Moscow International University Ranking: critical review and geopolitical effects

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Abstract

The *Moscow International University Ranking* (*MosIUR*) is a global university ranking launched in 2017 with the intention of evaluating universities by considering three essential dimensions (education, research, and knowledge transfer). This ranking was designed and developed by the *Russian Union of Rectors* following a direct request from President Vladimir Putin. The objective of this work is to perform a threefold analysis of this ranking. First, a methodological analysis is carried out, focused on describing the nature of the indicators and sources employed. Second, a geopolitical analysis aims to determine how countries are represented in this new global ranking. Third, a webometric analysis is done, focused on the online visibility of the ranking. The results reveal *MosIUR* to be a ranking with an outstanding number of webometric indicators and clearly oriented towards transference to society. However, some methodological concerns arise regarding a few metrics. The geopolitical position of developed countries is similar to that in other global rankings, but slight differences emerge, such as the stronger presence of Russian universities. The cybermetric analysis confirms that, despite being international, this ranking is strongly limited to Russia. It can be concluded that, except for the palpable predominance of the USA, each ranking tends to place universities from their own country in a better position. The creation of *MosIUR* by the Russian government can thus be perceived as a political strategy to improve the reputation of Russian universities, increase funding, and accelerate their transformation into world-class universities.

1. Introduction

The search term "university rankings are here to stay" yielded approximately 11,000 results in *Google* as of October 2020. This motto reflects the importance of these information tools in different and complementary fields, including higher education, scientometrics, economics and finance, or communication. The academic literature also reveals the current prominence of this topic, with around 600 publications covering this issue in the last five years (2016–2020) according to the *Scopus* database.

Among currently available university rankings, global rankings (those covering institutions from all over the world) have attracted special interest due to their specific characteristics. While international rankings already existed, genuine global rankings started with the launch of the *Academic Ranking of World Universities* (*ARWU*) in 2003, popularly known as the *Shanghai Ranking*. Thereafter, the main universities in the world could be directly compared with one another, generating new benchmarking and academic reputation-building activities to improve their positions, such as the Olympic Games of higher education (**Yudkevich**; **Altbach**; **Rumbley**, 2015). This race to improve reputation has reshaped higher education (**Hazelkorn**, 2015).

Moreover, if we consider that the quality of the university system of a country indicates its degree of economic development and innovation, the ranking of countries in global university rankings, especially in top positions, can be analyzed under a geopolitical lens. In this sense, developed countries would be expected to have more universities at top positions compared with developing or underdeveloped countries. Competition among not only institutions but also countries has emerged through the annual publication of global university rankings.

After the launch of the *ARWU*, other global university rankings were proposed and implemented. As each ranking editor/publisher designed their own methodology, they reflect different aspects of university performance. Some global rankings measure all dimensions of universities (e.g., *QS World University Ranking*, *THE World University Ranking*), while others measure specific dimensions, such as research activity (e.g., *SCImago Institutions Rankings*, *Leiden Ranking*, *Academic Ranking of World Universities*), employability (e.g., *QS Graduate Employability Rankings*, *Global University Employability Ranking*), knowledge transfer (e.g., *Reuters Top 100*: *The world's most innovative universities*), sustainability and the Sustainable Development Goals (SDGs) (e.g., *THE Impact University Rankings*, *Greenmetrics*), or customized combinations (e.g., *Ranking Web of Universities* o *Webometrics Ranking* (*WR*). Furthermore, some rankings measure the institution as a whole, while others cover specific units (e.g., schools, faculties), services and facilities (e.g., university libraries), or fields of knowledge. Consequently, the concept of global university rankings is continuously growing, thereby prompting the appearance of new university global rankings.

> https://www.topuniversities.com/qs-world-university-rankings
> https://www.timeshighereducation.com/world-university-rankings
> https://www.scimagoir.com
> https://www.leidenranking.com
> http://www.shanghairanking.com
> https://www.topuniversities.com/university-rankings/employability-rankings/2020
> https://www.timeshighereducation.com/student/best-universities/best-universities-graduate-jobs-global-university-employability-ranking
> https://www.reuters.com/innovative-universities-2019
> https://www.timeshighereducation.com/impactrankings
> http://greenmetric.ui.ac.id
> http://www.webometrics.info/en

Because of the variations between global university rankings, an uneven distribution of countries might emerge (**Docampo**, 2008). Thus, biases introduced by each producer can prejudice or benefit specific countries or cultures with specific university systems. In this sense, a shift in scale in the geopolitics and geoeconomics of higher education from the national to global level has been revealed, prioritizing the academic practices and discourses conducted in specific locations and fields of research (**Jöns**; **Hoyler**, 2013).

A new global university ranking, the *Moscow International University Ranking* (*MosIUR*), was launched in 2017. This new information tool has two main features: one methodological (the metrics and sources used) and one political, in the sense that it was created by a government, specifically following a direct request from President Vladimir Putin. While this ranking has been described in local literature (**Zadorozhnyuk**; **Kalashnik**; **Kireev**, 2018), a critical discussion in the university rankings field is lacking. This gap in the literature is filled by the current analysis and discussion.

This article aims to review and discuss the *Moscow International University Ranking* with three main objectives. In particular, this research applies methodological (indicators, weights, and ranking criteria), geopolitical (presence of countries in the ranking), and webometrics (web visibility) analyses, and finishes with some conclusions and remarks.

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2. Background

The Russian Federation can be seen as an example of a world region whose cultural, political, and language characteristics as well as university system may not completely fit with the methodologies and procedures employed by the global university rankings designed by companies and organizations located in other economically strategic regions. Political actions aimed at enhancing the position of Russian universities in world university rankings have already been discussed (**Sidorenko**; **Gorbatova**, 2015). In the words of Viktor Sadovnichy, Rector of *Lomonosov Moscow State University*,

> "our education system deserves a deeper exploration to understand it and use it for our own development."
> *https://mosiur.org/news*

At the meeting of the Board of the *Russian Union of Rectors* headquartered in Russia in September 2016 and in accordance with a request from President V. V. Putin, Sadovnichy announced that a new international university ranking would be developed. Two months later, Sadovnichy and the Deputy Minister of Education and Science of the Russian Federation, L. M. Ogorodova, expanded on this by announcing that the founders of the project would be the *Russian Union of Rectors* and the *Russian Academy of Sciences*, and that the ranking (initially called the *Three University Missions*) would be operated by the *Association of Rating, Ranking, and Other Performance Evaluations Makers* (*ARM*), a nonprofit organization whose members include leading rating and research centers such as *Expert RA*, *Russian Public Opinion Research Center* (*Vciom*), and *Reputatsiya*, among others.

> *https://rsr-online.ru/en*
> *http://www.ras.ru/indexeng.html*
> *https://raexpert.ru*
> *https://www.wciom.com*
> *https://reputatsiya.net*

The project was implemented using a grant from the President of the Russian Federation for the development of civil society provided by the *Presidential Grants Foundation*. The project is also supported by the *Volnoe Delo Foundation*, a nongovernmental organization that supports a wide range of initiatives with a particular focus on education.

> *https://baikalfoundation.ru*
> *http://volnoe-delo.ru/en*

Following the announcement of its launch, several public discussions (conferences and seminars) were held to address the questions of the methodology and ranking criteria, and an early list of criteria was drafted and discussed by the *Councils of Rectors of Federal Districts of the Russian Federation*. Thereafter, *ARM* invited all the relevant higher education organizations to participate in the *Moscow International University Ranking*, receiving more than 200 questionnaires from Russian universities.

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The process of surveying Russian universities was completed on 7 March 2017. After this period, *ARM* determined the final set of criteria, their wording, and finally the formulas that would be used to calculate the rankings. The first draft of *The Three University Missions* methodology was published online on 23 March 2017. After a trial run using a dataset of some 200 Russian universities, this first draft of the methodology was discussed by the *MosIUR International Expert Council* at a meeting on 8–9 June 2017 in Moscow.

Experts representing universities and research centers in various countries (the USA, the UK, Brazil, China, India, South Africa, Iran, Italy, Belgium, Turkey, and Russia) analyzed how the draft methodology criteria could be applied across different nations and education systems. Finally, the first edition of *MosIUR* was released on 11 December 2017 as a pilot version, including 200 universities from all over the world. The completed ranking is published in Russian in the *RAEX Rating Review*, while a multilingual website is also available.

> *https://raex-rr.com*
> *https://mosiur.org*

At the time of writing (October 2020), four editions of the *MosIUR* ranking have been published. As mentioned above, the first edition covered 200 universities (*ARM*, 2017). This number has since increased, with 333 universities in the second edition (*ARM*, 2018c), 1200 universities in the third (*ARM*, 2019b), and 1500 universities in the fourth (*ARM*, 2020).

Furthermore, other changes have been made; for example, the first two editions included an overall score, which was removed in 2019. From the third edition onward, the ranking positions have included unequally sized ranges from the 301st position. From the 301st to 700th position, the ranges are composed of 50 institutions, while from the 701st position onward, the ranges are composed of 100 universities. Finally, various indicators have been removed over the years, and their relative weights have been changed.

The most recent edition of the *MosIUR* (2020) comprises 16 indicators grouped along three main dimensions: quality of education, research, and transfer (called university and society). A combined indicator (overall score) is then calculated,

which serves as a ranking criterion, although this score is currently not made public. All the dimensions and metrics employed are compiled in Annex I, together with a brief description of the scope of each metric (extracted and digested from *ARM*, 2020). All 16 indicators are quantitative measures, while reputation assessments (surveys) are explicitly excluded.

The dimension related to education comprises four indicators, which contribute 45% of the overall weight. These indicators are related to human resources (student to academic staff ratio), financial resources (university budget to student ratio), internationalization (percentage of international students), and student competitiveness (prizes and awards received by students).

The research dimension also includes four indicators, which contribute 25% of the overall weight. In this case, the indicators are related to citation impact (both national and international), research economic resources (research income to academic staff), and researcher competitiveness (prizes and awards received by scholars).

Finally, the society dimension includes eight indicators, contributing the remaining 30% of the overall weight. This dimension mainly uses webometric indicators to capture the engagement of universities with society (the number of webpages indexed in search engines, website global reach, *Wikipedia* webpage views, social media followers, online courses, and online availability of universities' institutional and financial reports).

To include universities in the ranking, specific rules are followed. The expansion of its coverage, which started in 2019, began by considering over 1700 universities that achieved the top positions in both global and domestic rankings listed in the *IREG Inventory of National Rankings*. In addition, the number of publications indexed in *Clarivate Analytics*' *Web of Science Core Collection* and *InCites* in the period 2015–2018 was considered for some institutions. Conversely, universities with fewer than 500 students, and no Bachelor's, Master's, or Ph.D. programs (or their equivalents) in at least two out of six areas of knowledge (natural sciences, engineering and technology, medical sciences, agricultural sciences, social sciences, and humanities) were excluded.
https://ireg-observatory.org/en/initiatives/ireg-inventory-of-national-rankings

3. Methods

All universities included in the top 200 positions in the main global university rankings (*ARWU*, *QS-WUR*, *THE-WUR*, *SCImago Institutions Rankings* (*SIR*), *Ranking Web of Universities*, and *MosIUR*) were gathered directly from their official websites for the most recent edition available as of October 2020. The country of each university was also included.

In addition, webometrics data from *MosIUR*'s official website were gathered through the *Majestic* database, currently the major link database worldwide, to determine the visibility and impact of the university ranking website.
https://majestic.com

External links, referring domains, and flow metrics (trust flow and citation flow) were gathered. Data were obtained as of October 2020.

4. Results

4.1. Methodological analysis of the *MosIUR* ranking

The overall methodology employed by the *MosIUR* ranking follows an established university ranking model based on different indicators grouped into different clusters. Each cluster measures a particular dimension of an institution's activities. Each indicator within a dimension is weighted, then each dimension is weighted in turn to obtain the final score (i.e., combined indicator).

The *MosIUR* ranking differs from other global university rankings in terms of the metrics and data sources used, especially in the dimension related to transfer. The main advantages, disadvantages, and concerns, from the point of view of the authors of this work, are described below.

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Education

Student competitiveness constitutes a proxy to quantify student achievements. However, the list of 17 international student contests that are covered biases the results towards specific fields and countries. This same effect occurs with the "Alumni" indicator used by the *ARWU* ranking, and the "Quality of education" indicator used by the *Center of World University Rankings*. The effects of this indicator on global ranking positions have been evaluated in literature (**Meho**, 2020), as well as by the *MosIUR* publishers (*ARM*, 2019a).
https://cwur.org/methodology/world-university-rankings.php

The percentage of international students must be considered when it comes to measuring internationalization and the capacity to attract overseas students. This ranking considers both full- and part-time programs, for Bachelor's, Master's, as well as doctorate degrees. However, a minimum of 3 months at the university is required. This may omit short stays or research visits, which also reflect international movement but are very difficult to account for.

Human resources include both faculty and research staff. University staff must be clearly defined as this can vary from country to country. Moreover, within research staff, one can distinguish between scholars with teaching duties, pure researchers, full- and part-time personnel, professors, laboratory staff, PhD students under research contracts, etc. Faculty staff should also be clearly delimited, as this category may include not only administrative

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staff at departments, schools, and faculties as well as librarians, but also cleaners, gardeners, and technicians, many of whom are not directly involved in the three university missions analyzed.

Research

The weight of the research dimension is relatively low (25%) in this ranking and is mainly shaped by citation data (13%). This constitutes a difference in compared with the three most important global university rankings (*ARWU*, *THE* ranking, and *QS*). The difference between international and national impact (10% and 3%) seems subjective and unbalanced. Citation data rely on only one bibliometric indicator (normalized citation data), which is an alternative approach not followed by other international rankings. Surprisingly, scientific productivity (calculated in terms of the contribution to the overall country's productivity) is located outside of the research dimension (transfer) with a small weight (4%).

The competitiveness of scholars is also a complex measurement as it includes awards to scholars and alumni. A list of awards to academics (including 99 awards) is obtained from the *IREG List of International Academic Awards*. However, the *IREG* list excludes 36 international awards that were identified as highly prestigious by **Meho** (2020) but includes 20 awards that are not classified as highly prestigious by Meho and 15 awards given exclusively to individuals affiliated with institutions located in a single country between 2005 and 2019. This fact, in our opinion, disqualifies these awards as international. *https://ireg-observatory.org/en/wp-content/uploads/2019/12/ireg-list-academic-awards.pdf*

There is also some concern regarding the alumni awards indicator. First, it should be included in the education dimension as it measures the number of students completing Bachelor's, Master's, and Ph.D. programs. Second, this measurement is biased towards larger and more comprehensive institutions. Finally, the research income per academic staff indicator is timely as it measures performance in terms of productivity. However, it includes not only research but also faculty staff, which should be properly justified.

Society (transfer)

The main novelty of this ranking is the society dimension due to the overall weight given to transfer/communication activities (30%) as well as the variety of indicators and online sources used. In its current edition, *MosIUR* includes the largest number of different webometric indicators.

The number of online courses is an interesting quantitative metric. However, only two platforms (*Coursera* and *edX*) are considered, which might introduce a bias towards some North American countries. This issue has been acknowledged by the *MosIUR* editors (*ARM*, 2018b) and could be easily fixed by some adjustments in the future. The inclusion of other platforms might provide a more comprehensive picture, as might including other metrics beyond the number of courses offered (number of enrollments, completion rate, etc.).

Web presence is calculated through three horizontal search engines (*Google*, *Baidu*, and *Yandex*) covering three cultures (English, Chinese, and Russian). Although *Bing* offers an application programming interface (API), this search engine is excluded. The issue with these three search engines is that only the most popular result is used for each university. Although this procedure favors Chinese and Russian universities, it also recognizes other cultures that may be hidden on *Google*.

The number of views received by the university's official *Wikipedia* page is another new metric (*ARM*, 2018a). *Wikipedia* is also used to measure the number of alumni who have achieved fame and thus have a personal *Wikipedia* entry. However, only pages with at least 1000 views in the year are considered. This threshold seems quite subjective. Furthermore, this metric might be better placed in the education dimension where other alumni achievements are considered. Similarly, the number of academic staff with a personal *Wikipedia* page could also be a noteworthy metric.

To measure audience or social reach, the number of subscribers or followers on some social media platforms is counted. The few platforms considered are *Facebook*, *Twitter*, *VK* (a Russian social networking site), and *Sina Weibo* (a Chinese microblogging service), excluding some important social media platforms, in particular *YouTube* and *Instagram*. This is a combined metric that sums the number of subscribers on those platforms and including those with the highest number of subscribers for each university. This procedure might introduce statistical bias. It would be more desirable to include a combined metric that considers the number of followers on each of the social media platforms included.

> *https://vk.com*
> *https://weibo.com*

University website relevance is included through *Alexa*'s global reach indicator. This metric should be used with caution as it is calculated through a user panel, with clear bias among countries. Rather, advanced webometric metrics, such as *Majestic*'s flow metrics (or similar technologies offered by *Ahrefs* or *Moz*'s *Link Explorer*),

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should be used. Moreover, the absence of link-related metrics is surprising, in particular the number of referring domains.

> https://support.alexa.com/hc/en-us/articles/200449744-How-are-Alexa-s-traffic-rankings-determined-
> https://majestic.com/help/glossary
> https://ahrefs.com
> https://moz.com/link-explorer

Finally, the availability of institutional and financial information is a challenging metric to measure university engagement while being transparent to society and open data. This metric measures not only the availability but also the novelty and quality of this information. Therefore, this indicator is not completely quantitative, but qualitative. As such, the methodology should describe how information quality is to be measured and scored.

4.2. Geopolitical analysis of the *MosIUR* ranking

The most recent edition of the *MosIUR* ranking (2020) includes 1500 universities, representing 97 countries. The USA is the most well-represented country (accounting for 14.7% of all universities covered, versus 16.5% in *ARWU* and 12.3% in *THE-WUR*), followed by China[1] (8.7%) and the Russian Federation (6.7%).

Curiously enough, *MosIUR* explicitly declares that the number of institutions representing any given country is proportional to the country's contribution to the world economy. Although this may pose a challenge regarding the calculation of pure overall scores, the resulting distribution of countries does not completely match the list of countries according to gross domestic product.
https://www.imf.org/en/Publications/WEO/weo-database/2020/October

The evolution of the number of universities according to country over the four available editions is presented in Table 1, focusing on the top 200 positions. The USA's presence has increased continuously (from 41 to 69 universities), while the UK experienced remarkable growth during 2018 and 2019 but a notable decrease in 2020. Other countries, such as Ireland and India, experienced critical drops from 2017 to 2020, while most countries have remained stable over time. Furthermore, the Russian Federation presents a special case as it was represented by 13 universities (out of 200) in 2017, whereas this number decreased to 6 (in both 2019 and 2020).

Figure 1. Distribution of universities in the *MosIUR* ranking (2020 edition) according to country.

The 2020 edition of *MosIUR* includes 30 countries in the top 200 positions. This number is close to that found in other global rankings, such as *ARWU* (26), *THE-WUR* (26), *Webometrics Ranking* (*WR*) (26), *SIR* (28), and *QS-WUR* (33). Table 2 presents the number of universities featured in each country for each of these global rankings (only including countries with at least one university in all six rankings).

Only 20 countries have at least one university featured in the top 200 positions in all six of the global rankings analyzed. The *ARWU* ranking (elaborated by *Shanghai Jiao Tong University*, China) has the highest number of Chinese universities, while the *QS* and *THE* rankings (both elaborated by British consultancy firms *Quacquarelli Symonds* and *Times Higher Education*, respectively) feature the highest number of British universities. Neither *WR* nor *SIR* include any Russian universities in the top 200 positions, while *QS-WUR*, *THE-WUR*, and *ARWU* include one. The *MosIUR* ranking features six Russian universities in the top 200 positions.

Other countries with extremely unbalanced results are Germany (with a strong presence in *THE-WUR*), Japan (with a weak presence in *THE-WUR*), or Switzerland (with a low presence in *WR*).

Obviously, these slight differences are not distinguishable when (Spearman) correlating the distribution of countries for each global ranking (Table 3), as a mimicry phenomenon emerges between university rankings due to the reputational bias in the top positions (**Safón**, 2019; **Safón**; **Docampo**, 2020). This phenomenon stabilizes in the lower positions where small performance variations change the weight of indicators over time, and/or the inclusion of new universities can lead to large changes in positions, especially due to the strong volatility in the data (**Saisana**; **D'Hombres**; **Saltelli**, 2011; **Pérez-Esparrells**; **Orduña-Malea**, 2018).

4.3. Webometrics analysis of the *MosIUR* ranking

MosIUR's official website (<mosiur.org>) receives 6083 external in-links from 147 web domains, of which 58 (39.5%) are universities, mainly from Russia. These web domains are registered in a wide variety (31) of different top-level domains (TLDs), of which 77 (52.4%) are registered in the geographical TLD .ru.

Table 1. Evolution of number of universities according to country in the *MosIUR* ranking (top 200)

Countries	2017	2018	2019	2020
USA	41	58	66	69
UK	18	27	29	21
China	14	11	14	13
The Netherlands	9	10	9	10
Canada	9	6	6	9
Germany	10	10	10	9
Japan	12	10	9	9
Australia	7	8	8	8
Switzerland	5	6	6	7
Russian Federation	13	7	6	6
Sweden	4	6	6	6
Denmark	2	4	3	3
France	3	5	4	3
South Africa	2	1	1	3
Spain	2	3	2	3
Belgium	1	5	0	2
Finland	1	2	2	2
Israel	1	1	1	2
Norway	1	2	2	2
Singapore	2	2	2	2
South Korea	5	1	2	2
Austria	2	2	0	1
Czech Republic	2	1	1	1
Ireland	5	1	1	1
Italy	2	1	0	1
Lebanon	0	0	1	1
Mexico	4	1	0	1
New Zealand	1	2	1	1
Poland	2	1	1	1
Taiwan	3	1	1	1
Argentina	1	0	0	0
Belgium	0	0	3	0
Belarus	1	0	0	0
Brazil	3	1	1	0
Chile	2	1	0	0
Colombia	0	0	1	0
Estonia	0	1	0	0
Iceland	1	0	0	0
India	5	1	1	0
Iran	1	0	0	0
Luxembourg	0	1	0	0
Turkey	2	0	0	0
Ukraine	1	0	0	0

Overall, 86.9% of the hyperlinks (5288) come from one specific online resource (*RSR online* at <rsr-online.ru>), the above-mentioned *Russian Union of Rectors*. Other important websites from which *MosIUR* receives hyperlinks are Главная [*SGM Agency*] (119 links), *Lancman School* (72), and the *IREG* (*International Ranking Expert Group*) *Observatory* (51).

When analyzing the IP addresses of websites linked to the *MosIUR*'s website, one finds that most come from Russia (87), followed by the USA (14), Germany (8), Belarus (4), Poland (4), and Moldova (4).

Table 2. Number of countries broken down by university rankings published in 2020 (top 200)

Country	QS	ARWU	THE	WR	SIR	MosIUR
Australia	11	8	12	8	8	8
Austria	2	1	1	1	1	1
Belgium	4	4	4	2	2	2
Canada	7	9	8	12	9	9
China	12	**48**	12	13	31	13
Denmark	3	3	3	3	3	3
Finland	2	1	1	1	1	2
Germany	12	10	**21**	11	13	9
Israel	1	4	1	1	3	2
Italy	3	3	3	5	7	1
Japan	10	7	**2**	3	6	9
The Netherlands	9	9	11	6	8	10
Norway	2	2	1	3	1	2
Singapore	2	2	2	2	2	2
South Korea	7	1	7	1	6	2
Spain	2	1	3	2	3	3
Sweden	5	5	5	6	5	6
Switzerland	7	7	7	**2**	6	7
UK	26	20	**29**	17	19	21
USA	45	65	59	97	**42**	69

Note: Red color highlights unexpectedly high/low values.

Table 3. Correlation matrix: distribution of countries according to the number of universities included in the *QS-WUR, ARWU, THE-WUR, MosIUR, WR,* and *SIR* global rankings (top 200)

	QS	ARWU	THE	MosIUR	WR	SIR
QS	1	0.84	0.90	0.85	0.79	0.89
ARWU	0.84	1	0.81	0.88	0.86	0.86
THE	0.90	0.81	1	0.80	0.79	0.90
MosIUR	0.85	0.88	0.80	1	0.81	0.82
WR	0.79	0.86	0.79	0.81	1	0.83
SIR	0.89	0.86	0.90	0.82	0.83	1

Note. All values are significant at α > 0.05

Regarding the quality of the web domains linked to the *MosIUR* website, the median trust flow (TF) is moderately low (29; mean 34.8), with *Wikipedia* (TF = 96) and the *University of Wisconsin–Madison* (TF = 85) being the web domains with the highest TF values. Figure 2 shows the scatterplot between *Majestic*'s trust flow and citation flow, revealing a positive correlation (R^2 = 0.6). A significant number of websites have a citation flow higher than their trust flow (i.e., websites receiving hyperlinks from low-quality websites).

4.4. Final remarks

As observed above, the *MosIUR* ranking was created by a government body instead of through commercial interests, such as by consulting companies' business models allied with media and data providers (e.g., *Elsevier - Scopus*). Therefore, there is the potential for increased use of this ranking by Russia's and the surrounding countries' universities to obtain a presence not achieved in other global rankings.

In addition, this ranking manages to escape the entry requirements of the global higher education rankings market and contributes to eliminating the oligopoly, similar to that endorsed by the *ARWU* at the beginning of the new century, accompanied by the family of London rankings, *THE* and *QS*. In this sense, the *MosIUR* joins the branch of other rankings, such as the *Ranking Web*

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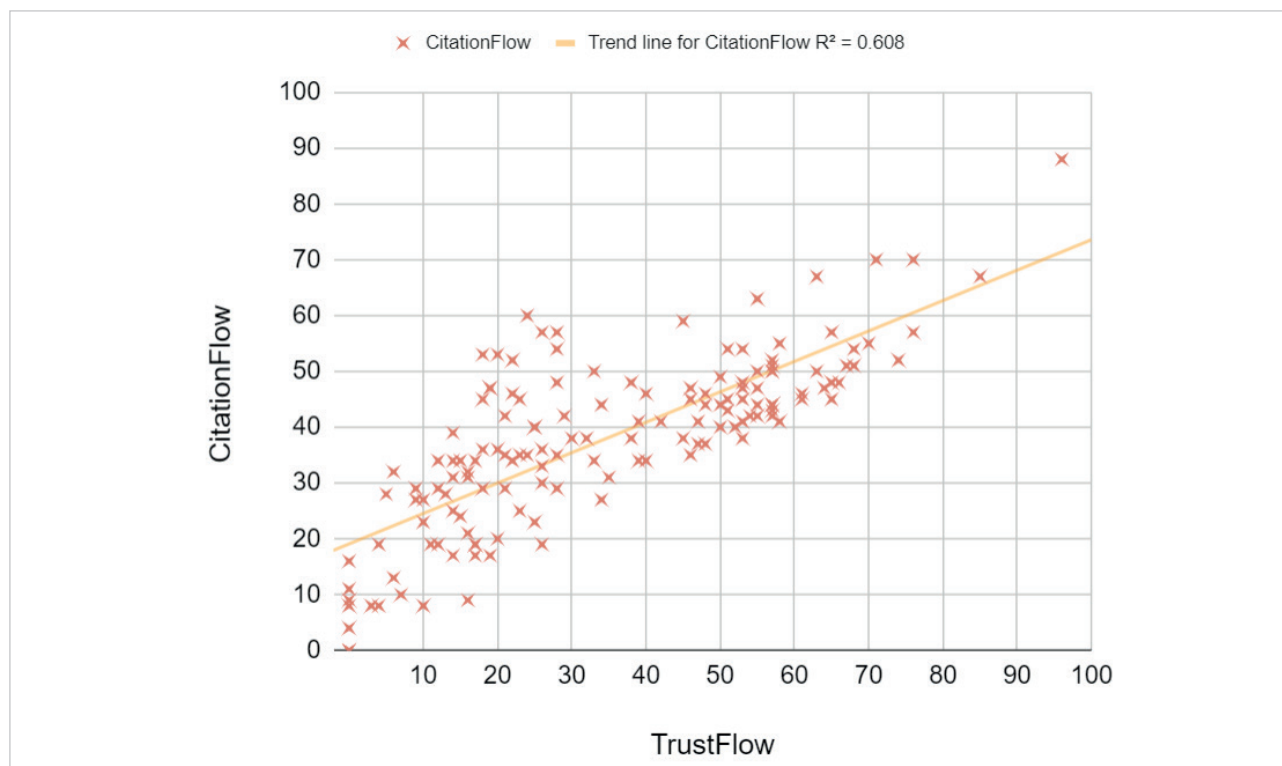
Figure 2. Scatterplot of trust flow (TF) versus citation flow (CT) for websites linked to the *MosIUR* website (<*mosiur.org*>)

of Universities, that have no commercial interests and use alternative data sources to develop innovative indicators to measure performance in teaching, knowledge transfer, and innovation. However, the *MosIUR* ranking has some limitations, as described below.

As a ranking based on a combined score built on a few indicators grouped along three general dimensions, the *MosIUR* ranking fails to capture university performance on a global basis, which is, in fact, its overarching objective, as for other university rankings. In light of the results, the authors conclude that the *MosIUR* ranking lacks the capacity to assess university quality in all its complexity and displays biases and limitations in terms of institutional coverage, rating methods, indicator selection, and data normalization, as highlighted by other authors for other, well-known global university rankings (**Safón**, 2013; **Moed**, 2017). In this way, all three dimensions covered, viz. research (**Van-Raan**, 2005), teaching (**Trigwell**, 2011), and transfer (**Montesinos** *et al.*, 2008; **Landinez**; **Kliewe**; **Diriba**, 2019), cannot be easily measured using a few quantitative indicators.

Although the analysis of global university rankings as a tool lies beyond the scope of this manuscript, these general shortcomings limit the direct applicability of the *MosIUR* ranking, which inherits all the general limitations of other university rankings. In addition, the use of data sources from specific locations increases the intrinsic bias introduced by this ranking model.

Focusing on the *MosIUR* ranking specifically, it would be beneficial to display not only the final position of a university in the ranking, but also its position according to each of the indicators (or at least along each of the dimensions) to help university leaders make decisions and avoid being considered as a mere ordinal classification.

Successive weight changes and the removal of indicators have meant that the methodology is not yet stable over time. Moreover, the number of universities examined has also varied. The data sources have also changed over time (e.g., the *Scopus* database was included in the 2019 edition). Nevertheless, such methodological changes may be justified by the discussion of the international expert group (*IREG*). Likewise, the increase in the number of classified universities could be justified by the need for greater comparison due to the change in the business model of their competitors.

> The *MosIUR* ranking lacks the capacity to assess university quality in all its complexity and displays biases and limitations in terms of institutional coverage, rating methods, indicator selection, and data normalization, as highlighted by other authors for other well-known global university rankings

The *MosIUR* ranking was created with the aim of developing the three missions of universities. In this sense, this new global ranking encompasses the so-called third mission (university and society, transfer to society) in Europe (**Montesinos** *et al.*, 2008), which is one of the main shortcomings of its direct competitors (*ARWU*, *THE-WUR*, and *QS-WUR*). Meanwhile, this ranking promotes

> ' The *MosIUR* ranking encompasses the so-called third mission (university and society, transfer to society) in Europe, which is one of the main shortcomings of its direct competitors '

the quality of teaching to a decisive position since the weighting of the teaching mission (45%) is much higher than that of the research mission (25%), which in contrast has the highest weighting in other global rankings. This well-intended difference from other "rival" global rankings may have unintended consequences.

The *MosIUR* ranking uses many bibliometric/informetric indicators in a novel way to assess the third mission. Luiz Claudio Costa, President of the *IREG Observatory on Academic Rankings and Excellence*, noted at the *Third University Mission International Conference* that the

> "*MosIUR* opens a new generation of academic rankings, the second one."

While this claim might be considered disproportionate, it appears that it was intended to emphasize the inclusion of metrics related to this transference mission.

> *https://third-mission.org*
> *http://ireg-observatory.org/en_old/news-from-ireg-members/923-moscow-third-university-mission-conference*

Nevertheless, the result regarding the relevance of university systems by country is very similar to that in the other main global rankings (*ARWU*, *THE-WUR*, *QS-WUR*, *SIR*, and *WR*). Indeed, only a few countries, such as Japan and Switzerland, have fewer institutions among the top 200 universities in the world in the *MosIUR* ranking compared with, for example, *ARWU*.

It can thus be concluded that the *status quo* according to country is maintained to some extent. From a geopolitical perspective, the USA has the most powerful university system in global rankings. In particular, this effect becomes even more pronounced when the number of institutions by country is considered in the latest edition of the *MosIUR* ranking. In comparison, China still ranks second in the *MosIUR* ranking.

Except for the USA's dominance, which is palpable, each ranking tends to place universities from its own country in a better position; for example, China is better positioned in the *ARWU*, the UK in the *THE-WUR* and the *QS-WUR*, and Russia in the *MosIUR*, in comparison with other rankings (for the top 200, top 500, and top 1000+).

The better its position in such rankings, the greater the visibility of an institution (**Lee**, 2013; **Altbach**; **Hazelkorn**, 2017) and the greater its public/private funding (**Marginson**, 2017). This historical country bias evidenced by traditional university rankings seems to be maintained in *MosIUR*. For this reason, one of the main challenges of *MosIUR* is to provide greater visibility to Russian universities, which will bring more prestige to these institutions and impact on their reputation, at not only a national but also an international level, by reaching the status of "global university" for six universities in 2020.

Isak Froumin, academic advisor to the *Institute of Education* at the *National Research University Higher School of Economics* in Russia, and Jamil Salmi, former head of the *World Bank* program on higher education, estimated that over 30 excellence programs have been launched in 20 countries since 2000 (**Siwinski**, 2016).
https://www.worldbank.org/en/topic/tertiaryeducation

Because of these initiatives, a group of so-called accelerated world-class universities has emerged. These universities tend to obtain extra funding to accelerate their process of transformation to world-class status, as recently occurred in the *ARWU*'s top 20 positions with *Paris-Saclay*, one of the most successful French initiatives (**Pérez-Esparrells**, 2020). Among these initiatives, we include Russia's *5-100 Project*, whose goal is

> "to maximise the competitive position of the group of leading Russian universities in the global research and education market."
> *https://www.5top100.ru/en*

To achieve their goals, these programs use rankings as a convenient tool to monitor the implementation of reforms. Excellence initiatives have already driven the rankings to introduce changes to their methodologies, and we are sure that this process will continue. Similarly, some countries have enforced university funding policies based on rankings criteria. Russia has modified, and will continue to modify, their financing policies to focus on developing a range of "accelerated world-class universities," and *MosIUR* is the best example of this.

5. Notes

1. This also includes the Hong Kong and Macao's Chinese special administrative regions.

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Annex I. Dimensions and indicators employed in the *Moscow International University Ranking* (*MosIUR*)*

Dimension	N	Measure	%	Indicator	Source	Calculation
Education	1	Student competitiveness	7	Number of individual and team wins	Contest websites	List of 17 international student contests. Period: 2015–2019
	2	Internationalization	8	Percentage of international students	University websites and regulatory bodies	It includes full-time and part-time programs that lead to Bachelor's, Master's, and Ph.D. degrees, for students who spend more than 3 months at the university in the particular year.
	3	Financial resources	15	University budget to student ratio	University websites and regulatory bodies	Budgets are converted into USD.
	4	Human resources	15	Student to academic staff ratio	University websites and regulatory bodies	It includes faculty staff and research staff.
Research	5	Scholar competitiveness	7	Number of scientific awards and number of programs completed	*IREG List of International Academic Awards*	Academics: it includes 99 awards from 2000 to 2019. Only permanent university staff members as of the date of prize are considered. Alumni: those who successfully completed a program that leads to a Bachelor's, Master's, or Ph.D. degree.
	6	International publication impact	10	International average normalized citation impact	*Web of Science Core Collection & InCites*	Publications from 2015 to 2018. Scores for six areas are added (natural sciences, engineering and technology, medical sciences, agricultural sciences, social sciences, and humanities).
	7	National publication impact	3	National average normalized citation impact	*Web of Science Core Collection*	Normalized citation impact is divided by the country value. Then, the relation with respect to the best result in the country is used.
	8	Research fundraising	5	Research income per academic staff	University websites and regulatory bodies	It includes faculty staff and research staff. Values are converted into USD.
University and society	9	Online education	5	Number of online courses	*Coursera* and *edX*	Data compilation time point: May 2020
	10	Country's publication share	4	Percentage of country's publication output	*Web of Science Core Collection & InCites*	Publications from 2015 to 2018. The relation with respect to the maximum value achieved in that country is used.
	11	Web presence	3	Number of web pages	*Google, Baidu, Yandex*	The highest result of the three search engines is used as the final value
	12	Web popularity	1	Number of views	*Wikipedia*	English *Wikipedia* (and domestic language) in 2019 are included.
	13	Social media reach	3	Number of subscribers	*Facebook, Twitter, VK, Sina Weibo*	Sum of numbers of subscribers in the two social media platforms on which the university has the biggest audience.
	14	Alumni impact	8	Number of alumni with a *Wikipedia* page	*Wikipedia*	Date of birth after 1947, with at least 1000 page views in 2019.
	15	Website relevance	4	Website global reach	*Alexa*	University website audience percentage among all Internet users.
	16	Transparency	2	University information availability	University website	Up-to-date institutional and financial report, open-access list of university staff (or open-access staff search system), and university's mission.

* Measurement and indicator definitions are self-developed and might differ slightly from the original method officially declared. This has been done to better clarify the purpose and meaning of each indicator. Possible errors are ours.