ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ҰЛТТЫҚ ҒЫЛЫМ АКАДЕМИЯСЫНЫҢ

ХАБАРШЫСЫ

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FEATURES OF RESULT BASED FINANCING HIGHER EDUCATION

Abstract. The key role of the education system in the formation of a knowledge society is raising the issue of improving its financing. In the face of new challenges and aggravation of global competition, the mechanism for financing the higher education system is being transformed. The need to increase funding is manifested in expanding financial sources and improving the management of various financial flows. Increasing the effectiveness of public funding is becoming an important issue, which remains the main source of financial revenues for institutions of higher education in countries of the world. A promising practice in the world is the use of funding based on the results of activity, which is becoming more widespread in various areas of economic activity. The purpose of this article is to study the current world-wide practice of applying results-based financing of higher education and defining promising directions for its implementation in Ukraine. The essence and features of RBF - Result Based Financing (RBF) method, including in the system of higher education, are revealed. The existing approaches to financing higher education institutions in the world based on results are systematized, the main criteria for their definition are identified: on the basis of inputs, process, output, output. The world practice of using higher education institutions financing based on the results, positive and negative consequences of its implementation is highlighted and summarized. The necessity of using RBF funding in the system of native education is proved, the main directions and areas of its use are determined. The application of a two-tier model of financing higher education institutions in Ukraine is proposed, which combines the traditional cost-oriented approach and funding based on the results of the activity.

Key words: financial mechanism, institution of higher education, funding based on the results of activities, forms and methods of funding.

Introduction. The issue of improving the management and financing system is being actualized due to awareness of the education as a key factor in the development and competitiveness of national economies in the global competitive space [23]. The need to improve all integrated financial resources framework is caused by the demand of rapid changes in the external environment and increased competition between the higher education institutions for human and financial resources: expansion and diversification of financial revenues, autonomy of universities. Countries of the world are looking for new models of education management, new flexible forms of financing, and the effective organization framework for educational activities. The most urgent problem is finding one's own framework that is optimal and effective in the interests of society. The economic nature of education (both public and private goods) is ambiguous, thus making it difficult to build its financial framework. This framework can be much diversified in forms, methods, and resources. A key challenge for each country is to build a framework for higher education financing, which is capable to ensure that the educational actors are autonomous and flexible, combined with a focus on important objectives. In this context, the practice of implementing a state-funded and result-based framework provides a great space for analysis.

Since the 1990s, this approach has been applied in the fields of education, health care, energy engineering, etc. At the beginning of the 21st century, the result-based model implementation became very popular. The worldwide experience of this model implementation is quite diverse, as countries may set different goals and apply different methods, approaches, and instruments. In turn, a chain of studies on this practice implementation efficiency has emerged. At the level of higher education, there is the greatest opportunity to implement this approach to financing educational institutions.

Literature review and problem statement. The problems of the education system financing are relevant for modern national and foreign science, both in theory and practice. Especially, the issue on the role of education in the development of society, its contribution to economic growth is treated in the works written by such authors as F. Altbach, V. Basilevich, G. Becker, A. Chukhno, T. Schultz, L. Jacobson and others. The education contribution to economic growth basing on complex econometric models was estimated in the works by Y. Mintzer, J. Psaharopoulos, P. Romer. The growing attention to the problems of leadership and competitiveness in education actualizes the intensifying global competition for students, finances, and other resources. J. Salmi studied the processes, in the frameworks of which the world-class universities are developed. He stated that one of the key factors for these processes is the availability of four sources: public financing, contract work for businesses, charitable contributions, and tuition fees; but public financing is the most important [1].

The education financing issues are directly studied in the works of T. Bogolib [2], T. Esterman [3], T. Yefimenko, I. Chugunov, and S. Yuriy. The researched subjects such as autonomy of higher education institutions (T. Esterman [3]), diversification of financing sources, and increase of the state financing efficiency (I. Kalenyuk [4], T. Bogolib) are relevant. The result-based financing (RBF) - a new approach to financing in the field of education, has gain ground in the world educational practice both in different aspects and at different levels of education. It became relevant in the process of financing for targeted projects and programs. The RBF SIDA study distinguished two concepts: RBF and RBA (Result Based Aid) [5; 6]. Result Based Financing is agreements with service providers, in which part of the funding is related to the achievement of pre-determined results or other performance indicators. RBA is resultsbased, with many projects using output indicators as a proxy indicator. In the education system, the application of the RBF method is maximally possible after the post-secondary vocational education level, the most commonly used and of interest for research at the higher education level. A serious study was conducted back in 2001 by B. Jongbloed: "Performance-Based Financing in Higher Education: An International Survey." The author notes that the use of funding formulas is often the first step in the RBF system development. Its main advantage is using objective criteria, providing a clear picture of the distribution of funds among universities, and facilitating comparisons between institutions, thus reducing lobbying by institutions [7].

Extensive research into the implementation of the RBF method was conducted by E. A. Hanushek [8; 9; 10]. Exploring the various frameworks of the public funds distribution, J. Salmi identifies three main approaches: 1) output resources (staff or number of students); 2) categorical programs; 3) formula-based financing [11]. T. Estermann and A.-L. Claeys-Kulik confirms the effectiveness of this method: "This method connects funding to measurable metrics, thereby increasing monetary transparency, encouraging and rewarding universities for achieving their goals" [12]. A thorough analysis of contemporary RBF practice is found in Y. Amy's work [13], which summarizes existing experience and analyzes in detail the differences, positive and negative effects of RBF implementation in different US states. The experience of reforms in the system of financing higher education in the Nordic countries is analyzed E. K. by Schmidt [14]. Conceptual principles are justified by P. Clist and A. Verschoor [15]. International comparisons of existing funding formulas have been made by G. G. Goksu and M. E. Altundemir [16].

Problem statement. Continuation of wide-ranging discussions of RBF practices in the world is relevant. This problem does not have an unequivocal solution, as each country solves it based on its historical traditions and institutional characteristics. It is prospective to investigate the world experience of implementing this approach, its advantages and disadvantages, its tools and forms of implementation.

The objective of this article is to investigate the current world practice of applying result-based higher education funding and to identify prospective areas of its implementation in Ukraine.

The study's results. The idea of the result-based financing emerged at the end of the last century. Before that, public higher education institutions had been funded based on the number of students in all countries of the world. This issue has become relevant to economic science as well, as many issues remain in the construction of financing frameworks, in the selection of key indicators, and in the evaluation of performance. The first is to determine the objective need for the emergence and development of a results-based model for higher education financing. There are such reasons for this, as follows: awareness of the ineffectiveness of direct public financing for higher education institutions, which may provoke containment character and unwillingness to change something in their activities; the need to reduce the possibilities of manual intervention in the process of allocating funds; the need to introduce the principles of competitiveness between institutions, and thus to direct them to better performance; the need to enhance the inclusiveness of the higher education system - its accessibility to certain sections of the population

(low-income families, people with disabilities, national minorities, etc.); improving the quality of educational services and the quality and efficiency of educational activities. Each country has its own specific goals and historical circumstances that lead to particular highlights. The ultimate goal of public policy can be: to increase the total number of students or the number of foreign students; to improve the quality of training; increased scientific research; to improve indicators in world rankings, etc. This is what determines the selection of key metrics for model selection.

There are two main approaches: input-based and output-based. Certainly, the dominant practice in the world is cost-based financing, when the key indicators for determining the amount of financing are student contingent, teaching staff, scholarships, infrastructure costs (utilities, capital). Under this approach, financing is provided to universities on a cost basis, and institutions cannot allocate their funds or can only do so under severe constraints. That is why, "more and more countries are moving to long-term agreements between the ministry and universities"[12]. "There is a noticeable tendency, especially in the Western Europe, for the allocation of public financing through block grants ... that include several categories of spending: education, current costs, and/or R&D. In this context, universities are free to split and distribute their financing according to their needs, although some restrictions may apply" [17].

The vision of the educational process in the form of a particular chain helps to distinguish the results of educational activities at different stages. In the scientific literature on RBF, a chain of results is highlighted: inputs, process, activities, outputs, outcomes, impact on the economy (impact). The first step is always taking into account available resources, and financing is provided on the basis of input indicators: number of students (In total, full-time, full-time equivalent, by specialties and levels); the number of teaching staff. The next stage - the educational process - involves taking into account the peculiarities of the "production process" in the educational institution: the specifics of different specialties, forms of study, categories of students, etc. At the stage of initial resources, the performance of the educational institution is evaluated, and there, the important indicators are output (number of graduates), completed credits, etc. The external effectiveness of the institution's educational activity can be reflected: first of all, in the outcomes as indicators of university graduates employment; second, as the impact on the economy as a whole. These results are not always in the area of influence of higher education institutions (for example, rising unemployment in times of economic crisis). However, assessing performance at this level (the level of external effectiveness of educational activities) is also of scientific and practical interest. The results of educational activities can be evaluated by different indicators depending on at what stage they are recorded. The number of students enrolled in the institution at the moment is an intermediate result. The number of graduates who have successfully completed their studies and received relevant education documents is the following result. How many graduates are employed by profession, how many have become unemployed is also another important result. And the end result or effect is the contribution to the growth of GNP and the development of the economy, which are made by skilled workers, graduates of the institution. Out of all the examples of educational results, only the first provides the opportunity to consider when determining the amount of financing. Considering all of the following as resultant indicators has some difficulty.

The performance of higher education institutions can be evaluated in both the educational and scientific fields. We will try to define the main groups of indicators to determine the results in each of these activities. In the sphere of educational activity, in our opinion, the main groups of indicators are: social or inclusion indicators; indicators of graduation or completion of a certain cycle; specifics of educational programs; results of specific goals achievement; labour market indicators; other indicators.

Social or inclusion indicators may include the number of students from low-income families; the number of orphans; number of persons with disabilities, etc. In the United States, such indicators are used in some states: students of colour, first-generation students, or students over 25. In Tennessee, there is an additional 40% financing for each graduate belonging to a group of low-income or adult students. Additional financing is also available in Ohio for low-income, adult or students of colour [13]. The graduation rates can also be different: number of graduates of bachelor's or master's level; the number of credits completed; number of certificates issued, etc. In Massachusetts, two-year colleges receive financing in the following ways: base financing based on student numbers and additional financing using the following formula: 50% is considered base financing based on completed semester credit hours and the other 50% is based on performance indicators. The following indicators include certificates of graduation received; social transfers; 30 credits completed; fully completed courses in mathematics and English; diplomas and certificates received per 100 students of the given contingent; diplomas and certificates awarded to students receiving social scholarships or in important fields [13]. Financing for

different educational programs may differ because they have different costs and require different amounts of financing. Technical specialties require laboratory equipment, which is why they are much more expensive than humanitarian and social specialties. Specific goals may be identified by the priorities of the state strategic policy may. Achieving specific goals may include, for example, STEM (science, technology, engineering, and mathematics). The government may support for certain specialties (pedagogical, medical, STEM), support for certain institutions or institutions in depressed regions [13].

The experience of the United Kingdom in addressing these differences in institutions is interesting. Here, the calculation of the financial support for current activities is carried out by Higher Education Financing Council for England (HEFCE), based on the allocation of 4 groups of specialties: medical and veterinary specialties; exact and natural sciences, technological and engineering specialties; specialties requiring laboratory equipment; specialties that do not require laboratory equipment. For each group, a standard or basic amount of financial support is provided for each institution (based on the number of full-time students, specialities, student categories). *Labour market* indicators are, first and foremost, the number or share of graduates employed over a certain period (1 year); the number or share of unemployed graduates; salary level, etc. To link financing to such indicators, as these results do not always depend on the educational institutions themselves, is not easy. *Other indicators* may include quality or performance, overall program or faculty performance, gender indicators, etc. The use of these indicators has some limitation, as this is only possible if there is an objective system for evaluating the quality or performance of the educational activities. Success rates, as noted above, are used extensively in the US.

The financing of scientific activities is mainly based on results. As a rule, it is provided in the form of competitions for the implementation of research works. These indicators may include publication of articles in scientometric databases, volumes of previous scientific works completed, grants, commercialization, patents, etc. The world experience of financing for higher education institutions is highly diverse and interesting to study. The report of the Centre for Research in Higher Education Policy at the University of Twente "Performance-based financing and performance agreements in fourteen higher education systems" summarizes data on 14 countries. According to the report, the following indicators are most commonly used: the number of bachelors and masters graduates - in Austria, Finland, the Netherlands, North Rhine-Westphalia, Thuringia, Tennessee; the number of completed exams or credits obtained by students - in Austria, Denmark, Finland, Tennessee, Louisiana, South Carolina; the number of students from underrepresented groups - in Australia, Ireland, Thuringia, Tennessee; duration of study - in Austria, Denmark, the Netherlands, Tennessee; the number of postgraduate students - in Australia, Denmark, Finland, Thuringia, the Netherlands; productivity of research - in Australia, Denmark, Finland, Great Britain (England, Scotland); success rates - in Australia, Finland, Hong Kong, Ireland, Scotland, Tennessee; low-income persons (Australia, Denmark, Finland, Thuringia, Hong Kong); income from knowledge transfer (Australia, Austria, Scotland). Less commonly used performance indicators are internationalization in Finland; quality of education based on student surveys - in Finland, Tennessee; employment rates (number of employed graduates) - in Finland; research quality - Hong Kong, UK [18].

The RBF practice in the US is much diversified. Thus, it leads to complication and introduction of new incentive frameworks for allocating financial resources, based on success rates. The states of Arkansas, Indiana and Nevada account for only 5% of all college financing, and Ohio State accounts for more than 25%. In total, the opinion is that less than 5% of total financing does not lead to significant changes in results. For 4-year colleges, with more than 80% of the financing is provided based on results, and Ohio and Tennessee are the leaders [19]. The state Tennessee provides an additional 40% of financing for each student who completes the studies, if that student is eligible for grants or considered to be an adult (25 and older). Recently, some policies have changed: two-year colleges in Tennessee reduced both the number and proportion of students aged 25 and older, but increased the number and proportion of low-income students.

In Maine, since in 2014, the base financing of an education institution has increased from 5% to 30% per year based on performance. The main indicators for this are the number of diplomas awarded (additional points for college graduates over 30 years of age, recipients of social scholarships); number of graduates in science, technology, mathematics, engineering, health care, etc. priority industries; number of research grants and other contracts per year; volume of research grants and other contracts for the year; the number of diplomas awarded per \$100,000 income from tuition fees, government allocations and other income. In Arizona, all universities have received an additional \$5 mil since 2013 based on the formula of

success. Starting in 2016, all financing is based on a new success formula, including the number of diplomas awarded; 24-hour credits completed by students; revenues from external research and services provided. In Florida in 2014, the Governing Body adopted a new financing formula based on success. Each institution receives a weight of 1 to 5 points, depending on the success by 10 indicators. Institutions should get at least 25 points to receive basic financing. If institutions score 26 or more points, they will receive additional financing. Any institution that has not scored 25 points and the three institutions with the lowest points will not receive additional financing and will gradually reduce their financing by 1% per year. Success indicators include percentage of bachelors employed or continuing their education during the year after graduation; the median average salary of graduates working in Florida during the year after graduation; graduation rate for 6 years; academic norm of progress; number of bachelor graduates of strategic directions; university standard of access (% of graduates receiving social scholarships); the number of diplomas awarded in strategic areas [19].

Finding out the consequences of implementing a result-based higher education financing system is also important. Macro factors can significantly affect the performance of higher education institutions. Government financing for higher education may decline as a result of economic crises, and inflation can significantly reduce real spending (per institution, per student). According to a study by Amy Y., in 2015-2016, state and local FTE-equivalent allocations were 11% below the 2005-06 financing level. Demographic trends are also a factor, when school graduates number fluctuates. As Amy Y. notes, graduates have anti-cycles in relation to economic situation in the country. In 2007–2009, during the Great Recession, enrolment in local US colleges increased significantly, while the number of high school graduates declined during the economic recovery in 2011–2015 [13]. The share of performance-based financing in the Netherlands is 27-32%, in Austria - almost 100%, in Australia - 20%, in Denmark - 60%, in England - 50%, in Finland - 75-100%, in Hong Kong - 23%, in Scotland - 85%, in Tennessee (USA) - 100%, in Thuringia (Germany) - 55% [18].

Amy Y.'s research also points to some of the negative effects of such financing, which requires caution when developing state or even federal financing systems. First of all, an unforeseen consequence of such financing policy was the increase in the number of short-term certificates issued. As the same additional funds were provided, regardless of the degree of higher education, it was advantageous for institutions to obtain higher performance indicators (the number of education documents issued) with less time and expense It is because the certificates issued may not have a "high value" in the labour market and, not have much influence on solving problems of graduation unemployment. According to that, for example, Tennessee revised its financing model for 2015-2020 and adjusted the incentives for short-term certificates. Another unpredictable result was an increase in selection criteria. As graduates are encouraged, universities are more interested in students with good academic performance. Four-year colleges have increased the admission criteria for students (e.g. in Indiana). This practice was called "creaming". Thus, the prevailing view is that such practices may limit entry into higher education of students from disadvantaged backgrounds. Another unexpected consequence was a decrease in the quality of education. Since institutions are more in need of a graduate than a student, they have taken such measures as transferring students with low grades to the next course, reducing the number of credits, etc. [13].

At the heart of the emergence of a new philosophy of financing higher education institutions was the understanding of the need to transform their activities, to aim at achieving certain goals. The education sector is a special sector. On the one hand, it should be focused on the generation and spread of new knowledge and be innovative. On the other hand, in this area, the traditions, such as teaching traditions and research traditions, are more important than in other spheres. Ensuring a contradictory unity of innovation and tradition requires some stability. Schools of science can only be formed under conditions where there is some stability, and some challenges that force teams to be in constant search. It is this combination that can be realized with the help of result-based elements. The choice of such elements, the determination of the ratio of the various components in financing framework, leaves much room for economic science and practice. In 2016, the Conceptual Model of Public Financing for Higher Education in Ukraine was proposed, and it was prepared by the CEDOS Information and Analysis Centre [20].

The important issues is the need to avoid the Matthew effect. The additional financing of those institutions that have already raised additional funds may result in the situation when rich institutions become even more affluent and the poor becoming poorer. That is why it is important to create transparent

and clear conditions for additional financing. A two-level model of financing higher education institutions, which would combine two basic approaches (costs and outcomes) and would not entail a fundamental breakdown of existing budgetary practices, may be optimal for modern conditions. A certain stability of financing of higher education institutions can and should be ensured by the part that is formed on the basis of cost indicators (number of students, scientific and pedagogical staff, and specifics of educational programs). Another part, the additional financing should be provided not by many, but clear parameters and provide transparent and clear conditions for its receiving. Such important goals can be attributed to: special support for important specialties (IT, biotechnology, etc.), additional incentives for the results of objective monitoring of the labour market. There is also a need for improvement for a system of stimulating research. It should be noted that this sphere requires a significant increase in financing. There is a gradual decline in the share of GDP provided to research and development in the Ukraine: 0.48% in 2016 and 0.45% in 2017. In 2016, the share of R&D expenditure in GDP of EU-28 countries it averaged 2.03%. The shares of R&D expenditures were higher than average in Sweden - 3.25%, Austria - 3.09%, Germany - 2.94%, Denmark - 2.87%, Finland - 2.75%, Belgium - 2.49%, France - 2.25%. The world leaders by the share of spending on R&D are Israel - 4.25%, Korea - 4.23%, Japan - 3.14%, the US -2.74% of GDP [21]. In addition, approximately two-thirds of the total science financing is provided to universities, while the rest is provided to scientific institutions of the National Academy of Sciences and other academies. That is why the first priority should be a significant increase in financing for science, first of all – university science. As for the framework of financing research, it is practically implemented on the basis of efficiency. The allocation of funds to universities is made on a competitive basis, when scientific teams prepare project proposals that take into account their previous results: publications, participation in grants and implementation of contractual topics, the presence of intellectual property rights, commercialization, etc. Improvement of the framework should be provided in the direction of increasing transparency of all procedures.

In Latvia, starting in 2015 [22], a new system of financing higher education institutions is gradually being introduced based on performance results. This system provides for three levels, where the first level is the definition of the main volume of financing; the second level is determined based on the results of activities; the third is determined by financing from the EU structural funds. The volume of financing of the first level is set Resolution of the Cabinet of Ministers № 994 (item 9) on the basis of the number of training places, the basic costs of placement and ratios of cost of training for the different branches of education. Moreover, STEM curricula (science, technology, engineering and mathematics) are priority ones, to which up to 55% of all budget positions until 2020 should be directed.

The amount of financing based on the results is calculated according to the following formula:

$$F2 = F2s + F2z$$

where F2s - the amount of funding for training based on learning outcomes; F2z - the amount of funding based on indicators of the effectiveness of scientific activity.

The amount of financing is calculated in accordance with the formula:

$$F_{2}z = F_{att}\left(\frac{\left(\frac{P}{\sum P}\right) + \left(\frac{S}{\sum S}\right) + \left(\frac{L}{\sum L}\right)}{3}\right),$$

where F2z - the amount of resources allocated to the university; Fatt – Program Funding "03.03.00 Development of research at universities and colleges" for the calendar year; P – the university' masters and doctoral students in the last 5 years in the full time equivalent; ΣP - the total number of graduate students in higher education in the last 5 years in the full time equivalent; S - funding received in the framework of R&D projects of the European Union Framework Program, implemented in higher education institutions and at other international research projects competitions; ΣS - total funding received by higher education institutions within the framework of the European Union Framework Program for Research and Development Projects and other international research project competitions; L - financing attracted as part of the university' research and development work, including contract work with business;

 \sum L - the total amount of funds raised in higher education within the framework of research and development projects ordered by the industry.

The amount of financing for innovative and strategic specialization is calculated according to the following formula:

$$F3 = F3s + F3z$$
,

where F3s - financing for the consolidation of areas of study and capacity building, the development of innovative training programs, the development of joint training programs; F3z - Supporting the strengthening of scientific and innovative potential and the capacity of scientific institutions to attract external funding.

Conclusions. Implementation of the framework for financing higher education institutions in our country can be an important step in the process of improving the framework of public financing of the education system. World practice has shown that the RBF implementation helps to achieve the goals and to improve total effectiveness of educational activities. At the same time, it is necessary to consider the possible consequences that may result from ill-considered policies. According to the world experience, they may include lowering the quality of education while increasing the number of diplomas awarded, increasing entry barriers to universities and reducing access for vulnerable groups.

Provision of the modern development of the education system requires a clear understanding of the desired outcomes, goals and frameworks for achieving them. The priorities, the creation of special conditions for national education leaders and the support of all other sectoral or regional institutions, which in their places, will each contribute to the strengthening of the Ukrainian economy, are clearly identified. A pressing issue for modern educational practice in Ukraine is the further elaboration of financing frameworks by performance; the development of simple, understandable and clear goals that can be fixed and defined as results and benchmarks for financing educational institutions.

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ҚЫЗМЕТ НӘТИЖЕЛЕРІ НЕГІЗІНДЕ ЖОҒАРЫ БІЛІМ БЕРУДІ ҚАРЖЫЛАНДЫРУ ЕРЕКШЕЛІКТЕРІ

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ОСОБЕННОСТИ ФИНАНСИРОВАНИЯ ВЫСШЕГО ОБРАЗОВАНИЯ НА ОСНОВЕ РЕЗУЛЬТАТОВ ДЕЯТЕЛЬНОСТЫ

Аннотация. Ключевая роль системы образования в формировании общества знаний ставит вопрос о совершенствовании ее финансирования. В условиях новых вызовов и обострения глобальной конкуренции происходит трансформация механизма финансирования системы высшего образования. Необходимость увеличения финансирования проявляется в расширении финансовых источников и совершенствовании управления различными финансовыми потоками. Повышение эффективности государственного финансирования становится важным вопросом, который остается основным источником финансовых поступлений для высших учебных заведений стран мира. Перспективной практикой в мире является использование финансирования по результатам деятельности, которое получает все большее распространение в различных сферах экономической деятельности. Целью данной статьи является изучение современной мировой практики применения целевого финансирования высшего образования и определение перспективных направлений его внедрения в Украине. Раскрываются сущность и особенности метода RBF - Result Based Financing (RBF), в том числе в системе высшего образования. Систематизированы существующие в мире подходы к финансированию высших учебных заведений на основе результатов, определены основные критерии их определения: на основе затрат, процесса, выпуска, выпуска. Освещена и обобщена мировая практика использования финансирования высших учебных заведений с учетом результатов, положительных и отрицательных последствий его реализации. Обоснована необходимость использования финансирования РБФ в системе отечественного образования, определены основные направления и направления его использования. Предлагается применение двухуровневой модели финансирования

высших учебных заведений Украины, сочетающей традиционный затратно-ориентированный подход и финансирование по результатам деятельности.

Ключевые слова: механизм финансирования, учреждение высшего образования, финансирование по результатам деятельности.

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