

European Commission  
Directorate-General for Economic and Financial Affairs  
Economic Policy Committee

**Efficiency and effectiveness of public  
expenditure  
on tertiary education in the EU**

**ANNEX : COUNTRY FICHE  
CZECH REPUBLIC**

**Joint Report by the Economic Policy Committee  
(Quality of Public Finances)  
and the Directorate-General for Economic and Financial Affairs**

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## **Brief characterization of the tertiary education system**

### **1. Main features**

Tertiary education in the Czech Republic is composed of two sectors, the tertiary professional schools and higher education institutions.

The first, relatively small sector comprises tertiary professional schools that offer professionally oriented courses (ISCED 5B) and is regulated by the Education Act (Act No. 561/2004 Coll.), i.e. they are not part of higher education system. The duration of the full time studies is 3 years, for medical study programmes the duration is prolonged to 3.5 years. These institutions closely cooperate with employers on practical placement (that is part of the studies) and also with higher education institutions on Bachelor study programmes. Graduates are awarded a Diploma Specialist (DiS), recognised as a tertiary degree ISCED 5B. There are approximately 184 tertiary professional institutions that provide education to 28 000 students, out of them 6 700 graduate each year. Students of the tertiary professional schools represent 7 % from the total number of tertiary education students (397 619) and 8.4 % from the total number of graduates (79 859).

Higher education in the Czech Republic is provided by the higher education institutions (HEIs) in compliance with the Higher education act (Act No. 111/1998 Coll.). HEIs form the main part of tertiary education. In 2009 there were 72 institutions providing higher education: 26 public (out of them 24 of university type), 2 state (both of university type) and 44 private HEIs (3 of them of university type). Public and private HEIs belong under the competence of the Ministry of Education, Youth and Sports (further “Ministry”), while the state HEIs belong under the competence of the Ministry of Defence and the Ministry of Interior.

In 2008 public and private HEIs provided education to 370 thousand students, out of them 73 thousand graduated in that year<sup>1</sup>. There were 2237 study programmes offered by the HEIs and 18 200 of academic staff working on public and private HEIs.

Both sectors above mentioned belong to the tertiary education, however, each one is regulated by a different law and the conditions under which the institutions perform their duties are different (funding rules, evaluation, staff policy, etc.). Even though the cooperation of tertiary professional schools with higher education institutions on Bachelor degree programmes is growing each year, the transferability and recognition of DiS towards higher education study programmes is limited. Hence, further text concentrates on higher education institutions.

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<sup>1</sup> Source: Annual Report about the activities of HEIs, 2008 (publisher by the Ministry of Education, Youth and Sports)

The main trend of the last decade that can be traced in the HE is the rapid increase in the number of students entering higher education institutions that has challenged the quality and effectiveness of higher education as the financial resources have not grown proportionally. Public HEIs that are in its majority financed from public resources emphasize the call for reform of funding closely related to governance, facing the need of more effectiveness in financial management of HEIs, alternative funding sources and leadership supported by a suitable governance model. The question of study fees and forms of cooperation with private sector as an additional source of funding is a very up-to-date issue. In addition, the elimination of social and other barriers to access to tertiary education, and creation of conditions for effective use of financial sources including the limitation of study drop-out are very important aims in the near future.

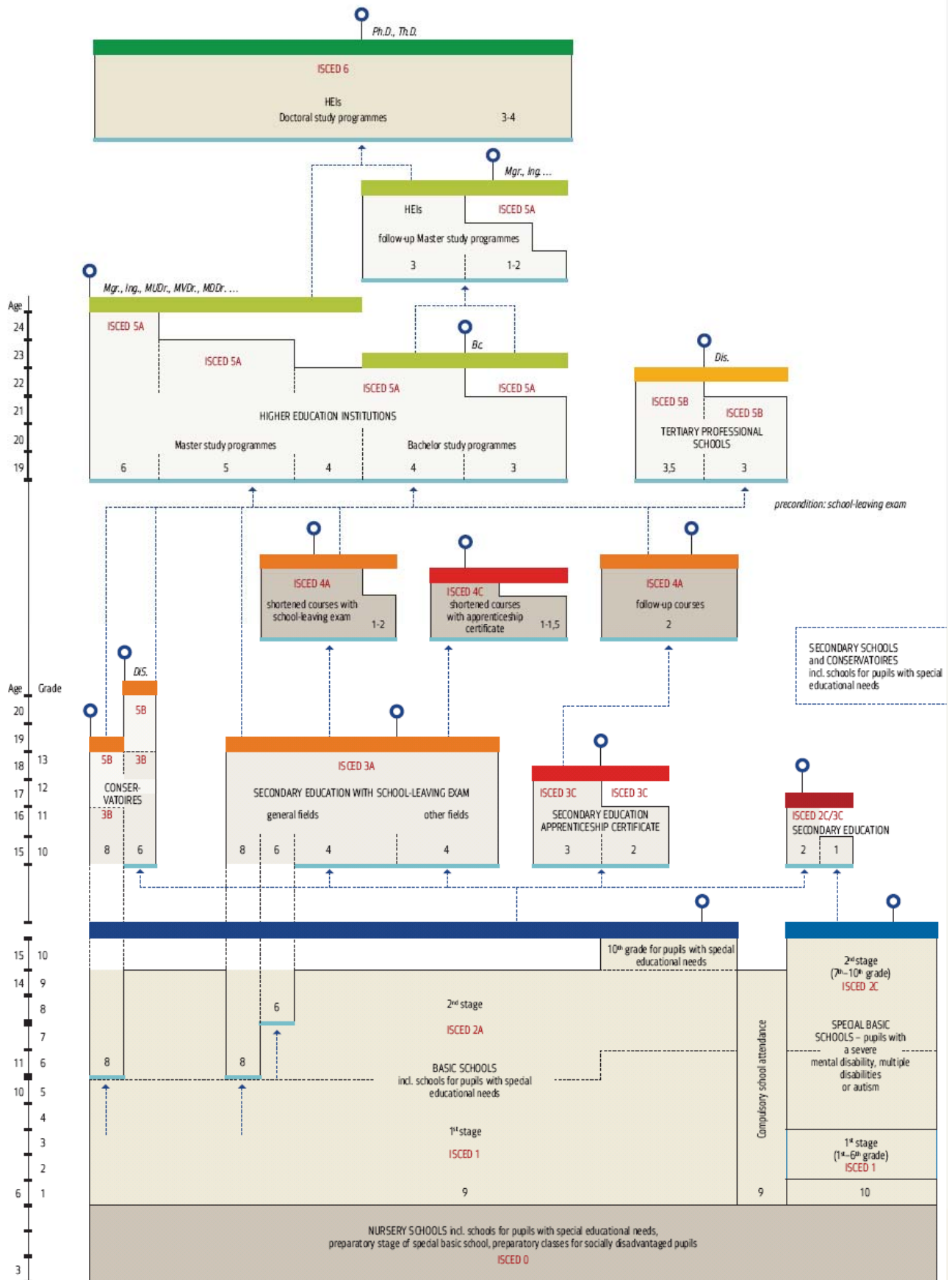
As a response to the above mentioned trends, the reform of higher education and the reform of research, development and innovation take place in the Czech Republic. The higher education reform process started in 2007, continued with the White Paper on Tertiary Education in January 2009 and should culminate in two new laws – the first one would be focused on tertiary education system as such and the second one should concentrate on the system of the financial support for students. The transformation of tertiary professional schools and their incorporation to the tertiary education system is also part of the reform.

Then, analysis on demographic development in the Czech Republic in the coming years and preparation for the fall down of number of students in the near future while keeping the quality and effectiveness of HE system constitutes also the integral part of the reform process (stabilising the growth of students entering the university from the respective age cohort for the first time and maintaining it at the level of 2/3 from the population of respective age, promoting the internationalisation and excellence of HE).

Reform of the research, development and innovation system was approved by the Czech government at the end of March 2008. The reform will be gradually implemented in the upcoming years. The essence of the reform in the area of higher education is to support excellence in R&D at HEIs and at other R&D institutions, and to support their mutual cooperation (particularly cooperation between HEIs and the Academy of Sciences of the CR), as well as cooperation with R&D institutions in the private sector. The objective is therefore to develop a clearly and transparently structured system for funding R&D from public funds (and linking it to the outcomes of basic and applied research of the HEI, with an emphasis on targeted funding), and to support R&D funding at HEIs from private sources. Another objective of the reform is to establish conditions for enhancing transfer of knowledge, commercialisation of research results and intellectual property protection. The reform steps also require HEIs to be responsible for the quality of their work, for setting up research teams based on proven high quality results, and for building excellence in this area.

Both of these major reforms will be supported by EU structural funds.

On the next page, a graph of Czech education system can be found.



## *Graduation rates*

The number of tertiary education graduates is growing constantly in the Czech Republic. In 1998 the new Higher Education Act (No 111/1998) came into force and private higher education institutions were allowed to establish. The 2001 amendment to the Higher Education Act laid down an obligation for HEIs to divide the long-cycle Master's study programmes<sup>2</sup> and re-accredit them by the end of 2003. Thus the number of graduates started to grow not just because of growing total numbers of students but also because of bachelor graduates.

In 1999 the total number of students was 190 thousand and in the same year graduated 21 thousand students (11.3 %). In 2008 the total number of students was 370 thousand, out of which 73 thousand graduated in that year (20.6%; half of them bachelors). From the numbers above mentioned a growing tendency in the total number of students and graduates can be easily traced.

Moreover, if we take all the young people in the Czech Republic in the age of 19 to 22 (which is the typical age to enter the university), 68% of them study the higher education programme<sup>3</sup> (59,5% Czech students, 8,5% foreigners). If we use the OECD indicator, net entry rate constituted 58.6% in 2008 for the Czech Republic (compared to 2006 when it was 50%).

Despite the extensive growth of higher education graduates in the Czech Republic (mentioned above), the impact on total number of graduates and also on the level of education of the work force acts very slowly. It has to be taken into account that one year of fresh graduates entering into the labour market forms less than 2.5 % of the total work force. In the course of a decade, less than 25 % of the work force is changed. In 2007, there were 733 thousand employees with tertiary education, who formed 15 % of all employees<sup>4</sup>. In parallel, those who graduated from various levels of education in 2007 have a very different educational structure. A total of 89 thousand graduated, but more than 28 thousand, i.e. more than 30 %, were from tertiary level education. This ratio has been growing annually. Despite the dynamic growth, the labour market is still absorbing higher education (tertiary education) graduates very well, as in other European countries (e.g. Portugal and Austria) where the proportion of higher education graduates in the labour market is still low.

Nevertheless, while thinking about the future higher education development it is necessary to take into account the demographic decrease that we expect in the Czech Republic in the upcoming period, it means a process that will definitely affect the number of students entering

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<sup>2</sup> Some exceptions to this rule have been allowed. The following study programmes have not been structured: general medicine, dental medicine, veterinary medicine, pharmacy, some artistic fields, law and teaching at Stage 1 of basic school.

<sup>3</sup> Counting bachelor, master and doctoral study programmes.

<sup>4</sup> Approximately 49 thousand of them were graduates of tertiary professional schools (level of *ISCED 5B*), 36 thousand had a Bachelor's degree (*ISCED 5A short*), 619 thousand had a Master's degree, or equivalent (*ISCED 5A long*), and 29 thousand had a Doctoral degree, or equivalent (*ISCED 6*).

and graduating each year. Thus we concentrate on affectivity of studies, it means to maximise the number of students that finish their studies maintaining the desirable level of quality; and making higher education studies attractive and flexible for employed people (lifelong learning programmes, flexible learning paths).

Measures implemented in order to

- support the graduation rate: each institutions gains financial benefit for the number of graduates (calculation through funding formula in 2010: the bonus for graduates represented 5% of the total financial amount distributed through normative funding). The calculation for 2011 has strengthened the role of this output criteria to 10%, supporting not just quantity (bonus for graduates) but also quality (taking into account the employability of graduates). The bonus for graduates since 2011 reflects also the policy of the Ministry to slow down the growth of graduates of master and doctoral degrees and to support number and quality of bachelor graduates.
- keep the quality on a high level so that the growing graduation rates does not cause a fall of quality of the study programmes (or lower demands on the students): accreditation of each study programme by the Accreditation Commission (AC), regular re-accreditation (based on the quality of study programme, sufficient number and qualification of the teaching and research staff, informational and technical equipment, rooms, etc.), external evaluation of faculties and institutions by the AC, control reports, etc.
- support private higher education: their establishment was enabled by the Higher Education Act of 1998 in order to accommodate the demand that exceeded the capacity of public HEIs and possibilities of public budget to finance all students who were interested in studying higher education programmes.
- support bachelor graduates: The bachelor degree has been introduced to Czech system of higher education in 1990. The 2001 amendment to the Higher Education Act (No 111/1998) obliged HEIs to divide the majority of long master study programmes and re-accredit them to bachelor and short master. Since then the growth of bachelor graduates has increased rapidly. It enabled students to graduate after 3 years of studies and get the degree of bachelor. Even though the majority of bachelors continue the master study programme, there is a group of students that would not finish the long version of master and the possibility to end HE studies in shorter time maximise the graduation rate.
- Lifelong learning (LL) programmes: accommodates the demand of higher education of people that already work in full time jobs or have their families to take care on. In this respect the diversification of higher education provision (and the development of educational activities as such) is supported through the public development programmes (competition for public money through projects of individual HEIs). These LL programmes can be a subject to payment and thus can bring additional financial resources to the institution and help to keep the quality level high. Higher education institutions issue certificates to all graduates of lifelong learning



programmes. If graduates of lifelong learning programmes become students within the framework of accredited degree programmes, the HEI may recognise credits acquired in the lifelong learning programme for up to 60 % of the amount of credits required for the completion of studies.

| <b>1/ TEACHING</b>  |           |           |           |           |           |           |      |      |      |      |      |
|---|-----------|-----------|-----------|-----------|-----------|-----------|------|------|------|------|------|
| <b>Czech Republic</b>   |           |           |           |           |           |           |      |      |      |      |      |
|   | 1998      | 1999      | 2000      | 2001      | 2002      | 2003      | 2004 | 2005 | 2006 | 2007 | 2008 |
| Academic staff per 1000 inhabitants relative to the average                                 | 1.42      | 1.38      | 1.39      | 1.33      | 1.4       | 1.4       | 1.5  | 1.47 | 1.67 | 1.73 | :    |
| Number of students per 1000 inhabitants   | 19.9      | 21.4      | 23.3      | 24        | 25.2      | 26.3      | 28.9 | 29.9 | 30.5 | 32.3 | :    |
| Number of students (graduate and post-graduate) per 1000 inhabitants                        | :         | :         | :         | :         | :         | :         | :    | :    | :    | :    | :    |
| <i>From public institutions</i>   | :         | :         | :         | :         | :         | :         | :    | :    | :    | :    | :    |
| <i>From private government-dependent institutions</i>                                       | :         | :         | :         | :         | :         | :         | :    | :    | :    | :    | :    |
| <i>From private independent institutions</i>  | :         | :         | :         | :         | :         | :         | :    | :    | :    | :    | :    |
| Ratio of students per academic staff  | 14.0      | 15.5      | 16.8      | 18.0      | 18.0      | 18.8      | 19.3 | 20.3 | 18.6 | 18.6 | :    |
| Number of graduates per 1000 inhabitants  | 2.9       | 3.3       | 3.6       | 4.12      | 3.98      | 4.47      | 5.08 | 5.07 | 5.71 | 6.77 | :    |
| Ratio of graduates per 1000 academic staff  | 2.0       | 2.4       | 2.6       | 3.1       | 2.8       | 3.2       | 3.4  | 3.4  | 3.7  | 4.0  | :    |
| Standardized recruiter view indicator (graduates' employability as perceived by recruiters) | :         | :         | :         | :         | :         | :         | :    | 1    | :    | :    | :    |
| Standardized peer view country indicator (quality perceptions among peers)                  | :         | :         | :         | :         | :         | :         | :    | 1    | :    | :    | :    |
| PISA scores   | :         | :         | 500       | :         | :         | :         | :    | :    | :    | :    | :    |
| Average total time spent by students in order to obtain a BA degree                         | :         | :         | :         | :         | :         | :         | :    | :    | :    | :    | :    |
| Average total time spent by students in order to obtain a MA degree                         | :         | :         | :         | :         | :         | :         | :    | :    | :    | :    | :    |
| Remuneration of a tenured university professor with 10 year seniority                       | :         | :         | :         | :         | :         | :         | :    | :    | :    | :    | :    |
| <b>2/ RESEARCH</b>  |           |           |           |           |           |           |      |      |      |      |      |
|   | 1998      | 1999      | 2000      | 2001      | 2002      | 2003      | 2004 | 2005 | 2006 | 2007 | 2008 |
| Publications per 1000 inhabitants   | 0.17      | 0.19      | 0.2       | 0.22      | 0.25      | 0.27      | 0.3  | 0.3  | :    | :    | :    |
|   | 1998-2002 | 1999-2003 | 2000-2004 | 2001-2005 | 2002-2006 | 2003-2007 |      |      |      |      |      |
| Quality of research (position in the ISI citation index)                                    | 2.33      | 2.53      | 2.56      | 2.9       | :         | :         |      |      |      |      |      |
| % of research done in cooperation with industry   | :         | :         | :         | :         | :         | :         |      |      |      |      |      |
| <b>3/ EXPLANATORY FACTORS FOUND RELEVANT FOR EFFICIENCY</b>                                 |           |           |           |           |           |           |      |      |      |      |      |
|   | 1998      | 1999      | 2000      | 2001      | 2002      | 2003      | 2004 | 2005 | 2006 | 2007 | 2008 |
| <b>Main categories of composite indicator</b>   |           |           |           |           |           |           |      |      |      |      |      |
| Funding Rules Indicator   | :         | :         | :         | :         | :         | :         | :    | :    | :    | 4    | :    |
| Evaluation Indicator  | :         | :         | :         | :         | :         | :         | :    | :    | :    | 6.6  | :    |
| Staff Policy Indicator  | :         | :         | :         | :         | :         | :         | :    | :    | :    | 10   | :    |
| <b>4/ EXPENDITURE</b>   |           |           |           |           |           |           |      |      |      |      |      |

|   | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|------|------|------|------|------|------|------|------|------|------|------|
| Total public expenditure on tertiary education institutions as a percentage of GDP  | 0.77 | 0.81 | 0.81 | 0.86 | 0.91 | 0.99 | 1.01 | 1.00 | 1.2  | :    | :    |
| Total expenditure per student (€)   | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    |
| Private expenditure on tertiary education institutions as a percentage of GDP   | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    |
| Total public expenditure on education as a percentage of GDP  | 3.95 | 4.04 | 4.04 | 4.09 | 4.32 | 4.51 | 4.37 | 4.25 | 4.2  | :    | :    |
| Private expenditure on education as a percentage of GDP   | :    | 0.54 | 0.43 | 0.40 | 0.24 | 0.37 | 0.61 | 0.57 | 0.56 | :    | :    |
| Funds from non-public sources as % of total income (fees, earned income, investment, other)   | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    |
| Tuition fees as average of the cost of tuition  | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    |
| Percentage of funds received by private government-dependent institutions from public sources   | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    |
| Total public expenditure on grants, loans, and other programmes to cover education and/or maintenance of students (universal programmes / by categories such as merit or socio-economic status) | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    | :    |

Source: Eurostat, OECD, UOE and Member States.

## 2. Structure of institutions and funding arrangements

The institutional landscape in the Czech Republic has been developing extensively since 1990, but with different emphases and at different rates in the course of the last almost two decades. The increased capacity and number of faculties of HEIs (64 in 1989/90, 117 at the present time) reflect the rise in student numbers (about 110 000 in 1989/90, almost 370 000 in 2008/09).

The opening of several new HEIs in various regions in the early 1990s had a positive impact on the regional distribution of HEIs. The changes in regional distribution have led to an overall drop in the proportion of students in the traditional centres of higher education (Prague – from 46% to 38%; Brno – from 23% to 21%), and an increase in the proportion of students in the regional centres (Ostrava, Pardubice, Cheb, Jindřichův Hradec and Karviná). The absolute numbers of students in higher education have grown significantly in all the cities named here.

**Table 1. Overall size of the Czech tertiary HE system in 2008**

| Type of institution           |         | Number of institutions | Number of students | % of the total number of students |
|-------------------------------|---------|------------------------|--------------------|-----------------------------------|
| Higher education institutions | Public  | 26                     | 319 615            | 85 %                              |
|                               | Private | 43                     | 50 659             | 14 %                              |
|                               | State   | 2                      | 4 000              | 1 %                               |
| Total                         |         |                        | 374 274            | 100%                              |

Source: Institute for information on education

HEIs in the CR deliver Bachelor's and Master's degree programmes (ISCED level 5A) as well as Doctoral degree programmes (ISCED level 6). According to the way in which they have been established, they are classified as public, state (military and police HEIs), or private HEIs. Public HEIs are established by law, and are legal entities. State HEIs are also established by law; they are subordinated to the Ministry of Defence (the University of Defence) or the Ministry of the Interior (the Police Academy), which govern these HEIs like other state institutions. Private HEIs are a relatively new part of Czech higher education. The possibility to establish a private HEI was only introduced with the Act of 1998. Applicants who are legal entities may establish a private HEI only after receiving state permission granted by the Ministry of Education, Youth and Sports.

The Act also stipulates the typology of HEIs according to the prevailing level of degree programmes that they offer (at Bachelor's, Master's and Doctoral levels). Before describing the types of institutions, it is useful to point out that the Czech higher education system is not a binary system that distinguishes between professionally and academically oriented HEIs, as in some European countries. Higher education studies are not divided into professionally and academically oriented spheres, and the overall aim is to enable graduates from Bachelor's and Master's programmes to enter the labour market successfully, or to continue with their studies in line with the principles of the Bologna Process. However, this does not mean that all programmes at Bachelor's and Master's level offer the same proportion of general/academic and professionally-oriented knowledge and skills. The same holds true at the institutional level.

HEIs offering all three types of degree programmes are considered to be university-type institutions. Such HEIs are, according to the Act, required to foster "scientific, research, development, artistic, or other creative activities". A non-university type of HEI offers mostly Bachelor's degree programmes; it can provide Master's degree programmes, but it is not allowed to offer Doctoral degree programmes. HEIs of non-university type are obliged to carry out research related to the level of the programmes that they offer – in practice this is usually applied research – and other developmental, artistic or creative activities.

HEIs are free to offer not only on-site studies, but also distance studies and a combination of these types of studies. They can also offer degree programmes in foreign languages. The form of studies, as well as the language of instruction, is part of the accreditation (see Chapter 9) application and, if all requirements are met, of the accreditation decision.

As mentioned before, vocational training is not part of the higher education system in the Czech Republic, nevertheless, it plays an important role in the educational system. The study programmes provided by tertiary professional schools are organized in close cooperation with employers and industry. This is the very strong point of the schools. They are close to professional life, close to the regional authorities. During the last years the effort to make connection between them and bachelor programmes of HEIs has grown as well as tendency of integrating them to the higher education system (in the form of short programmes or in the form of professionally oriented bachelor programmes).

### **3. Governance and regulatory framework**

The system of higher education is regulated by the Act No. 111/1998, which has demarcated the ministerial competencies. In reality, the steering tools at the central level applied to public HEIs are basically indirect. For implementing the strategic goals and for developing higher education (system steering), the Ministry has two important tools: the distribution of financial support from the state budget to the HEIs, and quality assurance through the awarding or withholding of accreditation following the expert opinion of the Accreditation Commission (degree programmes, the habilitation procedure and the procedure for appointing professors are subject to obligatory accreditation). As concerns the private HEIs, the interventions of the state are limited to quality assurance, applied through the Accreditation Commission, unless state financing is involved, which at present occurs only very rarely.

The Act obliges the Ministry to elaborate a Long-term Plan for Educational, Scientific, Research, Development, Artistic and Other Creative Activities of Higher Education Institutions (Long-term Plan of the Ministry), where the main aims and priorities for developing the higher education system are formulated, taking into account the international situation, above all the Bologna Process and other European activities. Similarly, each HEI is required to elaborate its own long-term plan. The mutual debate on harmonizing the conceptual plans at both institutional and national levels contributes to a better understanding of aims and ideas on both sides. The plans of the institutions, and also the plan of the Ministry, should be updated annually.

The Ministry annually announces the Development Programmes which include the priorities of the Long-term Plan of the Ministry and the relevant yearly updates. The HEIs are invited to submit projects that fit in with the priorities of the Development Programmes. Thus, the financial support for successful projects allocated on the basis of specific contracts enables state priorities to be implemented through funding. It is important to stress that the eligibility of any particular project for funding is examined by expert teams consisting of members of the Council of HEIs and representatives of the Ministry.

The important and powerful (though not all-powerful) “buffer body” between the Ministry and the HEIs is composed of representatives of the academic community. It comprises two parts. The first, the Czech Rectors’ Conference, exists in a more or less similar form in most

European countries, while the second, the Council of HEIs, serves as an expression of democratic principles at the national level, and also as a means of protecting them. The Council of HEIs is composed of representatives of the Academic Senates of public HEIs and the Academic Senates of their faculties. In addition, there are representatives nominated by private HEIs (though they mostly do not have a body equivalent to an academic senate). It is worth pointing out here the importance of the Students' Chamber of the Council of HEIs, which enables students to have an influence on strategic issues at the national level. After long-term experience, the required consultations on important measures undertaken by the state administration with the representatives of the academic community have come to be viewed as a useful necessity, rather than as a legal obligation.

Each HEI is fully responsible for establishing and profiling its degree programmes (which are subject to accreditation), for determining research priorities and for recruiting its own staff. The HEI sets its mission and goals in its Long-term Plan, while details and/or modifications are specified in the annual updates.

The governing bodies at public and state HEIs, their nature, composition, methods of operation, rights and duties are defined by the Act. Detailed descriptions and the working methods of these bodies are set out in the internal regulations of the institutions, which must be registered at the Ministry (which has the expertise to decide whether or not they are at variance with the law and legal regulations).

The Rector of a public HEI is formally in charge of the whole institution, and acts and decides in its name; however, the Act grants a number of fundamental decision-making powers to the Academic Senate. The Academic Senate decides on the institutional budget, the Long-term Plan, the annual report on activities, the annual report on financial management, internal regulations and the establishment (or closure, merging or division) of parts of the HEI, and selects a nominee for the position of Rector. The members of the Academic Senate are elected from the institution's academic community. As mentioned above with respect to the Council of HEIs, the students are also important partners in institutional government. They form at least one-third and at most one-half of the membership of the whole Academic Senate.

Another governing body is the Scientific Board. Its responsibilities lie especially in the procedures for habilitation and for appointing professors, and in preparing proposals for study programmes and research plans. The Scientific Board is composed of acknowledged personalities in the fields of study and research offered by the HEI. At least one-third of the Board's members come from outside the institution.

The third body at public HEIs is the Board of Trustees, introduced by the Act for the first time in 1999. The primary reason for including this new body was the transfer of state property to the ownership of the individual HEIs. The Board is expected to ensure proper use and maintenance of the newly obtained assets. Another important reason for its creation was to support the involvement of external ideas into HEIs, and vice versa. The Board is therefore

invited to express its standpoint on all important activities provided by the HEI. The members of the Board of Trustees (completely from outside the institution) are appointed by the minister after discussion with the Rector.

The governance of the faculties of public HEIs is to a large extent similar to the governance at institutional level; they have no Board of Trustees.

In the case of private HEIs, their internal structure and their internal governance are not regulated by the Act. This means that the institution has the right to manage these issues on its own.

Public and private HEIs have their own internal salary regulations, which are not subject to any state limitations. The Act stipulates the obligation of HEIs to provide an annual report on their activities, and also a report on their financial management, to submit the reports to the Ministry and to make the reports public, reflecting a belief in the importance and effectiveness of public accountability of HEIs. The requirement to prepare and publish an annual report on their activities also concerns private HEIs. However, a report on financial management is required by law only if a private HEI is in receipt of a state subsidy (which so far has occurred only in exceptional cases). State HEIs are financed by the Ministry of Defence and the Ministry of Interior, which can thus promote their own priorities.

## **4. System's strengths and weaknesses**

### **Strengths<sup>5</sup>**

- 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
- 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 tertiary education institutions.
- 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.

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<sup>5</sup> Source: White Paper on Tertiary Education (2009)

- 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**

- 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 tertiary education institutions 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.

### **Threats**

- 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.

## **Explanatory factors for efficiency**

### **1. Staff Policy**

#### **1.1. Hiring/Firing**

The individual HEIs have great power when it comes to personnel matters. They can determine the number of academic staff in all ranks without any external regulation. By not explicitly defining the limits of employment contracts, the Act allows each HEI to decide whether its teachers will be employed for an indefinite time or have a fixed-term contract. The Act stipulates that academic staff positions at public HEIs must be filled on the basis of a competitive examination. It is, of course, the right of a private HEI to decide on its own personnel matters.

The academic staff in Czech HEIs is traditionally subdivided into the following ranks: professors, associate professors (docents), senior assistants, assistants, and instructors. These categories are also stated in the Act. Academic staff of all ranks teaches, and also carries out



research or other creative activities. The balance between the teaching and research duties of individual academic staff members can vary widely; on an average it is approximately 2:1. There is also a category of “researchers”, which usually entails very limited teaching duties. Other specialists may take part in teaching on the basis of employment contracts beyond the scope of regular employment.

The procedures for the appointment of associate professors and professors, who form the two highest categories of academic staff, are described in detail in the Act.. In the CR, the title of professor or associate professor indicates a kind of academic degree or a level of academic qualification that the holder retains for life; it does not refer to a position. The criteria for the procedures referred to here are generally quite strict, and it takes a relatively long time to build up an academic career.

The academic degree of Ph.D. (or its equivalent) is considered a necessary condition for the position of senior assistant (and also for higher ranks). This means that the qualification level of Czech academic staff is relatively high in comparison with other countries. Good Doctoral graduates with experience of working on projects and publishing papers in international journals should be able to proceed to habilitation<sup>6</sup>. Ideally, they will pass through the habilitation procedure within five years, but it usually takes a significantly longer time. The stiff requirements often lead to habilitation being a lifelong achievement. In spite of various institutional strategies in support of more rapid career development of young staff, the situation is changing only very slowly and the average age of those appointed in the upper ranks of academic staff is still relatively high. Nevertheless, in recent years positive examples have become more frequent. In the fields of science, engineering and medicine, for example, professors are quite often appointed below the age of 50.

A specific issue in the academic career structure in the CR is that most academics develop their careers at a single HEI, starting out as undergraduate students. This career is usually not interrupted by a period of time spent elsewhere, e.g., in industry or at another HEI.

Motivating and recruiting experts from outside the universities to become more involved in higher education is a fundamental but still unresolved issue. Experts from outside the universities are usually not interested in building an academic career, so they are likely not to achieve a prestigious position within the academic staff hierarchy. They are generally motivated to come to academia not by the financial rewards from teaching, but by the opportunity to share the experience and knowledge of academic experts. What is hardly acceptable in the long term is that even real experts from outside academia who teach at public HEIs remain categorized as assistants. There has been some debate about the possibility of establishing external or extra-professorial positions for these people, but so far no decision has been taken.

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<sup>6</sup> An associate professor for a given field of study is appointed by the Rector on the basis of a procedure called habilitation.

**Table 2: Composition of the academic staff (percentage of total)**

|              | Professors |       | Associate professors |       | Senior assistants |       | Assistants |       | Instructors |      | Researchers |      | Total |      |
|--------------|------------|-------|----------------------|-------|-------------------|-------|------------|-------|-------------|------|-------------|------|-------|------|
|              |            |       |                      |       |                   |       |            |       |             |      |             |      |       |      |
| Public HEIs  | 1971       | 10.4% | 3502                 | 18.5% | 9184              | 48.6% | 1751       | 9.3%  | 676         | 3.6% | 1795        | 9.5% | 18878 | 100% |
| Private HEIs | 125        | 9.7%  | 251                  | 19.5% | 649               | 50.4% | 156        | 12.2% | 56          | 4.3% | 49          | 3.8% | 1286  | 100% |

*Source:* Ministry of Education, Youth and Sports, Annual Report, 2008

## 1.2. Wages

Individual public HEIs can also determine the salaries of their employees according to their own internal regulations. The salaries of academic staff have grown only slightly faster than the national average. If we take into account the increase in “teaching efficiency” in these years, the academic staff salary growth does not fit the increased work load.

The sociological survey of academic staff conducted in 2005 found that academic salaries are determined by three main factors: position in the academic hierarchy, research performance, and gender.

## 2. Output flexibility

### 2.1. Course content and exams

The higher education institution has to fulfil the requirements defined by the Act so that the study programme is accredited by the Accreditation Commission. Among these requirements belong type, form and objective of the studies, possible combinations of the fields of study<sup>7</sup>, definition of graduate profile, description of courses (but not necessarily the sequence), principles and conditions for curriculum design, length of practical training period (where appropriate), link to other types of degree programmes in the same areas of study and others.

As far as the pre-requisites for study programme accreditation are fulfilled, there is high level of autonomy on methods, evaluation or pedagogical attitudes.

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<sup>7</sup> degree programme is classified into fields of study

## 2.2. Offer of short studies and other diversifies studies

The offer of short study programmes is limited, it is not an integral part of the higher education study programmes that would be transferable between and within levels of higher education at different HEIs and between post-secondary professional schools and HEIs.

HEIs offer accredited degree programmes (at Bachelor's, Master's and Doctoral level) as well as lifelong learning programmes. Studies in Bachelor's, Master's and doctoral degree programmes may also be carried out in cooperation with foreign higher education institutions that offer degree programmes with related contents.

There are three modes of study: on-site, distance or a combination of these (combined studies).

## 2.3. Student choice

It is the competence of each HEI how to arrange the study programmes. The modular systems, that some of the institutions apply, offer to students flexible way of studies.

According to the Act there are three modes of study, on-site, distance or a combination of these. The majority of study programmes is accredited in the combination form. Based on the conditions for admission to studies defined by the Act, it is not possible to accept a candidate with deep professional knowledge but lacking formal education (the admission is conditional upon the completion of full secondary education or full secondary professional education, with some exceptions for students of fine arts)

**Table 3: Total first year enrolments**

| <b>Type of the studies</b> | <b>Form of the studies</b> | <b>Number of students</b> |
|----------------------------|----------------------------|---------------------------|
| Bachelor                   | On-site                    | 70 101                    |
| Bachelor                   | Combination                | 32 484                    |
| Bachelor                   | Distance                   | 64                        |
| Master, long               | On-site                    | 7 812                     |
| Master, long               | Combination                | 607                       |
| Master, short              | On-site                    | 24 562                    |
| Master, short              | Combination                | 11 378                    |
| Master, short              | Distance                   | 104                       |
| Doctoral                   | On-site                    | 3 436                     |
| Doctoral                   | Combination                | 2 237                     |
| Doctoral                   | Distance                   | 6                         |
| <b>Total</b>               |                            | <b>152 791</b>            |

*Source:* SIMS, data to October 31, 2008

Lifelong learning is a relatively recent part of the education system in the Czech Republic. To support the development of the lifelong learning, concrete measures were formulated in the Strategy for lifelong learning and its implementation plan. Both documents were approved by the government of the Czech Republic. It is not possible to accept the candidate for studies in

study programmes (bachelor, master, doctoral degrees) without formal qualification and without successful entrance exams. On the other hand, it is possible to attend courses of lifelong learning (in compliance with the Act) offered by HEIs. The person that attends the course of lifelong learning is not a student. However, if accepted for studies of some of the study programme, it is possible to get recognised up to 60% of the credits accumulated through lifelong learning courses. There is no age limitation; conditions are the same for anybody. The recognition of informal learning does not have long tradition.

Better situation is valid for those candidates that obtained the formal qualification but from different field. The condition for admission to HE study programme in that case is successful entrance exam.

If we look at education level below higher education, the informal knowledge is possible to get recognised through the National qualifications framework. Similarly to the HE, we are starting yet.

## **2.4. Numerus clausus**

Ministry negotiates with representation of HEIs each year the number of students that will be included into the formula funding and therefore will influence the amount of the public funding coming to the individual HEIs that year for teaching activities. Some of the study fields that the Ministry wishes to support are excluded from this negotiation on numbers as doctoral studies and study programmes highly demanded by the society (eg. stomatology).

The agreed year-to-year increase in the number of students has been somewhere between 3-5 % on an average, and it is applied in accordance with the available capacity of the higher education system and the available state budgetary resources in such a way as to ensure that the average amount of financing per student remains at an acceptable level. Unfortunately, in 2007 and 2008 the real average amount per one student decreased.

The limited quotas are therefore not a numerus clausus set up by the government on a centralized basis, but rather the result of discussions between the Ministry and the Representative Commission. This does not in any way limit individual HEIs from deciding on the actual number of students admitted. HEIs have the right to decide on an increase in the numbers of students they admit beyond the numbers that have been agreed, while utilizing the resources allocated effectively (or possibly other types of financial resources). Until recently, HEIs have used this latter option only rarely, and the resulting number of students admitted has usually been based on the amount of available state funding.

In the Czech Republic there is no such regulation as numerus clausus. If higher education institution wants to accept lower number of students in certain study programme, it has full autonomy. Usually, this situation does not happen as for each student accepted HEIs receive public support (formula funding). From some of the fields there is a feedback on the social

demand, eg. medical studies, that can influence the number of students that will be supported from state budget (based on the negotiations between Ministry and representatives of HEIs).

## **2.5. Regional/ European/ global mobility**

We do not gather this information statistically. Generally speaking, the Czech Republic is a small country where students travel outside the region of their upper secondary graduation for higher education quite often (even the upper secondary schools are studied outside the place of family home). Students can enter the higher education institution based on successful entrance exams (or fulfilling other admission conditions). Consequently, it is not always possible to study the HEI in the region where the upper secondary graduation was done by the student, even though HEIs are distributed fairly throughout the whole country. Moreover, students are willing to travel outside their region for higher education (even more if the institution is of higher reputation and quality) also for the reason that the student residences are quite available and public support for student accommodation outside student residences is accessible as well.

There are no limits set by the Ministry of Education, Youth and Sports to the transfer of students between programmes and between different higher education institutions.

Higher education studies are open to students from EU as well as from the third countries, there are no restrictions based on nationality, although there might be some language problems as majority of study programmes are taught in Czech. The average length of diploma recognition is about 1 month and it is for free.

As regards teachers and researchers who have obtained their qualifications in other Member States, there are no restrictions based on nationality, the average length of diploma recognition is about 1 month and it is for free.

There are possibilities of exchange with institutions in other regions and Member States. This is fully in the competencies of particular institutions (the Lisbon Recognition Convention entered into force in the Czech Republic in 2000).

## **3. Evaluation**

### **3.1. Institutional evaluation**

The results of the quality assessments are made publicly available.

In the Czech Republic there are different institutions that perform research activities. They are not called “research centres” but higher education institutions (regulated by the Higher Education Act, Act No. 111/1998), research institutes of Academy of Sciences of the Czech

Republic, other research institutions. As each of them is regulated by a different law the institutional evaluation differs. As this questionnaire refers to tertiary education, the quality assessment of higher education institutions is mentioned below.

The external quality evaluation processes, in accordance with the objectives of the Long-term Plan, should serve the purposes of both accreditation and ongoing improvement of all activities provided by higher education institutions. To that end, it explicitly mentions the responsibilities of the Accreditation Commission, the agency legally responsible for external quality assurance at the system level.

The Act requires the Accreditation Commission (AC) to be an independent expert body, and determines the composition of the AC and the procedure for appointing its members. With its expenses covered from the budget of the Ministry and organisational support provided by the Secretariat<sup>8</sup>, the AC is composed of 21 members appointed by the Czech government on the basis of a proposal by the Minister. The members of the AC “must be persons of good character and good repute and widely regarded as authorities in their fields” (Act: 1998, § 83). They are appointed for a six-year term with the possibility of one re-appointment.

The Act further determines the basic activities of the AC (see below), while the Statute, which is approved by the Czech Government, specifies the details of the AC’s activities.

The members of the AC are selected with the aim that their qualifications should cover all study fields provided by higher education institutions. The majority of the 21 members are academics from public HEIs of university type (12), five are experts from the Academy of Sciences of the Czech Republic, and three members represent foreign higher education institutions; the one comes from professional practice.

The AC is entitled by the Act to establish work groups to prepare the documentation that serves as the basis for the AC’s expert decisions. The work groups are composed of specialists in the particular study field, and the expert who is a member of the AC is normally the chairperson. Like the AC itself, the work groups are composed mostly of academic members. Only a minority of the members of the AC or of a work group represent other stakeholders in higher education (employers, students), or come from abroad.

### **Control of Quality Assurance Processes**

The competencies and responsibilities of the AC include the basic rationales of quality assurance i.e. accountability (accreditation, state permission) and also quality improvement (evaluation of higher education institutions/faculties). In accordance with the Act, the activities of the AC can be grouped as follows:

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<sup>8</sup> The Secretariat of the AC, which is responsible for supporting the AC in administrative, organisational, technical, and economic matters, operates as a section of the Higher Education Department within the Ministry. Currently composed of 4 members, the Secretariat of the AC is directed by the Secretary to the Commission, who is appointed and dismissed by the Minister upon a proposal from the Chair of the Commission (Statute: 2004).

- To care for the quality of higher education in general, i.e. to evaluate all activities carried out by higher education institutions, to give recommendations for improvements and to publish the evaluation results, to respond to requests from the Minister to assess issues in higher education, and to express the appropriate expert standpoint.
- To express an expert standpoint concerning requests for the accreditation of study programmes, for the authorization to carry out procedures for habilitation and for appointing professors, to grant state permission to operate a private higher education institution, to determine the type of higher education institution, and to establish, merge, amalgamate, split or dissolve a faculty of a public higher education institution.

The accountability-driven activities listed under b) lead to a decision. It is within the responsibility of the Ministry to decide about accreditation of a degree programme, authorization to conduct procedures for habilitation and for appointing professors (in the CR, to be a professor or associate professor means to achieve an academic title that is valid for ever; it is not an appointment to a position). It is also within the responsibility of the Ministry to grant state permission to establish a private higher education institution. In all cases, the Ministry is bound by the expert standpoint of the AC. It cannot award accreditation (state permission) if the expert standpoint of the AC is negative. If the AC expresses a positive standpoint, the Ministry can refuse accreditation (state permission) only on grounds listed by the Act. Thus, responsibility in the field of external quality assurance is shared between the AC and government authority, represented by the Ministry, while responsibility for internal/institutional quality assurance is retained by the HEIs themselves.

Each HEI should regularly provide an internal evaluation and publish its results. This general obligation is stipulated by the Act, but further details are left to the internal institutional regulations.

The organisation of external quality assurance is essentially national in scope, and the activities of the AC cover the whole higher education system. The evaluation procedures leading to the decision to accredit degree programmes, authorize habilitation procedures and procedures for the appointment of professors, and state permission to establish a private HEI are all obligatory. Improvement-oriented evaluations (evaluations of institutions and/or evaluations of accredited activities) are based on a selection made by the AC, usually initiated with regard to findings from accreditation-based procedures.

The scope of AC activities is complemented by some supranational elements. These include EUA evaluations (undertaken by several Czech higher education institutions), US accreditation of Faculties of Medicine, professional evaluations of HEIs focusing on agriculture, economics, business, and veterinary medicine, the participation of faculties of technology in FEANI (European Federation of National Engineering Associations) quality procedures, etc.

### **Follow-up of the evaluation**

The purpose and effects of degree programme accreditation (and similarly authorization to provide habilitation procedures and procedures for the appointment of professors) are clearly defined in the Act and are publicly available. The restrictions regarding accreditation made by the Ministry in the case of a negative standpoint of the AC, i.e. a ban on admitting new applicants or termination of accreditation, have a direct implication for the institutional budget. A significant part of the institutional budget is allocated on the basis of formula funding. Hence, if a study programme does not receive accreditation, the institution is not allowed to admit students and the institutional budget is commensurately decreased. It should be noted that decisions (on accreditation or on state permission) are not necessarily final and conclusive. Improvements can be undertaken, and the applicant is free to resubmit the application.

The outcomes resulting from an evaluation of accredited activities or from an evaluation of an institution are, in principle, used for improvements. In practice, they can also sometimes influence accountability-driven processes, so the purpose of these activities and consequently the uses of the outcomes are not always perfectly clear.

### **Evaluation of the projects within the area of research**

According to ACT No. 130/2002 Coll. on support of research and development from public funds and on amendment to some related acts (R&D support act)<sup>9</sup>, the provider will establish an expert advisory body for evaluation of project proposals for the public tender and research intentions in research and development. The expert advisory body will guarantee an objective and unbiased evaluation of projects according to publicised rules and criteria of the public tender in research and development on the basis of the opponents' opinions. (§ 21) International experts are usually both involved in and utilised as opponents. Competent representatives of stakeholders also participate in expert advisory bodies.

The Research and Development Information System is used for collection, processing, provision and utilisation of data on research and development supported from public funds. It has four mutually bound parts, the central register of R&D projects, central register of research intentions, register of information on R&D results and register of public R&D tenders. All valid data of the R&D Information System, which are not protected under special legal regulations, are available to the public in clearly arranged form by remote access through public information network.

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<sup>9</sup> Vložil poslení novelu



## 4. Funding rules

### 4.1. Public funding

Funding rules for public and private HEIs are defined by the Act.<sup>10</sup>

**Private higher education institutions** must make provision for financing their activities on their own, thus study fees are their basic source of financial resources. The subsidy for private HE institutions for providing its activities (teaching, scholarly, scientific, research, development and innovation, artistic and other creative activities) is conditioned by the legal form of the institution - it should be classified as public benefit association. All private HEIs can receive financial support from the state for issues that benefit their students: subsidy for accommodation and support for students living in difficult social conditions.

**Public higher education institutions** are financed in its majority from public resources (in 2008 public funding represented on average 75% of total financial resources of HEIs). Among the public resources there are three main inflows coming to public HEIs. It is the amount of money addressed to teaching activities (and other activities related to teaching)<sup>11</sup>, then funding of research activities and capital investments.

Funding of teaching activities is dominantly based on a funding formula. Out of the total budget of public resources addressed to HEIs for their teaching activities in 2010, 80.5% has been allocated through funding formula, the rest has been distributed to HEIs in different forms (10.8% allocated to HEIs on the social support of the students, 6.8% awarded to HEIs through development projects and 2% distributed to HEIs with the aim to support international cooperation). The financial resources targeted on investments and research activities are not included in the numbers above counted.

The formula calculates annually the public grants for teaching and ongoing operational expenditure at individual HEIs. The amount of funding that each public HEI receives through the formula counting is generally addressed for teaching and related activities to teaching, but do not oblige the institution to follow any budgetary scheme, hence the use of the grant depends on each HEI. Surpluses then stay at the institution.

The amount of money allocated is derived from the volume of teaching activities. The total sum of each HEI is calculated as the sum of the product of the number of students and the financial assessment of each accredited programme. As the financial resources of the state

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<sup>10</sup> Funding rules for state higher education institutions differ. There are two such institutions, University of Defence and Police Academy, each financed by the respective ministry (Ministry of Defence, Ministry of Interior).

<sup>11</sup> the Act specifies teaching, scholarly, scientific, research, development and innovation, artistic and other creative activities

budget are limited, the number of students newly enrolled is negotiated with representation of HEIs each year. This does not in any way limit individual HEIs from admitting more students beyond the agreed number, while utilizing the resources allocated effectively (or possibly other types of financial resources).

The criteria used for distribution of public resources through formula counting have been developing quite recently. In 2005 the number of graduates was introduced into the formula to support student success rates. The discussion on output indicators continued in 2010 between the representatives of both the Ministry and public HEIs and resulted in redesigning the formula introducing new qualitative criteria. In 2010, the formula has been linked to input/number of students (85 %), output/number of graduates (10 %) and qualitative indicators (5 %)<sup>12</sup>. The tendency is to strengthen the qualitative criteria in the upcoming years, to distribute the public financial resources according to the results of HEIs and also to use the qualitative indicators while defining the number of students at each HEI funded by the Ministry. The formula used for the 2011 normative funding of HEIs, has changed also the proportion to input (80%), bonus for graduates (10%) – newly including also the employability criterion, and qualitative indicators (10%). The dynamic development will continue following the Long-term plan of the Ministry for the period from 2011 to 2015.

Among other sources of funding the teaching activities belong Development Programmes administered by the Ministry. The programmes are announced annually (in compliance with the long-term strategic aims of the Ministry and individual HEIs) trying to address weak issues related to teaching and to develop them. Financial resources are allocated to HEIs on the basis of annual contracts.

The ministerial financial support for teaching activities includes several other items, as scholarships for doctoral students; grants covering the expenses of foreign students studying in the CR within the framework of international agreements, and grants for Czech students studying abroad within the framework of various programmes (Socrates, Aktion, CEEPUS); grants from the Educational Policy Fund<sup>13</sup>; a fund for meeting any types of extraordinary expenses; grants for students' accommodation and meals.

**Funding of research activities:** Support for research is provided by the Ministry of Education, Youth and Sports (MEYS) in two forms: as target-oriented funding, i.e. support of research projects (grant projects, programme projects and public contracts) and as institution funding,

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<sup>12</sup> The qualitative criterion itself consists of four following segments: sum total of grants for R&D activities of a HEI, sum total of extra-budgetary revenues of a HEI (own incomes from study-related fees, revenues from services for students, revenues from property, revenues from R&D activities and services carried out on commercial basis, gifts and donations), number of professors and associate professors (docents), number of incoming and outgoing students.

<sup>13</sup> These grants are designed for development projects involving more than one HEI that are in compliance with the plans of the Ministry; decisions on the grants are the Minister's prerogative

i.e. the provision of institutional funds for research intention, specific research at universities, or for selected activities within the international cooperation of the Czech Republic in R&D.

The Government of the Czech Republic by its Resolution No. 287 from 26<sup>th</sup> March 2008 approved the Reform of the System of Research, Development and Innovation. The aim of the Reform is to simplify the R&D support and link it to results of the R&D. It means that the HEIs institutional support granted by MEYS will be allocated according to HEIs results of the R&D achieved over the past five years. Specific research at HEIs (part of the research that is directly connected with education and in which the students participate) will be funded as target-oriented by MEYS (not as institution funding in the past).

HEIs can receive other resources on R&D from other grantors in public tenders in research and development (e.g. Grant Agency, Technology Agency, Ministries including Structural Funds of EU).

In contrast to funding for teaching, the private HEIs have the right to win grants from these sources, provided that they are able to prove the required quality of their research.

Capital investments: Investments in new assets, and reconstruction and renewal of assets, are distributed after an assessment of detailed projects. Decisions on the allocation of funds made by the Ministry or by the government (according to the size of the project) are based upon the priorities of the state and on the Long-term Plans of the Ministry and the particular institution. Only public HEIs are eligible institutions.

Other forms of public funding: EU structural funds (focused on education, higher education reform, the development of various forms of partnerships, then the development of research infrastructure, commercialization of research outcomes, platforms for cooperation, etc.); grants from other ministries, public funds, public regional authorities. Specifically for research other sources of funding are programmes of Czech science foundation (supporting fundamental research), recently established Czech technology agency (applied research), programme on the EU level.

To sum up, the criteria are as follows: the volume of educational activities based on the number of students and economic costs of particular study programmes; number of graduates; outcomes in research and development; ability to generate own incomes; provision of pedagogical activities based on the number of professors and associate professors; international mobility of students; quality level of project presented through Development programmes; number of students that are applicable for accommodation support, etc.

## **4.2. Impact of quality assessments on funding**

The results of quality assessment have not been used much as criterion for funding until now, in the sense of using the outcomes of the AC work. Yet, the quality criteria have been

introduced in the formula in 2010 and its importance and complexity is gradually growing each year, as stated in the Long-term plan of the Ministry 2011-2015.

The quality dimension is present at various levels:

- as part of the formula funding there are the following criteria used: outcomes in research, qualification of academic staff and internationalisation and mobility (affecting the number of students financed by the Ministry/input); employability (affecting the bonus for graduates/output).
- qualitative indicators are traditionally used as selection criteria for development projects and affects the level of financial public grant awarded through Development programmes.

### **4.3. Private funding**

#### **4.3.1. Tuition fees and/or households**

At present, the importance of student fees as source of funding is limited at public HEIs. The Act defines situations when the study-related fees are possible to apply and collect (the amount is limited by the law). These fees are not study fees for standard study programme but for example fees for entrance exams, fees related to studies in foreign language, fees for studies longer than the standard length plus one year of study programmes, etc. The proportion of study-related fees compared to total income for HEIs is 1%.

On the contrary, student fees are very important source of funding on private HEIs.

Possible changes in the issue of student fees are subject to numerous analyses and studies. Student fees on public higher education institutions linked to possibilities of financial support for socially disadvantaged students has been one of the most discussed political topics in the country. At present the debate continues but it is not possible to conclude or estimate the outcome today.

#### **4.3.2. Business, other**

The earned income of public HEIs represents 25% of total incomes (2008).

The ability to generate/earn income by individual HEIs is strongly supported by the Ministry and it is the aspect that also affects the amount of public financial support given to HEIs through formula funding.

The future changes will be reflected in the strategic document for the period to come (2011-2015), in the Long-term plan of the Ministry.

Direct funding from industry is not very significant for the teaching activities that HEIs perform. The cooperation occurs more at the level of mutual cooperation in teaching, internships of students or academic staff. Some of the HEIs launch project of partnerships accompanied by direct funding from industry on teaching activities, but there are no statistical data on it (such financial resources are usually included in “earned income” (supplier – customer relations) mentioned above and reaching the level of 25%).

The direct funding in the form of gifts or donations is not very common in the Czech Republic and plays rather minor role (0.4% of total incomes of public HEIs in 2008). This form of financial support does not enable to determine the objective of money donated nor any measurement of effective usage within the university. That is why private companies are not attracted by this form of donation. There is no control over the money donated.

What concerns the cooperation of industry on the research, it is as follows.

Total expenditure on research and development at higher education institutions in 2007 (a sum total of all sources of funding – private, public, own, non-profit sector, foreign): 9 158 401 000 CZK which is 16.9% of total R&D expenditure in the Czech Republic.

Of this amount (the funding of research and development at HEIs) the business sector accounts for 0.73%, the public sector for 91.6%, HEIs own resources amount to 3.2% and foreign resources make up 4.5%.

**Table 4**

| <b>Overall sources of financing of research and development <u>carried out at HEIs</u> in 2006 and 2007</b> |                 |              |                 |              |
|---|-----------------|--------------|-----------------|--------------|
| Source of financing   | 2006            |              | 2007            |              |
|   | In thousand CZK | %            | In thousand CZK | %            |
| Business sector   | 54, 645         | <b>0.70%</b> | 66, 955         | <b>0.73%</b> |
| Public sector   | 7, 165, 555     | 90.50%       | 8, 387, 279     | 91.58%       |
| Own resources of HEIs   | 343, 596        | 4.30%        | 293, 502        | 3.20%        |
| Private non-profit sector   | 198             | 0.00%        | 0               | 0.00%        |
| Foreign sources   | 354, 338        | 4.50%        | 410, 665        | 4.48%        |
| Total   | 7, 918, 332     | 100.00%      | 9, 158, 401     | 100.00%      |

The data above confirm, in particular, the low level of funding of R&D at HEIs from private business sector sources. This does not mean that the private sector would not invest in research, on the contrary, the private business resources are the most significant for the research carried out in the Czech Republic (as seen in the table 5). Yet, the majority of resources from business sector invested in research, are directed back to the research performed by business sector (as seen in table 6). What concerns the HEIs, approximately 17% of overall research is performed by the universities, in its majority funded by public sector (91.5%).

Even though the statistical data do not show much of the direct economic investment of industry in research carried out by HEIs, there is an intensive cooperation at the level of

partnerships. Numerous platforms of cooperation have been established throughout the whole country (centres of excellence, incubators or technology transfer centres).

The following tables state both the overall sources of financing of research and development in the Czech Republic in 2006 and 2007 (Table 5) (not just the research that is carried out at HEIs), and the sectors into which financial resources for research and development flow (Table 6).

**Table 5**

| <b>Expenditure on research and development in 2006, 2007 according to sources of financing</b> |                 |         |       |                 |         |       |
|--|-----------------|---------|-------|-----------------|---------|-------|
| Source of financing  | 2006            |         |       | 2007            |         |       |
|  | In thousand CZK | %       | % HDP | In thousand CZK | %       | % HDP |
| Business sector <sup>14</sup><br>(private business resources)                                  | 28,398,973      | 56.90%  | 0.88% | 29,289,815      | 53.96%  | 0.83% |
| Public sector - government<br>(public resources)   | 19,445,162      | 39.00%  | 0.60% | 22,361,967      | 41.19%  | 0.63% |
| Higher education institutions<br>(own resources)   | 521,930         | 1.00%   | 0.02% | 420,429         | 0.77%   | 0.01% |
| Private non-profit sector<br>(own resources)   | 5,602           | 0.00%   | 0.00% | 2,291           | 0.00%   | 0.00% |
| Foreign sources  | 1,528,604       | 3.10%   | 0.05% | 2,209,130       | 4.07%   | 0.06% |
| Total expenditure on<br>research and development<br>from all sectors in the CR <sup>15</sup>   | 49,900,270      | 100.00% | 1.55% | 54,283,633      | 100.00% | 1.54% |

**Table 6**

| <b>Expenditure on research and development in the CR according to sector of performance</b>                |                 |               |                 |               |
|--|-----------------|---------------|-----------------|---------------|
| Sector of performance  | 2006            |               | 2007            |               |
|  | In thousand CZK | %             | In thousand CZK | %             |
| Business sector  | 33,023,287      | 66.18%        | 34,647,997      | 63.83%        |
| Public sector  | 8,755,073       | 17.55%        | 10,278,291      | 18.93%        |
| Higher education institutions  | 7,918,332       | <b>15.87%</b> | 9,158,401       | <b>16.87%</b> |
| Private non-profit sector  | 203,578         | 0.41%         | 198,944         | 0.37%         |
| Total expenditure on research and<br>development in the CR in all sectors of<br>implementation/performance | 49,900,270      | 100.00%       | 54,283,633      | 100.00%       |

Source: Czech Statistical Office: Research and Development Indicators 2006, the Budget of Chapter 333 Ministry of Education, Youth and Sports for 2006, 2007.

HEI as legal entity can apply for the bank loans, under special condition.

<sup>14</sup> Financial expenditure that the business sector invests in research and development.

<sup>15</sup> GERD: total expenditure on research and development (in all sectors): consists of total expenditure (recurring and capital) designed for in-house R&D carried out in business entities on the territory of a given state regardless of the source of funding.

### 4.3.3. Grants/loans

Students coming from families with very low income are supported from public budget (this social support is addressed to families with low income, not to the student). It is also a competence of each HEI to give scholarships for students socially disadvantaged.

## 5. Impact on Employability

The employability of graduates – and linked to this issue cooperation between higher education institutions and employers - is one of the priorities of the strategic plan of the Ministry for 2011-15. The measures adopted to support the employability of graduates concern all levels of tertiary education in general, and the level of Bachelor's programmes in particular.

Higher education graduates are generally in demand from the labour market, and their rate of unemployment in the Czech Republic is constantly below the national and European average. At the beginning of 2008 it was 1.5%<sup>16</sup>, although the national average is 4.7%<sup>17</sup>. The demand for higher education graduates is caused by economic growth that generates the need for labour and requires increasingly higher qualifications. Moreover, this high demand is still confronted by a relatively low proportion of tertiary education graduates in the Czech labour market<sup>18</sup> even though it has been growing rapidly in recent years (see table below). Consequently, graduates of tertiary education are in a very good position in the labour market in comparative terms.

| Number of graduates in individual cycles of tertiary education in 2005-2007 |         |         |         |
|---|---------|---------|---------|
|   | 2005    | 2006    | 2007    |
| Bachelor's degree programmes  | 18, 123 | 25, 014 | 32, 848 |
| Master's degree programmes (following on from Bachelor's programmes)        | 5, 219  | 7, 067  | 10, 790 |
| Master's degree programmes (long-cycle)                                     | 19, 106 | 19, 506 | 17, 949 |
| Doctoral degree programmes  | 1, 891  | 2, 010  | 2, 218  |
| Total   | 44, 339 | 53, 597 | 63, 805 |

Table below mentioned presents statistical data on the employability of graduates of all cycles. It reveals that in 2007 there were about 689 thousand individuals with higher

<sup>16</sup> Employment and unemployment in the Cr according to Labour Force Survey – 1<sup>st</sup> quarter of 2008 (data as at 24.10.2008)

<http://www.czso.cz/csu/csu.nsf/informace/czam050208.doc>

<sup>17</sup> The statistical data are derived from the definition of the International Labour Organisation (ILO) and therefore consider the 15-64 age group.

<sup>18</sup> A low proportion of tertiary education graduates in the labour market in the CR in terms of international comparison.

education qualifications in the labour market - i.e. some 14% of all employed citizens<sup>19</sup>. Approximately, 36 thousand of all employed citizens (0.7%) have a Bachelor's degree (*ISCED 5A short*), 623 thousand (12.7%) have a Master's or a comparable degree (*ISCED 5A long*) and 30 thousand (0.6%) have a Doctoral or equivalent degree (*ISCED 6*). However, in the same year the overall educational profile of those who completed their education and entered the labour market was very different. In 2007 approximately one third of those who left the system of initial education achieved the level of higher education. The proportion of higher education graduates is rapidly increasing year by year.

| <b>Employed citizens in the economy in the CR according to their education 1995-2007 (in thousands)</b> |         |         |         |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|---------|---------|---------|
|   | 1995    | 2000    | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    |
| Bachelor's - ISCED 5A   | 0,0     | 14,4    | 27,4    | 18,1    | 25,8    | 29,9    | 30,9    | 36,4    |
| Master's (and equivalent) - ISCED 5A  | 534,0   | 536,9   | 550,9   | 567,9   | 571,1   | 598,6   | 616,4   | 622,9   |
| Doctoral - ISCED 6  | 0,0     | 13,6    | 0,0     | 35,5    | 35,3    | 33,4    | 32,3    | 29,6    |
| <b>Total</b>  | 4 984,6 | 4 731,5 | 4 760,2 | 4 731,0 | 4 705,7 | 4 763,8 | 4 827,8 | 4 921,4 |
| <b>Employed citizens in the economy in the CR according to their education 1995-2007 (in %)</b>         |         |         |         |         |         |         |         |         |
|   | 1995    | 2000    | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    |
| Bachelor's - ISCED 5A   | 0.0%    | 0.3%    | 0.6%    | 0.4%    | 0.5%    | 0.6%    | 0.6%    | 0.7%    |
| Master's (and equivalent) - ISCED 5A  | 10.7%   | 11.3%   | 11.6%   | 12.0%   | 12.1%   | 12.6%   | 12.8%   | 12.7%   |
| Doctoral - ISCED 6  | 0.0%    | 0.3%    | 0.0%    | 0.7%    | 0.8%    | 0.7%    | 0.7%    | 0.6%    |
| <b>Total</b>  | 100.0%  | 100.0%  | 100.0%  | 100.0%  | 100.0%  | 100.0%  | 100.0%  | 100.0%  |

Development of the links of HEIs and labour market are systematically supported through Development programmes (it is the strategic priority of Long term plan of the Ministry for 2011-2015) and during last years through EU structural programmes (2007-2013).

The forms of cooperation that support placement of graduates on labour market are cooperation on formation of the study programmes and national qualifications framework, cooperation on teaching and traineeships<sup>20</sup>, career consultancy for students, cooperation on external evaluation through Accreditation Commission or cooperation on research and development and joint projects with doctoral students. It is an activity highly valued but to some extent in development and under very strong discussions, especially what concerns the participation on funding and governance.

Employability as one of the criteria for public funding of HEIs is also under discussion.

<sup>19</sup> The total number of all employed citizens in 2007 (4 921,4 thousand) does not coincide with the total number of all economically active population in 2007 in the Czech republic (7 391,4 thousand).

<sup>20</sup> For some study programmes, practical traineeship is an integral or complementary part of studies (eg. pedagogical programmes, medical programmes, architects, etc.).



## **6. Recent and planned reforms of the tertiary education system**

### **6.1. Description of recent reforms**

The basis for the new development of higher education was established by Act No. 172/1990.

This act in particular reduced to a minimum the influence and control of the state over higher education, confirmed academic freedom and academic rights, and constituted institutional self-government. It further included matters regarding study and academic degrees, introduced the Bachelor's degree, established a basis for student participation in higher education governance, etc. An important issue was that this act brought research back to HEIs after the communist period.

Rapid development of higher education, changes in economic conditions and overall changes in society, development of the international situation, and new demands on harmonisation of higher education studies within Europe, and other considerable circumstances, led to the need for a new higher education act – Act No.111/1998 Coll., on Higher Education Institutions (further only Act). This Act retained the positive provisions of the previous Act No. 172/1990, while incorporating new and necessary changes to eliminate the shortcomings of the earlier Act. The implementation of the 1998 Act can be considered as next step in reforming the higher education system in the CR. Legal diversification of HEIs and degree programmes was introduced. The Act transformed the most of the state HEIs into the new type of legal entity – public HEIs. The most significant change was that all property of the state used by HEIs was transferred to the ownership of the public HEIs. All these institutions established Boards of Trustees (the members must be from outside the respective higher education institution). The main role of the Board is to give written agreement for managing the property in prescribed cases, prior to the rector's decision. This Act also incorporated the principles of the Lisbon Recognition Convention and introduced the Diploma Supplement, which at that time could be issued upon request.

The Act is valid until the present time, with several amendments. In 2001, the structure of study programmes was brought more strictly into line with the Bologna scheme, and some amendments concerning the organisation of lifelong learning courses were introduced. In 2006, the most important changes gave greater freedom given to HEIs when using public funds, and introduced state guaranteed social scholarships for economically underprivileged students. There was also a change in the provisions dealing with Diploma Supplements, which are to be issued automatically and free of charge to all graduates from 1 January 2006 onwards. The 2006 amendment also supported the award of a foreign degree, and clarified and specified the award of joint degrees, which had, however, already been possible under previous legislation. Graduates of degree study programmes offered in cooperation with foreign HEIs are awarded Czech academic titles and, in addition, under certain circumstances, an academic title of the foreign HEIs pursuant to current legislation in the relevant country.

The latest amendment, which came into force on 30 December 2006, continued the trend toward greater financial autonomy of HEIs.

## **6.2. Planned reforms (or reference to ongoing policy debate)**

The reform of tertiary education (TE) system, based on the White Paper on Tertiary Education, should lead to increase of efficiency and competitiveness of higher education institutions (HEIs), to achieve structural diversity, to transform the "supply-driven" system to a "demand-driven" system of TE. It is also necessary to increase private contributions for the costs of TE, increase accessibility, reduce inequity and to increase participation and aspiration. The links to labour market should be strengthened. The reform strategy is prepared and is discussed mainly with HEIs representatives, internal and external stakeholders and with the whole academic community (also using surveys for academic staffs and students).