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DEVELOPMENT OF A METHOD FOR SELECTED FINANCING OF SCIENTIFIC AND EDUCATIONAL INSTITUTIONS THROUGH TARGETED CAPITAL INVESTMENT IN THE DEVELOPMENT OF INNOVATIVE TECHNOLOGIES

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The problem of supporting scientific and educational institutions is considered. A method of selective financing of scientific and educational institutions that create innovative technologies taking into account their investment in innovative developments is proposed. On the basis of statistical data on the indicators for assessing the activities of scientific and educational institutions and the indicator of the innovative potential of a scientific and educational institution from the production of innovations (PNn), their rating was calculated. The essence of PNn is to compare the indicators of the volumes of income of the special fund Dsfn and the volume of expenditures of the scientific and educational institution Vn.

In order to stimulate scientific and educational institutions to create innovative technologies, it was proposed to introduce targeted investments. The problem of quantifying the rate of premium on the basis of an integrated approach in terms of indicators of innovative potential from the production of innovations and the rating of a scientific and educational institution for 2 institutions (namely: K and H) has been solved. Institution K will receive a large increase, and institution N will receive a smaller increase, the value of which will be 56.23 % and 43.76 %, respectively. The results showed the independence of the indicator of the innovative potential of a scientific and educational institution from the production of innovations from the previous rating of a scientific and educational institution, or vice versa. The proposed methodology has been tested by an experimental method, targeted investments have been determined based on an integrated approach in terms of indicators of innovative potential and the rating of a scientific and educational institution.

This study is of practical interest to government authorities and grantors when allocating funds according to the vector of selective financing of scientific and educational institutions through targeted investments in the development of innovative technologies, and theoretically – to researchers dealing with issues of financial security, protectionism and public administration

Keywords: scientific and educational institution, allowance, innovative technologies, selective financing, targeted investment, rating.

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1. Introduction

A modern world-class educational organization provides for a real and tangible stay of the corresponding research, production and educational institution in the global space. Therefore, successful internationalization is a necessary prerequisite for joining the elite club of leaders of modern education and science. Until recently, the level of internation-

alization was measured by the percentage of foreign faculty (teachers) and students. Now a system of international university rankings is emerging and is actively being formed, which simultaneously play the role of both a judge and a mediator. Indeed, the instrumental mission of the ratings is to compare the educational and research potential of educational institutions and thereby determine the ways of their reform and further development. And, more importantly, in the process of this comparison, the ratings state the content field of the "ideal type" of a modern educational institution as an educational, research and innovation center of the knowledge society [1]. The issue of internationalization is also being actualized by an innovative vector. According to [2], the elimination of regional imbalances in the state is possible only with the provision of innovative development. All sectors of the economy need new ideas and the introduction of the latest technologies, where the bearers of ideas for the introduction of the latter and the development of startups are scientific and educational institutions [3, 4]. In this case, startups or innovative technological solutions solve a number of problematic issues in all sectors of the economy. However, to implement such ideas, financial resources are needed.

Some researchers see a solution to the problem of financing only through government intervention, focusing on the need for significant capital investments [5]. The COVID crisis has revealed a huge number of scientific and educational institutions capable of creating technology and innovation. All countries, the UN, donors, founder are ready to finance such institutions and subsidize them through incentive bonuses. Each interested party to inject investments (finance, support, subsidize) to educational institutions [6]. In support of what has been said [7, 8], this raises some scientific questions: how and to whom to allocate financial resources to ensure the implementation of startup projects by scientific and educational institutions? State administration of investment processes in scientific and educational institutions is aimed at obtaining, as a result, new solutions and start-up projects for the country's enterprises. Having the potential for implementation and aiming at increasing competitiveness by introducing high-tech high-quality products is a need for the XXI century. In turn, the latest methods should indicate the need for funding and provide additional motivation for scientific and educational institutions through targeted investment in the development of innovative technologies. Summing up, on the one hand, there is a need to ensure innovative development, on the other, scientific and educational institutions, which, while ensuring the vector of innovation, need to provide new forms of financing [9], and the latest author's methods to provide additional motivations for financing are the need for scientific research of our time.

2. Literature review and problem statement

Providing an innovative vector of development is a driving factor for industry productivity and its competitiveness [10]. In the era of turbulence, only the development of innovations is the key to the growth of the state economy [11]. Innovation is a tool for transforming not only the past, but also the present to a higher level. Innovative capital investments in the broadest sense are long-term and, very often, one-off infusions to stimulate generation, support development and ensure the implementation of innovations with a view to their practical application. How to efficiently generate, manage and finance innovations is a question that does not lose its relevance. It is also extremely important when it comes to education and science, because it is investment in them to ensure innovative development that is a powerful engine for the growth of all mankind [12]. It is here that the question of the key role of scientific and educational institutions in the development of the economy of both individual regions and the state as a whole is actualized [13]. The University of Oxford, based on its research, creates innovative products every 2 months [14]. The creation of such new products provides finance for university research, contributes to local economic development and the creation of many new jobs in the region. The benefits are clear to everyone involved. However, such a financing system is acceptable in the context of an established process in the chain "educational institution – state – stakeholders". Now, talking about nationwide financing of the innovative vector of scientific and educational institutions is hardly acceptable in the conditions of turbulence. In the context of an integrated economy in technological innovation [15], selective and fair financing is within the power of every state. Therefore, there is a need to develop a comprehensive methodology for selective financing of scientific and educational institutions through targeted investment in the development of innovative technologies.

Modern methods do not give a specific answer to the question of how to conduct rating from the standpoint of the innovation component and determine the research and educational institutions for funding.

In a study [16], the authors conducted a sample analysis of modern funding methods. Let's emphasize the conclusions of the study on the fact that financing of large projects (including innovative ones) should be carried out not only by the state, but also by the regions. However, this study does not say anything about what underlies selective funding (metrics, ratings, or otherwise) and how to select it.

Partially, the answer to this question is provided in the study [17], which proposes a rating methodology based on the indicator of investment attractiveness, which is determined by the key. The technique has practical value due to an integrated approach to assessing investment attractiveness. On the basis of the rating carried out by the authors of the study [17], it was proposed to finance. This technique is theoretical in nature and can be adapted to assess the investment attractiveness of scientific and educational institutions. However, it does not offer selective financing of the objects under study by means of targeted capital investments, but it does not solve the problem of quantitatively assessing the premium rate.

Research [18] is devoted to the development of a methodology, which proposes the structure and mechanisms of financial flows. However, the research is characterized by a specificity – an orientation towards financing in the housing stock. At the same time, the influence of such a component as innovativeness and, accordingly, its influence on the decision on what to finance was also completely ignored.

All of the above studies are unanimous that funding should be based on preliminary estimates. Researchers have also advocated rating-based selective funding [19]. They proved the need for an integrated approach to such an assessment. The agreement with such a vector of financing innovativeness can be traced in the study [20], which deals with a comprehensive approach to financing the innovative orientation of the state of Poland. It was also emphasized

about the need to support a ramified vector of support for innovation, instead of a narrowly focused one. This approach of complexity is inherent and is of practical interest from the countries of both Europe and the whole world.

The above methods are based on an integral indicator (as a complex one), which certifies the quality of the activity of the object under study. Such an integral indicator when assessing scientific and educational institutions is the indicator of their rating.

The annual rating of universities "Top 200 Ukraine" presented by the Center for International Projects "Euro Education" and the international group of experts IREG Observatory on Academic Ranking and Excellence [21]. The compilers of the rating take into account the comprehensiveness and versatility of the universities' activities as much as possible. The rating is calculated on ten indicators: six indicators are international, four are national. It should also be noted that the weights of international indicators of universities' performance (results in world rankings, participation of universities in the Erasmus+ programs of the European Union) are set higher than the weights of national indicators. However, it should be noted that such a rating does not say anything about innovation and scientific investments.

The most famous in the circle of educational institutions is the world ranking of universities QS [22]. It uses an extremely consistent methodological framework, compiled using a methodology based on six simple indicators [23]:

1. Academic reputation.
2. The reputation of the employer.
3. The ratio of teachers/students.
4. Quotes on the faculty.
5. International coefficient of the faculty.
6. International student ratio. Each of these six indicators has its own weight. However, it is also worth noting the lack of an indicator of innovative scientific investment.

Academic Ranking of World Universities (ARWU) [24] is recognized as the predecessor of the world ranking of universities and the most reliable. ARWU represents the top 1000 research universities annually based on transparent methodology and objective extraneous data. It is more complex and complex in terms of rating, since it is an integrated model that is built on the basis of a large number of indicators [25], which are grouped into 4 groups. However, among such a variety of indicators, there is no innovation and scientific component.

Noteworthy is another method of world ranking of educational institutions - Global Ranking of Academic Subjects (GRAS) [26]. GRAS rankings use a number of objective academic indicators and third-party data to measure the performance of world universities in relevant subjects [27]. However, such a rating is interesting from the standpoint of assessing the quality of education, and not from the standpoint of the innovative vector of the activity of a scientific and educational institution.

However, what kind of indicators should be used when determining the priority institutions in an investment project to receive financing? The performed analysis gives grounds to assert that the problem of supporting scientific and educational institutions, taking into account the innovative component, has not been considered by other researchers. Also, the absence of a unified methodological approach in this direction was recorded, which indicates the need for appropriate research. This stimulates the need to develop a comprehensive methodology for selective financing of scientific and educational institutions through targeted investment in the development of innovative technologies.

3. The aim and objectives of research

The aim of research is to develop a methodology for selective financing of scientific and educational institutions through targeted investment in the development of innovative technologies. This will make it possible to financially support innovation-oriented educational institutions from the state on the path of innovative development of the latter.

To achieve this aim, the following objectives were set:

– introduction of the concept of targeted investment in order to stimulate scientific and educational institutions to create innovative technologies;

– determination of targeted investment based on an integrated approach in terms of indicators of innovative potential and rating of a scientific and educational institution;

– formulation and solution of the problem of quantifying the rate of targeted investment.

4. Materials and methods of research

The object of research is scientific and educational institutions, and the subject is the existing methods of financing them. In order to solve the problem of selective financing of scientific and educational institutions through targeted investment in the development of innovative technologies, it is proposed to use modern computers with the use of mathematical models [28].

The whole complex of statistical information should contain a small number of indicators that are informative about the state of the educational institution [1].

To determine additional funding for higher education institutions, two critical indicators will be needed, namely:

1. Indicator of the rating of a scientific and educational institution.

2. Indicator of the innovative potential of a scientific and educational institution from the production of innovations.

The first indicator, namely the rating indicator, is based on the rating indicator of scientific and educational institutions in the "Top 200 Ukraine" – this is an annual open access rating. The methodology for calculating this indicator is presented in [21].

The compilers of the rating take into account the indicators of the comprehensive activity and versatility of universities as much as possible. The rating is calculated by ten indicators: six international and four local (Table 1) [21].

The rating of Ukrainian universities was carried out in accordance with the methodology presented in [21], namely:

External independent organizations determined the ratings of N scientific and educational institutions according to the indicator (nomination) K (K=1, ..., 10). If the rating of some institution was not carried out according to some indicator, then it is assigned a conditional place in the rating table (N+1).

The next step was to calculate the weighted average of the Institutions Index for the group of nominations.

All values are presented in conventional units.

Table 1

Indicators for assessing the activities of scientific and educational institutions 2019

№	Indicator	Indicator weight
1	QS World University Rankings	0.135
2	Scopus	0.135
3	Webometrics	0.135
4	Participation in the Erasmus+programs of the European Union	0.135
5	Google Scholar Citations	0.135
6	UniRank	0.10
7	Results of All-Ukrainian student olympiads and competitions of scientific works (by the amount of points)	0.065
8	Scholarships of the President of Ukraine and the Cabinet of Ministers of Ukraine for young scientists	0.065
9	Scholarships of the President of Ukraine and the Cabinet of Ministers of Ukraine for young scientists	0.065
10	The weighted average value for th HEI ratings by the number of applications submitted by applicants and the average competitive score	0.03

Next, the calculation of the second component, namely the indicator of the innovative potential of a scientific and educational institution from the production of innovations, was made based on the classification of educational institutions by the level of efficiency and volume of property, to assess the implementation of innovative potential [29].

The classification was carried out on the basis of the methodology [29], where it is indicated that for each scientific and educational institution n, the innovative potential of the scientific and educational institution from the production of innovations PN_n is determined on the basis of indicators of the volume of income of the special fund Dsf_n and the volume of expenses of the budgetary institution V_n. Formula for calculation:

$$PN_n=Dsf_n/V_n. \quad (1)$$

According to the proposed methodology, research and educational institutions are further grouped into categories according to the effectiveness of financing, property, and on the basis of the data obtained, clustering is carried out [29].

The analysis was based on statistical data of scientific and educational institutions of Ukraine. Taking into account confidential information for scientific and educational institutions, 20 educational institutions of Ukraine were selected and provided with symbols, the parameters of which are presented in Table 2.

In order to abstract from the specifics to simplify judgments, the names of scientific and educational institutions (adopted by the letters A-T) and the value of their fixed assets and budgetary allocations are taken conditionally.

A method is proposed for selective financing of scientific and educational institutions through targeted investment in the development of innovative technologies, which is based on the obtained indicators of the rating of scientific and educational institutions and the indicator of the innovative potential of a scientific and educational institution from the production of innovations.

Table 2

Key indicators of twenty selected research and educational institutions

The conditional name of the scientific and educational institution	Fixed assets, million c.u.	Budgetary appropriations, million c.u.	Indicator of the innovative potential of a scientific and educational institution from the production of innovations
A	47.910	57.598	0.26
B	37.884	48.371	0.36
C	28.390	80.595	0.02
D	24.800	10.261	0.22
E	3.880	47.762	0.22
F	24.000	16.537	0.23
G	1.174	29.602	0.33
H	10.041	28.127	0.68
I	26.338	22.140	0.06
J	2.164	3.110	0
K	2.007	42.504	0.83
L	7.780	5.729	0
M	4.534	1.396	0.24
N	3.700	13.590	0.42
O	42.860	8.661	0.02
P	2.944	4.329	0.37
Q	41.805	19.368	0
R	1.859	9.667	0.05
S	6.052	1.852	0.11
T	8.000	1.539	0.02

5. The results of the development of a methodology for selective financing of scientific and educational institutions through targeted investment in the development of innovative technologies

5. 1. Proposals on the introduction of the concept of targeted investment in order to stimulate research and educational institutions to create innovative technologies

In order to stimulate scientific and educational institutions to create innovative technologies, it is proposed to introduce targeted investment.

Targeted investment, according to the author's definition, is a certain part of the financial resources that is sent to the recipient in order to stimulate research and educational institutions to create innovative technologies based on an integrated approach in terms of indicators of innovative potential and rating of the latter.

Let's put forward a hypothesis that the program for the development of scientific and educational institutions consists of n number of scientific and educational institutions in need of targeted investment. The index of the scientific and educational institution that participates in the financing processes will be indicated $i=\overline{1,n}$. . Let the return on the investment of the scientific and educational institution per unit of financial resources spent be a_i (a_i can't be <1).

A formalized description of the model of effective cooperation between a scientific and educational institution and an investor (state, financial donor, etc.) is proposed, which can be represented as follows:

$$Z_i(S_i,x_i)=\varphi_i(S_i)-y_i=\varphi_i(S_i)-(S_i-x_i),\ i=\overline{1,n},; \quad (2)$$

where S_i – total amount of funding for the creation of innovative technologies;

φ_i (S_i) – income of the i-th scientific and educational institution from the implementation of innovative technologies;

x_i – financial resources of a scientific and educational institution for the creation of innovative technologies - borrowed funds;

y_i – own financial resources of a scientific and educational institution for the creation of innovative technologies;

z_i — invested investments (government, financial donor, etc.), where the volume of targeted financing is taken into account;

Z_i – net profit of the institutions within the institution's own funds (as part of y_i).

Under the conditions

$$\varphi_i\,(S_i)> x_i+y_i+z_{i\ a6o}\,\varphi_i\,(S_i)/(\,x_i+\,y_i+z_{i\,)}>1,$$

the model of cooperation between scientific and educational institutions and an investor (state, financial donor, etc.) is considered effective. The use of targeted investment optimizes the financing process and improves efficiency.

Also, for calculations according to the proposed author's methodology, it is necessary a synthetic (artificial) indicator q_i, which is calculated according to the formula (3):

$$(1-a_i)/l_i=q_i, \quad (3)$$

where a_i – efficiency, which is assessed by the return from the scientific and educational institution per unit of spent financial resources;

l_i – priority.

Substituting in the formula (3) instead of the efficiency indicator the indicator of the innovative potential of the scientific and educational institution from the production of innovations – r, and instead of the priority indicator the rating indicator of the scientific and educational institution – R, the calculation of the artificial (synthetic) indicator q_i was carried out according to the formula (4):

$$(1-r_i)/R_i=q_i, \quad (4)$$

where r_i – indicator of the innovative potential from the production of innovations of the i-th scientific and educational institution, c. u.;

R_i – rating indicator of the i-th scientific and educational institution, conventional units.

To determine the number of scientific and educational institutions that can qualify for a premium, their maximum value n is determined that would satisfy the following inequality:

$$q_i<Q_n/(n-1), \quad (5)$$

where Q_n – sum of synthetic indicators q_i, corresponding to scientific and educational institutions n.

When condition (5) is not met, the calculation ends and the following scientific and educational institutions are excluded from the list of candidates for the supplement.

5. 2. Determination of targeted investment based on an integrated approach in terms of indicators of innovative potential and rating of a scientific and educational institution

Based on statistical data on the indicators for assessing the activities of scientific and educational institutions, presented in Table 2, the rating of scientific and educational institutions was calculated. Taking into account confidential information for scientific and educational institutions, the provision of symbols, the parameters of which are presented in Table 3.

Table 3

Rating table (calculated by the author based on [21])

Rating of a scientific and educational institution	The conditional name of the scientific and educational institution	The sum of the indices of a scientific and educational institution, R
1	A	0.9625
2	B	0.9619
3	C	0.9211
4	D	0.9200
5	E	0.8554
6	F	0.8486
7	G	0.8443
8	H	0.8360
9	I	0.8293
10	J	0.8282
11	K	0.8216
12	L	0.8078
13	M	0.8052
14	N	0.7986
15	O	0.7925
16	P	0.7874
17	Q	0.7760
18	R	0.7750
19	S	0.7678
20	T	0.7675

Further, the indicator of the innovative potential of scientific and educational institutions from the production of innovations was calculated on the basis of their classification according to (1).

Table 4 shows the calculated information.

The calculations presented in Table 4, indicate the following: the indicator of the innovative potential of a scientific and educational institution from the production of innovations does not depend on the previous rating of scientific and educational institutions, or vice versa. This is the basis for determining targeted investment based on an integrated approach.

Table 4

Indicator of the innovative potential of a scientific and educational institution from the production of innovations

Rating of a scientific and educational institution	The conditional name of the scientific and educational institution	Indicator of the innovative potential of a scientific and educational institution from the production of innovations, r
1	A	0.26
2	B	0.36
3	C	0.02
4	D	0.22
5	E	0.22
6	F	0.23
7	G	0.33
8	H	0.68
9	I	0.06
10	J	0
11	K	0.83
12	L	0
13	M	0.24
14	N	0.42
15	O	0.02
16	P	0.37
17	Q	0
18	R	0.05
19	S	0.11
20	T	0.02

Calculated and formed by the author based on the data [21]

5. 3. Formulation and solution of the problem of quantifying the rate of targeted investment

To determine the rate of targeted investment, the calculation procedure of which is presented by formulas (2)–(5), it is necessary to calculate the synthetic indicator q_i. The initial data for the calculation are presented in Tables 3, 4.

Calculation of q_i is carried out according to the formula (4). When determining the share of additional funding for a scientific and educational institution, according to the proposed methodology, it is necessary to sort the latter from small to large by the value q_i. The calculation results are presented in ascending order in Table 5.

The entire algorithm of the procedure for determining the number of scientific and educational institutions – candidates for receiving a premium can be represented by inequality (5).

Let's check the fulfillment of the given condition for the set of obtained values of qi. The check must be performed as long as condition (5) is satisfied. If the condition is not met, the calculations should be stopped, and the following scientific and educational institutions are excluded from the list of applicants for the bonus.

The calculation results are presented in Table 6.

Since condition (5) is not satisfied for n=3, the calculations are completed. Scientific and educational institutions for obtaining targeted investment have been identified. These are the K and N institutions with the values of the previous rating of 11th and 8th places, respectively. This proves the significant influence of the innovation component on the definition of targeted investment.

Table 5

q_i value in ascending order

Rating of a scientific and educational institution	The conditional name of the scientific and educational institution	The sum of the indices of a scientific and educational institution, R	Indicator of the innovative potential of a scientific and educational institution from the production of innovations, r	Value q_i
11	K	0.8216	0.83	0.2069
8	H	0.836	0.68	0.3828
2	B	0.9619	0.36	0.6653
14	N	0.7986	0.42	0.7263
1	A	0.9625	0.26	0.7688
7	G	0.8443	0.33	0.7936
16	P	0.7874	0.37	0.8001
4	D	0.92	0.22	0.8478
6	F	0.8486	0.23	0.9074
5	E	0.8554	0.22	0.9119
13	M	0.8052	0.24	0.9439
3	C	0.9211	0.02	1.0639
9	I	0.8293	0.06	1.1335
19	S	0.7678	0.11	1.1592
10	J	0.8282	0	1.2074
18	R	0.775	0.05	1.2258
15	O	0.7925	0.02	1.2366
12	L	0.8078	0	1.2379
20	T	0.7675	0.02	1.2769
17	Q	0.776	0	1.2887

Table 6

Checking the fulfillment of condition (5)

Number of scientific and educational institutions	q_i	Σq_i corresponding th n, Q_n	$Q_n/(n-1)$	Checking the fulfillment of condition (5)
2	0.3828	0.5897	0.5897	$0.5897>q_2$
3	0.6653	1.2550	0.6275	$0.6275<q_3$

The following are the calculated values of the shares of targeted investment, with allocated funds equal to 1, in proportion to the obtained $Q_n/(n-1)$ and the results are presented in Table 7.

Table 7

Surcharge of a scientific and educational institution with allocated funds (S=1)

Scientific and educational institutions	Targeted investment at *S=1*
K	0.5623
H	0.4376

As calculations have shown, 2 scientific and educational institutions (namely: K and H) will receive targeted investment. Institution K will receive a large increase, and institution H will receive a smaller increase, the value of which will be 56.23 % and 43.76 %, respectively, of 100 % S. It is also worth noting that the final rating of educational institutions

differs significantly from the initial rating [21], since its adjusted for the indicator of the potential of a scientific and educational institution from the production of innovations.

6. Discussion of the results of determining targeted investment based on an integrated approach in terms of indicators of innovative potential from the production of innovations and the rating of a scientific and educational institution

A large number of methods for financing innovative vectors of scientific and educational institutions have been proposed by modern researchers [16–27]. All of them are integral and complex: some contain more indicators, others – less. In contrast to them, the proposed author's definie tion of targeted investment based on an integrated approach in terms of indicators of innovative potential and rating of a scientific and educational institution, which is also complex, contains the most important component – targeted investment. The proposed methodology makes it possible to determine the best scientific and educational institutions on the basis of an integrated approach.

Unlike existing methods, the author's one is aimed at supporting the innovative development of both the region and the state as a whole. It is determined that scientific and educational institutions that effectively use the innovative and scientific potential receive targeted investment. The presence of a mathematical justification for targeted investment is also an excellent and newest characteristic of the proposed methodology from a number of existing ones.

Targeted investment, according to the author's definition, is a certain part of the financial resources that is sent to the recipient in order to stimulate research and educational institutions to create innovative technologies based on an integrated approach in terms of indicators of innovative potential and rating of the latter. In order to stimulate scientific and educational institutions to create innovative technologies, it was proposed to introduce targeted investment, the entire calculation procedure of which is represented by formulas (2)–(5), and the calculation was made.

The problem of quantifying the rate of targeted investment based on an integrated approach in terms of indicators of innovative potential from the production of innovations and the rating of a scientific and educational institution for 2 institutions was solved, the results of which are presented in Table 7.

In general, the results of the study showed the independence of the indicator of the innovative potential of a scientific and educational institution from the production of innovations from the previous rating of a scientific and educational institution, or vice versa (Table 6).

The main limitation of the study is that the methodology does not take into account the scale of the educational institution with the use of correction factors.

This study is of practical interest to government authorities and grantors in the distribution of funds by the vector of support for scientific and educational institutions, and theoretically – to researchers dealing with issues of financial security, protectionism and public administration.

Further research should be carried out taking into account the correction factors for scaling of scientific and educational institutions.

7. Conclusions

1. It is proposed to introduce targeted investment in order to stimulate scientific and educational institutions for the creation of innovative technologies. When calculating according to the proposed procedure, capital investments in fixed assets were taken into account. A model of effective cooperation between a capital donor and a scientific and educational institution is proposed, which takes into account targeted investment.

2. Targeted investments are determined based on an integrated approach in terms of indicators of innovative potential and rating of a scientific and educational institution. On the basis of statistical data on the indicators of assessing the activities of the latter, the calculation of their rating and the indicator of innovative potential are carried out. The obtained calculation results indicate the following: the indicator of the innovative potential of a scientific and educational institution from the production of innovations does not depend on the previous rating of scientific and educational institutions, or vice versa.

3. The problem of quantitative assessment of the rate of targeted investment based on an integrated approach in terms of indicators of innovative potential from the production of innovations and the rating of a scientific and educational institution has been solved. 2 scientific and educational institutions (namely: K and H) will receive targeted investment. Institution K will receive a large increase, and institution H will receive a smaller increase, the value of which will be 56.23 % and 43.76 %, respectively, of 100 % S. It is also determined that the final rating of educational institutions differs significantly from the initial rating, since it is the potential of a scientific and educational institution from the production of innovations.

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