responsibility for ensuring that the content of education corresponds to labour market requirements in these fields. However, the quality and focus of "regional education" will play a major role, as this is where the prerequisites for studying challenging technology and science disciplines are formed.

138. Foreign experience (Sweden, the Netherlands) indicates that access to the student loan scheme, after it is established, can be expanded under certain conditions to cover students studying abroad, EU citizens studying at Czech institutions, and students of post-secondary professional and other schools.

139. The specific features of the system for the calculation and payment of tuition fees must be defined in the new legislation on financial aid for tertiary education, which will be drafted and presented for expert and public debate as part of the Individual National Project on the Reform of Tertiary Education.

31 This would be an institution similar to that established for the purpose of financing higher education institutions in the UK (Higher Education Funding Council, see http://www.hefce.ac.uk). A similar institution for administering loans was set up in Hungary (Diákhitel Központ, Student Loan Centre).

140. Recommendations

a) It is possible – immediately and without legislative changes – to implement the formula funding system more robustly and consistently. Work on fine-tuning the structure of the register can continue, with the goal of integrating it into a comprehensive information system.

b) As a next step, it will be necessary to create a legislative environment for introducing basic study grants, a general system of educational loans, a system of means-tested scholarships, and education savings. In addition, changes are needed in the structure of the stage budget, particularly in terms of the transformation of indirect student support into direct support, and changes in the structure of subchapters of the tertiary education budget. It is necessary to identify a suitable way of establishing the ongoing system for funding student loans. At the same time, it will be necessary to legislatively prepare and implement changes in the administration and governance of educational institutions, and to increase their powers in managing financial resources and property, and to play the role of creditor with commercial financial institutions. A large part of the responsibility for developing and implementing strategic plans should be transferred to the level of TEIs, which would isolate investment policy from political influences, changes and lobbyist pressures at the central level.

c) It is advisable to introduce study grants at once for all existing forms of study and simultaneously abolish indirect student support. If the budgetary conditions allow, there should be a one-off introduction of student loan entitlements for living costs for all existing forms of study. The introduction of a new system of financial aid (including changes described in Chapter 7) envisions that instruments should be implemented in the system that protect it from abuse (such as unreasonably prolonging studies beyond their standard length set for the relevant study programme).

d) We recommend introducing a system of deferred tuition fees mainly as a source of price signals and as an instrument boosting TEI's commitment to ensuring the long-term career success of graduates. The ceilings on tuition fees should only be increased from zero when the loan and repayment system is fully operational – i.e. within 2-3 years after the introduction of loans. It would be appropriate to introduce tuition fees on a gradual basis, beginning with newly enrolled students in bachelor's and master's programmes in order to preserve the terms for existing students. This will also make it possible to distribute financial entitlements over time. For educational institutions, this will also ensure a gradual transition so that TEIs can maintain balance within their administration without unnecessary volatility.

e) When the system is fully operational, it could be possible to consider expanding loan entitlements (for students who are not entitled to an educational grant, for lifelong learning courses and for studies abroad).

f) In addition, it is necessary to prepare, implement and continuously improve the integrated information system on tertiary education, including output data for a public website (on-line). The system should contain both mandatory indicators and other information about all educational institutions and their study programmes in a standardised format, as well as non-mandatory and non-standardised information. In terms of institutional cooperation, a detailed statistical analysis should be published annually on access to and progression of students through the tertiary education system, as well as financial analyses (accounting data, tax administration data and public budgets) based on aggregate economic data on earnings and the development of inflation.

g) Reform steps must be based on sound estimates of financial entitlements over time. The estimates must, most importantly, take into account the development of demand (i.e. expected demographic development, estimates of deferred demand or unsatisfied

demand in the past). Moreover, they must reflect financial inflows from tuition fees, costs of introducing the loan fund, equalising the status of students at private TEIs, tightening and strengthening formula funding, including some post-secondary professional schools in the funding system, etc.

h) The transitional period will be demanding for the management of educational institutions. The new governance mechanisms will lead to both internal and external changes as a result of the more dynamic environment and competition. The terms of the transitional period of funding should be therefore set so that it gives institutions and student applicants enough time to respond to these changes. At the same time, a new balance should be struck relatively quickly and without unnecessary volatility.

i) We must bear in mind that the reform steps go together, they are mutually conditional, and a too slow implementation process may degrade the benefits of the reform.

CHAPTER 7

EQUITY

7.1. The Importance of Education for Life Success and Equal Chances to Achieve Tertiary Education: Basic Contexts and Trends

141. The development of dynamic economies based fundamentally on their innovation potential naturally increase the relevance of education not only for competitiveness and economic prosperity, but also for individuals' life success, their income, social mobility, prestige and the overall quality of life. The more emphasis that is placed on one's level of education and its quality as a source of economic success, social advancement, prestige and the quality of life, the more emphasis will be naturally placed on the open and fair access to such an education. This inevitably raises important questions: how open is the educational system, who can and cannot attain higher levels of education, and why?

142. Modern societies are therefore concerned not only about how many people in the society have the chance to achieve advanced qualifications (a country's educational level as a source of economic prosperity). What is increasingly important is that each individual should make full use of his or her potential. Modern societies are therefore increasingly interested in why the educational system is more open for certain groups of the population as compared to others. If the *differences* in educational attainment *between groups* are caused by factors other than the capacity and willingness to study (e.g. by race, religion, gender, socio-economic background), then we are faced with unequal chances between those groups. This is not only a problem of future prosperity, but is also a problem that touches upon the very substance of social justice and cohesion.

143. The global challenge of population ageing does not leave any room for wasting human capital. International studies (e.g. McKinsey 2007) reveal that those systems that foster the maximum level of development for each child reduce the influence of unfavourable socio-economic backgrounds, and generally reach the best results. They do this through the timely and continuous identification of educational needs and targeted interventions. As a rule, these countries aim to eliminate educational inequalities primarily through educational policies, and monitor the implementation of those policies at all levels of the educational system. The main focus here is on eliminating barriers that hinder access to education for children with lower levels of socio-economic status (equity) and on ensuring a basic educational standard for all pupils (inclusiveness).

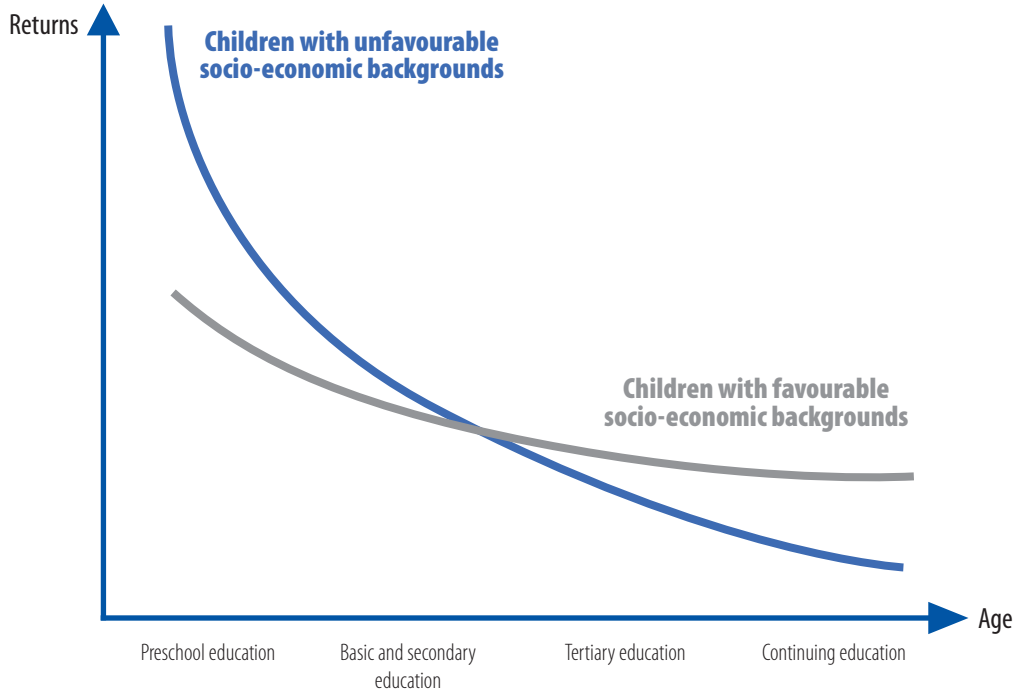
144. As is well-known, returns on investments in education sharply fall with age; this association is even more intensive in children from unfavourable socio-economic backgrounds (Graph 5). There is therefore a need to intervene early in families facing cultural and social disadvantages, such as by increasing participation of those families' children in preschool education. Underestimating the importance of such investments at an early age can only be redressed with difficulty, with high costs and with low effectiveness.

145. The growing importance of education, tertiary in particular, for upward social mobility and for gaining and retaining good employment is confirmed by all well-known statistics. In 2005, the risk of unemployment was three times lower in OECD countries for an individual with a tertiary education compared to an individual with a lower secondary education (11% versus 4%). In the Czech Republic, the risk was twelve times lower for an individual with a tertiary degree (24% versus 2%). Moreover, Czechs with tertiary education are nearly eight

times more likely to participate in continuing education compared to others. This ratio is among the highest in the OECD.[32]

CHART 5.

Returns on investment in education by age (European Commission 2006)



146. The steeply growing interest in tertiary education is caused, among other things, by changes in the economic return to tertiary education, particularly in post-communist countries. The net impact of education on personal income in the Czech Republic increased nearly threefold between 1988 and 2006. The growth in the economic value of tertiary education was the main reason for this. According to OECD data for 2005, the average income of an individual with tertiary education in the Czech Republic was 1.8 times higher than the average income of an economically active individual with upper secondary education.[33] We should mention that less than a quarter of people with tertiary education had a below-average income in 2006.[34]

147. The fact that tertiary education has a high value, and gaining it is considered to be a key to life success, is confirmed, among other sources, by the opinions and views of the population as ascertained in regular social surveys concerned with inequality (ISSP 1992, 1999, 2007). In 1992, a total of 62% of respondents believed tertiary education was a major condition for success in life; in 1999 this reached 73%, and the figure was even 85% in the most recent survey at the end of 2007. The same proportion of the population (83%) believes that tertiary education is one of the best investments for life. This is, of course, reflected in the attitudes of young people to education.

32 Source: OECD 2007. *No More Failures – Ten Steps to Equity in Education*. Paris: OECD.

33 In this respect, the Czech Republic ranks the highest in terms of the relative return on tertiary education. According to the most recent edition of *Education at a Glance* (2008), the individual rate of return was 29% in the Czech Republic in 2006. In Portugal and Poland, it was 25%, 15% in the UK, less than 10% in the USA and in Scandinavian countries it hovered at around 8%. According to data from the Czech Statistical Office, the average monthly pay of a person with at least a master's degree was 39,000 CZK, the average pay of a person with a post-secondary professional or tertiary education up to the bachelor's level was 26,500 CZK, while people with an upper secondary diploma ("maturita") only earn an average of 23,400 CZK.

34 The average wage in 2006 was 22,900 CZK, which is very close to a level corresponding to the first quartile of the wage of an individual with tertiary education (23,445 CZK).

In 1989, only 20% of children at the end of compulsory schooling believed that achieving the highest possible education was an important condition for success in life, while in 2003 it was 67%. This corresponded to increasing aspirations: while in 1989 17% of pupils in the final year of basic school aspired to achieve tertiary education, the same aspirations reached 49% in 2003.

148. If tertiary education is increasingly considered to be one of the key instruments for securing success in life, and one of the best investments in life overall, we may assume that social barriers in achieving it, which the population will legitimately perceive as a consequence of unequal opportunities, may cause a growing sense of social injustice, undermine social cohesion and increase social tensions. However, the dangers ensuing from are not the only concern. What matters also matters is the actual wasting of human capital at a time when we cannot afford to waste it, i.e. when human resources are becoming one of the main pillars of competitiveness.

149. Evidence of the level of social inequality in chances to achieve tertiary education is provided by a number of national as well as international analyses and comparative studies. They show that despite a growing number of students in tertiary education and the increasing proportion of those admitted in the relevant age cohorts, the Czech Republic continues to rank among those OECD countries that are at the top of the scale for social inequalities in the chances in achieving tertiary education. That level of inequality even tended to grow in the recent decade (see Koucký, Bartušek, and Kovařovic 2007; Matějů, Řeháková, and Simonová 2007; Matějů, Smith, Soukup, and Basl 2007).

150. The findings related to the level of inequality in the chances of acquiring tertiary education in the Czech Republic understandably raise the question of what factors explain this state of affairs and the unfavourable development. In agreement with the leading experts on education, we believe that, as with other systems that show a high level of inequality, there are four main reasons for this situation:

1. **A high level of selectiveness in secondary education** due to which many pupils from families with a lower socio-economic status – whose aptitudes to study at tertiary education institutions are comparable with those of pupils with better educated parents – are diverted at an early age to educational paths that make later entry to tertiary education far more difficult if not impossible;
2. **Insufficient diversification and therefore insufficient openness of the system of tertiary education,** which results in a high level of competition during admissions, in which socially disadvantaged applicants tend to fail more often;
3. **The admissions process at tertiary institutions** emphasise the curriculum-based knowledge that applicants acquire to varying degrees at various types of school, instead of relying on a professionally designed examination of general study aptitudes that, compared to concrete knowledge, are known to be less dependent on previous education and therefore on applicants' social background;
4. **Weak or poorly efficient schemes of student financial assistance** that do not allow students to make decisions about entering or continuing their studies independently of the financial situation of their family, which is one of the basic conditions for children from low-income families to apply for tertiary education in larger numbers.

151. In the Czech Republic, the unfavourable trends in inequality in the chances of achieving tertiary education are caused by all the aforementioned reasons, and their combination increases their effect. A recently published comparative study (Matějů, Smith, Soukup, Basl, 2007) revealed that the Czech educational system is extremely closed in both dimensions – in secondary as well as in tertiary education.

152. There is general evidence that the overall openness of education systems, which can be the foundation for successful reduction of inequality, presupposes as little differentiation (stratification) in secondary education as possible and high proportion of general education at the secondary level, on the one hand, and tertiary education systems that are capable of

responding to the growing demand for tertiary education, on the other hand. Moreover, expert studies carried out by the OECD (see particularly OECD 2008) provide conclusive evidence that inequalities in the chances of achieving tertiary education are lower in countries whose tertiary education systems are more diversified and have carefully conceived systems of student cost-sharing accompanied by effective financial support schemes.

153. The openness of the system of tertiary education is a precondition for reducing inequalities in the chances of achieving tertiary education. Despite relatively favourable trends in the number of admitted students, in recent years the Czech Republic has ranked among the countries with fierce competition in the admissions process across tertiary education institutions. This competition, together with the various disadvantages that emerge at secondary schools, and the predominant types of admission procedures used at Czech TEIs, reduce the chances of applicants from families with a lower socio-economic status to be accepted at a TEI (Koucký, Bartušek, and Kovařovic 2007; Matějů, Řeháková, and Simonová 2007; Matějů, Smith, Soukup, and Basl 2007).

154. Economic instruments also influence decisions on whether to enter the tertiary education system. OECD expert studies (OECD 2008) reveal that modern systems of financial aid for tertiary education students follow two main objectives:

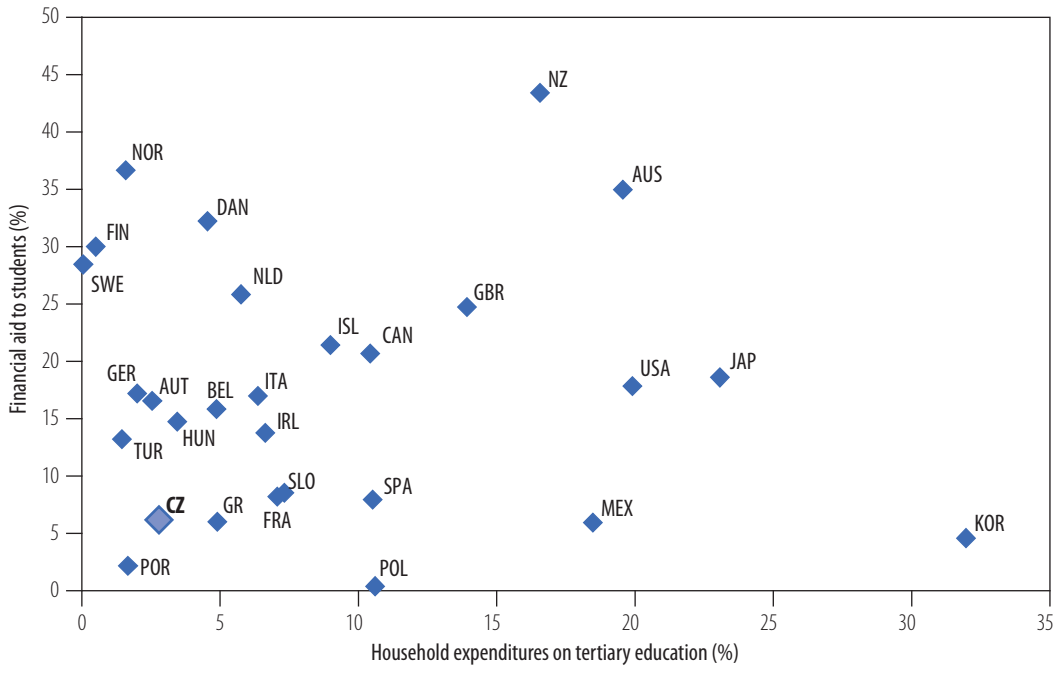
- to alleviate the influence of the individual's family background on decisions concerning studying at a tertiary education institution;
- to reduce the economic dependency of tertiary education students on their families – both in terms of the financing of direct educational expenses (tuition fees and other expenses directly linked to one's studies) and indirect costs (living costs during enrolment);

In other words, modern systems of student financial aid increasingly seek to put students on an independent footing, i.e. as recipients of financial aid. This leads to the following:

- shifting the core of financial aid from indirect to direct forms of assistance,
- transforming financial aid provided via parents and institutions into financial aid focused directly on students;

CHART 6.

Revenues of tertiary institutions from households (tuition fees) and expenditures on student financial aid as % of expenditure on tertiary education in 2004

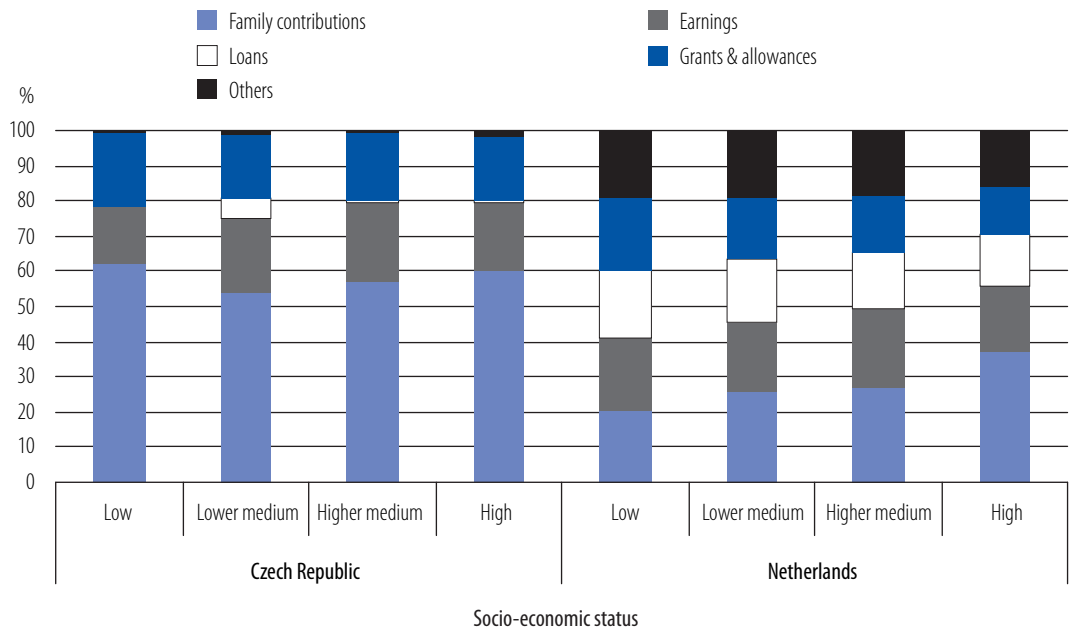


Source: OECD, EaG, 2006

The comparisons illustrated in Graphs 6 and 7 depict the situation in the Czech Republic in this respect.

CHART 7.

Sources of tertiary student revenue in 2005 in the Czech Republic and the Netherlands



Source: Eurostudent 2005

The data in graph 7 does a good job in illustrating the difference between the Czech Republic and the Netherlands, which operates a very effective system of student financial aid based on a combination of universal study grants (which, if a student does not fulfil his or her academic responsibilities, become loans). This scheme, although less lavish than typical Scandinavian systems, frees the student from dependence on the family and its socio-economic situation. Although students in the Netherlands are also encouraged to earn money because grants and low-interest loans are limited (as distinct from the Czech Republic, there is a very flexible system of employment contracts of which students make full use), parental contributions and students' own earnings amount to less than a half of students' available resources. In the Czech case, these resources account for 80% of the student's budget. At the same time, we can see that the Dutch system, compared to the Czech one, makes educational funding easier, particularly for students from families with low socio-economic status. In the Netherlands, the proportion of contributions from parents with a low socio-economic status is almost two times lower than that from parents with a higher socio-economic status, while in the Czech case it is virtually the same (Data from: Schwarzenberger, A. (Ed.). 2008. *Public / Private Funding of Higher Education: A Social Balance*. Berlin: HIS)

155. The existing system of Czech financial assistance, which, in terms of the goal of achieving a higher level of equality in chances to acquire tertiary education, seems to not be very effective. That system can be characterised as follows:

- A student in Czech legislation is understood to be a child who is dependent on the family (a so-called "unprovided for child");
- A large proportion of educational expenses is covered either by parents or students from their own income (in spite of legislative obstacles in employing students in the preferential part-time work scheme) – see graph Graph 7;

- Direct financial aid[35] to students ranks among the weakest in Europe, social benefits are targeted mostly at parents;
- Means-tested scholarships are targeted at a very limited number of students. There are considerable problems related to their administration, and students' social situation is not taken into account in the allocation of grants for accommodation. Last but not least, students have little information about their rights as regards means-tested scholarships;[36]
- There are no schemes facilitating studies for disabled individuals;
- There is no system of non-commercial student loans for living expenses.

7.2. How to Bring About Change?

156. One of the very important questions we have to answer is: what instruments can we use to ensure, in a relatively short period of time, growth in tertiary education participation by disadvantaged groups and, in this way, secure long-term favourable tertiary education trends toward more equal chances and a higher level of social justice?

157. This situation can only be addressed by means of a comprehensive reform of both tertiary and lower levels of education. The requirements that the overall educational system should meet if it is to reduce the level of educational inequality will be the subject of analyses and discussions, which in turn will seek to fulfil these objectives by identifying the parameters of reform at all levels.

158. As for the necessary changes in tertiary education, the required solution should address its **structure** (Chapter 5), **funding** (Chapter 6) and, in particular, the implementation of **special strategies aimed at reducing social and economic barriers** (financial assistance, admission procedures).

159. Achieving a higher level of equality in access to tertiary education will require long-term efforts not only in terms of developing a number of specific policies, but also, and most importantly, in terms of pursuing this objective in all reform steps in the area of tertiary education that seemingly do not relate to equal opportunities. We can mention some of the most important recommendation of the OECD (OECD 2008) in this regard:

a) Thoroughly monitor the emergence of unequal opportunities at all educational levels and the reasons for their continuation (one of the priorities for systemic projects within the Operational Programme Education for Competitiveness);

b) On the basis of knowledge about the main sources of inequalities, coordinate reform steps at all levels of the educational system;

35 The description of direct financial aid in the White Paper differs from how it is commonly understood. Direct support as described in the White Paper means that financial resources are received directly by the student as a final beneficiary and an "independent social unit." The link to parents is only maintained for the purpose of ascertaining the social situation of the student's family. Entitlement to financial aid will therefore continue to be established on the basis of testing the family income, but the resources will be targeted directly at the student.

36 The payment of means-tested scholarships follows the same principle as that of child allowances. However, it is a well-known fact that the resources earmarked for the payment of means-tested scholarships are not fully disbursed and utilised. The problem of the insufficient use of the resources earmarked for means-tested scholarships consists, among other things, in the situation where means-tested scholarships are paid by TEIs that do not have the possibility to "test" students' social situations and must therefore base their decisions on documents issued by state welfare institutions delivered by students themselves. For many students, this procedure is complicated and in a way also demeaning. This is why students often do not apply for means-tested scholarships although they are entitled to them. This, along with a low level of awareness of students' rights to scholarships, often results in a situation where the resources earmarked in TEI budgets for means-tested scholarships are not fully used up. TEIs legitimately object that social assistance benefits should not be paid by them, that they should be paid by institutions designated for the administration and payment of state welfare support or benefits. However, the Ministry of Labour and Social Affairs insists that it will not pay means-tested scholarships to tertiary education students.

c) Provide pupils and parents effective support in decision-making about further educational opportunities at all levels of the educational system, and encourage the development of educational aspirations (encourage entry to tertiary education from all types of secondary education completed with a diploma);

d) Diversify tertiary education so that it become open to applicants with various capacities, interests and life plans;

e) Support the development of a regional structure of tertiary education that will especially facilitate entry in lower levels of tertiary education without the need for commuting to traditional university centres (support for the establishment of institutions providing professionally-oriented bachelor's programmes or two-year programmes; support for the establishment of regional branches of universities, which will link up to regional labour markets, etc.);

f) Facilitate access to tertiary education for the adult population as part of continuing education, and accommodate admission procedures for this strategy;

g) Facilitate student transfers (mobility) between various TEIs, particularly between bachelor's programmes of various types and orientations, on the one hand, and master's programmes, on the other hand;

h) Apart from the basic models of student financial aid (which are the subject of the previous chapter as well as this chapter) it is necessary to prepare and provide financing for special programmes that would stimulate TEIs to admit applicants from severely disadvantaged backgrounds;

i) Provide special study grants for disabled students.

160. As Chapter 6 described in more detail, student financial aid reform must be focused on the consolidation of the fragmented, indirect student support provided by various schemes and institutions. Moreover, the assistance must be simplified and targeted directly at students. It is also necessary to develop a system of deferred and income-contingent repayment of student loans and to set up more favourable conditions for employing students on a flexible, part-time basis. The system of admission procedures has its own separate set of problems.

161. The reform agenda involves, above all, the proposal that there be a new system of student financial aid that would be based on the premise that it cannot be an excessive additional burden on the state budget (i.e. should be nearly fiscally neutral in the long term). This means that it must also be far more efficient and targeted at individual students.

162. In the existing system, most social assistance is focused on students' families since they legally take care of the dependent child all the way to the age of 26. The new principle of the student's financial independence from parents envisions that the student should constitute an independent social unit. This change is also needed in light of the increasing ages at which students graduate, which is largely due to the growing number of students who begin enrolment at a TEI well after they complete secondary education. This is one of the reasons why students commonly graduate from tertiary institutions when they are over 26 (which is the age when students cease to be entitled for many items of social assistance even during enrolment). As a consequence, a steadily growing number of students exceed this age limit and find themselves in a difficult social situation.

163. However, the age limit of 26 for the purpose of providing state social benefits to **families looking after dependent (unprovided for) children** appears to be appropriate. Therefore, increasing the age limit above 26 would not be a good solution in this respect. The problem of social support and more favourable health insurance terms for students older than 26 should be solved separately. It would be much more appropriate to adopt the approach common

in Scandinavian countries, for example, where students of tertiary education institutions, regardless of age, are considered to be adults independent of their families.[37]

164. In light of this, we propose conceiving students as relatively **independent social units,**[38] which will not only address the problem of the age limit of 26 for the purpose of health insurance, but will also change the entire system of student social support. The new definition of students as adults will be in line with the requirement that *each individual regardless of age should have the right to undergo all levels of tertiary education (bachelor's, master's and doctoral) in his or her life while enjoying the advantage of not having to pay health insurance if he or she is not working full-time.* This advantage would only apply to one "passage" through the relevant level of tertiary education and to students who at that moment do not have a full-time job. The period for which support would be provided would differ depending on the type of study. In general, students should be entitled to financial aid for the standard length of degree programmes. The fundamental change in the way we define preparations for future occupations will consist in the fact that instead of emphasising **the age limit,** the main factor will be a maximum number of years spent in tertiary education for which the student will be eligible for social benefits.[39] The maximum number of years for receiving social support on the basis of studying at a TEI will be derived from the standard lengths of study for individual programmes (bachelor's, master's and doctoral).[40]

165. The objective of this change is to eliminate the disadvantages faced by students who enter the tertiary education system repeatedly, after a second or third attempt at enrolment, or after a period of work experience. The most severe disadvantages are faced by students who were not admitted to tertiary studies immediately after completing secondary education. Their numbers are growing every year. Moreover, this change aims to make it possible for students to obtain work experience in proper employment after acquiring the bachelor's degree, and thus to have more time to decide on further studies.

166. This fundamental change to the definition of a tertiary education student forms the basis of automatic changes in other legal regulations that do not define students and instead consider a student an "unprovided for child" (stated in Section 11, par. 1 of Act no. 117/1995 on state social support).[41] For example, one automatic change would be in the law on income

37 The principle of adult persons – students over 26 who often share a household with their life partners – is now fully applied to Act no. 586/1992 Coll. on income tax. In Section 35, the age limit is extended to 28 years only if the taxpayer receives a tax allowance of 4,020 CZK per year and studies full-time in a doctoral programme. However, the 26 age limit is not extended for the unprovided-for child of a taxpayer – i.e. the parent cannot apply a tax allowance for "an unprovided for child" that is deducted from the tax due, since the assumption is that these people have their own income, families or at least life partners.

38 The term "independent social unit," as used in the White Paper, is defined for the purpose of students' independent management of their own resources regardless of the way social assistance entitlements are calculated.

39 Entitlement to social benefits will always be established on the basis of testing the social situation of the student's family.

40 The interruption of studies will result in the loss of social allowance entitlements that ensue from student status. As long as studies are interrupted, the student is considered to be an ordinary employee who is obliged to pay public insurance.

41 When a tertiary student is removed from the definition of an unprovided for child, it is necessary to define student status as well as preparation for a future occupation. This does not mean a latent extension of the 26 age limit, which would lead to the enormous growth of the number of people entitled to various social benefits. The proposals also respect the steps being planned for further stages of pension reform and the length of active participation of a natural person in the labour market. This is why the standard length of study and the period for which students receive social benefits remain the same. The new definition of a student for the purpose of financial aid envisions that the student is a person who is preparing for his or her future occupation by being enrolled in a full-time degree-granting programme at a tertiary education institution (in line with Act No. 111/1998 Coll. on higher education institutions) for a period corresponding to a standard length of study for the relevant study programme, and who has enrolled in the programme before reaching the age of 30. Since the period for which the student receives social benefits remains the same (i.e. it will be defined as the maximum years of study during which the student is entitled to social benefits), the age limit for providing social benefits to students enrolled in regular studies can be entirely eliminated. The possibility of setting a new age limit of 30 years is based on a consideration of full-time/on-site enrolment for the standard length of study in the given study programme (the scope of which often prevents full-time gainful activity) at all levels of tertiary education

tax and its definition of tax allowances and bonuses for parents. By taking tertiary students out of the definition of an unprovided for child as described in the above section of the law on state social support, automatic changes will be made to the law on income tax in terms of the parental allowances for the given student; the student will no longer be considered an unprovided for person. Resources obtained in this way will be used in the new scheme of student financial aid.

167. We believe that across-the-board financial aid would not be a good systematic solution. The social situation of tertiary education students, including the problem of the 26 year age limit, should therefore be addressed through a combination of various types of support within three pillars on which the student financial aid system would stand.[42]

168. The first pillar of the reform of student funding consists in **study grants and scholarships.** Firstly, it would be appropriate to introduce a **universal study grant** (non-refundable assistance that would be transformed, under certain conditions, into refundable assistance – a loan). This grant would be financed – due to the new definition of students in financial support legislation – by transferring parental tax allowances now claimed for dependent children (tertiary education students) into the system of universal financial aid (i.e. independent of the student's social situation). The amount that is subject to regular indexation (currently about 890 CZK per month), and which constitutes a monthly tax allowance for parents of dependent children, would become the basis of the universal study grant. The grant would turn into refundable assistance (a loan) in the event that the student does not fulfil his or her duties in a timely manner. In accordance with the need to strengthen the mechanisms for integrating disabled students, we propose that the basic study grant should be adequately increased for this group, i.e. that it should reflect the fact that the education-related expenditures of disabled students are generally higher.

169. At the same time, we should enhance the effectiveness of the **administration of means-tested scholarships** so that they actually begin to "prevent" social barriers in access to tertiary education, and so that full use is made of the resources earmarked for means-tested scholarships on the basis of fiscal neutrality. An increase in the number of recipients of means-tested scholarships - as a consequence of the change in their administration – should not necessarily cause an increase in the state's mandatory expenditure. Increased efficiency in the use of these resources will be the main objective at the first stage of the reform. The administration of means-tested scholarships should be addressed in a systematic manner within the framework of consolidating tax and insurance collection and in the context of setting up an institution responsible for the extensive agenda of funding of tertiary education.

170. The second pillar of the reform of funding educational costs should consist in low-interest **loans** provided by the state that would cover at least part of students' living expenses. Repayment of the study-related costs by graduates would be income-contingent (see Chapter 6).

Along with student loans, an education savings scheme involving state financial support should be established. This would be the most socially effective form of support for student loans that would be directed, above all, towards families with lower incomes. It is well known that poorer families are normally afraid of taking out a loan for their children's education, even if the loan is guaranteed by the state. On the other hand, families that are better off take out such loans because they do not face the same risk, and thus obtain additional resources.

that follow upon one another. The age limit of 30 years also corresponds with the parameters of pension reform, which envisions the extension of the retirement age to 67/69 years (i.e. the pension reform assumes that the pensioner worked, and thus paid insurance, for a minimum period of 35 years). The 30 age limit is based on the period of time for which the student should have completed preparations for a future occupation and from when he or she should participate in the pension insurance scheme.

42 We are here describing the proposed instruments particularly from the perspective of achieving more equal chances. The economic and administrative aspects of implementing these instruments are described in Chapter 6.

In other words, loans guaranteed by the state can actually lead to the situation in which low-income households "subsidise" wealthier households from their taxes. Education savings plans, if properly designed, would alleviate this "redistribution" effect. Moreover, education savings would strengthen the awareness of the economic value of education on the part of families with lower levels of socio-economic status and educational attainment. In this sense, such a scheme would double the effectiveness of public support for education.

In practice, the introduction of education savings with state support should not be difficult. The scheme would be similar to building society schemes that exist both in Europe an in the Czech Republic – i.e. it could be part of such a scheme. Moreover, we believe it is advisable to examine, together with the Ministry of Finance, the possibility of income-contingent repayment of student loans from building societies that would be expanded to cover education savings.[43]

In addition, contracts for education savings with state contributions could be provided by banking institutions other than building societies with the relevant licence. In this case, it would be appropriate to consider a model similar to retirement insurance with state financial support. There could also be a tax deduction scheme similar to the one currently in place for retirement or life insurance, which consists in deducting the relevant amounts from the tax base. Education savings as a banking product provided by commercial banks should meet statutory requirements for tax allowances, as is the case with life and retirement insurance. The state should also encourage contingent loan repayment by applying appropriate instruments.

171. The third pillar of the reform should consist in enhancing the conditions for casual work by students. The assumption is that, in terms of labour costs, a student without practical experience is as "expensive" as an ordinary employee with a qualification and practical experience. This motivates employers to not assign students with tasks requiring other than elementary skills. Occasional income earned under favourable conditions represents indirect state support for active students and its effects are relatively large. We do not want to support students in merely receiving social benefits. We intend to provide financial incentives that would reward their active approach so that state expenditures on passive social assistance do not increase, while the state would still provide indirect financial aid for students during their studies. Moreover, it is clear that student casual work (on the basis of work contracts) and part-time employment (on the basis of agreements on work activity) during studies increase their employability in the future.

Potential allowances should be fully in line with amendments to Act No. 262/2006 Coll. (the Labour Code) and to Act No. 187/2006 Coll. on employee sickness insurance that is being prepared by the Ministry of Labour and Social Affairs.[44] We therefore believe it is necessary to examine the conditions under which earnings from students' casual work would not be included into the student's family income that forms the base for testing eligibility for social benefits. Casual work that does not carry the obligation of paying insurance is regulated in the existing law on sickness insurance. It stipulates that insurance payment obligations do not apply to employees who are employed no longer than 14 days, provided it is not repeated within 6 months from the end of previous employment. Agreements on work activity are

43 This proposal is based on the assumption that the contribution paid by the state will be gradually restricted to satisfying needs associated with housing. In this context, a new (alternative) purpose of using the resources could be introduced: funding educational expenses. It must be stressed at this point that all indirect state financial support to active students (e.g. tax allowances) must be interconnected with direct passive support (social benefits to the student's family) and with active support aimed directly at the student (support for education savings).

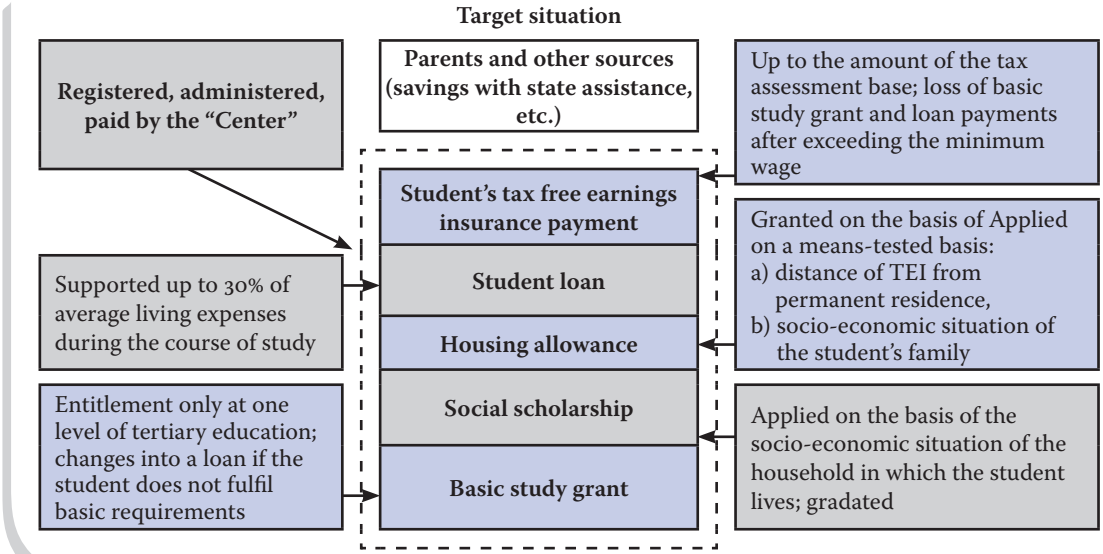
44 In the section on the 26 year age limit, the White Paper envisions that if a student in a bachelor's programme has a part-time job to which these allowances apply, and if after achieving a bachelor degree's he or she interrupts studies and takes a full-time job with the same employer with no advantages attached, the years spent in part-time employment are properly included for the purpose of pension calculation. We should point out that the White Paper takes into account the changes in tax allowances that are part of the planned public finance reform; the White Paper thus does not deal with this issue explicitly. This allowance, which is being prepared, means that employers' contributions to tuition fees paid by their employees will be a tax deductible expenditure.

also favourable in this respect, as they do not carry the obligation to participate in the public insurance scheme. We believe it is advisable to examine the possibility of increasing the annual limit on the number of hours that can be worked on the basis of agreements on work activity. Moreover, we also recommend examining the possibility of increasing employers' incentives - in the form of reduced social insurance payments by employers – in creating part-time employment opportunities that would take into account study obligations. This advantage from insurance allowances should also apply to students in doctoral study programmes at TEIs for the statutory length of doctoral studies. During that time, TEIs, as employers, should also be entitled to apply the insurance allowance scheme to the part-time employment of doctoral students. Insurance allowances should also make even the differences in the conditions of students who have a business license versus those who are employed.[45] A similar reduction of insurance paid by the employer could be considered in connection with student part-time employment.

172. The above changes should form the basis of the system illustrated in Diagram 2.

DIAGRAM 2.

Proposed student financial aid scheme



173. One of the major sources of educational inequality is the **process of admitting students to tertiary institutions**. Although an increasing proportion of applicants undergo study aptitude tests, knowledge-based testing often takes place in the fields of study where there is a high excess of demand over supply. These tests of factual (curriculum based) knowledge often fail to meet the relevant requirements of objective testing. Analyses carried out in the past show that a large-scale implementation of *study aptitude tests* could, as opposed to *knowledge testing*, reduce the risk of admission failure caused by other than cognitive factors (stress, physical or mental discomfort related to the situation, distance of TEI from residence, corruption, etc.). This would most likely also compensate for the handicaps of applicants from less favourable family backgrounds. To be sure, similar effects could be achieved if applicants had several attempts at passing the test, and could do so at any time after completing secondary education and at a location as close as possible to their home. This would also make the admissions process easier for applicants who do not intend to study immediately after

45 Self-employed students are, due to their studies, considered to be self-employed persons performing **subsidiary** gainful activity, because studies are considered to be their main "activity." The obligation for such students to pay pension insurance from earnings from independent gainful activity arises when a certain level of income is reached after deductions (in 2008 this amount was 51,744 CZK for the calendar year).

secondary schooling (their proportion is growing), who apply repeatedly, and who live far from the tertiary education institution.

174. The solution to this problem cannot be based in administrative actions within the authority of TEIs aimed at implementing admission procedures in line with their needs and interests. A more extensive use of study aptitude tests should probably be encouraged in an indirect manner. One possibility would be to incorporate the evaluation of various approaches to admission into the overall evaluation of tertiary education institutions.[46]

175. Recommendations

a) Inequalities in chances of achieving tertiary education cannot be effectively reduced unless tertiary education reform is coordinated with reforms in basic and secondary education.

b) Social barriers at the transition between secondary and tertiary education that are not primarily economic (income-based) cannot be reduced unless there is major diversification of the system. This diversification should enable applicants with diverse study aptitudes and life plans to find appropriate study programmes and institutions.

c) Inequalities could also be reduced if the transparency of the admissions process at TEIs was improved, and if basic admission criteria were made as universal as possible (a greater emphasis on study aptitudes).

d) Economic barriers can only be effectively reduced by better targeting financial aid at students themselves (transforming all forms of indirect support into direct support), introducing study grants and student loans for educational expenses, and education savings schemes. These instruments are described in detail in Chapter 6.

e) With regard to increasing the importance of students' own income in the funding of their studies, it would be necessary to introduce a new type of employment contract facilitating student casual work.

46 A proposal for a system of continuous assessment of tertiary education institutions should be one of the key outcomes of the systemic project "Návrh a implementace komplexního systému hodnocení kvality terciárního vzdělávání a výzkumu a vývoje (Proposal and Implementation of a Comprehensive System for Evaluation of Quality of Tertiary Education and Research and Development) which is implemented within the Operational Programme Education for Competitiveness.

CHAPTER 8

PREREQUISITES FOR THE SUCCESS OF TERTIARY EDUCATION REFORM AT LOWER LEVELS OF THE EDUCATIONAL SYSTEM

8.1. Interconnectedness of Lower and Higher Levels of Education and their Societal Functions

176. The educational system is a complex entity. All problems in education should therefore be addressed in a comprehensive manner from the perspective of the entire educational system. No major improvements can occur at lower educational levels unless there is a change in teacher training at TEIs. Tertiary education cannot be improved unless there are changes at lower levels of education. Efforts to enhance the system as a whole cannot succeed if educational policy measures taken at different levels of education do not observe the same principles and if problems in various parts of the system are addressed in isolation and without awareness of the contexts and common goals. The purpose of this chapter is to outline these contexts and to identify areas that must receive increased attention at lower levels of education, since they are the prerequisites for the success of tertiary education reform and reform of the system as a whole.[47]

Identifying the objectives of education

177. The vision of lifelong learning in the rapidly changing world is the decisive factor in setting the objectives of education. This vision places new demands on various levels of education in terms of their partial objectives and, in particular, in terms of their interconnectedness. The needs of the labour market and society change quickly; information is increasingly accessible; new technologies, knowledge and manufacturing procedures are emerging; decision-making situations are increasingly complex; future challenges cannot be predicted. It is no longer only knowledge that one needs in order to succeed in a modern society. Adults increasingly need social skills, the capacity to work with new information and to solve problems, creativity, inventiveness, and imagination. Schools have the primary task of equipping all pupils with basic knowledge and skills that facilitate their adaptation to new requirements, their capacity to learn, to respond to new situations and to make independent decisions. This is the basis for defining requirements for modifying the objectives and content of education. Apart from the objectives related to knowledge, which is traditionally emphasised in the Czech educational system, schools should begin to focus increasingly on teaching pupils how to learn new things, how to cultivate their oral and written expression, and how to apply critical thinking. Schools should guide pupils to be creative, inquisitive, to do independent research activities and to work with information.[48] Moreover, schools should not forget civic competencies that form the foundation for cultivating a democratic society.[49]

47 This text does not provide a more detailed analysis of the situation at lower levels of education, nor specifies the detailed measures that are needed.

48 The requirement to modify the objectives of education is sometimes misunderstood to mean that the objectives related to knowledge and "learning" activities should be abandoned and replaced by games, the primary feature of which is that they are amusing. In our understanding, modifying the objectives of education consists not in replacing knowledge-related objectives, but in complementing them with further objectives. Schools should not be seen as a place of entertainment, but as a place of systematic work where children experience the joy of learning and discovering.

49 The results of international comparative studies show that Czech education does need a new focus. While the

Dialogue with experts and the lay public

178. The objectives for basic and secondary education have been newly formulated in the Education Act and the related curricular documents (framework educational programmes). However, classroom surveys and social surveys indicate that these objectives have not been acknowledged and understood by a considerable part of both experts and the lay public. It is important to take steps to support debate about the meaning and objectives of education in contemporary society, to obtain public support for the newly formulated educational objectives, and to link them to the objectives defined for tertiary education. In order to carry out a reform of the concept of educational objectives at the level of basic and secondary education, it is particularly important that the academic community familiarize itself with the reform and demand its implementation. Basic schools define their priorities based on admission requirements for study at secondary schools. Secondary schools do the same on the basis of admission requirements for study at universities. If tertiary education institutions do not insist on solid basic knowledge and general skills, schools at lower levels will continue to provide their pupils with an excessive volume of superficial encyclopaedic knowledge and they will have no time left to foster the development of critical and independent thinking skills.

High quality and relevant preparation for further studies at the level of basic and secondary education

179. In 2007, 77% of upper secondary education graduates (those with a "*maturita*," or diploma) applied for admission to tertiary education institutions. The net entry rate[50] was 53%, compared to 32% in 2002 (Kleňhová 2007). The table below presents data on the transition from secondary to tertiary education for graduates of various types of secondary education.

THE TRANSITION FROM SECONDARY TO TERTIARY EDUCATION ACCORDING TO THE TYPE OF SECONDARY EDUCATION

(Kleňhová, Vojtěch 2006, 2007)

	Applicants to TEIs (% of those with a diploma)	Success in admissions (% applicants)	Drop out (within 5 years) (% students)
Grammar schools	100	82	13
Lyceums	79	84	
Secondary technical schools	65	66	23
Secondary vocational schools	41	68	37
Follow-up courses	20	59	38

In view of the steep rise in the proportion of students entering tertiary education (see the Annex) it is necessary to pay increased attention to the standards of basic education and to seek mechanisms for ensuring a standard level of competences of secondary degree graduates. These mechanisms should be chosen to ensure that everyone with a diploma have mastered basic knowledge and skills. At the same time, the mechanisms should not become

performance of fifteen-year-old Czech pupils in mathematics and science places them, over the long term, at the bottom of the 1st third a the scale of OECD countries, in terms of reading literacy they are at the bottom of the 2nd third on the scale. This trend is the same in all age categories of pupils as well as in the adult population. Moreover, Czech pupils repeatedly show large differences between the level of knowledge and skills and the capacity to apply them effectively in practice. These results correspond to the methods of instruction at Czech schools where rote teaching methods predominate and, as compared to other educational systems, little room is given to discussion, independent research or the creative activities of pupils (Roth 2006).

50 The proportion of those entering tertiary education in the relevant population.

a barrier in access to tertiary education for any group of pupils. We should observe whether the standardised school-leaving examination, which is being launched, can constitute such a mechanism, or whether other alternatives should be chosen (e.g. to develop a standard output for studies completed with a school-leaving examination).

8.2. Systematic changes

180. In a situation where 70% of graduates of secondary technical schools apply for studies at tertiary education institutions (see the Annex), we need to engage in a serious reflection about the fundamental changes that are needed in the structure of the secondary education system. These changes should strengthen the general education of graduates of secondary technical schools. This should ensure that they are well prepared for further studies as well as for the rapidly changing labour market,[51] and would result in a higher level of effectives of the system of secondary education.[52] These changes must be conceived in a way that preserves the existing strengths of the system of secondary education, such as the low drop-out rate and a high rate of completion.[53]

The training of and support for teachers

181. The implementation of the newly defined educational objectives, training for the needs of an increasingly diverse population at the tertiary level, and lifelong learning will place higher demands on the quality of teacher training.[54] The responsibility for selecting and training future teachers rests fully with faculties of education. These faculties should increasingly focus on identifying the problems that teachers face in practice, and on innovative study programmes that eliminate these setbacks. Improving the quality of teacher training is a prerequisite for desirable changes at the level of basic and secondary education that will ensure the high quality education of tertiary applicants.

182. Increased demands placed on teachers should be reflected not only in their initial education, but also in the support they receive while teaching. Further measures should aim at the further training of teachers and support for schools via consultants and other services.

Ensuring equal opportunities

183. One basic feature of the Czech educational system is its strong dependence of learning outcomes and educational attainment on the family background of pupils. Empirical data show that this dependence is reinforced by the structure of the educational system, which

51 The globalisation of the labour market has led to rapid changes in the supply of jobs. People change their occupation several times during their lives. Narrow specialisations are no longer useful and can even have negative effects. It appears to be increasingly important to equip all graduates with general competencies that help them learn and acquire new skills throughout their lives, as need be. This is why basic and secondary schools must give more weight to the development of learning skills. The prerequisites for further learning developed at an early age have enormous implications in terms of people's ability to accumulate human capital in future years. Unless each child fully develops his or her learning potential at basic and secondary schools, it will be very difficult and costly to educate them at TEIs or at other types of institutions.

52 In a situation in which most graduates of secondary technical schools continue studying at tertiary education institutions, the investment in their professional training is wasted to a large extent.

53 The available data back up the theory that it is useful to abandon excessively narrow specialisations. Research carried out by the National Institute for Technical and Vocational Education shows that over one half of recent graduates of technical and vocational education change their occupation shortly after completing their education. After 6 years of graduation, only 42% of those who completed secondary vocational schools would choose the same field of study, and 46% would opt for a diploma-granting programme. Only 37% of graduates of vocational schools work in the field they studied. 66% of graduates of secondary technical schools would choose the same field of study. However, six years after graduation only 31% work in the field they studied. (Trhlíková, Úlovcová, and Vojtěch 2006, 2007).

54 Teachers must learn to plan instruction in view of these objectives, evaluate the progress of individual pupils on a continuous basis, provide them feedback, and employ diverse methods that facilitate the fulfilment of diverse educational objectives.

tracks children from an early age into selective and non-selective schools according to family background.[55] Weakening the dependence of learning outcomes on family background is a common task for all levels of education, while measures at lower levels have greater prospects to change the situation. Preschool education, as a preparation for the school attendance of children from disadvantaged socio-economic backgrounds, plays an important role.[56] Basic education should then help children discover their talents and motivate them to develop their capacities as much as possible, and to stimulate their further learning. All basic school graduates should have acquired the basic knowledge and skills necessary for lifelong learning. This is an uneasy task for teachers. Although there are exceptions, we may say that in general Czech schools are still based primarily on external motivations, and it is difficult to create a stimulating working environment that places meaningful intellectual demands on pupils and makes it possible for each of them to experience the joy of working and educational success. It is therefore important to initiate a debate on developing a standard of outputs for basic education and on reforming the structure of basic education in a way that would reduce the tracking of pupils into schools and classes on the basis of their family background.

184. The structure of the system of secondary education must guarantee a maximum level of openness and permeability, which will ensure that wrong decisions can be redressed and that the path to the highest level of education remains open.

55 In the PISA 2006 survey, the Czech Republic showed the second highest increase in the pupil's scores related to a unitary increase in the index of cultural, social and economic status. The results of the survey reveal that the differences between the scores of various types of school are growing (the scores of grammar schools are improving while those of secondary vocational schools and basic schools are deteriorating). Moreover, there is an increasing proportion of pupils who achieve an insufficient level of reading literacy (Palečková et. al. 2007).

56 We believe it is necessary to stress that these are not only Roma and disabled children as it is sometimes misinterpreted. The group of children who need assistance is considerably larger.

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GLOSSARY

Academic staff

Members of the academic staff of a tertiary education institution are people who carry out both teaching and research and development activities (possibly also other creative activities, such as artistic work). Academic staff members are required to have a Ph.D. or an equivalent qualification.

Long-term Strategy for Basic Research

This is the principal input that was used for drafting the National Research and Development Policy of the Czech Republic. It can also be used for proposing changes to that policy. The objective of the long-term strategy for basic research is to define the priorities of research areas that have bright future prospects in terms of their most important benefits for the competitiveness of the economy and the sustainable development of society.

External stakeholders

External stakeholders are external "clients" of tertiary education institutions, particularly employers, the state and public administration, as well as entrepreneurs, other educational institutions, research and development institutions, and cultural institutions.

Teaching staff

Members of the teaching staff of a tertiary education institution are people who are primarily involved in teaching activities. A typical representative of this category would be teachers at institutes of professional education. Their qualification requirements depend on the specific type of tertiary education institution, which are detailed in the institution's internal regulations.

Self-administration

In this document, self-administration refers to the governance structures of the academic community. In the Czech context, this refers primarily to academic senates, to executive offices of TEIs (e.g. rectors and deans) and to bodies involving external oversight and influence (e.g. boards of trustees and scientific boards).

Specific research at tertiary education institutions

Specific research refers to a type of research at tertiary education institutions that is directly linked to education, and in which students are involved.

Board of trustees

For the purpose of this document, the board of trustees is a body that takes part in all major decision-making procedures and evaluation activities within the given tertiary education institution. In comparison with the current situation, we envision major changes in the board's mission, powers and responsibilities. We recommend that most members of this board should be appointed by the Minister of Education, Youth and Sports, following consultations with, for example, regional officials. The board of trustees should also include individuals elected by the academic community or academic senates.

Development

Development refers to the systematic and creative use of research outcomes or other findings for the purpose of producing new or enhanced materials, products and equipment, or for the implementation of new or streamlined technologies, systems and services.

Research

Research refers to systematic creative work for the purpose of expanding existing knowledge by means of methods enabling the confirmation, supplementation, or refutation of the knowledge ascertained.

Research plan

A research plan refers to the delimitation of a subject of research activities to be carried out by a legal entity or its organisational unit, including the objectives, strategies, costs and expected outcomes of such research activities within a 5-7-year period.

ACRONYMS

BSG	Basic study grant
BSL	Basic student loan
CRD	Council for Research and Development
CTE	Council for Tertiary Education
EU	European Union
GDP	Gross Domestic Product
HEI	Higher education institution
IIE	Institute for Information on Education
MoEYS	Ministry of Education, Youth and Sports
OECD	Organisation for Economic Cooperation and Development
R&D	Research and Development
R&D&I	Research, Development and Innovation
TEI	Tertiary education institution