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TÍTULO: Análisis del atractivo del país para estudiantes extranjeros.

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RESUMEN: La inclusión de la proporción de estudiantes extranjeros en el sistema de calificación que caracteriza la calidad de la educación a nivel de universidades individuales y países enteros puede llevar al hecho de que el aumento de esta calificación se considera como un fin en sí mismo. La existencia de tal problema determina la relevancia del estudio. La investigación se basa en la hipótesis de que la proporción de estudiantes extranjeros es un índice cualitativo de la educación y el nivel de desarrollo del sistema educativo del país en su conjunto. El estudio incluyó datos sobre 39 países incluidos en las bases de datos estadísticos de expertos.

PALABRAS CLAVES: calidad de la educación, proporción de estudiantes extranjeros, atractivo educativo de los países, análisis comparative, métodos no paramétricos de Estadística.

TITLE: Analysis of country appeal for foreign students.

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ABSTRACT: Inclusion of the ratio of foreign students in the rating system characterizing quality of education at the level of individual universities and entire countries can lead to the fact that increase in this rating is considered as an end in itself. The existence of such a problem determines the relevance of the study. The research is based on the hypothesis that the ratio of foreign students is qualitative index of education and the level of development of the country's education system as a whole. Study included data on 39 countries included in the statistical, expert databases.

KEY WORDS: quality of education, ratio of foreign students, educational appeal of countries, comparative analysis, nonparametric methods of statistics.

INTRODUCTION.

The market of educational services worldwide is recognized as one of the most promising. According to the World Education Monitoring Report, published by UNESCO, the number of students doubled between 2000 and 2014, reaching 207 million people (UNESCO, "Six ways to ensure higher education leaves no one behind" 2017). Since 1995, there has been a rapid increase in the number of students studying abroad. According to UNESCO, in 2012 the number of students reached 4 million

people, which at that time was 1.8% of all students in higher education. Approximately half of them were enrolled in five countries - the world leaders in higher education in terms of enrollment of foreign students: the United States, Britain, Germany, France and Australia ("Unipage. International Students", 2018ⁱ).

The use of the ratio of foreign students as the quality index of education is very common in countries' own assessment of their own education systems. Also, the world's largest rankings of higher education institutions (Academic Ranking of World Universitiesⁱⁱ, World University Rankingsⁱⁱⁱ, etc.) use the ratio of foreign students in their regular analytical reports and ratings without fail. Following the global trends, Russia took measures to include the ratio of foreign students in the criteria for assessing the quality of the education system. The specific weight of the number of foreign students training in the bachelor's, specialty, and master's programs in the total number of students is an index monitoring the efficiency of higher education institutions held annually by the Ministry of Education and Science of the Russian Federation.

The use of the proportion of foreign students in the total number of students studying in the country as a qualitative index of higher education seems to us very controversial. On the one hand, a high index can really reflect the level of the quality of education and its appeal for foreign applicants. On the other hand, the ratio of foreign students can be considered in terms of concurrent factors, such as the standard of living in the country itself, the political and economic situation, the transformation of a study visa into a working visa. All these factors are elements that reflect the comfort level of the residence environment. Accordingly, the question arises: what exactly the ratio of foreign students is: the quality of education or the appeal of the residence environment? The presented study was conducted to answer this question.

DEVELOPMENT.

The purpose of the research is to identify significant factors that determine the country appeal for foreign students and determine the correctness of using the ratio of foreign students as a criterion for assessing the quality of education in the country.

Achieving this goal requires solving a set of sequential tasks:

- Develop a methodology for rating the country appeal for foreign students.

- Carry out the multivariate estimate and draw up the rating of the Educational Appeal of Countries (EAC).

- Draw up conclusions about the most significant criteria for choosing a country for receiving higher education.

The analysis of recent research and publications.

The use of the ratio of foreign students to assess the level of development of the national education system is based on a number of complementary concepts. Education can be seen as an instrument for attracting qualified specialists to the country, which in turn serve as a serious pillar of economic development.

Attracting mobile students, especially if they stay for a long time, is an opportunity to use the global talent pool, to compensate for lower educational potential, to support the innovative and production system development and to mitigate the effects of population aging on future skills in many countries (Komleva, 2017). R.B. Freeman (2010) in his article "Globalization of scientific and engineering talent: International Mobility of Students, Workers, Ideas and the World Economy" highlighted the growth in the number of foreign students as one of the five main ways that develop globalization of science and technology. In addition, internationalization of education is viewed as a source of

building trust - between people, institutions and peoples, acting as a specific economic asset (Nurgalieva and Turegeldinova, 2017).

Internationalization of educational programs is no longer regarded as an end in itself, but as a mechanism for improving the quality of higher education (Novozhilova and Loskova, 2011; Rostovtsev and Izvekov, 2015; Wit and Hunter, 2016).

Sakhieva et al. (2015) considered the goals, objectives, as well as the functions of student mobility precisely in the context of the international integration of education. A.A. Shakirova (2017) studied the principles underlying student mobility, especially in the context of integration processes in higher education. According to her research, the basic principle of organizing student mobility is the principle of freedom and equality, integration and education throughout life. These principles lay the foundation for mobility, interact with each other and are transformed through global trends in higher education and, as a result, they have a great impact on the phenomenon of mobility. However, the researchers acknowledge the fact that indices of mobility are given the main attention, because the quantitative index that can be easily measured (Grebennikov et al., 2016).

In Europe, in the period from 2003 to 2014, a series of research projects aimed at studying the scale, structure and dynamics of mobility, based on the statistical data of UNESCO Institute for Statistics, OECD and EuroStat: EURODATA and EURODATA-II, focused on the quantitative analysis of the phenomenon (Kelo *et al.*, 2006), followed by "MAUNIMO - Mapping University Mobility of Staff and Students" (Colucci *et al.*, 2012), focused on the qualitative analysis. The research was aimed at forming the scientific basis for strategic planning of mobility at the university, national and European levels. But they also made it possible to compare the potential of European states in terms of attracting foreign students to the country.

The aspect of motivational and constraining factors of mobility is considered by Diler Aba (2016) in his studies on mobility in higher education. The attention is drawn to the thesis formed by Ly T.Tran (2016) that claims that the academic, intercultural and personal development of students who participate in cross-border mobile training is the concern and responsibility both of students and their families, and host institutions.

In the studies of factors influencing directions of cross-border mobility, two principal directions can be distinguished. The first one is to study the policies of universities and states in attracting foreign students. Attraction of foreign students can be the only strategy for many universities, which will help them develop and survive. K. Nilanders and S. Cakula (2014) described a model of imitations that could help to analyze efforts and give an idea of what actions and strategies should be taken to improve the chances of attracting more foreign students. According to N. Racine, P.Y. Villeneuve and M. Thériault (2003) among the main factors affecting the enrollment of foreign students by universities are the economic criteria relating to profitability. The authors believe that the geographical and social context of each university, as well as the networking activities of scientists who build relationships based on cooperation with foreign institutions, is equally important in attracting foreign students. The study of public policy on attracting foreign students was conducted by Maureen Woodhall - he compared "the coverage trends and development of public policy towards foreign students in 10 countries, such as Austria Alia, Belgium, Canada, France, West Germany, India, Japan, Russia, Great Britain and the USA" (1987).

The second principal direction of the research is to identify factors that determine the choice of the students. Special attention is paid to the problem of the student motivation, which is based on three key factors: interest, benefits and psychological comfort. Each of these factors reflects a disproportion in the process of organizing student mobility (Korneva and Plotnikova, 2015). A number of studies show the importance of the quality of education. Ilaria De Angelis, Vincenzo Mariani and Roberto

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Torrini (2017) confirmed that student mobility is positively related to the quality of research and teaching, and the prospects offered by the host university. In recent years, the distance to the university has become less relevant in explaining the "migration" of students, while the role of the quality of the university in choosing has increased.

Thus, it can be concluded that there is no reliable scientific justification for using the ratio of foreign students as a criterion for assessing the quality of national education systems or the quality of education in individual universities. The existing statistical studies cover a limited number of countries, which makes it possible to give evidence of researching this aspect on the basis of the statistical analysis of data.

Materials and methods.

The sample represented 39 countries that are the center of attraction and agglomeration of educational resources in their macro regions. The volume and composition of the sample is largely determined by the limited statistical information collected by international organizations on issues of interest to the authors. Europe is the most fully represented. In the sample, there are also all members of the BRICS - these countries are increasingly active players in the market of educational services and innovations. Only Russia and Ukraine are from the CIS countries - only for them there is a complete set of necessary statistical indices to calculate the multivariate estimate.

The information base of the research is made up of statistical and expert databases of Rosstat and international organizations: the United Nations, large information and consulting organizations ("Webometrics", information-analytical agency "Center for Humanitarian Technologies", "Economist Intelligence Unit", "The Epoch of International Education", "UniPage" and others).

To make a comparative assessment of the educational appeal of countries on the basis of private indices, it is necessary to conduct their comparative analysis on the basis of nonparametric statistical methods. These include the method of scoring, the amount of seats, "Pattern", the method of the multivariate average value, etc. These methods have a number of advantages over traditional parametric ones. In particular, they can be used for relatively small samples; the necessary level of information compression is achieved by standardizing the values of initial indices. In addition, they are fairly simple to interpret and are not sensitive to measurement errors.

Since there are a lot of indices in the initial data set, the values of which differ insignificantly for different countries (for example, in terms of the literacy level), the method of the multivariate average (unweighted) value as the best tool to solve the problem. It is based on the calculation of the arithmetic average value for each private index.

If the role of individual indices (or their groups) is important for the researcher, then the unweighted estimate can be supplemented by a weighted one. To do that the weight coefficients are determined for the purpose of weighing particular values.

To bring the data to a form that can be compared, it is required to rate them for each i-index by dividing by the corresponding average value:

$$K_i = \frac{Y_i}{\bar{Y}_i}.$$
 (1)

The results of this rating are coefficients-comparable, dimensionless partial values of K_i , which characterize all attributes of country-objects. If all the objects under consideration are sufficiently homogeneous, then the values obtained as a result of the rating will not only be devoid of dimension, but they will also represent a set of numbers close to unity. Indeed, the value of K_i show how many times the index calculated for a given country exceeds the corresponding average value of this attribute for the entire sample of countries.

After this procedure, each object can be characterized by all rating attributes by an average value - \overline{K} , that is, one number. This is the average value and is the multivariate estimate of EAC (unweighted). The weighted multivariate estimate will be calculated using the following formula:

$$\overline{K_w} = \frac{\sum K_i * w_i}{\sum w_i},\tag{2}$$

where $\overline{K_w}$ - the multivariate estimate of EAC (weighted);

w_i - weight coefficients.

Thus, a weighted estimate assumes that certain indices play a different role, while the unweighted estimate considers all indices to be equal in importance. In a particular study, both types of estimates can be used. This method is used in this research.

After carrying out the calculations of the multivariate estimate, it becomes possible to rank countries according to the principle "the more, the better", since all the indices under consideration are interpreted from the point of view of the "maximum = best" value.

The exception is the "Failed States Index", but we brought it to the standard view by subtracting each value from the maximum possible.

The range of possible EAC values has only the lower limit - 0 (the worst value), and the largest (best) value can be arbitrarily large. If the value of \overline{K} is close to 1 for any country, it indicates its average appeal for students. The further the value is from 1, the more the country appeal differs from average parameters in one direction or the other.

The result of these calculations is the ranking of countries on the multivariate estimate of EAC, that is, assigning each country its place (rank).

Results.

The working hypothesis of this research was the following: the greatest flow of students is aimed at those countries which both have a high level of the local education system or a large number of

prestigious higher education institutions, and a high standard of living and economic freedom. This circumstance determined the set of indices for the calculation of the multivariate estimate of EAC. Researching the significance of the ratio of foreign students for the state education system, the authors designate a hypothesis and an anti-hypothesis.

According to the hypothesis, the ratio of foreign students is the qualitative index of education and the level of development of the country's education system as a whole.

The anti-hypothesis also assumes that the ratio of foreign students is the index of the comfort and perspective of the residence environment which means the totality of socio-economic conditions for life and work, social infrastructure, health and education.

In total, the authors selected 20 indices. Some of them have some similarity at the first approximation (for example, in the name), but the authors took into account the fact that they were offered by different information-analytical and research organizations and, therefore, the methodology of their calculation is different. All private indices were divided into three blocks (Table 1), taking into account various components of the educational appeal of the country.

Table 1: The system of indices of the "educational appeal of countries"				
Indices Source of information				
MACROECONOMIC INDICES (11 indices)				
The Human Development Index http://www.un.org/ru/development/hdr				
The Global Competitiveness	http://reports.weforum.org/global-competitiveness-index			
Report				
The Happy Planet Index	http://happyplanetindex.org/			
The World Happiness Report	http://worldhappiness.report/wp-			
	content/uploads/sites/2/2017/03/HR17.pdf			
The Social Progress Index	http://www.socialprogressindex.com/			
The Quality-of-life index - The	https://www.economist.com/news/21566430-where-be-			
where-to-be-born index	born-2013-lottery-life			
The Failed States Index	http://fundforpeace.org/fsi/			
The Quality of life (Scores)	https://www.unipage.net/ru/countries			
The residence environment				
(Scores)				
Security (Scores)				
The Labor freedom index	https://ru.theglobaleconomy.com/			

EDUCATION BACKGROUND (5 indices)				
The Education Index	http://hdr.undp.org/			
The proportion of the population	http://vawilon.ru/statistika-obrazovaniya/#i-8			
with higher education, %				
The Global Index of Cognitive	http://thelearningcurve.pearson.com/			
Skills and Educational Attainment				
U21 Ranking of National Higher	http://www.universitas21.com/			
Education Systems				
The adult literacy level, %	http://hdr.undp.org/en/2016-report			
DEVELOPMENT OF HIGHER EDUCATION (4 indices)				
The number of universities (per calculated by the authors using: <u>http://epoch-abroad.com</u>				
100,000 population)				
The number of students (per 1000	http://statinfo.biz/HTML/About.aspx?lang=1			
population)				
The number of the best	http://www.education-medelle.com/articles/rejting-stran-			
universities (Top 500)	po-kolichestvu-luchschikh-universitetov.html			
Education expenditures, % of	https://ru.theglobaleconomy.com/rankings/Education_spe			
public expenditures	nding_percent_of_government_spending/			
Source: compiled by the authors.				

When calculating the multivariate estimate, the indices of the first block were taken with a weight of 0.5; the second block – 0.3; the third block is 0.2. Such differences were caused by the degree of influence on the choice of foreign students, which we appreciated expertly. The strongest impact has indices of socio-economic development and macroeconomic well-being (expressed in complex

indices).

The choice of the country first of all depends on it, and only then – on the higher education institution. Further, in decreasing influence, the indices of the "education background", which include not only comprehensive indices of the education sector, but also indices of the prevalence and popularity of higher education in the community and the literacy of the population. And the last ones are the indices that are directly related to the sphere of higher education (for example, the number and rating of the country's higher education institutions).

These macroeconomic indices transform those or other aspects of the educational sphere directly or indirectly into the quantitative form. In addition, they give an overall estimate of the life in this particular country (including on the basis of the results of population surveys). For example, an integral element of the Human Development Index (HDI) is the education index, which takes into account access to education, measured by the average expected length of schooling for children and the average length of adult education.

The Happy Planet Index is a combined index that measures the achievements of countries of the world and individual regions in terms of their ability to provide their residents with a happy life. It takes into account the satisfaction with life in the country, as well as the presence of various inequalities in distribution of benefits. The economic indices are not used when calculating this index.

A broader index is the World Happiness Report. It includes a wide range of components - from average per capita GDP to the results of surveys of residents about the level of trust and corruption in society. From the point of view of the sphere of education, the "guarantee of employment" is important.

The Social Progress Index includes more than 50 indices, and the block of "Human Wellbeing Basics" is the most important for this research - access to basic knowledge and the literacy level of the population, access to information and communication tools, etc. The degree of socio-political stability in the country is underlined by the Fragile States Index. It is important for foreign students not to be discriminated against on grounds of religion, nation, race, etc.; and they should answer the question whether it makes sense to come to a country with a high level of emigration. These indices are included in the structure of this index.

The Global Competitiveness Index consists of 12 control groups of indices that determine the national competitiveness. These include the groups called "Higher Education and Vocational Training", "Labor Market Efficiency", "Innovation Potential". The "Quality-of-life index / where-to-be-born index" is to estimate the quality of life in the country. It includes a wide range of parameters - from material prosperity to gender equality in income. The "Labor freedom index" takes into account the

amount of wages in the country, compliance with labor laws, difficulties in hiring and other aspects of employment. The results of the rating are presented in Table 2.

Table 2: Rating of countries by the multivariate estimate of EAC			
Rating	Country	Value	
1	USA	1,860	
2	Iceland	1,225	
3	United Kingdom	1,199	
4	Germany	1,189	
5	Finland	1,139	
6	Canada	1,138	
7	Denmark	1,131	
8	Switzerland	1,130	
9	Norway	1,127	
10	Australia	1,115	
11	Netherlands	1,113	
12	Austria	1,103	
13	Sweden	1,095	
14	Ireland	1,081	
15	New Zealand	1,080	
16	Japan	1,070	
17	Belgium	1,058	
18	Spain	1,049	
19	Lithuania	1,048	
20	South Korea	1,021	
21	Israel	1,013	
22	France	0,995	
23	Czech Republic	0,979	
24	Portugal	0,945	
25	Poland	0,916	
26	Italy	0,906	
27	Hungary	0,875	
28	Argentina	0,865	
29	Bulgaria	0,864	
30	Russia	0,849	
31	Mexico	0,831	
32	Romania	0,827	
33	Ukraine	0,808	
34	Turkey	0,807	
35	Brazil	0,797	
36	China	0,789	
37	South Africa	0,726	
38	India	0,640	
39	Nigeria	0,596	

Source: compiled by the authors.

A clear leader in the appeal of higher education is the United States. Their multivariate estimate is 86% higher than the average. The main advantage of this state is 172 world-class universities. However, the leader also has "weak" places, according to experts: scores for the residence environment and security, as well as the Happy Planet Index have values below the average.

Iceland took the second place in many respects due to the prevalence of higher education institutions (2.1 per 100 thousand inhabitants - this is the first place for this index) and students, and also due to a good value of the Failed States Index. Although in this island state there is only one university from the tops of the world rating. In third place is the United Kingdom (Great Britain), which, like the United States, differs not so much in the quantitative but in the qualitative level of its universities (according to Webometrics experts).

Among the outsiders were the most populous countries - Nigeria and India. India, a member of the BRICS, has only one index with a value above the average - The Happy Planet Index, and Nigeria is characterized by a relatively large percentage of people with higher education (35%), a worthy value of The Labor freedom index and a good scoring environment. None of these countries have world-class universities, and in general, they are at the bottom of the corresponding rating taking into account the number of universities per 100,000 residents.

It is interesting that the BRICS participants, that is, the fastest growing large countries and potentially large players in the innovation market, have low ratings on the appeal of higher education. This is due both to traditions and developmental features of these countries (for example, in the PRC there were about 80% of the illiterate population half a century ago), and to the qualitative and quantitative level of higher education. The social and economic development of these countries is also important, which does not reach the standards of advanced states. All this affects the possibility of potential foreign entrants to study at the BRICS universities. Consider the calculation of the multivariate estimate using the example of the Russian Federation (Table 3).

Table 3: Baseline data and multivariate estimate of the educational appeal of the Russian Federation						
Indices	Value	Interval	\overline{K}	Ki	Weighted value K _i	
MACROECONOMIC INDICES (weight 0.5)						
The Human Development Index	0,804	01	0,850	0,946	0,473	
The Global Competitiveness Report	4,6	More than 0	4,9	0,935	0,468	
The Happy Planet Index	18,7	More than 0	28,2	0,663	0,332	
The World Happiness Report	5,96	More than 0	6,35	0,938	0,469	
The Social Progress Index	67,17	0100	80,77	0,832	0,416	
The Quality-of-life index –	5 31	010	6.00	0,769	0,385	
The where-to-be-born index	5,51		0,90			
The Failed States Index	79,2 ¹	0120	75,7	0,539	0,270	
The Quality of life (Scores)	5,0	010	7,1	0,705	0,353	
The residence environment (Scores)	4,4	010	8,2	0,540	0,270	
Security (Scores)	6,7	010	7,3	0,924	0,462	
The Labor freedom index	51	0100	62,5	0,817	0,408	
Ave	0,391					
EDUCA	TION BACK	GROUND (wei	ght 0.3)		1	
The Education Index	0,816	01	0,816	0,999	0,300	
The proportion of the population with higher education, %	56	0100	33,7	1,660	0,498	
The Global Index of Cognitive Skills and Educational Attainment	49,1	0100	61,79	0,795	0,238	
U21 Ranking of National Higher Education Systems	49,9	0100	61,75	0,808	0,242	
The adult literacy level, %	99,5	0100	96,2	1,034	0,310	
Average value					0,318	
DEVELOPMEN	NT OF HIGH	ER EDUCATIO	N (weight	0,2)		
The number of universities (per 100,000 population)	0,267	0 ∞	0,444	0,602	0,120	
The number of students (per 1000 population)	48	0∞	41,0	1,170	0,234	
The number of the best universities (Top 500)	1	0500	11,8	0,084	0,017	
Education expenditures, % of public expenditures	11,94	0100	12,63	0,945	0,189	
Average value				0,140		
Multivariate estimate (0,391+0,318+0,140)				0,849		

Source: compiled by the authors.

¹ The value of this index in further calculations will be 120 - 79,2 = 40,8.

In general, the Russian Federation ranked 30th place in the rating of EAC. Such a low place is largely due to low values of macroeconomic indices - for none of them Russia has been above the average. Meanwhile, it is this block of indices that has the greatest weight when calculating the multivariate estimate. At the same time, our country has a good position considering the indices of the education background - even in Soviet traditions, we had a high percentage of people with higher education (exceeding the average level of 1.66 times) and the literacy level of the population. Also, the authors note a high relative number of students (48 per 1,000 inhabitants). However, Russia has a low number of universities, and the top-ranking Webometrics has just one Russian university (Lomonosov Moscow State University- 304th place).

The typology of the multivariate estimate (Table 4) showed a fairly uniform distribution of countries by EAC. This is confirmed by the value of the variation coefficient - it is equal to 21.2%. This is the statistical feature of the multivariate integral index - it actually "dissolves" in itself all the particular values, replacing them with rating coefficients, and leveling their large and small deviations from the average level.

Table 4: Typology of countries in the multivariate estimate of EAC					
Tuno	Multivariate	Number of			
Туре	estimate	countries			
Low appeal	Less than 0,7	2			
Nigeria, India					
Reduced appeal	0,70,9	11			
Hungary, Argentina, Bulgaria, Russia, Mexico, Romania, Ukraine, Turkey, Brazil, China, South					
Africa					
Average appeal	0,91,1	14			
Sweden, Ireland, New Zealand, Japan, Belgium, Spain, Lithuania, South Korea, Israel, France,					
Czech Republic, Portugal, Poland, Italy					
Increased appeal	1,11,3	11			
Iceland, Great Britain, Germany, Finland, Canada, Denmark, Switzerland, Norway,					
Australia, Netherlands, Austria					
High appeal	More than 1,3	1			
USA					
TOTAL		39			

Source: compiled by the authors.

Israel and France are closer to average values. Half of the countries have a multivariate estimate of less than 1.021, and a half of countries have more. This suggests that, in general, more than 50% of the sample has higher educational appeal than average statistical values. The authors of this research took into account the countries that are recognized educational centers of their macro regions.

As a result, it can be said that the decisive criterion for choosing a country for receiving higher education is not the country's socio-economic situation (the Macroeconomic Indices block) but the level of higher education development. If we consider the first and third ten countries according to the EAC rating, we will see the following picture (Table 5). The authors took into account average estimates without taking into account the weight, since the weighing did not matter when solving this local problem.

Table 5: Average unweighted estimate for 10 best and 10 worst countries in the EAC rating					
Countries	Macroeconomic indices	Education background	Development of higher education	Total	
10 best	1,101	1,204	1,568	1,160	
10 worst	0,842	0,767	0,581	0,725	

Source: compiled by the authors.

It is evident that there is a significant difference in indices of higher education development between leaders and outsiders of the rating. As we go to the macroeconomic level, the differences are gradually smoothed out, but they do not disappear.

Thus, according to the results of the study, it can be concluded that all components, including the residence environment and the general literacy level of inhabitants, are important for the country appeal for foreign students, but the country must have a high level of university education (both quantitative and qualitative) a priori. Here an important role belongs to the state, without the organizational and financial participation of which this sphere cannot be competitive.

Recognizing the value of the ratio of foreign students as one of the criteria for assessing the quality of national education systems, it seems incorrect to use this ratio for assessing the quality of education in individual higher education institutions precisely because of the multivariate educational appeal of countries. The ratio of foreign students in the number of students in a particular university will be determined not only by the quality of education itself, but also by the overall educational appeal of the country, most of whose parameters do not depend on the activity of universities.

Discussion.

The defining feature of this research is the multivariate estimate of the educational appeal of countries, which allows, first of all, determining the degree of influence of various indices on it, and, secondly, building the corresponding rating of countries. The study covers a relatively wide range of countries. The results obtained are generally in agreement with the results of the previous studies. This coherence also shows itself in determining the circle of countries that are leaders in attracting foreign students and in confirming the multivariate nature of decisions taken by students in choosing the direction of their mobility.

The authors take into account the fact that the ratio of foreign students, widely used as a criterion for assessing the quality of education of national education systems and individual universities, is determined not only by the quality of education itself, but also by the overall educational appeal of the country. The formation of the system of key indices for universities that adequately integrates the ratio of foreign students, so that the increase in this ratio is not seen as an end in itself, seems a promising board of studies.

CONCLUSIONS.

Following the global trends, Russia includes the ratio of foreign students in the criteria for assessing the quality of education, not only at the level of the national education system, but also at the level of

individual universities. Within the framework of this article, the study aimed at revealing the correctness of the use of the ratio of foreign students as a qualitative index of higher education. In order to determine what factors, besides the quality of education, can attract foreign students to

national universities, a methodology was developed to quantify the educational appeal of the country, based on a comparative analysis of the system of private indices using nonparametric statistical methods. The multivariate estimate showed that the features of the socio-economic development and macroeconomic well-being have a profound impact on the educational appeal of countries, further in descending order - the indices of the "education background" and the last ones are indices that directly relates to the sphere of higher education. The calculations carried out formed the basis for the educational appeal rating of countries, the construction of which allowed ranking the countries and revealing their strengths and weaknesses in terms of attracting foreign students.

Thus, according to the results of the research, it was concluded that the ratio of foreign students is determined not only directly by the quality of education, but also by the overall educational appeal of the country, which is affected by the level of the socio-economic development and the overall education background.

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BIBLIOGRAPHIC REFERENCES.

 Aba, D. (2016). Addressing intercultural experience and academic mobility in higher education. Journal of Intercultural Communication Research, 45(6), 487-502.

- Colucci, E., Davies, H., Korhonen, J., & Gaebel, M. (2012). Mobility: Closing the Gap between Policy and Practice: Outcome Report of the Project "Mapping University Mobility of Staff and Students". Brussels, Belgium: European University Association.
- 3. De Angelis, I., Mariani, V., & Torrini, R. (2017). New evidence on interregional mobility of students in tertiary education: The case of Italy. Politica Economica, 33(1), 73-96.
- Freeman, R.B. (2010). Globalization of scientific and engineering talent: International mobility of students, workers, and ideas and the world economy. Economics of Innovation and New Technology, 19(5), 393-406.
- Grebennikov, V.V., Bukalerova, L.A., Moseikina, M.N., Grudtsina, L. Ym., & Moiseyev, V.O. (2016). Educational migration of international students: Axiological aspect of the educational process. International Electronic Journal of Mathematics Education, 11(7), 2430-2441.
- Kelo, M., Teichler, U., & Wächter, B. (Eds.). (2006). EURODATA Student Mobility in European Higher Education. Bonn: Lemmens.
- Komleva, V.V. (2017). Russia in the context of new world trends in internationalization of higher education. Middle Russian Bulletin of Social Sciences, 12(6), 13-34.
- Korneva, O.Yu., & Plotnikova, I.V. (2015). Student mobility: Social problems, Sociological Research, 6(374), 111-115.
- Nilanders, K., & Cakula, S. (2014). Modelling potential foreign applicant flow: Case of Vidzeme University of Applied Sciences. In: IEEE Global Engineering Education Conference, EDUCON, IEEE, (pp. 210-215). Istanbul, Turkey. DOI: 10.1109/EDUCON.2014.6826093.
- Novozhilova, M.V., & Loshkova, I.G. (2011). Mobility in the framework of international cooperation in education and science. Collection of Scientific Works on the Materials of the International Scientific-Practical Conference, 27(4), 65-66.

- Nurgalieva, Zh. E., & Turegeldinov, A.Zh. (2017). International student mobility: An overview. Bulletin of Turan University, 4(76), 240-244.
- Racine, N., Villeneuve, P. Y., & Thériault, M. (2003). Attracting foreign students: The case of two universities in Québec. Journal of Studies in International Education, 7(3), 241-252.
- 13. Rostovtsev, V.M., & Izvekov, V.V. (2015). Student mobility in the context of the competence approach: Hermeneutic aspect. Pedagogical Sciences, 3, 64-65.
- Sakhapov, R.L., Absalyamova, S.G., & Absalyamov, T.B. (2016). Virtual mobility as a factor in improving the quality and accessibility of education. Bulletin of I. Yakovlev Chuvash State Pedagogical University, 3(91), 140-146.
- Sakhieva, R.G., Ibatullin, R.R., Biktemirova, M.K., Valeyeva, G.K., Pchelina, O.V., Valeyeva, N.S. ...Khairullina, E.R. (2015). The essential, objective and functional characteristics of the students' academic mobility in higher education. Review of European Studies, 7(3), 335-340. DOI: 10.5539/res.v7n3p335.
- Shakirova, A.A. (2017). Principles of students' academic mobility organization. QUID: Investigación, Ciencia y Tecnología, 1(SI), 882-887.
- Tran, Ly T. (2016). Students' academic, intercultural and personal development in globalised education mobility", In Ng, C.H.C., Fox, R., & Nakano, M. (Eds.), Education in the Asia Pacific Region-Issues Concerns and Prospects, 33, (pp. 95-113). Springer, Dordrecht.
- UNESCO (2017). Six ways to ensure higher education leaves no one behind. Policy Paper 30.
 Global Education Monitoring Report. UNESCO. Paris: France, Available at: https://unesdoc.unesco.org/ark:/48223/pf0000247862 (accessed 4 March 2019).
- Wit, H., & Hunter, F. (2016). The future of the process of internationalization of higher education in Europe. International Higher Education, 83, 6-8.

20. Woodhall, M. (1987). Government policy towards overseas students: An international perspective. Higher Education Quarterly, 41(2), 119-125.

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ⁱ Academic Ranking of World Universities, available at: <u>http://www.shanghairanking.com/</u> (accessed 4 March 2019). ⁱⁱ Unipage. International Students, (accessed 4 March 2019). Available at: <u>https://www.unipage.net/ru/student_statistics#%D0%A1%D1%82%D0%B0%D1%82%D0%B8%D1%81%D1%82%D0%B8%D0%BA%D0%B0_%D0%BC%D0%B5%D0%B6%D0%B4%D1%83%D0%BD%D0%B0%D1%80%D0%BE</u>%D0%B4%D0%B5%D0%B5%D0%B5%D0%B5%D0%B2_%D0%B2_%D0%B8%D1%80%D0%B5

ⁱⁱⁱ World University Rankings, (accessed 4 March 2019). Available at: <u>https://www.timeshighereducation.com/search?e=404&search=world%20university%20rankings</u>