

### **DIVERSIFICATION OF FINANCING SOURCES OF HEIS IN UKRAINE**

**Abstract.** In the conditions of information economy, is growing the role of sectors capable of generating new knowledge, thus contributing to the country's economic development. The intellectual and innovative potential of the higher education system can transform the higher education institutions (hereinafter HEI) into one of the key drivers for activating the processes of the information economy formation.

In modern social-economic conditions, is becoming urgent to modernize the higher education system in response to the actual demands of the external economic environment; the modernization processes require adequate funding. Taking into account the potential and the tendency of HEIs transformation into economic entities, it is important to create the preconditions for diversification of their funding sources at the state level.

The financial aspects of the HEIs functioning, the aspects of diversification of funding sources of higher education system are being researching by the number of scientists: Kaleniuk I., Bogolib T., Kuklin O., Tsybmal L., Buchkovskaya Ya., Radionova I., Komarova I., Volikov V., Devol R., Lee J., Ratnatunga M., etc.

Problems of diversification of financial sources require further research, in particular — the prospects of commercialization of universities' research results.

The research objective: study of diversification of financing sources of the Ukrainian higher education institutions.

The article analyzes tendencies of financing of the Ukrainian higher education system. The analysis demonstrated a gradual reduction of public funding for higher education. Exogenous and endogenous problems of commercialization of universities research results are specified in the article.

The author comes to the conclusion about the necessity of diversification of funding sources of the Ukrainian higher educational institutions. The author identifies the commercialization of research results of higher educational institutions as one of priority funding sources.

**Keywords:** higher education; funding sources; higher education institution; commercialization; transfer; information economy.

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### **ДИВЕРСИФІКАЦІЯ ДЖЕРЕЛ ФОРМУВАННЯ ФІНАНСОВИХ РЕСУРСІВ ВНЗ УКРАЇНИ**

**Анотація.** В умовах інформаційної економіки особливу роль у забезпеченні економічного зростання країни відіграють сектори, спроможні до генерації нових знань. Консолідований у системі вищої освіти інтелектуальний та інноваційний потенціал може перетворити заклади вищої освіти (далі — ЗВО) на одних із ключових драйверів активізації процесів становлення економіки нового типу.

У сучасних соціально-економічних умовах виникає необхідність модернізації системи вищої освіти у відповідь на актуальні запити зовнішнього економічного середовища, що вимагає забезпечення належного фінансування. Ураховуючи потенціал і тенденцію

поступового перетворення ЗВО на повноправних економічних суб'єктів, на державному рівні доцільно сформувавши передумови для диверсифікації джерел фінансування їхньої діяльності.

Фінансові аспекти функціонування ЗВО, засади диверсифікації джерел фінансування системи вищої освіти розкриваються у працях таких учених: І. Каленюк, Т. Боголіб, О. Куклін, Л. Цимбал, Я. Бучковська, В. Сафонова, І. Радіонова, І. Комарова, В. Воликов, Р. Девол, Дж. Лі, Е. Брукінг та ін.

Проблеми диверсифікації фінансових джерел потребують подальшого дослідження, зокрема — перспективи комерціалізації результатів наукових досліджень ЗВО.

Постановка завдання: дослідження напрямів диверсифікації джерел формування фінансових ресурсів ЗВО України.

Проаналізовано тенденції фінансування системи вищої освіти України. Економіко-статистичний аналіз засвідчив поступове скорочення державного фінансування вищої освіти. Конкретизовано екзогенні та ендогенні проблеми комерціалізації наукових досліджень ЗВО.

Проведене дослідження дозволяє дійти висновків про необхідність диверсифікації джерел фінансування діяльності ЗВО України. Серед перспективних джерел фінансування діяльності університетів досліджено комерціалізацію наукових розробок ЗВО, що актуалізується в контексті становлення інформаційної економіки.

**Ключові слова:** вища освіта; джерела фінансування; заклад вищої освіти; комерціалізація; трансфер; інформаційна економіка.

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## **ДИВЕРСИФИКАЦИЯ ИСТОЧНИКОВ ФОРМИРОВАНИЯ ФИНАНСОВЫХ РЕСУРСОВ ВУЗОВ УКРАИНЫ**

**Аннотация.** В условиях информационной экономики особую роль в обеспечении экономического роста страны играют сектора, способные к генерации новых знаний. Консолидированный в системе высшего образования интеллектуальный и инновационный потенциал может превратить высшие учебные заведения (далее — вуз) на одних из ключевых драйверов активизации процессов становления экономики нового типа.

В современных социально-экономических условиях возникает необходимость модернизации системы высшего образования в ответ на актуальные запросы внешней экономической среды, требует обеспечения надлежащего финансирования. Учитывая потенциал и тенденцию постепенного преобразования вузов на полноправных экономических субъектов, на государственном уровне целесообразно сформировать предпосылки для диверсификации источников финансирования их деятельности.

Финансовые аспекты функционирования вузов, основы диверсификации источников финансирования системы высшего образования, раскрываются в работах таких ученых: И. Каленюк, Т. Боголиб, А. Куклин, Л. Цымбал, Я. Бучковская, В. Сафонова, И. Радионова, И. Комарова, В. Воликов, Г. Девол, Дж. Ли, Е. Брукинг та др.

Проблемы финансовых источников требуют дальнейшего исследования, в частности — перспективы комерціалізації результатів наукових досліджень вузів.

Постановка задачи: исследование направлений диверсификации источников формирования финансовых ресурсов вузов Украины.

Проанализированы тенденции финансирования системы высшего образования Украины. Экономико-статистический анализ показал постепенное сокращение государственного финансирования высшего образования. Конкретизированы экзогенные и эндогенные проблемы комерціалізації наукових досліджень вузів.

Проведенное исследование позволяет сделать выводы о необходимости диверсификации источников финансирования деятельности вузов Украины. Среди перспективных источников финансирования деятельности университетов исследовано коммерциализацию научных разработок вузов, что актуализируется в контексте становления информационной экономики.

**Ключевые слова:** высшее образование; источники финансирования; учреждение высшего образования; коммерциализация; трансфер; информационная экономика.

Формул: 0; рис.: 3; табл.: 2; библи.: 10.

**Introduction.** The current stage of the world leading countries development is characterized by the transition to the information economy — to a new type of economy characterized with the growing role of knowledge, innovations and technologies in the processes of production, exchange, distribution and consumption, as well as in the development of the main sectors of the national economy. In the conditions of the information economy the special role is played by the sectors capable to generate new knowledge and ideas with the possibility of their further transfer to the business enterprise sector. The consolidated in the higher education system intellectual and innovative potential can transform the HEIs into one of the key agents of the national economy development on the principle of informatization.

**Target setting.** In modern socio-economic conditions there is a need to modernize the higher education system to increase its compliance with the relevant trends in the national economy development. It requires the proper funding. The investments in education are generally regarded as an investment in the development of the human capital of the country. Taking into account both the high potential of the higher education sector and the gradual transformation of the universities into full-fledged economic actors it is advisable to create the necessary prerequisites for diversifying the financing sources of higher education institutions (hereinafter HEI) at the national level.

**Literature review and the problem statement.** The urgency of the issue on the higher education financing in Ukraine causes a high scientific interest in its study. In particular, the financial aspects of the HEIs functioning, including the scientific and applied principles of the diversification of the funding sources for the higher education system, are disclosed in papers of a number of scientists: Bogolib T., Bruking E., Buchkovska Ya., Carayannis E., Devol R., Illiashenko T., Galbraith J., Kaleniuk I., Komarova I., Kuklin O., Lee J., McAdam M., Miller K., Ratnatunga M., Safonova V., Shevchenko L., Shpak N., Tsymbal L., Varnaliy Z., Volikov V., etc. Despite the availability of a large number of publications, devoted to the issues of the higher education financing, the problems of diversifying sources require in-depth research. Among the prospective sources of the university activities funding, it is possible to distinguish the commercialization of research results, which is especially actualized in the context of the information economy formation. The purpose of the article is to study the commercialization as a direction of diversification of financing sources of the Ukrainian higher education institutions.

**Research results.** Several models of the higher education financing are distinguished in the scientific literature [1]. Typical for Ukraine is a mixed model, which means the involvement of HEIs' investing from the public and private sources. Traditionally, the main source is the state budget. Official statistics show a steady increase in the total expenditures of the consolidated budget of Ukraine for the higher education in UAH equivalent (Fig. 1).

However, the analyzed above tendency does not indicate a significant improvement of the situation in the higher education system — it is explained by both the rising rates of inflation in the country and the national currency devaluation. More indicative are the relative parameters of the dynamics of the higher education financing by the public sector (Fig. 2). From 2010 there is a clear tendency to reduce the consolidated budget expenditures as a percentage of total expenditures (from 6.6% in 2010 to 3.7% in 2017); as a percentage of expenditures on the educational sector as a whole (from 31, 3% in 2010 to 21.8% in 2017); as a percentage of GDP (from 2.3% in 2010 to 1.5% in 2016) [2].

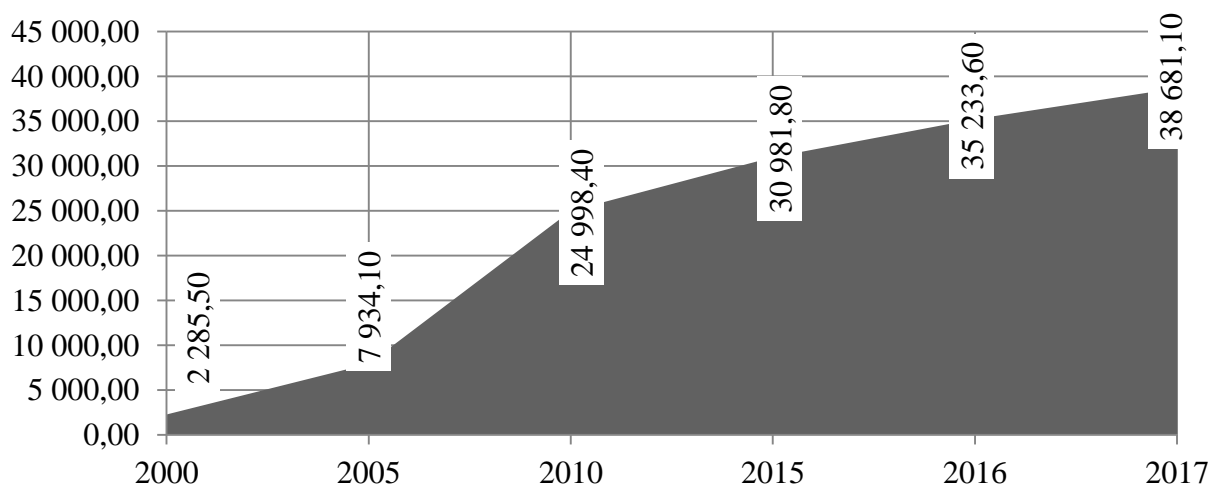


Fig. 1. Dynamics of total expenditures of the consolidated budget for the higher education in Ukraine, UAH million  
Source: compiled by the author based on [2]

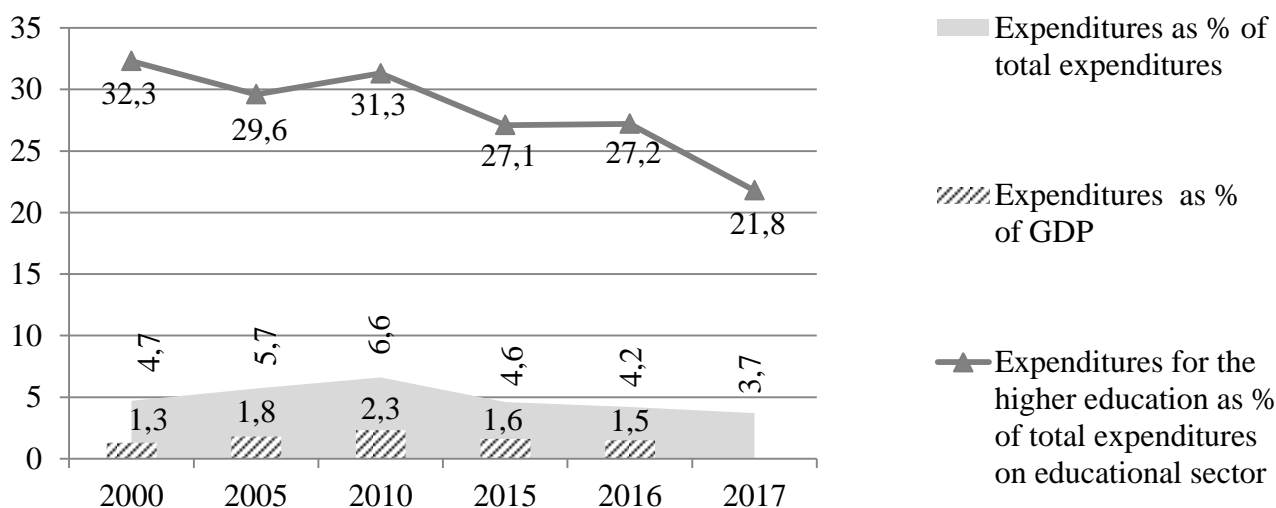


Fig. 2. The dynamics of the state financing of the higher education in Ukraine, %  
Source: compiled by the author based on [2]

In our opinion the analyzed tendencies of the higher education financing by the public sector are caused by the growing political instability; the aggravation of the geopolitical situation; the hostilities deployment in the East of the state; the socio-economic, demographic problems of the country and migration processes (outflow of the highly skilled specialists abroad). It is logical to assume further reduction of the public funding, which will threaten the financial safety of the HEIs that are excessively dependent on the funding from the state budget. In addition to the gradual limitation of the public funding, the domestic HEIs also face some challenges:

- the demographic situation — cases a decrease in the student contingent (including students studying on a commercial basis);
- the change of approaches to the formation of a state order for training the students — means the change in the amount of financial revenues to the universities from the state budget; leads to the complication of the long-term and medium-term financial forecasting at the universities level;
- the increase in the cost of the educational services, that cause a decrease in HEIs' competitiveness in the educational services market;
- the competition aggravation in the educational services market [3] — including the aggressive marketing strategies of the foreign HEIs, which are actively entering the domestic educational services market;

– the migration processes — is considered in two aspects: 1) the departure of the scientific staff abroad (including young scientists); 2) the students’ mobility.

The mentioned above challenges determine the need to expand the investment sources in the HEIs’ activities in order to minimize their financial risks, provide the financial security. The characteristics of the most widespread in the higher education sector of the world leading countries directions of the financial sources diversification are presented in Table 1.

Table 1

Diversification Direction of Financing Sources of HEIs

Direction	Feature
the tuition fees introduction	- relates to countries and the educational institutions that provide the educational services at public expense - includes the commissions for the related services; the reduction of the scholarship and student grant programs; the restrictions of student loans
the endowment funds creation	- the investment funds which are funded by donations (including the HEI graduates as donors) - the experience of Harvard, Yale, Princeton, Columbia and others Universities
the securities (bonds) issuance	- usually used in the crisis periods - the experience of Harvard, Cambridge, and Princeton Universities
the higher education institutions privatization	- in line with the global trend of the privatization in the higher education sector - approbation of the best world practices and forms of privatization of the HEIs
the entrepreneurial universities establishment	- requires a significant financial autonomy of the HEIs - characterized by a wide diversification of the financial receipts and differentiation of the HEIs’ services [4]
the services range expanding	- providing the services that are not directly related to the educational activities - the experience of the world universities in providing the medical, consulting, legal, expert, engineering, scientific and technical, etc. services
the funds attraction from the international organizations and funds	- mainly in the form of the grants for the implementation of the scientific and educational international projects - includes also the individual grants of academic mobility
the research results commercialization	- the transfer of the universities scientists’ research results to the real sector of economy on a contractual basis - the license agreement on commercial use of the universities scientists’ inventions

Source: compiled by the author.

The verified in Ukraine direction of diversification of the financing sources is the tuition fee introduction (*Fig. 3*). The analysis of official data from the State Statistics Service of Ukraine has shown a rather low level of the legal entities’ interest in the financing of the students’ training (6968 students in the 2017/2018 academic year that is only 0.5% of the total number of the students of the HEIs of III-IV accreditation levels) [2]. It points out, firstly, the lack of motivation from the business enterprise sector (due to problems with the quality of the educational services, and the relevance of the gradulators’ professional competencies); secondly, the low level of cooperation development between HEIs and business sector.

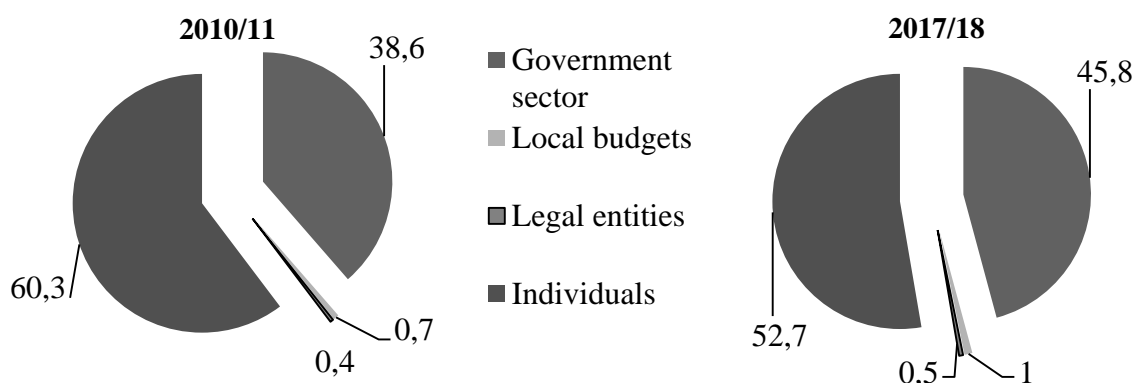


Fig. 3. The structure of the funding sources for the students training at HEIs of the III—IV accreditation level, %  
Source: compiled by the author based on [2].

In our opinion the prospective diversification directions of the financing sources of the HEIs at the current state of the national economy is the intensification of process of research results commercialization. The *commercialization of research results* is a complex economic and legal category that includes the processes of organization and implementation of transfer of objects of the intellectual property and the research results into the real sector of economy on a contractual basis.

The above thesis is substantiated by the fact that the information economy transforms the approaches to the organization of the entrepreneurial activity actualizing the role of knowledge, information technologies, innovations, and stimulating the growth of demand on the scientific and technical services and the high technology products [5; 6]. In the context of the transition to the information economy the HEIs are transformed from the knowledge and information transmitters to the generators of new ideas and technological innovations. Implementing the educational, research, and the innovation activities the modern universities develop the preconditions for the socio-economic and innovative development of the country.

In Ukraine the preconditions for the intensification of the commercialization processes are gradually forming. These processes require both the identification of the applicable world experience and the adaptation of the best practices of the foreign universities in the technology transfer to the Ukrainian realities. The HEIs implementing the processes of the research results commercialization face with a set of problems and barriers — Tabl. 2

Table 2

The exogenous and endogenous problems of the commercialization of the research results in the HEIs in Ukraine

Type	Problem	Causes
Exogenous problems	The current legislation imperfection	Inconsistency of law articles concerning the basic terminology; the HEIs legal status, their rights to the creation of the small enterprises in order to commercialize the research results; the mechanisms on the innovation activity motivation, the preferential taxation of the innovatively active subjects; the HEIs financial autonomy, etc.
	The undeveloped domestic market of the scientific and technical products	The insufficient level of the enterprises' innovation activity; the insufficient demand of the business sector on the research results; the powerful foreign competitor-producers of the scientific products
	The insufficient funding for the research	The deficit of the state budget; the low level of the HEIs financial sources diversification; the low investment attractiveness of the research area
	The migration of scientists abroad	The inadequate salaries of the scientists; the low motivation of the young scientists in research activities; the complicated geopolitical and socio-economic situation in the country
	The imperfect statistical base	The difficulties in the collection and processing of the reporting information (that complicates the economic analysis of the commercialization processes)
Endogenous problems	The weak staffing of the commercialization departments	The gaps in the HEIs' staff policy (also the parameters of the professional and qualification structure); the low level of the scientists' motivation to conduct the research (firstly, because of the insufficient wages)
	The undeveloped commercialization mechanisms	The underestimation of the role of commercialization of research results in the HEIs' development and the funding sources expanding
	The low level of the research results implementation in the industry	The low development level of cooperation between the higher education sector and the business enterprise sector as the elements of Quadruple Helix [7—10]; the insufficient adequacy of the HEIs research to the actual inquiries of the enterprises; the low competitive level of HEIs' research results at the market; the academic science «separation» from the needs of the real sector of economy
	The reducing of the inventive activity	The underdevelopment of the motivational mechanisms; the limited funding (both of the patenting processes and the maintenance of the patents)
	The low patenting level of the Ukrainian inventions abroad	The lack of funding to cover the costs of the registration and maintenance of the patents abroad (which leads to limiting the commercialization of the inventions abroad)
	The outdated material and technical base of the universities	The lack of funding of the higher education system and the HEIs of the country

Source: compiled by the author based on [3].

**Conclusions.** The financing tendencies of the higher education system of Ukraine are analyzed in the article; the economical and statistical analysis has showed a gradual reduction of the public funding for the higher education. The conducted research made it possible to come to the conclusion about the necessity of diversification of the financing sources of HEIs in Ukraine. The author identified the prospective source of funding of the HEIs' — the commercialization of the research results, which is actualized in the context of the information economy formation. Are specified the exogenous (inherent in the national higher education system as a whole) and the endogenous (inherent in the higher educational institutions) problems of the research results commercialization by the HEIs. Are identified the key causes of problems: the inconsistency of the scientific terminology; the obsolete legislative framework; the low innovation activity of the enterprises; the insufficient financing of the HEIs research; the complication of the geopolitical situation; the economic and political instability; the corruption, etc. The prospects for further research are to study the world experience in the diversification of financial sources of HEIs, particularly the analysis of the universities' models of the research results commercialization.

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