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Identification of World Class Universities: Destructive Pluralism*

E.V. Balatsky[a], **N.A. Ekimova**[b]
[a] RAS Central Economics and Mathematics Institute, Moscow, Russia;
[b] Financial University, Moscow, Russia

ABSTRACT

The article deals with the problem of identifying world-class universities (WCU) on the basis of information provided by various ranking systems. The relevance of the problem is due to the fact that in 2022 Russia was "cut off" from the world community, including the interruption of cooperation with leading international ranking universities, so the country risks losing the opportunity to self-check its successes and failures by generally recognized criteria. In this regard, the purpose of this article is hypothesis verification that the "friendly" ranking of ARWU base can serve as an effective substitute for the "unfriendly" QS ranking base. To test the formulated hypothesis, we used the previously developed algorithm for identifying WCU using statistical data from the five Global University Rankings — Quacquarelli Symonds (QS), Times Higher Education (THE), Academic Ranking of World Universities (ARWU), Center for World University Rankings (CWUR) and National Taiwan University Ranking (NTU) — and two University Rankings by subject — QS and ARWU. Conducted calculations disproved the general hypothesis and revealed a fundamental inconsistency of results obtained on the basis of different rankings. In addition, by the example of the ARWU, a profound contradiction in the logic of compiling the GUR and the SRU was uncovered. That raises a broader question about adequacy of the concept of the WCU itself. To answer this question, we conducted a "humanitarian test" for the validity of modern WCU, which showed the presence of elementary illiteracy and lack of culture among graduates of advanced universities. Collected stylized examples allowed to establish that modern world market leaders' universities do not pass the "humanitarian test", and therefore the entire rating system cannot be considered a reliable basis for conclusions about the activities of universities. The question of replacing the term WCU with a less pretentious "product" category — practice-oriented universities — is being discussed.

Keywords: world-class universities; higher education; competitiveness; ranking

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INTRODUCTION

In 2003, in the world started a massive campaign to compile university rankings. The university's entry into the top lists of these ratings testified to its high integration into the global scientific community, great scientific and educational success and served as a positive marker for all interested persons [1, 2]. Initially, Global University Rankings (GUR) were compiled, giving a general assessment of the authority of the university, and later University Rankings by Subject (URS) were being developed, recording their achievements in specific scientific fields. Currently there are about two dozen rating products and their development companies — rankers in the world [3, 4]. The existence of a multitude of ratings showed their inconsistency [5] and raised the question of their adequacy and reliability [6, 7].

Comparing the different GUR, the author's note that understanding the methodology of ranking, universities can improve their practice and become competitive [8], however, one should keep in mind that there are practically no two identical ratings from a methodological point of view [9]. Comparative analysis of five GUR's (ARWU, QS-THE, Webometrics, Leiden, HEEACT[1]), based on an assessment of their rank comparability [10] showed great similarities between ARWU and HEEACT's ratings, while the others were very different [11]. The correlation between these two GUR was also found in researches [12, 13], whereas in [14] is a close correlation in — between Taiwanese NTU and Turkish *University Ranking by Academic Performance* (URAP). Factor analysis of ARWU, THE and QS rating products illustrated that these systems are not mutually supportive and additive [15]. In turn, the analysis the intersection of five GUR (ARWU, QS, THE, Leiden, U-Multirank[2]) showed that only 35 universities are in the top-100 of all five rankings and there are significant differences in the geographical representation of universities [16]. Similar results were in the work [17], where the author also showed the intersection of only 35 universities in the top-100 three ratings — ARWU, QS and THE. Despite the differences, analysts note that a general approach to measuring the quality of higher education is gradually emerging at the international level, based primarily on the evaluation of research performance and academic reputation [18].

Without going into details of the rating movement, we point out that the process of entering the world rankings and the associated mechanism of building world-class universities (WCU) is quite expensive and long [19, 20]. Russia joined him, having spent a fair amount of time, money and efforts to enter the top-100 chosen for this purpose three GUR — *Quacquarelli Symonds* (QS), *Times Higher Education* (THE) and *Academic Ranking of World Universities* (ARWU). The initiative was not successful: none of the Russian universities–applicants even came close to the coveted border of the top-100 and only a few universities in recent years were able to enter the top-50 of URS QS. Despite this, the failure did not discourage the Russian leadership, and domestic universities continued to focus on GUR and URS as a useful source of assessment of their success on international criteria. However, 2022 year made it impossible to follow the long-term trend. Due to Russia's special military operation in Ukraine, the country was subjected to unprecedented scale and force of international sanctions. One of

[1] ARWU — Academic Ranking of World Universities, developed by Shanghai Jiao Tong University; QS–THE (QS World University Rankings — Times Higher Education) — joint ranking of the British edition Times Higher Education (THE) with Quacquarelli Symonds (QS) until 2009, that they are separated by two independent ranking later; Webometrics — Ranking Web of Universities, published by Spanish laboratory at the Spanish National Research Council (CSIC); Leiden — ranking developed by Centre for Science and Technology Studies (CWTS) at University of Leiden; HEEACT — ranking by Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT), which suspended its participation in project in 2012, and have been manufactured by National Taiwan University and became known as the ranking NTU.

[2] U-Multirank — multidimensional ranking of universities initiated and funded by the European Commission.

them became "excommunication" of Russian science from the international community. This resulted in the refusal to include Russian journals in the International Academic Databases (IAD) *Scopus* and *Web of Science*, in the suspension of the indexing journal, that have entered these databases, in a lack of access of Russian users to these databases. At the same time, the informational cooperation of Russian universities with international rankers are stopped. If in 2022 year all the listed negative effects have not yet manifested fully, it can be stated with confidence that from 2023 year the scientific isolation of Russia will become full-scale.

The accession of Russia to GUR and URS was determined by the need to create WCU in the country, which in the future could act as drivers of technological development. The scientific ostracism to which the country fell in 2022 year does not solve the problem of establishing effective scientific and educational centers. In this regard, the goal of the article is to ensure whether in the new conditions it is possible to find alternative opportunities for self-identification and self-testing of Russian universities, so as permanently not to lose contact with the world scientific community. Here, too, the more general question arises as to what the WCU should meet in the modern environment.

IDENTIFYING WORLD-CLASS UNIVERSITIES: SEARCH OF INFORMATION ALTERNATIVES

Most reputable GUR and URS are developed and compiled in countries that have joined to sanctions. However, among them there are products that belong to friendly or at least neutral States in relation to Russia. In particular, this applies to the oldest rating — ARWU, compiled in China by *Shanghai Jiao Tong University*. There is chance that this ranker does not intend to exclude Russian universities from its base. In this regard, under conditions of information isolation, Russia could focus on GUR and URS of ARWU. This hypothesis will be verified below. Given that the WCU identification experience was previously based on URS QS, this base can now be replaced on the Chinese product. The general hypothesis can be formulated as follows: the ARWU database will be an effective substitute for the QS database.

Previously, the authors proposed an operational definition of WCU that takes into account the scale of the organization's achievements and the strength of its brand: *world-class University can be considered a university that has received wide international recognition and first-class scientific results on a wide range of scientific fields* [21]. This interpretation, on the one hand, contains the criteria of Jamil Salmi, who highlighted the three main characteristics of the WCU: high concentration of talents, abundance of resources, effective management [20] and, on the other hand — allows us to go to the procedure of their identification. In this case, "wide international recognition" is approximated by the fact of the university entering the top-100 at least one of the five reputable GUR, "top-notch scientific results" — its entering in the top-50 University Rankings by Subject (URS) of a certain rating system (QS), "wide range of scientific directions" — is heuristically determined number of URS in which the university was in the top-50 (5–6).

Hereinafter to assume that the first part of the definition ("university that has received wide international recognition") is a criterion of the global success of the university, which we will refer to as "G-criterion". The second — ("with top-notch scientific results in a wide range of scientific fields") acts as a local criterion, determining the number of subject areas of successful work of university researchers and is designated as "L-criterion". Parameter "L", in addition to the actual number of scientific directions, in which the university is an international leader, also assumes a lower bound — L*, exceeding which allows us to talk about sufficient scientific diversification of the university. In the

future, we will start from understanding of WCU, on which the basic algorithm of their identification was based and which has been repeatedly tested earlier (for example, [21, 22]). Although the basic identification algorithm has since been slightly modernized, further calculations will be based on it as sufficient to understand the qualitative situation.

The essence of the proposed alternative is that, as before, the G-criterion is checked based on whether the university is in the top-100 of one of the five reputable GUR: *Quacquarelli Symonds* (QS), *Times Higher Education* (THE), *Academic Ranking of World Universities* (ARWU), *Center for World University Rankings* (CWUR) *и National Taiwan University Ranking* (NTU). If it is represented in the top-100 at least one of the specified GUR, it is a contender for the role of WCU, and the L-criterion is checked: whether university in the top-50 in at least 5 or 6 directions in the URS ARWU [L* = 5 (L* = 6) appears as the minimum "cut-off boundary" of universities]. Emphasize that the main element of the change of calculation method consists in the transition from the information base URS QS to the base URS ARWU.

The proposed castling of sources of information raises a number of related issues, not only of practical but also of theoretical importance:

- How invariant are the results based on URS QS and URS ARWU?
- Are Russian universities fully and adequately represented in the ARWU system?
- Is it possible to draw practical conclusions from the ARWU data about disadvantages of Russian universities and ways of strengthening them?

We answer these questions below.

Since in 2021 only one Russian university — Lomonosov Moscow State University — was in GUR QS and ARWU, then for the next years it is enough to use only one GUR — ARWU. But Russia was still in different rankings since in 2021, for this year we will use the expanded GUR base to identify WCU.

TRANSITION FROM QS TO ARWU: VIOLATION OF INVARIANCE

To check the formulated hypothesis, we will use a basic identification algorithm with a small adjustment: top list of potential WCU is standardized by cutting-off the "excess" part. All universities with numbers greater than "100" are discarded, as a result there is a list of the top-100, in which there are WCU.

We will use two versions of the L-criterion to compile a list WCU — L* = 5 and L* = 6. This will compare the stability of the two rating systems to the cut–off boundary. Both systems compared for 2021.

Comparisons lead to several conclusions.

First, the ARWU system is less sensitive than QS to the subject cut-off boundary. If the boundary L* = 6 for QS is sufficient to form a compact WCU top list, then for ARWU this is not too much (*Table 1*). Moreover, experimental calculations show that even with the criterion L* = 7, the list of potential WCU in ARWU is 107 units; only the transition to an even more stringent criterion L* = 8 allows to bring the top list to the standard value of 100 positions. This situation is due to the fact that the URS ARWU methodology reduces the concentration indicators of scientific directions in universities and thus leads to "smearing" of the core of leading universities. For example, according to ARWU, the maximum subject concentration has *Stanford University* — 39 positions, therefore, none university in the world reaches the mark of 40 units. However, according to QS, 8 universities reach and exceed the above level: *University of Oxford* — 40, *Stanford University* — 41, *University of Cambridge* — 41, *University of California, Berkeley* (UCB) — 41, *University of Michigan, Ann Arbor* — 40, *University of California, Los Angeles* (UCLA) — 43, *University of Toronto* — 46, *University of British Columbia* — 41. Thus, the ARWU system is characterized by an excessive dispersion of WCU by scientific directions, which produces an increased requirement for a critical boundary L*.

Table 1

Number of potential WCU with different cut-off criteria (L*) for two systems — QS and ARWU

Indicator	2021	
	QS	ARWU
Number of WCU when L* = 5	111	124
Number of WCU when L* = 6	101	118

Source: compiled by the authors.

Table 2

Number of countries with WCU with different cut-off criteria (L*) for two systems — QS and ARWU

Indicator	2021	
	QS	ARWU
Number of countries with WCU when L* = 5	21	16
Number of countries with WCU when L* = 6	21	16

Source: compiled by the authors.

Second, the ARWU system covers a smaller country geography than QS (*Table 2*). For example, QS includes Finland, New Zealand, Mexico, Brazil and Russia in addition to the countries present at ARWU. Thus, the Chinese ranker is tuned to a stricter filtering of objects, and in the field of his attention are universities from too few countries. It should be noted, however, that the discrepancy is a fundamental one, as ARWU lost five national university systems due to these methodological differences, which have been maintained for decades in other rankings. This is striking given that ARWU is losing almost a quarter of the countries that have them, against the background of wide list of potential WCU. There is also another apparent contradiction in the Chinese product — Moscow State University in GUR ARWU in 2021 is in 93rd place and in URS ARWU for the same year it did not enter the top 50 in any scientific field. Such inconsistency makes it possible to speak about deep, principled disadvantages of the ARWU rating system.

Thus, the geographical (country) invariance of the composition of WCU at the transition from URS QS to URS ARWU is violated. This fact means that using the ARWU database as an adequate alternative to QS is questionable. In this regard, a preliminary conclusion can be made that the general hypothesis regarding the use of the ARWU database as an effective replacement for QS has not been confirmed.

TRANSITION FROM QS TO ARWU: ABERRATION OF WCU GEOPOLITICAL MAP

It has been found above that for the most common parameters the invariance of WCU estimates for QS to ARWU rating systems is not performed, and the observed discrepancies are fundamental. In this connection, let us deepen the analysis and see to what extent the intraregional distribution of WCU differs between the two information sources. To do this, consider the number of WCU by the enlarged regions of the world in 2021 for a more stringent cut-off criterion L* = 6; the

Table 3

Number of WCU geopolitical centers in 2021 according to QS and ARWU

Region of the world	Ranking QS	Ranking ARWU
	Criterion L* = 6	Criterion L* = 6
USA and Canada	39	45
Europe and Russia	35	27
Asia	16	22
Others	10	6
Total	100	100

Source: compiled by the authors.

number of aggregated regions is four — North America (without Mexico), Europe (with Russia), Asia and the rest of the world. The calculations are presented in the *Table 3*, from the analysis of which at least two fundamental differences between estimates based on QS and ARWU become apparent.

First, the ARWU system, compared to QS, gives a much more monopolized picture of the world WCU market. Almost half of all WCU is concentrated in the United States and Canada. It can be said that ARWU unconditionally recognizes the headship of American universities. The Herfindahl — Hirschman Index for ARWU is slightly higher than for QS — 3 274 versus 3 102. Similarly, the dispersion of regional WCU values for ARWU is 28.6% higher than for QS — 258.0 versus 200.7.

Second, the obtained results lead to the conclusion that there is no regional congruence of QS systems to ARWU. If one gives an approximate parity between North America and Europe, with Asia more than two times behind even Europe, the other sets an indisputable priority for North America with approximate parity between Europe and Asia. Given the above, it can be argued that the ratings of QS and ARWU set a completely different hierarchy of major geopolitical centers of economic activity, which confirms the conclusion that it is impossible to use the rating platforms QS and ARWU as interchangeable.

The comparison of the main geopolitical centers of WCU confirms the earlier conclusion that the general hypothesis regarding the use of the ARWU database as an effective replacement for QS should be rejected. The appropriate question here is which of the two rating systems demonstrates results that are more accurate. It is impossible to give a satisfactory answer to this question, because today there is no reliable methods of verification of rating products for complex objects. However, in our case, it is important statement of the fact that there is no expected invariance for WCU estimates based on QS to ARWU.

TRANSITION FROM QS TO ARWU: ABERRATION OF WCU REGIONAL SEGMENT

The differences in the position of the WCU regional centers between the two rating systems are compounded by differences in their distribution across countries within regions. Consider this issue in more detail.

For the Asian region, the ARWU results are some discouraging. This system clearly underestimates Japan's potential and doubles overestimate China's potential compared to QS (*Table 4*). This is perhaps the most impressive difference between the two

Table 4

Number of WCU Asian Countries in 2021 according to QS and ARWU

Region of the world	Ranking QS	Ranking ARWU
	Criterion L* = 6	Criterion L* = 6
China	8	16
Japan	3	2
South Korea	2	2
Others	3	2

Source: compiled by the authors.

Table 5

Number of WCU European Countries in 2021 according to QS and ARWU

Region of the world	Ranking QS	Ranking ARWU
	Criterion L* = 6	Criterion L* = 6
UK	12	8
Germany	5	3
Netherlands	6	4
France	2	4
Switzerland	3	3
Sweden	2	1
Denmark	1	2
Russia	1	0
Others	8	2

Source: compiled by the authors.

ratings of the WCU. It turns out that WCU in China is almost 3 times larger than in the rest of Asia that looks not quite realistic. Such a clear sympathy of the Shanghai ranking for Chinese universities looks not objective, especially considering the origin of the developer ARWU.

Ranking of European scientific and educational potential is also very exotic represented by ARWU rating system. Therefore, compared to QS, it reduces by a third the number of WCU in the UK (*Table 5*). In addition to the general underestimation of European success, two circumstances draw attention: castling in the two ratings of the potential of Denmark and Sweden and a fundamental realignment of forces of Germany and France. So, based on QS, in Germany there are 5 WCU, and in France — 2, and according to ARWU — 3 and 4 respectively. Finally, Russia's only WCU in QS — MSU — disappears into ARWU. Moreover, while in URS QS MSU entered the top 50 in 6 scientific directions, in URS ARWU — none at all. In this connection, there is legitimate question: how did the MSU enter the top 100 of the

Table 6

Methodology of QS World University Rankings by Subject

Direction of evaluation	Comment
1. Subject ranking	51 subject area in the directions: Arts and Humanities (11), Engineering Science and Technology (7), Life Science and Medicine (9), Natural Sciences (9), Social Sciences and Management (15)
2. University candidates	The University should exceed the minimum required assessment for each subject area by indicators of "academic reputation" and "employer reputation", as well as the minimum threshold for the number of publications in this subject area
3. Indicator	
3.1. Academic reputation	Survey of 100 thous. scientists around the world, where each of them can identify up to 10 domestic and 30 international leading institutions in their opinion (no more than two directions)
3.2. Reputation among employers	Survey 50 thous. employers, where they identify up to 10 domestic and 30 international institutions producing the most demanded and qualified specialists, and indicate the disciplines they prefer to hire graduates
3.3. Number of citations per publication	Number of citations (without self-citation) per article by destination for each institution by Elsevier Scopus database. When compiling the rating of 2021 articles were taken into account for the period 2014–2018, citation — for 2014–2019
3.4. H-index	H-index academic
4. Scoring	Different weights of different indicators are used in ranking universities by subject area
4.1. Arts and humanities	Academic reputation (60–90%), reputation among employers (5–30%), research citations per paper (0–15%), H–index (0–15%)
4.2. Engineering science and technology	Academic reputation (40%), reputation among employers (30%), research citations per paper (15%), H–index (15%)
4.3. Life sciences and medicine	Academic reputation (30–40%), reputation among employers (10–20%), research citations per paper (20–30%), H–index (20–30%)
4.4. Natural sciences	Academic reputation (30–60%), reputation among employers (10–20%), research citations per paper (15–30%), H–index (15–30%)
4.5. Social sciences and management	Academic reputation (40–70%), reputation among employers (10–50%), research citations per paper (5–20%), H–index (0–20%)

Source: compiled by the authors according to the official website QS.

Table 7

Methodology of ARWU World University Rankings by Subject

Direction of evaluation	Comment
1. Subject ranking	54 directions in natural (8), biological (4), medical (6), engineering (22) and social (14) sciences
2. University candidates	Universities that have passed the WoS publication threshold set for each area
3. Indicator	
3.1. Q1	Number of articles in WoS journals with Q1 quartile in the last 5 years
3.2. Category Normalized Citation Impact (CNCI)	Ratio of citations of published articles to average citations of articles in the same category, year and type of journal publication by the institution on academic subject for the last 5 years
3.3. International cooperation (IC)	Ratio of number of publications with authors from at least two countries to total number of related publications for the institution over the past 5 years
3.4. Quality of research (Top)	Number of articles published in leading academic journals in the last 5 years. Leading journals are determined by outstanding scientists within the academic rating of ShanghaiRanking journals
3.5. International academic awards (Awards)	Total number of university staff who received significant academic awards since 1981 (32 awards in 27 areas)
4. Scoring	For each university indicator, its percentage of the institution that scored the most points is calculated, and then the square root of the percent is multiplied by the assigned weight (determined for each direction). The final score is obtained by summing up the points for each indicator, and universities are ranked in descending order

Source: compiled by the authors according to the official website ARWU.

GUR ARWU without identifying itself on any subject in the URS ARWU?

Even stranger is the performance of the Brazilian *University of Sao Paulo* (USP) and the Mexican *National Autonomous University of Mexico* (UNAM), которые в URS QS that in URS QS entered the top-50 in 13 and 12 scientific directions, respectively, and in URS ARWU — neither. The New Zealand *University of Auckland*, which is also in the top-50 in 10 scientific areas, and the URS ARWU in only — 3, has a similar but less pronounced situation. Such examples are numerous and difficult to explain.

This allows us to ultimate verdict: WCU identification results based on URS QS and ARWU demonstrate the absence of invariance; hence, the general hypothesis of the article was not confirmed.

CAUSES OF INVARIANCE VIOLATION OF QS AND ARWU ASSESSMENTS

The lack of invariance of WCU identification results based on URS QS and ARWU requires at least a brief explanation. Moreover, the recorded differences in assessments are so significant that they exclude the possibility of replacing one source of information about universities — QS — with another — ARWU.

To explain the differences that arise, refer to the *Table 6* and *7*, which present the methodology of compiling URS QS and ARWU. The comparison of the two methodologies leads to the following conclusions.

First, QS uses large-scale expert surveys that ARWU does not use at all. Surprisingly, survey results differ from bibliometric data and result in poor comparability between the two rating systems. In this sense, the ARWU product seems even more objective, especially considering that QS surveys affect not only the academic community, but also employers.

Second, the two systems use widely differing subject lists. For example, in URS QS there is a section "*Arts & Humanities*", which URS ARWU does not have. Such a reduction of the ARWU subject base is unjustified, and thus the focus is only on natural and engineering sciences. The resulting distortions in the estimates of the two systems are caused by the loss in ARWU of 11 important QS humanitarian areas, such as: archaeology, architecture/built environment, art & design, classics & ancient history, English language & literature, modern languages, performing arts, history, linguistics, philosophy, theology, divinity & religious studies. B At the same time section "*Engineering & Technology*" in URS QS is presented in 7 directions, while URS ARWU — 22. It is not surprising that this initial incompatibility of the subject lists of the two systems results in incomparable final results.

Third, the publication and citation indicators in QS are based on IAD *Scopus*, and in ARWU — on *Web of Science*. While *WoS* was originally the American system focusing on the English-speaking world (is currently extremely conservative, with new member journals being extremely difficult to promote), *Scopus* was designed as a pan-European alternative to *WoS*, in which English is recognized as a working language but not as a native (and the base itself is more democratic and open to new participants). Obviously, the lists of the best articles in the two systems will not necessarily coincide. This circumstance — American centricity of ARWU — explains the fact that URS QS for 2021 includes 508 universities, while URS ARWU — only 458.

Thus, the three methodological differences considered in compiling URS QS and ARWU exclude the invariance of the rating results and lead to fundamental differences regarding the place and role of individual countries.

VERIFICATION OF THE WCU

The established absence of invariance between the two leading rating systems — QS and ARWU — raises new questions. For example: which of these two products is more reliable? And in extended — how trustworthy the rating sources of information?

Despite the total prevalence of ratings and their impact on all aspects of life, as well as the fact that for many years there are specialists of the new profession — rankers (rating developers), there is still no scientific basis for verification of rating products. In this regard, each time this research turns into a very creative and usually unique procedure that does not involve replication on other types of rating products. In our case, the ratings of WCU based on QS and ARWU show that Russia is not only an outsider of the market of advanced universities, but also continues to degrade. But is it really?

One of the approaches to assessing the validity of WCU ratings is based, according to the authors, on the representation in their list of universities of the countries "nuclear club". This approach focuses on the *technological side* of the WCU, but we will consider an alternative approach that is more focused to their *humanitarian potential*. The two approaches — technological and human — do not exclude, but complement each other, which justifies their use.

The essence of the proposed method consists in the use of stylized examples (SE), which due to their "refinement" allow to draw general conclusions about the studied phenomenon. In this case, SEs reflect some aspect of a reputable WCU that reveals cognitive dissonance between expectations and reality.

The first SE concerns *Harvard University* and its "graduate" *William Gates*. First, the story of B. Gates, who entered Harvard in

1973, was expelled two years later, and since 07.06.2007 officially considered a Harvard graduate, because the administration of the university decided to give him a diploma (for special merits) 34 years after admission.[3] The remarkable fact is Gates' study profile at Harvard — law — is inconsistent with his subsequent field of study in computer technology.[4] In addition, Harvard University awarded B. Gates an honorary Ph.D. in Law.

B. Gates' initiative to improve the production of vegetable meat for the transition from normal quality meat to vegetable protein concentrate or ground meats looks like an antiscientific. Harvard and Stanford supported the development of this technology.[5] The actions of Harvard University are, in our view, completely out of WCU standards of conduct, which include. On the one hand, Harvard University demonstrates double standards in issuing its scientific and educational certificates (it sells diplomas) and on the other — participates in questionable, if not anti-social and anti-scientific, projects. Therefore, without denying the scientific merits of Harvard University, it can be stated that it is only with a clear stretch that the WCU: reality does not meet expectations regarding the leader of the Ivy League.

Another failed Harvard graduate is a confirmation — *Mark Zuckerberg*, who studied at the university for only two years, but, like Gates, 13 years later still received a diploma, adding to the ranks of "honorable" graduates of Harvard. This fact is not surprising, if we recall that one of the criteria for the evaluation of universities at the GUR is the presence of outstanding graduates.

The second SE concerns the current Secretary of State for Foreign, Commonwealth and Development Affairs of the United Kingdom, Liz Truss (*Elizabeth Mary "Liz" Truss*), studied philosophy, politics and economics at *the House or College of Scholars of Merton in the University of Oxford*, which she graduated with honors.[6] Despite her excellent education, the politician of such a high rank "became famous" with his frankly shocking statements demonstrating complete ignorance of the primitive foundations of history and geography. Thus, she proposed to protect the Baltic States from Russian aggression through the Black Sea; refused to recognize Russia's sovereignty over the Rostov and Voronezh regions, and announced that Ukraine — is a proud country with a long history, having survived many invasions — from Mongols to Tatars.[7] Such illiteracy of person, included in the top-40 graduates of College of Scholars of Merton, makes you think about the true value of education, which everyone used to consider "elite".

The third SE concerns with record holder on number of absurd utterances —*George W. Bush*, 43rd President of the USA. The man who earned his bachelor's degree from *Yale University* and graduated from *Harvard Business School*, during his career made so many gaffes and flubs that his gaffes gave rise to neologism — "bushism". In particular, he called Africa a country suffering from an unthinkable disease; Greeks — as "Grecians"; Australia — as "Austria"; Elizabeth II — as Elizabeth XI. During a visit to Japan, he confused "deflation" with "devaluation", thereby crashing the yen's exchange rate; he asked, where is Wales in the USA; he believed that humans and fish could coexist peacefully; increased the "triple" allocation from 50 to 195 mln dollars; he considered East Berlin and Leipzig part of Central America.[8]

The string of statements could go on, but even the examples given are enough to cast doubt on the brilliant education of one of the

[3] URL: https://lenta.ru/articles/2007/03/23/gates/

[4] URL: https://www.shkolazhizni.ru/biographies/articles/40248/

[5] URL: *https://rusorel.info/obed-dlya-rabov-muchnye-chervi-polezny-i-pitatelny/*

[6] URL: https://topwar.ru/195904-kto-uchil-dzhen-psaki-i-liz-trass-mif-zapadnogo-jelitnogo-obrazovanija.html

[7] URL: https://yamal-media.ru/narrative/glupye-ljapy-zapadnyh-politikov-o-rossii

[8] URL: https://ria.ru/20220212/kazusy-1772348568.html?in=t

leaders of the American establishment who was educated at the university, — a leader in the global education market.

Such examples, which demonstrate the lack of education of graduates leading WCU in elementary things, are not the only ones. Let us remember statements of the 44th President of the United States Barack Obama, who graduated from Columbia University and Harvard Law School, who declared 58 states in the USA. British Prime Minister Boris Johnson (*Boris Johnson*), who educated at Oxford Balliol College and continued the tradition of George W. Bush to call Africa a country. John Kerry, 68th Secretary of State, graduated from Yale University and declared American support for democratic institutions in Kyrgyzstan. The 45th President of the USA, Donald Trump, graduated the University of Pennsylvania and personally met the President of Virgin Islands of the USA.[9]

It may seem that all the above examples are isolated exceptions to the rule, which cannot serve as a serious argument to discredit the universities mentioned. But this is not so. The fact that one of the properties of SE is that they reflect not unique, but mass phenomena [23]. This means that similar examples with different variations and arrangements can be given as much as. In this case, the international recognition underlying the WCU identification is based on the publicity and openness of information about their activities — reputation in expert community and high ranking publications in open database journals. The literature has already noted the inadequacy of this approach (for example, [24, 25]), however, even if we recognize the public results of the university as an acceptable criterion for assessing its viability, then the shame and public scandals associated with "punctures" its successful alumni should be a valid argument for its failure. This counterargument reveals the above stylized examples.

Thus, the WCU, recognized as such according to modern evaluation criteria, does not guarantee the quality of education, and even less the higher level of culture of its graduates. And this fact casts doubt the need to concept of WCU in a post-industrial society.

CONCLUSION

The research leads the following important conclusions.

First, there are currently no objective criteria and reliable sources of information for determining and identifying WCU.

Second, the public recognition of some performance of universities as key to assess their viability "awakens" the law Charles Goodhart,[10] which manipulates the indicators and distorts the true picture.

Third, the current methodology and practice of ranking universities do not allow them to bring them to a single denominator, which leads not only to contradictions between the rating products of different developers, but also to the instrumental conflict between products of the same ranker (for example, GUR and URS). The multiplicity of rating centers and the diversity of their approaches to listing market participants only exacerbate the problems noted. The current state of affairs can be described as *destructive pluralism*: information is many, but it is contradictory and unreliable

In turn, based on the above, it must be noted that the concept of WCU in the modern world has become a kind of positive euphemism. In fact, the classification of a university as WCU often simply veils the aggressiveness of the management of the respective organization, its unfair methods of competition and sometimes "dirty" technology in achieving certain results. Thus, the concept can no longer act as a reliable marker for economic agents, but, on the

[9] URL: https://ria.ru/20220211/ongovorki-1772271793.html

[10] Goodhart's law sounds like this: when a measure becomes a target, it cease to be a good measure.

contrary, disorients or even frankly deceives them.

In the XXI century, some concepts and representations are hopelessly obsolete. It is not excluded that some of these included WCU, especially based on rating products. In our view, the only sensible replacement for WCU should be practice-oriented universities that actively participate in advanced technology and management initiatives. Activity is determined by the scale and significance of the contribution (developments) to these initiatives. Let us emphasize that this understanding is not, strictly speaking, identical to research, innovative and entrepreneurial universities, although it is not always contrary to them.

REFERENCES

1. Hazelkorn E. Rankings and the reshape of higher education: The battle for world-class excellence. Basingstoke: Palgrave Macmillan; 2011. 259 p. DOI: 10/1057/9780230306394
2. Liu N.C., Cheng Y. The academic ranking of world universities. *Higher Education in Europe.* 2005;30(2):127–136. DOI: 10.1080/03797720500260116
3. Wang Q., Cheng Y., Liu N.C., eds. Building world-class universities. Different approaches to a shared goal. Rotterdam: SensePublishers; 2013. 230 p. DOI: 10.1007/978–94–6209–034–7
4. Turner D.A. World class universities and international rankings. *Ethics in Science and Environmental Politics.* 2013;13(2):1–10. DOI: 10.3354/esep00132
5. Olcay G.A., Bulu M. Is measuring the knowledge creation of universities possible?: A review of university rankings. *Technological Forecasting and Social Change*. 2017;123:153–160. DOI: 10.1016/j.techfore.2016.03.029
6. Harvey L. Rankings of higher education institutions: A critical review. *Quality in Higher Education*. 2008;14(3):187–207. DOI: 10.1080/13538320802507711
7. Frenken K., Heimeriks G.J., Hoekman J. What drives university research performance? An analysis using the CWTS Leiden ranking data. *Journal of Informetrics*. 2017;11(3):859–872. DOI: 10.1016/j.joi.2017.06.006
8. Pavel A.-P. Global university rankings — A comparative analysis. *Procedia Economics and Finance.* 2015;26:54–63. DOI: 10.1016/S 2212–5671(15)00838–2
9. Usher A., Savino M. A global survey of university league tables. *Higher Education in Europe.* 2007;32(1):5–15. DOI: 10.1080/03797720701618831
10. Bar-Ilan J., Levene M., Lin A. Some measures for comparing citation databases. *Journal of Informetrics.* 2007;1(1):26–34. DOI: 10.1016/j.joi.2006.08.001
11. Aguillo I.F., Bar-Ilan J., Levene M., Ortega J.L. Comparing university rankings. *Scientometrics.* 2010;85(1):243–256. DOI: 10.1007/s11192–010–0190-z
12. Huang M.X. The comparison of performance ranking of scientific papers for world universities and other ranking systems. *Evaluation Bimonthly.* 2011;(29):53–59.
13. Khosrowjerdi M., Kashani Z.S. Asian top universities in six world university ranking systems. *Webology.* 2013;10(2):1–9. URL: http://www.webology.org/2013/v10n2/a114.pdf (accessed on 16.05.2022).
14. Shehatta I., Mahmood K. Correlation among top 100 universities in the major six global rankings: Policy implications. *Scientometrics.* 2016;109(2):1231–1254. DOI: 10.1007/s11192–016–2065–4
15. Soh K. What the overall doesn't tell about world university rankings: Examples from ARWU, QSWUR, and THEWUR in 2013. *Journal of Higher Education Policy and Management.* 2015;37(3):295–307. DOI: 10.1080/1360080X.2015.1035523
16. Moed H.F. A critical comparative analysis of five world university rankings. *Scientometrics.* 2017;110(2):967–990. DOI: 10.1007/s11192–016–2212-y
17. Chen K., Liao P. A comparative study on world university rankings: A bibliometric survey. *Scientometrics.* 2012;92(1):89–103. DOI: 10.1007/s11192–012–0724–7
18. Buela-Casal G., Gutiérrez-Martínez O., Bermúdez-Sánchez M.P., Vadillo-Muñoz O. Comparative study of international academic rankings of universities. *Scientometrics.* 2007;71(3):349–365. DOI: 10.1007/s11192–007–1653–8

19. Salmi J., Frumin I.D. Excellence initiatives to establish world-class universities: Evaluation of recent experiences. *Voprosy obrazovaniya = Educational Studies Moscow.* 2013;(1):25–68. (In Russ.). DOI: 10.17323/1814–9545–2013–1–25–68
20. Salmi J. The challenge of establishing world-class universities. Washington, DC: The World Bank; 2009. 136 p. (Russ. ed.: Salmi J. Sozdanie universitetov mirovogo klassa. Moscow: Ves' Mir; 2009. 132 p.).
21. Balatsky E.V., Ekimova N.A. Geopolitical meridians of world-class universities. *Herald of the Russian Academy of Sciences.* 2019;89(5):468–477. DOI: 10.1134/S 1019331619050022 (In Russ.: *Vestnik Rossiiskoi akademii nauk.* 2019;89(10):1012–1023. DOI: 10.31857/S 0869–587389101012–1023).
22. Balatsky E.V., Ekimova N.A. Identification of world class universities. *Mir novoi ekonomiki = The World of New Economy.* 2017;(3):81–89. (In Russ.).
23. Acemoglu D., Robinson J.A. Why nations fail: The origins of power, prosperity, and poverty. New York: Crown Business; 2013. 544 p. (Russ. ed.: Acemoglu D., Robinson J.A. Pochemu odni strany bogatye, a drugie bednye. Proiskhozhdenie vlasti, protsvetaniya i nishchety. Moscow: AST; 2015. 720 p.).
24. Van Raan A.F.J. Fatal attraction: Conceptual and methodological problems in the ranking of universities by bibliometric methods. *Scientometrics.* 2005;62(1):133–143. DOI: 10.1007/s11192–005–0008–6

ABOUT THE AUTHORS

Evgeny V. Balatsky — Dr. Sci. (Econ.), Prof., Director of the Center for Macroeconomic Research, Financial University, Moscow, Russia; Chief Researcher, RAS Central Economics and Mathematics Institute, Moscow, Russia
http://orcid.org/0000-0002-3371-2229
evbalatsky@inbox.ru

Natalia A. Ekimova — Cand. Sci. (Econ.), Assoc. Prof., Leading Researcher at the Center for Macroeconomic Research, Financial University, Moscow, Russia
http://orcid.org/0000-0001-6873-7146
n.ekimova@bk.ru

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