ANALYSIS OF GLOBAL SYSTEMS OF THE WORLD UNIVERSITIES RANKING

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Globalization of economy has led to globalization of competitive fighting. This process has affected also universities. To meanwhile define which of higher educational institutions is better and which one is worse, for a number of reasons is represented problematic. If to compare universities of the different countries, then the assessment of their quality in addition becomes complicated. In this regard the lot of work connected with drawing up global ratings of universities for the purpose of informing the public, at least, about the best higher education institutions of the world is developed in many countries. Now global ratings of universities turn into one of significant instruments of competitive fight and educational policy [1].

The role of ratings as an accelerator of university systems development raises. Some ratings measure resource indicators that forces universities to invest means in construction of infrastructure and development of new programs. However besides positive influence of ratings on policy of universities also destructive tendencies are already now looked through. Thus, some higher education institutions try to manipulate data and look for mechanisms of impact on appraisers for improvement of a position of the higher education institution in various ratings, not especially caring for the valid development of the organization and application of the best methods of management of universities [2].

Thus, global ratings of universities are already densely interwoven into life of universities and national policy of many countries, having become a noticeable factor of education market [2].

We will consider six most representative global ratings which are under construction on methodology on which all other existing ratings are based in a varying degree [3–11].

As a rule, the reliable rating assumes the accounting of different groups of factors of university life. Further these groups of factors are subject to summation by means of the corresponding weight coefficients which in all ratings are defined

by experts – in other words – is substantially subjective. In protection of such "mild" approach it is possible to tell only that it has no effective alternative yet. All variety of various groups of factors and weight estimates for six ratings is reduced in table 1.

Table 1

Criteria of ranging of university ratings

Rating	Indicators	Weight, %
Research results		
ARWU	Number of articles published in journals of "Nature and Science"	20
	Number of articles indexed in databases of Science Citation Index Expanded и Social Sciences Citation Index (Thomson Reuters)	20
THE	Average of citings counting on one article (normalized on the field of science, according to the base Web of Science, Thomson Reuters)	37,5
	Volume and reputation of research works	30
	Income from researches	2,5
QS	Average of citings counting on one established academic post (according to the base Scopus, Elsevier)	20
GUR	Level of the research work organization	ND
Web	Number of search results on the website of higher education institution by scientific system of Google Scholar and number of citings the found documents	12,5
	Number of the "valuable" files posted on the website (number of files with results of researches of four formats: PDF, PS, DOC, PPT)	12,5
PRSP (all indicators from bases of the company Thomson Reuters)	Number of articles for the last 11 years	10
	Number of articles for the current year	10
	Number of citings for the last 11 years	10
	Number of citings for the last 2 years	10
	The ratio of number of citings to number of articles for the last 11 years	10
	Hirsh's (h-index) index of articles of university for the last 2 years	20
	Number of the high-quoted articles in 11 years (the top 1% of the most quoted articles for the set year of the publication and the field of science)	15
	Number of articles in the high-quoted journals for the last year (the journals entering the top 5% on an impact-factor in the field of science are considered)	15
Quality of education		
ARWU	The ratio of total number of the university graduates who have got the Nobel Prize or Filds's medal	10
THE	Assessment of teaching and condition of education	30
QS	Index of the academic reputation	40
	The ratio of number of academic teaching staff to number of students	20
	Index of reputation of higher education institution among employers	10
GUR	Level of providing with resources	ND
	Level of socially important activity of graduates	ND
	Level of the training activity organization	ND

Level of teachers		
ARWU	Total number of the employees of higher education institution who have got the Nobel Prize or Filds's medal	20
	Number of often quoted researchers working in 21 subject domains (250 best scientists according to the Web of Knowledge database)	20
GUR	Level of professional competence of teaching staff	ND
Web	Number of the unique external references to pages of the website of university found through the search engines Yahoo Search, Live Search and Exalead	50
Academic productivity		
ARWU	The indicator determined as the ratio of total number of points by all indicators to the number of the academic personnel occupied full time	10
International activity		
QS	Share of foreign teachers from the total number of teaching staff	5
	Share of foreign students in the general contingent of trained	5
GUR	Level of the international activity organization	ND
Bigness		
Web	Number of the pages of the website received in a search result by the	20

All ratings significantly differ with both by a set of the estimated factors and system of weight coefficients. This fact already in itself speaks well for the fact that, despite fierce competition between global ratings, they have to be perceived as complementary, but not interchangeable information units. In this regard it is possible to speak about a certain specialization of ratings.

However the structure of groups of factors is, as a rule, the second step in aggregation of data. Before that the first step which represents aggregation of data in each group takes place. There is a problem of association of indicators not only of different scale, but also with different units of measure. In this regard two main procedures of rationing of private estimates are applied, as a rule. The first way is simpler and therefore it is applied more often. It consists in rationing of the indicator values of higher education institution by the maximum size which is equated to 100 %. The second way is characteristic of ratings of QS and THE since 2007. It consists in Z-aggregations procedure application when the arithmetic average on all higher education institutions (x_{avg}) is subtracted from initial value for each higher education institution (x_i), and the result is divided into a mean square deviation (σ), i.e. $Z_i = (x_i - x_{cp}) / \sigma$. After that according to tables of standard normal distribution a transfer of Z-estimates to a 100-mark scale equivalent to percentage system of an assessment is made

During the work with global ratings their methodical and information openness is of great importance. From this point of view all ratings significantly differ among themselves. Here distinctions extend to completeness: archive of a rating (by years); the rating (on higher education institutions); descriptions of a technique. For example, the rating of QS has big archive for 2005–2010, however the

volume of coverage of higher education institutions constantly "floats": 2005 – 500 higher education institutions, 2006–2007 – 200, 2008 – 603, 2009 – 620, 2010 – 643. The full rating on all circle of the higher education institutions analyzed on the website is absent, as well as initial statistics for total estimates. ARWU rating also has open archive for 2003-2010 on the main massif in 500–510 universities. Something similar is observed also for a rating of PRSP which has archive for 2007-2010 for 500 best higher education institutions. The rating of THE possesses full archive on the truncated circle of universities – Top-200. At the same time the part of information is available only in the paid APP iPhone application. The rating of Web has the cut-down archive only for 2009–2010, and for these years for January and July Top-500 ratings, and for 2010 – also a full rating for 12 003 higher education institutions are given. According to GUR rating owing to his short history there are data only for 2009, however discrepancy of indicators in the description of methodology and in the provided table of a rating is observed. Besides, on the website in a calculation procedure there are no value of weight coefficients.

Thus, practically all ratings have limited information and methodical transparency which complicates their practical use. Almost all global ratings open results of ranging only on a limited circle of the best universities; other massif remains for internal use of the developer.

Attempt of standardization of system of an assessment of higher education institutions is objective requirement, but it isn't possible to reach it, as a rule. Experience shows that there are such aspects of functioning of universities which is impossible, or very difficult to consider in formal procedures. Shift of true estimates in global ratings is result of it. Methodologically this problem is equivalent to a problem of the choice of a vector of weight coefficients.

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STUDY OF THE PROBLEM OF VALIDATING MIGRANTS' COMPETENCES AND RESKILLING IN EUROPE AND RUSSIA

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Introduction of the knowledge-intensive processes on production, the changing branch specialization, replacement of old professions by new ones raise requirements of preparation of professional staff.

All countries are faced with a problem of finding of a common ground of professional education and training system of highly professional specialists, taking into account constantly changing requirements of labor market and demand of the acquired professional skills throughout all life. Structural changes at the different levels of economy, competition toughening as among the enterprise, and a human resource lead to reduction of staff with low qualification (table 1).

Table 1

Educational need of economy for a manpower

Qualification Region	High qualification		High qualification		Low qualification	
	2010	2020	2010	2020	2010	2020
Russia [1]	31%	35%	11%	12%	23%	16%
Europe [2]	29%	34%	49%	50%	20%	15%

Employers meet difficulties in search of qualified personnel which in many respects can be explained with discrepancy between labor market requirements, qualification requirements and professional education level.

Global expansion of labor markets, internal and external mobility of workplaces, migratory integration results in need of search of special approach to training and development of the required competences, increase of qualifications and retrainings of applicants for vacancies.

Having conducted researches in the field of migration policy [3], authors note the following features (table 2):