

THE FUNDING OF TERTIARY EDUCATION IN THE CZECH REPUBLIC - THEORETICAL BACKGROUND

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Abstract: The question of funding of tertiary education is among the most discussed topics. The key issue is to determine the proportion of public budgets and private sector involvement (including the student himself). The paper is focused on the theoretical aspects of the financing of tertiary education, which are accompanied by a brief excursion into the existing system of higher education funding in the Czech Republic. The aim of the paper is to analyze current trends in financing higher education. When processing the data and drawing conclusions are applied method of comparison, analysis and synthesis and deduction.

Keywords: tertiary education, public universities, private universities, school reform, tuition

1 Introduction

At Educational policy and the current situation in education is the subject of numerous discussions at both the professional and the general public. The specificity of this relatively wide range of problems is the tertiary education and its financing.

Contemporary Czech higher education is at a crossroads and the problems related to funding, organizational structure, relationship of training activities to science and research, competitiveness of graduates etc. can be solved only by a high-quality reform. The political climate in our country does not create the conditions for major changes in this system. The reason is the reluctance of the ruling party and the opposition to unite their views in almost anything, there is a lack of tolerance for the opinions of others, the ability to talk, compromise perspective of political rhetoric and populism. Strange coalitions also bring the problem of incompetence in senior management positions of various ministries. Ministers (including education) are often not expert in the field, but the politician of the coalition parties, which just was assigned to this resort.

If the Czech education should (or rather must) fundamentally change, it is especially necessary to take into account that: "Educational policy should be the result of consensus finding basic attitudes to the issue of education and training, which could become the basis for solving practical problems of school policy. And regardless of which government is currently in power. It is not the sort of ministry concept, programming ideas of that particular governments or even political parties. Thus conceived educational policy should ensure basic continuity in the development of education."¹

2 Position of tertiary education in the education system

This part of the paper defines the position of tertiary education within the internationally recognized system ICED whose importance increased after the opening of the European and global labor market. Organizational chart approaches position of universities in the Czech school system. The second circuit is a brief insight into the typology of universities.

2.1 Tertiary education - part of the system

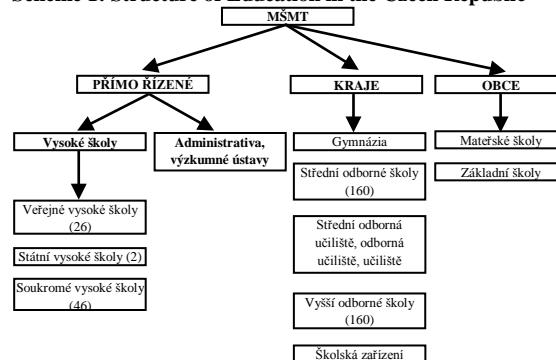
In this part of the paper is very concisely defined the position of tertiary education in relation to other levels of the education system. Internationally, ISCED² system is the most commonly applied and was also implemented into the Czech educational system.

Tab. No. 1: Educational level according to ISCED³

Level	Type of education	In the Czech Republic is responsible
ISCED 0	preprimary	kindergartens
ISCED 1	primary	primary schools (1. – 5. class)
ISCED 2	lower secondary	upper primary schools (6. – 9. class)
ISCED 3	higher secondary	ISCED 3A - four-year high school (gymnasium), vocational school, culminating in GCSE; ISCED 3C - secondary vocational schools
ISCED 4	post-secondary non-tertiary	- „extension“ respectively additional studies; - post-secondary study at language schools
ISCED 5	tertiary - the first stage (not on track to award scientific classification)	ISCED 5A - bachelor's degree, Master's degree; ISCED 5B - higher professional schools
ISCED 6	tertiary - second stage (pointing directly to scientific classification)	- doctoral training culminating by Ph.D.

The inclusion of tertiary education in the organizational structure of the Czech Education presents the following chart No. 1.

Scheme 1: Structure of Education in the Czech Republic⁴



2.2 Typology of public schools

In the literature and in practice, the following are the most common categorization of universities.

Depending on the type of study:

- university: it offers Master's and Doctoral programs and associated scholarly, research, developmental, artistic or other creative activities. It can also offer bachelor's degree programs;
- non-university: offers mainly bachelor's degree programs and related research, developmental, artistic or other creative activities. The non-university type is not divided into faculties.⁵

³ Potůček, M.: *Veřejná politika*. Praha: Sociologické nakladatelství (SLON), 2005. P. 292. ISBN 80-86429-50-4.

⁴ Pilný, J.: *Ekonomika veřejného sektoru I: pro kombinovanou formu studia*. Vyd. 2., (upr. a dopl.). Pardubice: Univerzita Pardubice, 2007, p. 34. ISBN 978-80-7194-933-6.

⁵ Rektorič, J.: *Ekonomika a řízení odvětví veřejného sektoru*. 2. aktualiz. vyd. Praha: Ekopress, 2007, p. 137. ISBN 978-808-6929-293.

¹ Brdek, M., Vychová, H.: *Evropská vzdělávací soustava: programy, principy a cíle*. 1. vydání. Praha: ASPI Publishing, 2004. p. 16. ISBN 80-86395-960.

² ISCED - International Standard Classification of Education.

The criteria for this division, however, seem to be insufficient at present and current trends lead to greater diversification of both groups of universities. One of the important steps in this area is the issue of the "White Paper on Tertiary Education" and stimulating "the OECD evaluation report" (Thematic Review of Tertiary Education - Country note Czech Republic), which analyzes this document. Czech universities then should be segmented, in accordance with clearly defined criteria considering the position of university in science and research, links with practice and positions of graduates. Therefore, the above breakdown is replaced by a new approach.

A new approach to classification of universities:

- Research Universities - Colleges direction of the university with a master's and doctoral programs strong focus on research and scientific activities. Number of students at these schools should not be accompanied by significant growth.
- Teaching Universities - Colleges focused on bachelor's studies, providing increase in the number of graduates in practice. Limited scientific and research activities, while training in practical skills. This assumes a significant increase in the number of students.⁶

This approach, of course, brings different forms of financing - a substantial increase in the first category; the second category brings significant savings, but it cannot be taken as any disadvantage of "Teaching Universities" from the present status.

You can not of course overlook the legislative division of universities in the Czech Republic, which sets out the following three categories:⁷

- public universities,
- private schools,
- public schools (University of Defense and Police Academy).

It is clear that each category vary in the form of financing, while in the category of private schools their legal form can also play a significant role (NGOs, trade company).

3 Theoretical bases of tertiary education

3.1 Education as an estate

Education is very often regarded as a public estate. A certain influence has the predominant dependence of education on public budget. Recall the three basic characteristics of pure public estate: the indivisibility of consumption (and non-competition of consumers), it is excludable from consumption and has zero marginal cost of consumption for each additional consumers. In addition apart from private and public estate, it is still necessary to take into account the category of mixed estates - they are such estates, which don't fully meet any of the conditions of Samuelson characteristics of public estates. It is advantageous to define (particularly in the area of education) as private estates with externalities.

What would be the situation if we perceive education as a pure public estate? Examples would be communist totalitarian systems in the past and present. Indivisibility of consumption excludability of consumption and zero marginal cost for each additional consumer is the reason why there is a non-competitive consumer behavior. Even dressing students in uniform clothes for stronger presentation of uniformity.

F. Ochrana favors inclusion of education into mixed estates, referring the opinions of other authors. According to R. A. Musgrave and P. Musgrave is education in the case a mixed estate - individual appropriates part of the revenues, but the revenues also account to the society. The authors also refer the education as the preferred estate where the individual underestimates the specific benefits that the society wishes him to obtain. Calculation of costs and benefits of school education is by the authors made in a way that „externalities for society that arise as a result of better-educated public are not included.”⁸

3.2 Education Market

The literature also encounters the term "education market". It is clear that the education market will be characterized by certain specific features that will differ this area from "traditional market".

For example, are the following:

- educational system is characterized by high complexity and variety of both similar and more or less different institutions. Which of them is in competition with each other for scarce resources and share to cover the demand has to be clarified on the case by case basis;
- most of these institutions are not "single-product enterprise". Especially at the tertiary level, this fact is significant. To understand some specific offer of education as a function of incurred production factors (the work of teachers, the capital in the form of school facilities and equipment) would therefore be necessary to carry out various sub-calculation according to various aspects of the offer of the institution concerned.⁹

Logically, this concept is aimed particularly at private schools, while all of the following conditions can not be fully applied to private universities of nonprofit type (e.g., public benefit corporation).

„The concept of market-economic offer of education is based on the following assumptions:

- education is a private estate in the economic sense;
- all bidders charge fees to cover costs;
- only the singular offers are taken into account, associated products of training activities shall be broken down to individual educational performance. Offers with distorted costs should be avoided, because otherwise you cannot assign actual costs to individual educational performance;
- all educational institutions behave in competitive conditions as companies that maximize their profits.”¹⁰

3.3 Education and human capital

Another theoretical aspect, which is reflected in the debate on financing education (especially in its higher forms), is the issue of education and human capital. Although there are many definitions of human capital one of the relatively clear and simple definition of human capital defines human capital as the knowledge, skills, experience and initiative, which is owned by the individual. All costs associated with increasing size, increasing efficiency and longer "functioning" of human capital in the economic process, thus lead to an increase in the

⁶ Stanovisko České konference rektorů ke Zprávě hodnotitelů OECD o českém vysokém školství. In: Masarykova univerzita Brno [online]. [cit. 2013-01-15]. Dostupné z: cre.muni.cz/pdf/resolutions/91_oecd.pdf.

⁷ Česko. Zákon č. 111/1998 Sb., o vysokých školách – text se zpracovanými novelami. [online]. Praha: MŠMT, 2010. [cit. 2013-1-15]. Dostupné z: <http://www.msmt.cz/vzdelavani/uplne-znemi-zakona-c-111-1998-sb-o-vysokych-skolach-text-se-zpracovanymi-novelami>.

⁸ Ochrana, F., Pavel, J., Vitek, L.: *Veřejný sektor a veřejné finance: financování nepodnikatelských a podnikatelských aktivit*. 1. vydání. Praha: Grada Publishing, 2010, p. 109-110. ISBN 978-80-247-3228-2.

⁹ Roth, O.: *K modelovým koncepcím financování terciárního vzdělávání*. In: [online]. [cit. 2013-01-27]. Dostupné z: <http://www.csvs.cz/aula/clanky/03-2004-2-k-modelovym.pdf>.

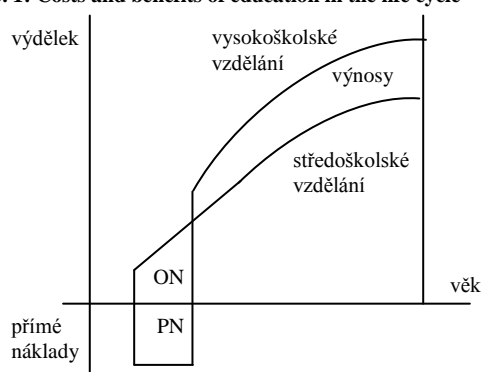
¹⁰ Roth, O.: *K modelovým koncepcím financování terciárního vzdělávání*. In: [online]. [cit. 2013-01-27]. Dostupné z: <http://www.csvs.cz/aula/clanky/03-2004-2-k-modelovym.pdf>.

competitiveness of the individual, company or country consider as an investment in human capital.¹¹

From this perspective, education can be described as a process of learning new skills, obtaining new information or understanding of diverse phenomena, which can be analyzed by the theory of knowledge, theory and behavior through social science disciplines. From this perspective it is possible to understand education as the creation, accumulation and maintenance of human capital.

The training costs occur during the learning process, i.e. at a time when students are at school, and revenues are expected later in life of the graduate. The cost of human resources development can be either public (public expenditure) and by private (fees for education, spending by companies and other investors, donations, etc.). Also, revenues and profits can be divided into public (economic growth, tax revenues, saving social costs) and private (better competitiveness, higher wages). Private revenues or profits with the public in many ways overlap.

Fig. No. 1: Costs and benefits of education in the life cycle¹²



There is only one path that allows the "crowding out" investment in social position, which allows to break the trend of "the rich getting richer and the impoverishment of the poor", the deepening of economic segregation of society, etc. - and this is the way to create the conditions under which it will be possible and profitable to invest private funds in developing people skills.¹³

3.4 Model of financing education

Following the concept of education as an estate several basic models of higher education can be drawn.

J. Vostatek defines the following basic types:

Social-democratic model of higher education - This model is based on the right to higher education and is applied mainly in the Scandinavian countries. The essential role in funding play public budgets, tuition is virtually impossible. A wide range of support and benefits for students, a significant proportion of government expenditure on education with respect to VAT. Education is considered as a public estate.

The neoliberal model of higher education - Education is considered a mixed estate. There is a possibility of choice between public and private universities. Even at public universities, however, there is the share of private funding (United Kingdom - ratio may be 50:50). The state, however, does not renounce its responsibility, availability of study is not lower thanks to the support socially weaker talented students. This model is applied in the USA, UK, Japan etc.

¹¹ Ochrana, F., Pavel, J., Vitek, L.: *Veřejný sektor a veřejné finance: financování nepodnikatelských a podnikatelských aktivit*. 1. vydání. Praha: Grada Publishing, 2010, p. 109-110. ISBN 978-80-247-3228-2.

¹² Ochrana, F., Pavel, J., Vitek, L.: *Veřejný sektor a veřejné finance: financování nepodnikatelských a podnikatelských aktivit*. 1. vydání. Praha: Grada Publishing, 2010, p. 115. ISBN 978-80-247-3228-2.

¹³ Valenčík, R.: *Lidský kapitál a kapitálový trh*. Praha: Nakladatelství Ivo Urych - Růžičkův statek, 2001. ISBN 80-86579-00-X.

Conservative model of higher education - In many countries, education (acquired title) is perceived as an expression of social status and ability. There is not accordingly fully appreciated its social and also private significance (higher competitiveness on the market). On one hand, public spending clearly outweigh, but with not sophisticated differentiation and often vague efficiency. The problem is the lack of clearly specified proportion of private funding. This model is applied in many countries, including the Czech Republic.¹⁴

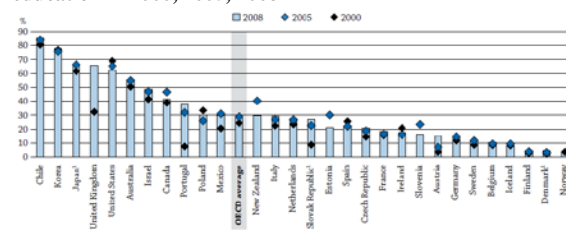
4 Tertiary education funding in the Czech republic

4.1 Pillars of tertiary education funding

This chapter includes a brief excursion into contemporary higher education funding following the theoretical aspects presented in the previous chapters.

The overwhelming part of the Czech education system is financed by the public budget of some kind, because schooling is largely regarded as a public estate.¹⁵ Experience from abroad, but also the involvement of non-profit and business sectors in the Czech education system extends the social model by other approaches to finance this sector.

Fig. No. 2: Share of private expenditure on tertiary education in 2000, 2005, 2008¹⁶



Generally we can talk about four pillars of Czech higher education funding:

- normative public education funding,
- student financial aid from public funds,
- private resources of individuals and enterprises,
- public funding of research.¹⁷

4.2 Normative public education funding

For the objectification of expenditure on individual school subjects is used a system of normatives (nationwide, regional), which set the minimum coverage subsidy of costs per pupil per year.¹⁸

¹⁴ Srovnej: Vostatek, J.: *Teorie veřejných financí V.: studijní text*. Praha: Vysoká škola finanční a správní, 2011, s. 83-89.

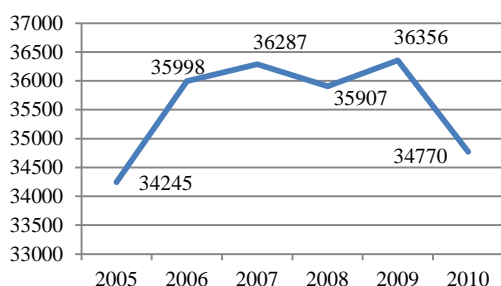
¹⁵ Peková, J., Pilný, J., Jetmar, M.: *Veřejný sektor - řízení a financování*. 1. vydání. Praha: Wolters Kluwer Česká republika, 2012, p. 243. ISBN 978-807-3579-364.

¹⁶ Source: Education at a Glance 2011: *OECD Indicators*. In: OECD [online]. [cit. 01.07.2013]. Available from: <http://www.oecd.org/education/preschoolandschool/educationataglance2011oecdindicat.htm>.

¹⁷ Matějů, P.: *Bílá kniha terciárního vzdělávání*. 1. vydání. Praha: Ministerstvo školství, mládeže a tělovýchovy, 2009, p. 46. ISBN 978-80-254-4519-8.

¹⁸ Červenka, M.: *Soustava veřejných rozpočtů*. 1. vydání. Praha: Leges, 2009, p. 73. Student. ISBN 978-808-7212-110.

Fig. No. 3: The development of the average normative from 2005 to 2010 (CZK)¹⁹



Determination of the amount of normative is the subject of debate of unequal conditions of preparation of students of different fields of study since the beginning. Other is e.g. technical requirements on teaching philosophy, other on the study of chemical fields or medicine. Therefore, normative were added by the so called demand coefficients, which multiple with the value of normative is the state's contribution per student in the particular field.

Tab. No. 2: Coefficients of economic demands of faculties

No. of group	Group of faculties	economic performance coefficient
1	philosophy, law, theology, economics	1,00
2	pedagogical	1,20
3	technical, physical education and sports, informatics	1,65
4	natural science, agricultural, pharmaceutical, architecture, social health	2,25
5	medical, chemical, MFF, FJFI	2,80
6	veterinary	3,50
7	art	5,90

While lower levels of education are paid from local budgets, especially public universities funding is the prerogative of the state budget (Chapter 333). I would like to draw attention to the most neglected support of the regional higher education establishments. Universities have become important players in regional development and local and regional authorities have developed mainly at the beginning of the new millennium, significant efforts to have on their territory at least one branch of the major Prague universities or other centers universities. Similarly, however, acted the universities themselves. Based on the localization theories they sought to find the optimal location for its operations in the regions.

"The basic objective of localization theories and models is to define the localization factors and assuming rational behavior of economic subjects to determine the optimal placement of these entities. Localization theories are nothing more than standard microeconomic analysis of the company projected into the area."²⁰

Under these conditions, of course, municipalities and regions "nurture" "their" universities and quite unpredictably contribute in areas such as investments, specific activities. One of aid is e.g. free use of property.

4.3 Financial support for students from public sources

The aim of this support is to ensure equal opportunities in terms of social or regional isolation. This includes, for example, social grants and scholarships so-called accommodation contribution.

¹⁹ Matějů, P.: *Bílá kniha terciárního vzdělávání*. 1. vydání. Praha: Ministerstvo školství, mládeže a tělovýchovy, 2009. ISBN 978-80-254-4519-8.

²⁰ Čadil, J.: *Regionální ekonomie: teorie a aplikace*. 1. vydání. Praha: C. H. Beck, 2010, p. 7. Beckova edice ekonomie. ISBN 978-80-7400-191-8.

A number of other scholarships and grants are used to support and appreciate the activities of talented students, in the case of European funds also for foreign study visits (Erasmus program). Some regions within stabilizing the work of graduates during the study provide so-called regional scholarships.

4.4 Private resources of individuals and enterprises

The question of proportion of students in financing their studies is quite clear in private universities. The student in the moment of choosing this educational institution decides whether to accept the tuition fees or not. If so, student typically enters in the contract with the university, which also includes the proper payment of tuition fees.

Tuition at public universities is still the subject of debate. On the one hand it is clear that this step is necessary to proceed, on the other hand, this issue becomes by a big part of the political scene buck passing, especially in the period preceding the elections.

Businesses subjects can enter into the system of financing universities by e.g. paying school fees of combined studies student, who is also an employee of the company. Another form is the sponsorship, shares in private schools, which operate as a trade company, etc.

Specific group are foundations and endowment funds supporting disabled and underprivileged people interested in learning (e.g. Foundation of Livia and Václav Klaus).

4.5 Public funding of research

It is a very interesting financial resource that creates space for scientific and research activities of teachers and students. Funds are obtained through successful projects that are based on the programs of the national grant agencies, Ministry of Education, regions, and to a significant extent the European Structural Funds (respectively the operational programs).

5 Conclusions

Czech higher education faces a series of major changes. It is mainly a question of concept of so-called research universities and teaching universities, i.e. desertification of tertiary education. Equally important is the fundamental reform of the financing of tertiary education. The problem is escalating in connection with the austerity measures of the government that very negatively interfere in the activities especially of public universities. One way is to go to the neoliberal model of financing tertiary education with a balanced proportion of public and private finance. It is necessary to enforce the not very popular idea that not only the state but also the individual is responsible for their position in society. Postponement of unpopular measures (such as tuition at public universities) only shifts the problem and threatens the activity and even the existence of some universities. On the other hand, there must be a system to ensure equal opportunities for all talented students, the social situation of the family should not be an insurmountable barrier.

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