

*As a manuscript*

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**ANALYSIS OF BENEFITS AND COSTS DURING TRANSITION TO  
LEVEL SYSTEM OF HIGHER EDUCATION**

Specialty 08.00.05 - Economics and Management  
national economy (services)

**ABSTRACT OF THE DISSERTATION**

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### **Relevance of the research topic**

For the development of any country, a prerequisite is the improvement of the higher education system. The introduction of new technologies based on a high level of intellectual resources, and the related competition of the leading countries of the world for such resources, are increasingly becoming the most important factors that determine not only the economic, but also the socio-political development of various countries.

The task of the Bologna process and, in particular, the introduction of a tertiary system of higher education is to create a single European higher education space in which exchange between countries in the field of science and education should develop more intensively, which ensures the expansion and strengthening of international cooperation in these areas, the creation of high international education quality standards. It should also promote the growth of innovative activity and enhance the competitiveness of national education systems that are part of this process.

At the moment, although there is no unequivocal attitude towards the Bologna process, all the European countries are nonetheless involved in it. Under these conditions, for the transformation of national higher education systems, an important condition is the implementation of the main provisions of the Bologna Declaration and later adopted documents.

In Russia, the adoption of the Bologna principles has long remained a peripheral process. There are Russian universities that, despite all the difficulties, have been actively involved in the transition to a new system of higher education, but a significant part of them remains, occupying a passive position.

In the new conditions, when the issues of the efficient use of resources by the higher education system in Russia come to the fore, including due to the worsening economic situation, the intensification of the transition of the Russian higher education system to a tier system is becoming more and more urgent.

The creation of a unified system of communication with other countries in the field of education is one of the most important tasks of reforming higher education in the Russian Federation. The unified system implies the availability of comparable qualifications, the corresponding international classifiers of educational programs in higher education, a unified system for assessing the complexity of the workload on students, mutually recognized documents on education, as well as the legislative introduction of a level system of higher education (bachelor's, master's degrees).

At present, the higher education system in Russia consists of two educational systems: continuous training of graduates and a two-stage system that ensures the implementation of educational programs and assignment of graduates with a bachelor's or master's degree.

In the training system for the modern innovative economy, joining the Bologna process and moving to a tertiary system of higher education becomes a catalyst for improving its quality, strengthening the role of universities in research activities, recognition of Russian diplomas in the international educational market.

All of the above determines the high degree of relevance of the topic of transition to a tertiary system of higher education and the need to develop a model for assessing the benefits and costs of moving to a tiered system of higher education in Russia.

### **Degree of problem development**

Currently, a large number of works on the problems of transformation of the higher education system have been published. The issues of expanding European cooperation in the field of higher education are investigated, cooperation on the problems of higher education in the context of political and economic imperatives is considered. From this point of view, the works of I. Bache, J. Knight, H. Wit, J. Le Grand are of interest. Author M.V. Larionova concludes that “at all stages of the development of cooperation, the principle of subsidiarity remains unchanged, providing for the creation of a common legislative framework

based on agreement on priorities, goals, and principles, but leaving room for concretization and implementation of the action plan at the national level."

Many authors, such as V.V. Galkin, D.S. Zueva, A.E. Volkov, A.A. Klimov, D.S. Konanchuk, P.B. Mrdulyash, investigate issues related to the global external challenges of innovative development of the economy and society, studying the ways and methods of modernization of education.

Other authors, such as V.A. Belov, M.L. Entin, G.I. Gladkov, V.P. Kolesov, S.L. Tkachenko, S.M. Yakovlev, M.V. Cherkovets, in their work, discuss the implementation of the main provisions of the Bologna Agreement, in which the countries of the European Union and Eastern Partnership are participating today, and which "leads to the restructuring of national educational systems." In the process of the centralized transition of Russian universities to tiered higher education, the analysis of the structural transformation of higher education is relevant, as authors such as E.E. draw attention to in their works. Sukhova, Yu.E. Shabalin. In this context, the tiered system of higher education is viewed, on the one hand, as a manifestation of globalization processes, and on the other, as a threat to the loss of cultural and educational identity.

Foreign authors such as P. Kalaitzidakis, TP Mamuneas, T. Stengos in their works consider the features of rating formation of European educational universities. The authors pay special attention to leading universities in the UK, France and Israel.

A number of authors in their works touch upon the topic of financing education relevant to Russia. V.A. Mau, T.L. Klyachko, A.A. Klimov, M.V. Noskova analyze the financial problems of the modernization of education, noting that "the increase in spending on higher education is largely opportunistic."

Despite a fairly wide range of questions being studied, the importance of analyzing the benefits and costs of switching to a tertiary system of higher education practically falls outside the attention of researchers. At the same time, in the absence of this analysis, an ambiguous attitude arises to introduce a tiered system of higher education in Russia instead of the traditional specialty. In order to

fill this gap, the dissertation focuses on the study of the diversity of benefits and costs of introducing a tertiary system of higher education in Russia (as well as in a number of foreign countries).

The choice of the topic of the dissertation research is determined by the particular importance of the topic of financing the higher education system for Russia, the complexity of the tasks facing the country to optimize budget expenditures, increase benefits and reduce costs in the process of reforming higher education.

### **Research Information Base**

The sources used in the work can be divided into the following groups:

1. Official sources, including:

- international legal acts (Declaration on the European Higher Education Area, Budapest-Vienna, March 12, 2010, Communiqué of the Conference of Ministers of Higher Education of European Countries (Leuven / Louvain-la-Neuve, April 28-29, 2009) “Bologna Process - 2020 - European Higher Education Area in the New Decade”, Universal Charter of Universities, Sorbonne Declaration, Convention on the Recognition of Qualifications Related to Higher Education in the European Region, Bologna Declaration, etc.);

- official documents of the Russian Federation, which include: Federal Law "On Education in the Russian Federation" dated December 29, 2012 No. 273-Φ3, the Concept of Long-Term Socio-Economic Development of the Russian Federation for the Period Until 2020 (approved by the Decree of the Government of the Russian Federation of November 17, 2008), the State Program of the Russian Federation "Development of Education" for 2013-2020 (approved by the Decree of the Government of the Russian Federation of April 15, 2014 No. 295).

2. Scientific domestic and foreign literature: M.L. Agranovich, S.A. Belyakova, G.I. Gladkova, V.A. Galichina, B.V. Zhelezova, E.A. Karpukhina, T.L. Klyachko, Y.I. Kuzminova, M.V. Larionova, T.A. Meshkova, E.N. Soboleva, L.I.

Jacobson, I. Bache, J. Knight, H. Wit, P. Kalaitzidakis, TP Mamuneas, T. Stengos et al.

3. Sociological surveys, statistical data (Rosstat, Education at a Glance, statistical appendices to UNDP Reports “On Human Development in the Russian Federation”, etc.).

### **Goals and objectives of the study**

**The purpose of the dissertation** consists in analyzing the benefits and costs of the transition to a tertiary system of higher education, developing an appropriate model and its verification for the conditions of the Russian Federation.

To achieve this goal, a number of tasks are solved:

1. Define the main goals of the implementation of the Bologna process and the introduction of a tier system of higher education within its framework.
2. To identify the advantages and disadvantages of the tier system of higher education.
3. To analyze the process of transition to a tertiary system of higher education in the countries of the European Union.
4. Assess the competitiveness of the Russian education system in terms of its entry into the European space of higher education.
5. To develop a model for assessing the benefits and costs of transitioning to a tiered system of higher education in Russia.

**Object of dissertation research** are higher education systems of European countries - participants of the Bologna process and Russia.

**Subject of dissertation research** are the costs and benefits of switching to a tiered model of higher education in European countries and Russia.

### **Methodology and research methods**

**Theoretical basis** The dissertation was composed by the works of Russian and foreign authors in the field of economics, the modernization of higher education, and the analysis of the level system of higher education. To study the

key development trends of the Russian higher education system, the study used analytical information based on data from the Ministry of Education and Science of the Russian Federation, the Ministry of Economic Development, and Rosstat. The study applied the methods of classification, comparative analysis when comparing the development models of higher education systems in European countries, as well as their individual elements, the analysis and synthesis methods used to summarize the experience of the European Union countries in switching to a tier system and its application for the conditions of Russia.

**Empirical base** The dissertation research consisted of qualitative and quantitative data collected by the author from various sources (Russian and foreign statistical collections, data of the Ministry of Education and Science of the Russian Federation, Rosstat, expert opinions, works of leading domestic scientists). For the analysis of empirical data, observation methods and methods of statistical analysis of empirical data were used.

#### **Field of study**

The thesis corresponds to the specialty 08.00.05 - Economics and National Economy Management (services), in terms of items:

1.6.110. Features of the formation and development of the public (state) services sector.

1.6.115. Socio-economic efficiency and quality of public services in the service industries.

1.6.128. State support for non-profit organizations in the service sector.

**Scientific novelty of research** consists in a comprehensive analysis of the benefits and costs of moving to a tiered system of Russian higher education. The approach is to create a model for assessing the benefits and costs of this transition, as well as assessing the possibilities of using the benefits obtained to solve the problems of developing higher education in Russia while reducing costs.

The most significant results of the dissertation research are contained in the following provisions to be defended.

**The main provisions of the dissertation research submitted to the defense**

**1. The main goals of the implementation of the Bologna process and the introduction of a level education system within its framework are identified:**

- comparability of diplomas, including by introducing a unified diploma supplement;
- adoption of a common approach to qualifications at the bachelor and master level;
- the creation of an integrated system for ensuring the quality of education and the organization of information support and exchange;
- increasing the mobility of students, teachers and researchers;
- transition to a tertiary system of higher education.

**2. The paper identifies the main advantages and disadvantages of the tier system of higher education.**

#### **Advantages**

1) The unification of higher education. Students can use it in other countries. With a bachelor's or master's diploma, a student can seek work in any European country. It will also not be difficult for an employer to understand what disciplines a student studied at a university, what grades he has in subjects needed to work in a particular field.

2) The ability to quickly update the content of education. The Western higher education system is aimed at greater confidence in the student, at encouraging his activity. As a result, the acquisition of knowledge is not based on lectures given to students, but on students studying the material independently.

3) The possibility of dividing the process of higher education into stages. For the first three to four years, the student is studying for a bachelor's degree, and the next two for a master's degree. This allows the student to change the direction of preparation after undergraduate. The leveled construction of the education

system allows him to change the trajectory and enter the magistracy at another faculty.

4) The introduction of a rating system of ratings, which involves the issuance of letter ratings: A, B, C, D, E. This system increases competition in groups, as the rating is easy to determine who is weak in the group, increases the degree of student involvement in the learning process, increases the quality of education.

### **disadvantages**

1) "Brain drain". The best graduates go abroad, for them it is not particularly difficult to continue their education at world famous universities. Considering the internal mobility of students (within the country), we can talk about the centralization of strong students in Moscow and St. Petersburg, which is also negative.

2) The problem of financing a magistracy. Not all students who study at budgetary places in undergraduate studies can continue their free education in a magistracy due to the limited number of budgetary places.

3) Russian employers still do not perceive the bachelor's degree as a complete higher education. In European countries, bachelor's graduates begin to study at the magistracy 2-3 years after graduation. During this time, they gain experience in the field of interest to them and are already finally determined with the choice of magistracy.

**3. The paper identifies the main benefits and costs of the transition to a tier system of higher education in the EU countries.**

### **Benefits:**

1) The unification of educational programs in these countries made it possible to concentrate resources (information, human, financial) to enhance the competitiveness of the EU education system as a whole with respect to the US education system.

2) The tiered education system made it possible at an early stage (after receiving a bachelor's degree) to cut off some students who were not interested in more advanced education and obtaining a master's degree.

3) European employers were given the opportunity to easily assess the qualifications of university graduates entering the labor market.

**Costs:**

1) Due to the unification of education, some of the students after completing the 1st level of higher education (undergraduate) began to leave to continue the education process at universities in other countries, subsequently remaining to work there.

2) Dividing the educational process into stages (undergraduate and graduate programs) has led to a decrease in the number of budget places for those wishing to continue their studies in the magistracy.

**4. The work shows that the competitiveness of Russian higher education institutions is lower than the universities of the countries of the leaders.**

To strengthen the competitiveness of Russian education in Russia, the need for more active use of the experience of European countries, the consistent implementation of the reform arising from the Bologna process, as well as the improvement of the financing system for education is revealed.

**5. The paper provides evidence that the introduction in Russia of a tertiary system of higher education in the current conditions can increase the budget costs for training one bachelor in comparison with the standard for budget financing established by the Ministry of Education or one master, or lead to a reduction in the budget places of undergraduate and graduate programs budget financing of higher education in general.**

In order to analyze the benefits or costs of introducing a tertiary system of higher education in Russia, 2 models are constructed in the work.

The first financial and economic model is built within one calendar year, while taking into account all the flows of students studying at one time in different

courses (student contingents). The objective of the constructed model is to determine the necessary parameters of the educational system, in which the state's expenses on the tertiary system of higher education would not be higher than the 5-year training system, that is, under which the transition to the tiered system would be financially beneficial for the state .

Let the state spend a thousand rubles for one bachelor, b thousand rubles for one master, and c thousand rubles for one specialist. The number of budget places in the bachelor's program for each course is A thousand places (we are abstracting from the dropout of students in the learning process under this model), in the master's program for each course - B thousand places, in the specialty - C thousand places. Then the budget costs of training student contingents in undergraduate, graduate or specialty courses for 1 year are defined as:

$$CF u = 4 * a * A \quad (1)$$

$$CF m = 2 * b * B \quad (2)$$

$$CF s = 5 * c * C \quad (3)$$

In Russia, the budget costs of training 1 bachelor and 1 specialist can be considered the same. So  $a = c$ . In the framework of the assumptions made, it was calculated when it is economically feasible to switch to the tertiary system of higher education “undergraduate - graduate” (in this case, undergraduate studies last 4 years, and 2 in magistracy) instead of five years of study.

Let  $b = k * a$ , where  $k > 1$ , since budget expenditures per 1 undergraduate cannot be less than budget expenditures by 1 bachelor. We will determine under what conditions the cost of training budget students in undergraduate and graduate programs would not exceed the cost of training budget students studying in the specialty:

$$4a * A + 2k * a * B \leq 5a * C \quad (4)$$

Transforming (4), got:

$$a * (4A + 2k * B) \leq 5a * C \quad (5)$$

or

$$(4A + 2k * B) \leq 5C \quad (6)$$

$$B \leq (5C - 4A) / 2k \quad (7)$$

Thus, in order to ensure that the cost of training budget students in undergraduate and graduate programs does not exceed the cost of training budget students, the number of graduate students should not exceed  $(5C - 4A) / 2k$ .

Under the assumptions that the budgetary admission to undergraduate students in the number of students is the same as in the specialty, i.e.  $C = A$ , the breakeven point of the transition to a level education system was defined as:

$$B = (5C - 4C) / 2k \quad (8)$$

$$B = C / 2k \quad (9)$$

Since  $k > 1$ , we obtain:

$$B < C / 2 \quad (10)$$

Substituting the values of the reception check figures (i.e., budget reception) in Russia for 2017 (according to the Russian Ministry of Education and Science) into the inequality (10), obtained that the inequality is not satisfied.

Thus, with a full transition to a tertiary system of higher education (i.e., in the absence of a specialty), the budget expenditures for educating budget students in undergraduate and graduate programs in 2017 would exceed the budget expenditures for five-year training of specialists, and the transition would be impractical with financial economic point of view.

Further, assuming that  $B = A / 2$ , that is, only half of the bachelors studying on a budgetary basis will be able to continue studying on a budgetary basis in a magistracy, and the admission to the bachelor's program in terms of the number of students is the same as the previous admission to the specialty, i.e.  $C = A$ , from the inequality 7) got:

$$A / 2 \leq (5A - 4A) / 2k \quad (11)$$

$$Ak \leq A \quad (12)$$

Since  $A > 0$ :

$$k \leq 1 \quad (13)$$

The resulting inequality showed that in order for the cost of training budget students in undergraduate and graduate programs not to exceed the cost of training budget students in a specialty, given the parameters for admitting budget students in 2017 and with a complete transition to a tiered system of higher education, expenses per 1 graduate students should be at least equal to the same costs for 1 budget undergraduate student. Otherwise, the indicated expenses for the tertiary system of higher education will exceed the budget expenses for the five-year training of students.

Calculations within the framework of the first constructed model under any assumptions showed that, given the current normative indicators (2017), a complete transition to a tertiary system of higher education from a financial and economic point of view would be inappropriate.

In the framework of the second model, an additional parameter, time, was taken into account. The constructed model made it possible to conduct a comparative analysis of the net present value of training (Net Present Value) of 2 training programs - level and specialty, that is, the amount discounted values flow of expenses budgetary funds reduced to one moment in time (to the beginning of studies at a higher educational institution). Within the framework of this model, the training program is considered the full cycle of training from admission of students for 1 course to graduation (in the case of a specialty) or to graduation of a master (in the case of a level education system).

The total cost of financially providing the government with budgetary places in undergraduate, graduate or specialty studies was calculated using the following formula:

$$\begin{aligned}
 NPV &= CF_1 + \frac{CF_2}{(1+i)^1} + \frac{CF_3}{(1+i)^2} + \dots + \frac{CF_N}{(1+i)^{N-1}} = \\
 &= CF_1 + \sum_{t=2}^N \frac{CF_t}{(1+i)^{t-1}} = \sum_{t=1}^N \frac{CF_t}{(1+i)^{t-1}} \quad (14)
 \end{aligned}$$

where is the nominal amount of expenses for budgetary students after  $t$  years ( $t = 0, 1, \dots, N$ ),  $i$  is the discount rate,  $N$  is the total number of years of

study for students (for undergraduate  $N = 4$ , for specialty  $N = 5$ , for magistracy  $N = 2$ ).  $CF_t$

Provided that for one bachelor the state spends a thousand rubles a year, for one master -  $b$  thousand rubles, for a specialist - thousand rubles, and the number of budget places in bachelor's, master's and specialty is respectively  $A$ ,  $B$  and  $C$  thousand places, nominal expenses for training students of the corresponding level of higher education are defined as:

$$CF_t u = a * A \quad (15)$$

$$CF_t m = b * B \quad (16)$$

$$CF_t s = c * C \quad (17)$$

According to the Russian Ministry of Education and Science, in 2017, 575.8 thousand were accepted to budget places in higher education institutions, of which 205.8 thousand budget students were taken to the magistracy.

Within the framework of the model, an assumption has been made that the number of budget places for undergraduate and graduate programs is constant in time and equal to the level of 2017. As a result, the model made it possible to compare the implementation of two higher education programs - specialty and level system (undergraduate and graduate programs), therefore, when considering the level system of higher education, it was believed that the specialty as an educational program ceased to exist (that is, the transition to a level system of education was completed completely) and, conversely, when considering the training option in the specialty, it was suggested that the level system has not yet been introduced, i.e. all students enrolled in the university study for 5 years.

To determine the values of variable costs per student, we used the standard costs established by the Ministry of Education and Science of the Russian Federation for cost groups of specialties and training areas for public services for the implementation of basic professional educational programs of higher education, approved by the Ministry of Education and Science of the Russian Federation on August 6, 2015 No. AP -63 / 18vn.

The calculations were carried out in accordance with the three groups “The total value and size of the components of the basic standard costs for public services, for the cost groups of specialties and training directions” (Table 1)

*Table 1. The total value and value of the components of the basic regulatory costs for public services, by cost groups of specialties and areas of training*

Program	undergraduate, specialty			magistracy		
Groups	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
Total	68.16	78.16	120.16	75.47	85.47	127.47

*Source: Ministry of Education of the Russian Federation, No. AP-63 / 18vn of 08/06/2015*

After the calculations, the financial result was calculated from the transition to a level education system.

At the normative costs of any of the groups “The total value and the amount of the components of the basic normative costs for public services, for the cost groups of specialties and areas of training” the financial result from the transition to the tertiary system of higher education turned out to be negative and amounted to -3.339 billion rubles. for the 1st group (-3.1% of the federal budget expenditures on training specialists adopted in 2017), -3.523 billion rubles. for the 2 groups (which is -2.8% of the federal budget expenditures on training specialists adopted in 2017) and -4.295 billion rubles. for 3 groups (which is -2.3% of the total federal budget expenses for training specialists adopted in 2017).

Calculations carried out within the framework of the constructed model also showed that a complete transition to a tertiary system of higher education with current standard costs per student, regardless of the group, as well as the number of budget places in higher education institutions, would be financially inappropriate.

Further, the model was used to search for target parameters in which the net present value of the tertiary system of higher education with a complete transition would be at least equal to the net present value of students training in the five-year education system. That is, the following equality holds:

$$NPV_{\text{спец}} = NPV_{\text{маг}} + NPV_{\text{бак}} \quad (18)$$

### 1 option

The first option to achieve the above equality was achieved by reducing the number of budget places in the magistracy.

In order to avoid costs in the process of a complete transition to a tiered model of higher education, it is necessary to reduce the number of budget places in the magistracy: to 174 thousand for 1 group of standard costs, this is 16% less than the number of places determined by the Ministry of Education and Science of Russia, to 176 thousand for 2 groups standard costs, this is 14% less than the number of places determined by the Ministry of Education and Science of Russia, up to 182 thousand for the 3rd group of standard costs, this is 12% less than the number of places determined by the Ministry of Education and Science of Russia.

### 2 option

The second option to achieve equality was achieved by reducing the number of budget places in undergraduate and graduate programs at the same time.

The result of the calculations showed that in order to exclude costs in the full transition to a tertiary system of higher education for the 1st group of standard costs, it is necessary to reduce the number of budget places in undergraduate studies by 2.4% and in magistracy by 5.5%.

In order to exclude costs in the full transition to a tertiary system of higher education for the 2nd group of standard costs, it is necessary to reduce the number of budget places in undergraduate studies by 2.2% and in magistracy by 5.2%.

In order to exclude costs in the complete transition to a tertiary system of higher education for the 3rd group of standard costs, it is necessary to reduce the number of budget places in the bachelor's program by 1.7% and in the magistracy by 4.2%.

### 3 option

The third option to achieve equality was achieved by reducing the amount of funding per 1 bachelor and 1 master.

The calculation results showed that in order to avoid costs when the full transition to the tertiary system of higher education for group 1, budget financing of one bachelor needs to be reduced by 1.6 thousand rubles (2.4%), and 4.2 thousand rubles (5,5%) - for one master.

The calculation results showed that in order to avoid costs when the full transition to the tertiary system of higher education for group 2, budget financing of one bachelor needs to be reduced by 1.7 thousand rubles (2.2%), and 4.4 thousand rubles (5,2%) - for one master.

The calculation results showed that in order to avoid costs when the full transition to the tertiary system of higher education for group 3, budget financing of one bachelor needs to be reduced by 2.1 thousand rubles (1.7%), and 5.4 thousand rubles (4,2%) - for one master.

The calculations show that in order to exclude an increase in costs with a complete transition to a tertiary system of higher education, it is necessary to make adjustments to the normative parameters of the number of budget places for undergraduate and / or graduate programs or costs per student.

### **The theoretical value of the study**

The work contributes to an understanding of key trends in the development of modern higher education systems. The main goals of introducing a tiered system of higher education are formulated. The main advantages and disadvantages of the level system of higher education are revealed. The analysis of the transition to a tiered system of higher education in the EU countries is carried out. In addition, the work assessed the competitiveness of the Russian education system in terms of the possibilities of its entry into the European space of higher education. The theoretical provisions of the thesis can be used when reading training courses on

issues devoted to the development of a tiered system of higher education, its main costs and benefits for students and universities, and in addition,

### **The practical significance of the study**

In the work, a model was developed and a variant calculation of the financial benefits and costs of the transition to a tiered higher education system was carried out. The calculations show that in order to exclude an increase in costs in the full transition to a tertiary system of higher education, it is necessary to make adjustments to the normative parameters of the number of budget places for undergraduate and / or graduate programs or costs per student. Thus, the efficiency of spending budget funds can be increased.

The conclusions made as a result of the dissertation research, formulated as a result of developing a model and carrying out calculations, suggestions can be used to improve the organizational and economic mechanisms for managing the higher education system of Russia and to conduct similar studies by scientists, teachers, and graduate students.

**Reliability of the results of the dissertation research** it is confirmed by a critical analysis of a wide range of literature on economics and higher education management, a justified choice of the methodology and methods of empirical research, compliance with the procedure of statistical analysis of quantitative data, as well as approbation of the research results in practical activities.

Thesis by N. Bekeshev written in accordance with the requirements for dissertation works. The objectivity of the research methods used, the reliability of its theoretical and methodological base, which includes the fundamental works of domestic and foreign scientists in the field of higher education, as well as the practical testing of these results confirms the reliability and validity of the conclusions, provisions and recommendations presented in the dissertation.

The reliability of the experimental data is ensured by the use of modern research tools and techniques verified by the data of the Federal State Statistics Service and departmental reporting.

The results obtained in the work are characterized by thoroughness and have significant scientific value, since they contain the theoretical correct methodological developments necessary to solve issues of increasing the efficiency of spending budget funds in higher education.

The scientific approaches proposed by the author, which are necessary for the further development of the problems investigated in the work, contribute to the general theoretical base.

### **Testing the results of the study**

The main theoretical and practical provisions presented in the dissertation research were reported by the author at the following events:

1. The annual scientific and pedagogical conference at the Moscow State University of Railways of Emperor Nicholas II "Professional education of railway managers and specialists" (Moscow, Russia, 2015). Report: Actual problems of education.
2. The annual scientific and pedagogical conference at the Moscow State University of Railways of Emperor Nicholas II "Professional education of railway managers and specialists" (Moscow, Russia, 2016). Report: Financing Higher Education.
3. 6th International Scientific and Practical Conference "Modern Approaches to the Transformation of the Concepts of State Regulation and Management in Socio-Economic Systems" (Kursk, Russia, 2017). Report: Transition to a tiered education system in Russia;
4. 4th International Scientific and Practical Conference "Actual Issues of Modern Education" (Saratov, Russia, 2017). Report: Analysis of the benefits of moving to a tiered education system.

**On the topic of dissertation research published** The following scientific articles in leading peer-reviewed scientific journals recommended by the Higher Attestation Commission for publishing scientific results of dissertations:

1. Bekeshev N.O. Analysis of the benefits of the transition to the Bologna system of education // *Modern Science: Actual Problems of Theory and Practice*, Series “Economics and Law”. 2016. No. 5. P. 89-95.
2. Bekeshev N.O. Benefits from the transition to a two-level system of education // *Successes in modern science and education*. 2016. No. 12. P. 37-39.
3. Bekeshev N.O. The development of the Russian system of higher education // *Economic development*. 2019.No 4.P. 48-54.

**The structure of the work is due** the purpose and objectives of the study, the need for a logical and consistent presentation of the material. The dissertation consists of introduction, three chapters, conclusion and bibliography.

The introduction gives a brief description of the work.

The first chapter of the study shows the process of forming a single European space of higher education, reveals its main features. The main goals were considered, the achievement of which was ensured by the introduction of a tiered system of higher education.

The second chapter outlines the main advantages and disadvantages of the tertiary system of higher education, analyzes the experience of switching to a tertiary system of higher education in a number of EU countries (France, Finland, Germany, Spain). The problems they encountered and the methods by which these problems were resolved were analyzed.

The third chapter defines the goals and objectives of the transition to a tertiary system of higher education by Russian universities, assesses the competitiveness of Russian higher education. Also, in the third chapter, a model is constructed and calculations of the benefits and costs of switching to a tiered higher education system are carried out. Much attention in this chapter is paid to ensuring the efficient use of budgetary funds in the transition to a tier system of higher education.

The conclusion contains the conclusions of the dissertation research, in particular, the conclusion about the advisability of switching to a tiered system for the Russian system of higher education.