

THE COMPARATIVE ANALYSIS OF HIGHER EDUCATIONAL INSTITUTIONS FUNDING IN DIFFERENT COUNTRIES

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ABSTRACT

The competitiveness and development of higher educational institutions as important part of global educational infrastructure are the main problems in different countries of the world. Successful and leading universities and other higher educational institutions need huge funding and attract the best students and academic staff from different countries. Nevertheless, the problems of funding of higher educational institutions in different countries and level of their economic development and wealth are closely connected. That is why it is important to consider the different approaches to higher educational institutions funding on the example of countries with different level of economical development and wealth. In this paper the main approaches to financing higher educational institutions from public and state funds are discussed and the recommendations for the Ukraine countries are given

Keywords: *higher educational institution, funding, mechanism, public funds, model funding*

JEL codes: I22, I28

1 Introduction

National competitiveness of any country is first of all connected with the effectiveness of the education system higher education in particular: the success of economic and political reforms depend on the effectiveness of education as one of the main areas of modern society. Higher education has never played a more important role than today. It is a key aspect of stable development of the global economy, providing individual, social and economic mobility. Education is necessary for the increasingly complex management of various companies and organizations, as well as for political and civic conviction that social problems should be analyzed and solved not only by traditional methods but also through the use of innovative solutions resulting from the increase of knowledge.

In the late XX and the early XXI century Significant changes in the global marketplace due to globalization processes, the transition to the information economy and the knowledge economy, led at first to the latent and then to explicit crisis of education. Famous Western scholars of education systems noted: "Higher education needs deep, radical and immediate transformation. Most of all we should fear that as a result of complacency, caution or uncertainty changes will be too slow and limited to local innovations. Models of higher

education, which are widespread in the second half of XX century, no longer work" [1].

Policy of higher education accessibility, which was dominant in the 1980s of the XX century, almost in all developed countries, contributed to the emergence of negative effect - the growth rate of budget allocations in higher education no longer keep up with the increasing demand for educational services. This led to the emergence of the global crisis of education and the need for a radical revision of the educational policy.

A characteristic feature of the crisis of higher education in modern conditions is the reduction of its public funding against the background of the autonomy of higher education institutions and the search of alternative financing ways. This happens due to the changing perception of the higher education role in society, in particular, to the fact that some of the basic characteristics of higher education as a public good, a measure of good, social investment and human right is increasingly ignored.

Therefore, in recent years almost in all countries of the world we observe much more active research for finding ways of effective alternative financing of higher education. It is explained by the necessity to make informed management decisions on the allocation of public funds among universities and the further development of the higher education system on the whole.

2 Literature Review

Reform of the education system is a highly structured process that involves a variety of aspects of the higher education development. This leads to the existence of a whole range of scientific and practical areas in which the current research is conducted. For example, the problem of the globalization processes impact on the educational policies formation in different countries is studied by such scholars as L. Serich, D. Cogburn, W. Beck, N. Berbul, C. Torres, L. Kuehn, A. Green and many others. Specific character of neoliberal reforms in education and contradictory consequences are studied by S. Lacy J. Manibo, F. Ramirez, E. Stewart and several other authors.

Among Ukrainian scientists the problems of education reformation for finding the balance between education and labor markets at the national, regional and local levels are studied by such scholars as T. Bogolib, A. Boyko, E. Grishnova, L. Koleshnya V. Kutsenko, E. Libanova, A. Lukyanenko, M. Chernichenko, L. Shaulsky. Problems of state regulation of the labor market focus on the work of scientists V. Bakumenko, V. Dorofienko, V. Ilyashenko, L. Kostrovets, A. Merzlyakov, P. Nadolishny. Recent research of new forms of training specialists on the basis of competence approach and the interaction of the education market and the labor market is given in the works of scientists such as N. Anishin, D. Goddess V. Vasil, E. Grishnova, L. Koleshnya, A. Kolot, E. Libanova, E. Martyakova, V. Ponomarenko, V. Yaroshenko et al. Such scholars as I. Svityaschuk A. Solodko, E. Herd, B. Sarioglo, O. Kupetc, L. Lisogor et al. are engaged in the problem modernization of public financing of training specialists with higher education.

The increased interest in this issue on the part of scientists underlines the high level of its urgency.

3 Data and Methodology

The system of higher education funding includes to the public and private (market) funding. Budget funding of higher education is the source of government financing of educational services for training students in different field and professions. Public funding of higher education institutions is made from the state budget, local budgets and resources of the central

executive bodies.

The main reasons for the state's participation in higher education financing are:

1) *control over the system of education is a public good and the market is not able to carry out and finance it in full.* The current stage of development consider education not only as a sector, which consumes goods and services, but also as an area that needs investment on the part of stakeholders in order to increase income and social status of the students, and thus the state on the whole;

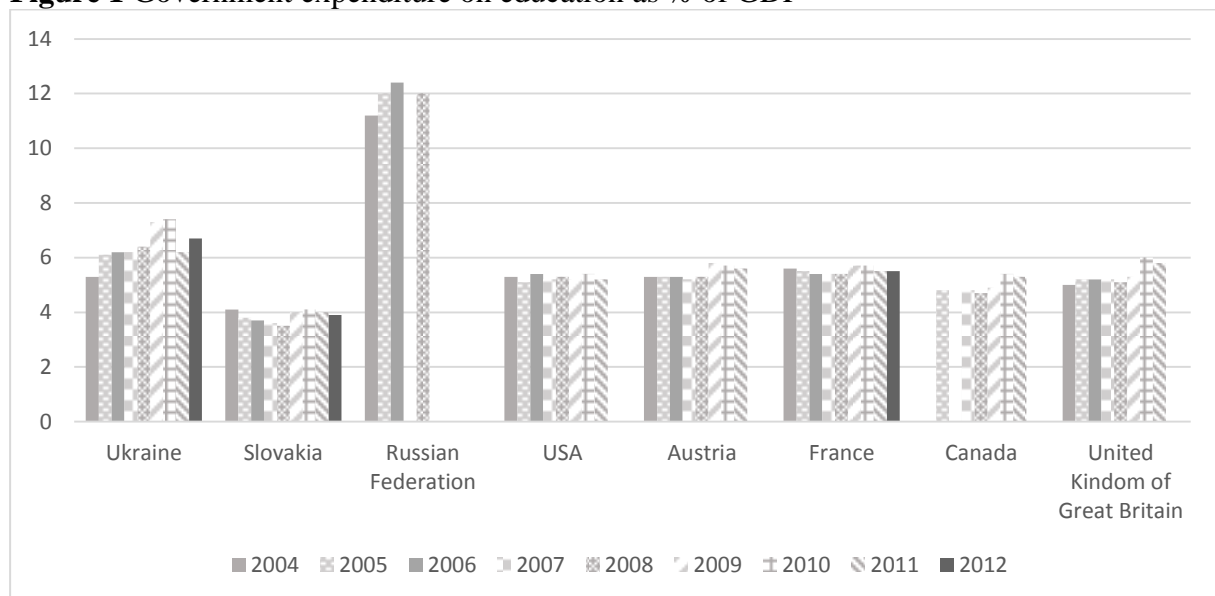
2) *the complexity of determining the proportion and formation mechanisms of private investment in education.* Nowadays there is a tendency of increasing the share of private education funding by the population. It is explained by the high income differentiation and the state budget deficit in many countries. According to the researchers, this factor is not so much necessary mobilizing but measure in the development of educational services;

3) *justified redistribution of resources between rich and poor in terms of differentiation of the population by income level that provides access of different sections of the population to higher education and education in general.*

The indicators that comprehensively characterize the funding of education in general and higher education the country, in particular, are: government expenditure on education as % of GDP, government expenditure on education as % of total government expenditure, budgetary funding of education as % total government expenditure, expenditure on higher education in % of GDP; expenditure on higher education per capita monetary unit; expenditure per student per year, monetary unit. These indicators, in turn, depend on the level of socio-economic development of the country and condition a certain level of development of the higher education system [2-4].

Fig. 1 shows the dynamics of changes in public expenditures on education as % of GDP.

Figure 1 Government expenditure on education as % of GDP



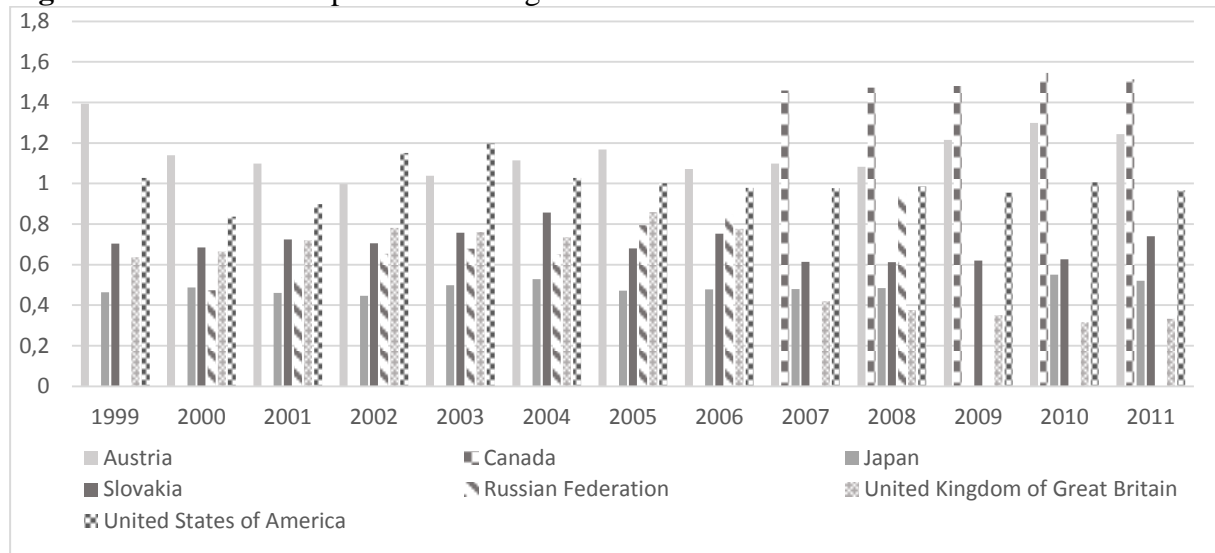
Source: UNESCO Institute for Statistics, <http://data.uis.unesco.org/>

The graph shows that on average, these expenditures vary between 3.5 - 7.5%, with the exception of the Russian Federation, where these costs are almost 2 times higher than the world average. However, if in the developed world, these expenditures have almost stable values (Austria - 5.5%, USA - 5.2%, Canada - 4.9%), in countries that have a short history of

the market relations construction (Ukraine, Russia), these values tend to increase. This proves that the developed countries have found the optimum value per cent of public spending on education and, given that the GDP of these countries is significantly higher than that of developing countries, in volume terms, the education sector receives much more public investment in its development.

On average the countries allocate for high education development from 0.5% (Japan) to 1.15% (Austria) of their GDP (Fig. 2).

Figure 2 Government expenditure on high education as % of GDP



Source: UNESCO Institute for Statistics, <http://data.uis.unesco.org/>

Summarizing the foreign practice of financing higher education [5-7] it should be noted that today there is a whole range of different financing schemes that constitute the educational policy of the state. The main differences between these schemes consist in varying degrees of state tuition coverage at the university; the mechanism for selecting potential students in conditions of high competition; inclusion on non-state in public universities along with state universities in the system of financing; vouchers coverage of higher education; the level of universities autonomy in setting prices for education; priorities for children from unstable or low-income families and so on. [8-10]. Table 1 shows the basic models of financing education and their characteristics [11].

Table 1 The basic models of financing education in the world

Type model	The country where the model is used	Character traits
Model A		The model is focused on the state support of the university, where the budget comes directly from the state. It is characterized by rather low degree of universities autonomy.
Model A₁	Countries in South, Central and Eastern	It provides for the obligation of universities to train specialists with the necessary qualifications for society. In this case, the price instruction is set and agreed in advance, the payment is made from the state budget.
Model A₂	Europe, Africa, Latin America, Russia	Provides high schools participation in competitions for receiving the state order for specialists training, provides effective distribution of government jobs and a

		reduction of government expenditures. The order is received by the university, whose educational services meet the requirements' of competition in the best way and the cost of training is optimal.
Model B	Romania, Denmark, UK, Sweden, The Netherlands	The model is focused on the status of the university, provides for the allocation of public funds, depending on the results of its operations. The amount of funding is determined by the number of graduate students admitted to the first year, the results of monitoring of students' knowledge, the complexity of the training courses, the number of defended dissertations
Model C	Australia, Austria, Brazil, China, Hungary, Kenya, New Zealand, Tanzania and others.	The model is aimed at the meeting of labor market needs, provides the payment of educational services directly to consumers and focused on the demand and the domestic needs of the institution. This model uses state obligations transferred in the form of coupons, certificates (vouchers) directly to consumers of educational services. A significant limitation of the student is the validity of the voucher.

It should be noted that the distinction between these models are quite conventional, since most countries use a combination of options for universities financial resources.

Thus, choosing a particular model of higher education financing, the state has the following objectives:

- a) ensuring of necessary range of the education market in terms of higher education, that is, ensurance education macroefficiency;
- b) provision of efficient distribution of funding between universities in accordance with the interests of the state, the labor market needs and the benefits of students, that is, ensurance education microefficiency;
- c) equal opportunities for higher education by all socio-economic groups of the population, that is, the ensurance of higher education access and educational opportunities equality.

The essential point in the formation of high-quality educational policy is reasonable choice mechanism for financing education. Comparative analysis of the budget financing practice in the world allowed us to recognize the following main mechanisms:

- a) **base funding mechanism**, based on an assessment by the state bodies of the university the expenditures in the prior period, or on the results of the negotiations between the public authorities and a university, where the draft budget presented by a university was discussed;
- b) **formula-funding mechanism** where the amount of funds for universities is determined by the calculation formulas on the basis of expenditures or the results of the of the university achievement;
- c) **contractual mechanism or trust fund**, based on the contract made between universities and government concerning the provision of educational services in accordance with the strategic goals of the country and the university for specific targeted funding of specific educational and research projects;
- d) **competitive funding mechanism** shall be based on competitive bidding between universities, which offered planed targets for the graduates in various specialties and their expenditures. Preference is given to those universities in which these expenditures are

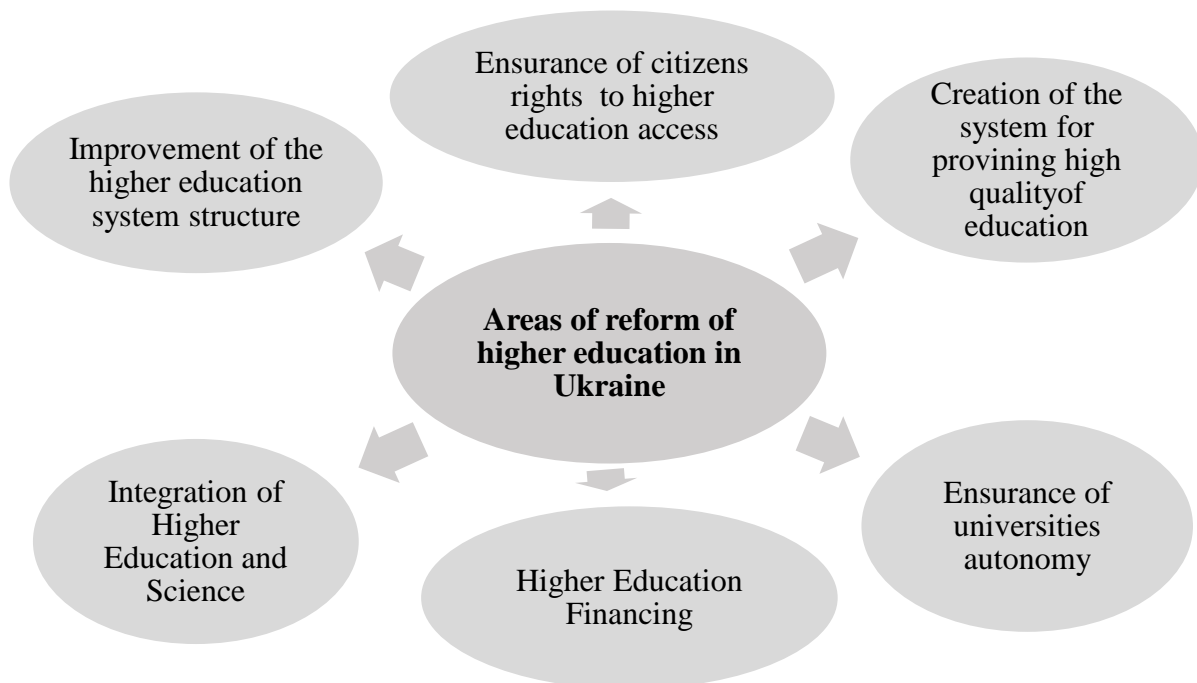
minimal;

e) **funding mechanism for education expenses of students**, based on the demand for higher education in specific disciplines.

4 Results and Discussion

Currently, Ukraine is in the process of active restructuring of the higher education system reform which involves all its aspects. According to the draft strategy of higher education reforming in Ukraine until 2020, developed by a working group of the Ministry of Education and Science in 2014, the main goal of modernization serves the formation of an attractive and competitive national system of higher education in the country focused on the integration into the European educational and research space [12]. The main directions of the Strategy are presented in Fig. 3.

Figure 3 The main directions of higher education system reform in Ukraine



Source: The strategy of reforming higher education in Ukraine until 2020 (draft) https://search.ligazakon.ua/l_doc2.nsf/link1/NT1109.html

Without belittling the importance and urgency of the development of all the areas of strategy, it should be noted that the trend for reforming of the global education system earth the XXI century is the search for new approaches, tools and ways of financing higher education system with the reduction of public expenditures on it. Therefore, the aim of reforming the Ukrainian system of financing higher education advocates improvement of public expenditures efficiency while maintaining their fair share in the total amount of the consolidated budget of the country. One of the essential tasks of achieving this goal is to change the dominant system of financing - the state order for the new modern forms and mechanisms of public funding.

Analysis of the above mechanisms application (see. Table. 1) around the world made possible to highlight the benefits (Table. 2) and risks (Table. 3), which are inherent in national education systems.

Table 2 The advantages of using the mechanisms of higher education financing

The name of the mechanism	Benefits for the educational system
Basic funding	aimed at supporting non-profit basic research; promotes free distribution of funds between education and research; provides the basis for strategic planning of the university
Formulaic funding	focuses on improving teaching and research programs; allocates funds for universities by transparent formula; provides a rapid response to requests from the government; makes possible to evaluate the effectiveness of government policy in a particular area, to compare the activities of different universities; encourages universities to improve their performance, enhances the openness and transparency of their activities
Special-purpose financing	in the structure of financing reflect the interests, national priorities; maintains a balance between teaching and research programs, and between basic scientific research and the needs of the market in the new research
Competitive financing	reduces expenditures through a competitive bidding; makes possible you to plan the activities due to certainty of financing; promotes efficient and dynamic research programs; stimulates the competitive activity of universities themselves
Financing based on demand	supports equality and access to higher education; guarantees the access to education for people from all walks of life; promotes learning throughout life

Table 3 Risks of financing mechanisms of higher education

The name of the mechanism	The risk for educational system development
Basic funding	greater reliance on a source of financing that does make possible for the university to solve problems in their own way; the needs of higher education institutions to provide the relevant obligations may lead to a reduction of funding necessary in other activities
Formulaic funding	the effectiveness of the university is determined by the selected indicators, which fully can not give a proper idea of its effectiveness; Indicators included in the formula, and the formulas themselves are significantly different in different countries, regions and training, even within a one country; relatively easily measurable indicators, as a rule, are not indicative of the final result and don't reflect the real quality of the universities activities
Special-purpose financing	the emphasis is shifting towards short-term goals, while the long-term changes may be delayed or completely ignored;

	the priorities of universities may be distorted due to their consent to any financing
Competitive financing	universities expenditures on the preparation of proposals for tenders, may never be recovered; during the competitive bidding the research departments or the researchers themselves bear additional bureaucratic burden; there is a risk of reducing the quality of education due to excessive research activity
Financing based on demand	creates dependency on the quantity and quality of information for the students who should make the choice of university and training programs; gives advantage to the university that can afford the high cost of self-promotion; gives advantage to large and long-established universities to small and newly established ones

Estimating the advantages and risks of financing mechanisms variety the draft Strategy for Reforms of Higher Education up to 2020 suggests the following methods of higher education budget financing [12].

1. Block funding, which involves the support of universities public funding in accordance with the achieved qualitative and quantitative indicators of educational activity. Each university will independently distribute the amount of budget places by specialties in which it trains specialists that will increase the degree of the university autonomy. The basis of the block funding is founded on the mechanism of universities funding.

2. Voucher funding. This type of funding is focused on applicants who have the intention to get higher education. Depending on the results of the external independent testing, the level of knowledge acquired in high school, the applicant is entitled to receive a grant covering the full cost of any training in high school, or part of it. The grant will be transferred to the school, chosen by the applicant. It is proposed to use four types of vouchers - the usual full, exclusive and social. The usual amount of the voucher includes the average cost of training in high school; full - the maximum amount of training in high school; the special voucher covers the full payment of the course of studies in specialties which are of primary importance for the state conditioned by tactical and strategic needs of the labor market; the social voucher is intended for disparate people of society.

3. Credit financing of educational services offers the student an opportunity to get a loan for a period of 10-15 years with a grace period for the time of studies at the university. This system of funding suggests the possibility of repayment by the student himself, by the employer, or through tax deductions. The state takes all the risks connected with possible failure to repay loan in time, that is the state acts as guarantor of the student. In addition, the student may not repay the loan, if after graduating from the university he works in the public sector of economy, in rural areas or has outstanding scientific achievements.

As the implementation of these methods of financing involves solving a whole range of issues, the urgent problem for Ukraine, is the development and adoption of legislation and regulatory provisions which form the legal framework ensuring the possibility of practical application of these methods.

5 Conclusions

Change of systems, methods and funding mechanisms is the primary consideration of education systems modernization in all countries in the XXI century. This is conditioned by a sharp increase of the students number, provoked at the end of XX century by the transition from the model of "elite education" to the model of "mass education", the limited budgetary resources, which requires the involvement of non-state funding sources, the changes of nature, content and form of higher education.

The task of ensuring Ukraine's professional staff is one of the strategic tasks of maintaining security and socio-economic progress of the country. Joining the Bologna Convention, Ukraine began radical modernization of the higher education system towards the creation of conditions for its compliance with international quality standards of training, optimization of the structure of higher education, greater independence and autonomy of universities, increasing their responsibility for the selection of financing sources for its activities. In this regard, the study and application of foreign experience of higher education funding will result in more efficient use of public funds and active introduction of innovative financing instruments.

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