Data Article

Key performance indicators of Russian universities for 2015–2018: Dataset and Benchmarking Data

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ABSTRACT

This article presents a performance dataset of 93 Russian universities, collected from 2015 to 2018 and evaluated according to 24 indicators. These data were gathered from materials, published in the process of monitoring the effectiveness of higher education institutions by the Ministry of Science and Higher Education of the Russian Federation, Web of Science (citation-based research analytics tool InCites) and Scopus (citation-based research analytics tool SciVal) databases, and information from international ranking agencies QS, THE, ARWU. The dataset comprises the assessments of university performances according to the most important indicators used in socio-economic studies of comparative analysis of higher education system development levels in different countries: educational, scientific and research, international, financial and economic performance and international public recognition (university positions in leading international rankings). Evaluated universities are grouped pursuant to their missions: Federal Universities (FU), National Research Universities (NRU), Flagship Universities (FIU) and university-participants of the Russian Academic Excellence Project (Project 5-100). The indicators for the comparative analysis are aggregated by the type of activities and analyzed based on the calculation of median values and Displaced Ideal Method. The dataset can be helpful to researchers, uni-

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university administration, specialists of higher education system, etc. Data processing can be executed using data mining methods, machine learning, and pattern analysis for the development of intellectual structures, applicable for university performance assessment in different educational systems. Presented data allows us to assert that the implementation of targeted support for leading Russian universities has a positive impact on the development of Russian higher education increasing its role on the international academic arena. Leading national research university-participants of the Project 5-100 had the greatest influence on increasing the competitiveness of Russian education in the world.

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Specifications Table

| Subject                  | Social Sciences  |
|--------------------------|------------------|
| Specific subject area    | Data on educational, scientific and research, international, financial and economic performance and international public recognition. |
| Type of data             | Table Figure     |
| How data were acquired   | Data were gathered from materials that were published throughout monitoring of higher education institution effectiveness, conducted by the Ministry of Science and Higher Education of the Russian Federation, Web of Science (citation-based research analytics tool InCites) and Scopus (citation-based research analytics tool SciVal) databases, and data from international ranking agencies QS, THE, ARWU. |
| Data format              | Raw Analyzed Filtered |
| Parameters for data collection | The data is structured by merging information from the aforementioned sources. Some of the indicators were calculated by converting raw data collected from various sources into indicators of a comparable form. Data extrapolation is used for those time periods when data was not available. Data is aggregated by activity of federal, national research and flagship universities, and universities-participants of the Russian Academic Excellence Project. |
| Description of data collection | Presented data describes university performances in terms of key indicators used in socio-economic research when conducting a comparative analysis of higher education development level in different countries. |
| Data source location     | Country: The Russian Federation |
| Data accessibility       | Full dataset is available in a public repository. Repository name: Mendeley Data Data identification number: 10.17632/cyryh76kps.1 Direct URL to data: http://dx.doi.org/10.17632/cyryh76kps.1 Additional explanatory tables to the dataset: With the article |

Value of the Data

• The collected data reflects the developmental dynamics of 93 leading Russian universities for 2015–2018 based on twenty-seven quantitative indicators that reflect such activities as education, research, internationalization, finance and public recognition. Universities are aggregated into four groups according to their missions. In addition to the collected data, the dataset is supplemented by calculated values of aggregated indicators by the type of activities, which leads to accurate determination of university positions within an examined group and among all considered universities.
• The data can be useful for researchers and experts that conduct socio-economic research and apply comparative analysis to the levels of development in the higher education systems on national and international levels. Obtained results can be used by experts who research the contribution of education and science to political and economic development of countries and world regions.
• The data can help government agencies, including the Ministry of Science and Higher Education of the Russian Federation, in assessing the performance of individual and groups of universities. It can assist with more fitting and competitively based allocation of funds and grants to private and public organizations.
• The raw data supplemented by the aggregated indicator values is distinctly important to international and national ranking agencies in their assessments.
• The data can be used by universities in assessing their strengths and weaknesses and in developing their strategic growth and expansion plans. Moreover, prospective students and their parents may rely on the data when choosing a university for education purposes. Employers and recruitment agencies can use it for selecting graduates for employment.
• Finally, the collected data can be used for further analysis using data mining methods, machine learning and pattern analysis, for the development of an intelligent structure applicable in various educational systems to assess the performance of universities as the aggregated indicators essentially represent the labeled data [1,2].

1. Data Description

In recent years, leading Russian state universities formed a cohort, which is divided into the following groups: 10 Federal Universities, 29 National Research Universities, 33 Flagship Universities.

All of these schools received additional state funding for their development. The first two groups have corresponding federal or national positions; Flagship University is considered a status.

The purpose of creating Federal Universities was to raise the quality of organization, coordination, human resources, and methodological development of vocational education systems in federal districts.

The network of National Research Universities focused on setting up priority areas for the development of science, technology, and personnel support for the needs of economic and social sectors of the country [3].

Flagship Universities are primarily oriented at solving key problems of personnel, innovation, socio-economic and technological development of separate geographical regions and industries. Flagship Universities together with their educational and industrial partners should not only take leading positions in training of specialists for their regions, but also play a significant role in the development and implementation of new technologies in industry, healthcare, agriculture, etc. [4].

The most successful universities from each group listed above became winners of a competition to increase the competitiveness of leading Russian universities among the world leading research and educational centers and formed Project 5-100, which included 21 universities. The goal of Project 5-100 was to maximize the competitive position of leading Russian universities in the global market of educational services and breakthrough research technologies. There were 5 Federal Universities and 12 National Research Universities among universities-participants of Project 5-100 [5].

The primary data for this research is available at the Mendeley Data repository (http://dx.doi.org/10.17632/cyryh76kps.1), which includes information on the educational, scientific, international and financial performances of universities and their positions in World University Rankings for 2015–2018. The data is presented in an Excel format, where the sheet “Universities” contains quantitative raw data (columns D - DF), along with data obtained by the authors via aggregating the indicators and comparative analysis of Russian universities (columns DG - FR).
For the comparative analysis of university performances, the “Categories of Universities” show the median values of corresponding indicators for certain groups of universities and for 490 other state and municipal organizations of higher education.

The detailed description of the dataset attributes is presented in Table 1 (Supplement 1) and Table 2 (Supplement 2):

- Table 1 contains information on educational, scientific, international and financial performance of universities and their positions in World University Rankings for 2015–2018. The results of indicator aggregation for the specified activities and the deviation were calculated using the Displaced Ideal Method. The table contains 93 records and 174 attributes.
- Table 2 contains information on the educational, scientific, international and financial activity of university categories and their positions in World University Rankings for 2015–2018. Aggregation indicator results for the specified activities and the offset were calculated using the Displaced Ideal Method. The table contains 5 records and 118 attributes.

Within the framework of the research, we performed an expert assessment of the significance of more than 40 different indicators of Russian university activities. The most significant activities were recommended and the sources of actual data were identified (Table 3). Aggregation of indicators was carried out by summing up normalized values of indicators (Table 4) and applying the Displaced Ideal Method (Table 5). Table 6 contains a methodology of indicator aggregations for the median values of examined groups of universities.

Aggregated data, obtained using the Displaced Ideal Method, allow to obtain the objective position of a university in an examined group as accurately as possible. For example, let us consider an examined group of 29 National Research Universities (NRU). In accordance with the aggregated indicator values for the research activities in 2018, obtained using the Displaced Ideal Method, the NRU group was distributed as follows: the first five positions were taken by the following universities: NSU (offset 0,07), MIPT (offset 0,10), MEPhI (offset 0,12), MISiS (offset 0,22), ITMO University (offset 0,24). Among all universities that were examined for scientific and research activities in 2018, the following five universities came out as leaders: NSU (offset 0,12), MIPT (offset 0,14), MEPhI (offset 0,16), MISiS (offset 0,24), ITMO University (offset 0,26). The objectivity of these data is confirmed by the fact that according to the results of the competition held among Russian universities by the Ministry of Science and Higher Education of the Russian Federation in 2021, all these universities were included in the “Research Leadership” group of the largest strategic initiative of higher Russian education for a ten-year period - the “Priority 2030” program.

In Figs. 1–6, the following values are used: FU – median values for Federal Universities, NRU - median values for National Research Universities, FIU - median values for Flagship Universities, Project 5–100 - median values for universities-participants of the Russian Academic Excellence Project, Other universities – 490 state and municipal organizations of higher education (without Lomonosov Moscow State University (MSU) and St.Petersburg State University (SPbSU)).

Fig. 1 features the educational activity dynamics of examined groups of Russian universities in 2015–2018 according to the following indicators: Number of students, Share of graduate and postgraduate students, Share of graduate and postgraduate students who graduated from other universities, and Share of trainees from other organizations. The figure shows the pre-eminence of leading universities in their shares of graduate and postgraduate students, which include pupils enrolled from other universities; it also reflects an increasing role of further professional training in leading universities. The group “Project 5-100” leads in the “Share of graduate and postgraduate students” and the “Share of trainees from other organizations” indicators. The “Number of students” indicator is headed by the FU group; and, the “Share of graduate and postgraduate students who graduated from other universities” - by the FIUs.

Fig. 2 features scientific and research activity dynamics of the examined groups of Russian universities in 2015–2018 pursuant to the following indicators: Number of publications in Web of Science per 100 researchers and teaching faculty, Number of publications in Scopus per 100 researchers and teaching faculty, Number of publications in Russian Science Citation Index per 100 researchers and teaching faculty, Number of citations in Web of Science per 100 researchers
Fig. 1. Comparative analysis of Russian university education activity results.

Fig. 2. Comparative analysis of Russian university scientific and research activity results.

and teaching faculty, Number of citations in Scopus per 100 researchers and teaching faculty, Number of citations in Russian Science Citation Index per 100 researchers and teaching faculty, Number of intellectual property results per 100 researchers and teaching faculty, and Number of license agreements. The figure shows a significant increase in publications and citations of leading universities along with apparent traits of increase in the number of licensing agreements. According to most indicators, we can see that the Project 5-100 group is leading.

Fig. 3 shows international activity dynamics of examined groups of Russian universities in 2015–2018 using the following indicators: Share of international students in total number of students, Share of international faculty in total number of faculty, and Number of joint publications per 100 researchers and teaching faculty. The figure shows the propensity of growth in the number of foreign students and specialists along with raise in the amount of joint publications.
All of this indicates an increase in the attention of leading universities to international activity. According to all indicators, Project 5-100 group is leading.

Fig. 4 demonstrates financial and economic activity dynamics of examined groups of Russian universities in 2015–2018 using the following indicators: University income per 1 researcher and teaching faculty, Share of income from non-budgetary sources, Income from R&D per 1 researcher and teaching faculty, and Share of R&D income. The figure reflects an increase in financial income of leading universities. There is a significant increase in income from scientific activities at NRUs and university-participants of the Project 5–100. According to the indicator “University income per 1 researcher and teaching faculty” the results of the groups Project 5–100 and NRU are practically identical; and, according to other indicators the NRU group is leading.

Fig. 5 shows public recognition dynamics of examined groups of Russian universities in 2015–2018, accounting for the number of universities in World University Rankings QS, THE and ARWU, number of positions and their share in these rankings. From the figure we can see that the best positions in the rankings belong to the university-participants of the Project 5–100, which was aimed at promoting Russian universities on global education market.

Fig. 6 demonstrates the results of indicator aggregation of Russian universities in 2015–2018 using the Displaced Ideal Method. We can see from the figure that the universities of the Project 5–100 and the NRU groups have the best results in terms of aggregated indicators, while Federal Universities achieve high results in international activities. The method of comparing groups of
universities according to the median values of aggregated indicators makes it possible to objectively assess the position of each group in each of selected activity areas: educational, research, international, financial, and public recognition. For example, in accordance with the aggregated values of international activity in 2017, the examined groups of Russian universities were distributed as follows: Project 5-100 (offset 0.00), FU (offset 0.16), NRU (offset 0.41), FIU (offset 0.47), all other universities (offset 0.81). This result shows that one of the important goals of Project 5-100 was the development of international activities (increasing the number of foreign students, foreign faculty, etc.). This goal was achieved and the group of these universities placed first among all Russian universities.

One more example is the value of the integrated indicator “Public Recognition” which takes into account the number of universities in the World University Rankings QS, THE, ARWU. In accordance with calculations using the Displaced Ideal Method, the following distribution of the studied groups for 2018 was obtained: Project 5-100 (offset 0.05), NIU (offset 0.06), FU (offset 0.38), FIU (offset 0.51), all other universities (offset 0.56). This result confirms the success of Project 5-100 and demonstrates that this group of universities achieved the goal of making these three international rankings.
2. Experimental Design, Materials and Methods

In this section, we present methods used for data collection and processing.

**Step 1. Formation of Indicator System**

The system of indicators should take into account the following types of university activities - educational, scientific, international and financial. Selected indicators should reflect modern understanding of a university, its interaction with industries and geographical regions, the policies in the field of academic entrepreneurial initiatives, knowledge, research and technologies transfer, participation in international scientific research networks and collaborations [6–8].

In addition, it is necessary to reflect the measure of public recognition of universities, which can be obtained from public data of international ranking agencies.

Table 3 presents twenty-seven indicators that were identified for the multidimensional assessment.

| Indicator name | Description | Type of data | Annual data source |
|----------------|-------------|--------------|--------------------|
| **Educational activity** | | | |
| EA1 | The number of students | Raw | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| EA2 | The number of researchers and teaching faculty | Raw | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| EA3 | The number of students in further vocational education programs | Raw | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| EA4 | The share of graduate and postgraduate students | Raw | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| EA5 | The share of graduate and postgraduate students who graduated from other universities | Raw | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| EA6 | The share of trainees from other organizations in the total number of advanced training or professional retraining programs trainees | Raw | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| **Scientific and research activity** | | | |
| S&RA1 | The number of university publications in Web of Science | Analyzed | Web of Science Website: https://www.webofscience.com |
| S&RA2 | The number of university publications in Scopus | Analyzed | Web of Science Website: https://www.scopus.com |
| S&RA3 | The number of university publications in Russian Science Citation Index (RSCI) | Analyzed | Web Of Science Website: https://www.webofscience.com |
| S&RA4 | The number of university citations in Web of Science | Analyzed | Web Of Science Website: https://www.webofscience.com |
| S&RA5 | The number of university citations in Scopus | Analyzed | Web Of Science Website: https://www.scopus.com |
| S&RA6 | The number of university citations in Russian Science Citation Index (RSCI) | Analyzed | Web Of Science Website: https://www.webofscience.com |
| S&RA7 | The number of scientific and technical activity results, protectable and / or oriented for industrial use with state registration and (or) legal protection in Russia | Raw | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |

(continued on next page)
### Table 3 (continued)

| Indicator name | Description                                           | Type of data | Annual data source                                                                 |
|----------------|-------------------------------------------------------|--------------|------------------------------------------------------------------------------------|
| S&RA8          | The number of license agreements concluded by a university | Raw          | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| IA1            | The share of international students                   | Raw          | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| IA2            | The share of international faculty                    | Raw          | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| IA3            | The number of articles prepared jointly with foreign organizations | Analyzed     | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| FA1            | University income from all sources                    | Raw          | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| FA2            | The share of income from non-budgetary sources         | Raw          | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| FA3            | The volume of R&D income                              | Raw          | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| FA4            | The share of R&D income                               | Raw          | The Ministry of Science and Higher Education of the Russian Federation Website: https://monitoring.miccedu.ru |
| PR1            | University position in QS World University Rankings   | Analyzed     | QS Website: https://www.topuniversities.com                                       |
| PR2            | University position in THE World University Rankings  | Analyzed     | THE Website: https://www.timeshighereducation.com                                  |
| PR3            | University position in ARWU World University Rankings  | Analyzed     | ARWU Website: http://www.shanghairanking.com                                       |
| PR4            | University presence in QS, THE, ARWU World University Rankings | Analyzed     | QS Website: http://www.shanghairanking.com                                          |
| PR5            | Number of university positions in QS, THE, ARWU World University Rankings | Analyzed     | QS THE ARWU Websites: https://www.topuniversities.com https://www.timeshighereducation.com http://www.shanghairanking.com |
| PR6            | Share of universities represented in World University Rankings QS, THE, ARWU | Analyzed     | QS THE ARWU Websites: https://www.topuniversities.com https://www.timeshighereducation.com http://www.shanghairanking.com |
**Step 2. Defining the Data Sources**
Data sources presented in **Table 3** were selected as reliable sources of publicly available data.

**Step 3. Data Collection**
Data collection for 2015–2018 was conducted for the following Russian universities:

- 10 federal universities;
- 29 National Research Universities;
- 33 flagship universities;
- 490 other state and municipal organizations of higher education.

**Step 4. Dataset Formation**
To form the dataset, each indicator for 2015–2018 was assigned a unique attribute name (Table 1).

Each university group corresponded to the following status or category:

- FU - Federal Universities (category);
- NRU - National Research Universities (category);
- FlU - Flagship Universities (status);
- Project 5-100 - a group of universities-participants in Project 5-100 (status).

**Step 5. Aggregation by Activities for the Comparative Analysis**
In decision-making processes, we use various methods of indicator aggregation [9–11]. In this article, the comparative analysis of university activities was performed using the aggregation by the types of those activities with the application of two methods: aggregation and the Displaced Ideal Method.

The aggregation for each university was carried out within each category and amid all categories of universities.

1. Normalization of the indicator value was determined in relation to the “ideal” - the maximum value of each indicator for each group of universities (FU, NRU, FlU, Project 5-100):

   \[ Z_{i}^{\text{norm}} = \frac{Z_{i}}{Z_{\text{max}}} , \]

   where \( Z_{i} \) - not normalized value of an indicator,
   \( Z_{\text{max}} \) - maximum value of an indicator for each group of universities.

2. Normalization of the indicator value was determined in relation to the “ideal” - the maximum value of each indicator for all groups of universities (total):

   \[ Z_{\text{T}i}^{\text{norm}} = \frac{Z_{i}}{Z_{\text{max}}} , \]

   where \( Z_{i} \) - not normalized value of an indicator,
   \( Z_{\text{max}} \) - maximum value of the indicator for all groups (total) of universities.

The closer an obtained value of an aggregate indicator to 1, the better the corresponding activity of the university is organized.

**Table 4** provides a description of the aggregated indicators.

2. According to the Displaced Ideal Method, the aggregation gives an offset relative to the “ideal,” the maximum value of the indicator. The closer this value is to 0, the better the corresponding activity of the university is organized.
The normalized bias of an indicator value is determined in relation to the “ideal,” the maximum value of each indicator for each group of universities (FU, NRU, FlU, Project 5-100):

$$Y_i^{\text{norm}} = \frac{Z_{\text{max}} - Z_i}{Z_{\text{max}}},$$

where $Z_i$ - not normalized value of an indicator,

$Z_{\text{max}}$ - maximum value of an indicator for each group of universities

3. The normalized bias of the indicator value is determined in relation to the “ideal,” the maximum value of each indicator for all groups of universities (total):

$$Y_{-T_i}^{\text{norm}} = \frac{Z_{T_{\text{max}}} - Z_i}{Z_{T_{\text{max}}}},$$

where $Z_i$ - not normalized value of an indicator,

$Z_{T_{\text{max}}}$ - the maximum value of an indicator for all groups (total) of universities,

$i$ - maximum value of an indicator for all groups of universities.

- **Table 4** provides a description of the aggregated indicators
- Calculation of the total value of the aggregated indicator corresponding to the type of activity $j$

$$Y_j = \frac{1}{n} \sqrt{\sum_{i=1}^{n} (Y_i^j)^2},$$

where $j$- type of activity,

$Y_i^j$ - normalized offset for a given metric, characterizing this type of activity,

$n$ - number of indicators related to this type of activity.

**Table 5** provides a description of aggregate indicators that were determined using the Displaced Ideal Method. The first four indicators reflect the position of each university within the group; the last four – show the data among all examined universities. The smaller the calculated offset, the closer is the result to the “ideal” point and the better is the position of a university. The examined universities are ranked according to a considered type of activity using a comparative analysis approach. If we compare the results presented earlier in **Table 4**, the Displaced Ideal Method is more sensitive to changes in indicators.
Table 5

| Indicator name | Description                                          | Type of data | Formula for calculating a value |
|----------------|------------------------------------------------------|--------------|--------------------------------|
| OffsetG1       | Education activity (offset of the ideal within a university category) | Analyzed     | OffsetG1 = 1/6 \sum_{i=1}^{6} (EA_{i}^{norm})^2 |
| OffsetG2       | Scientific activity (offset of the ideal within a university category) | Analyzed     | OffsetG2 = 1/6 \sum_{i=1}^{6} (S&RA_{i}^{norm})^2 |
| OffsetG3       | International activity (offset of the ideal within a university category) | Analyzed     | OffsetG3 = 1/6 \sum_{i=1}^{6} (IA_{i}^{norm})^2 |
| OffsetG4       | Financial activity (offset of the ideal within a university category) | Analyzed     | OffsetG4 = 1/6 \sum_{i=1}^{6} (FA_{i}^{norm})^2 |
| OffsetT1       | Education activity (offset of the ideal across all universities) | Analyzed     | OffsetT1 = 1/8 \sum_{i=1}^{8} (EA_{i}^{norm})^2 |
| OffsetT2       | Scientific activity (offset of the ideal across all universities) | Analyzed     | OffsetT2 = 1/8 \sum_{i=1}^{8} (S&RA_{i}^{norm})^2 |
| OffsetT3       | International activity (offset of the ideal across all universities) | Analyzed     | OffsetT3 = 1/8 \sum_{i=1}^{8} (IA_{i}^{norm})^2 |
| OffsetT4       | Financial activity (offset of the ideal across all universities) | Analyzed     | OffsetT4 = 1/8 \sum_{i=1}^{8} (FA_{i}^{norm})^2 |

All obtained results are presented in the dataset.

**Step 6. Calculation of Medians**

For each group of universities, 490 other state and municipal organizations of higher education, and each indicator that is not presented in the dataset, we calculated median values for 2015–2018.

Initially, the dataset was divided into category fields for each group of universities. Then, the median values were calculated using the Excel program.

The median is a number that separates the upper half from the lower half of a data sample.

If a number of ranked numbers \( n \) is odd (as for groups of FU, NRU, FIU, Project 5-100), then the median is the number \( \tilde{X}_m \) where ordinal number \( m \) in a ranked series is calculated as

\[
m = \left\lceil \frac{n}{2} \right\rceil + 1
\]

If \( n \) is even (as for groups FU and Other Universities), then the median is the number \( \overline{X_m} \), that is calculated as the arithmetic mean of two numbers \( X_i \) and \( X_{i+1} \), where the ordinal number \( i \) is calculated as \( i = \frac{n}{2} \)

\[
\tilde{X}_m = \frac{X_i + X_{i+1}}{2}
\]

The results are presented in Figs. 1–5.

Table 6 provides a description of the aggregate indicators for the university categories defined by the Displaced Ideal Method. The value of indicators \( (EA, S&RA, IA, FA) \) is calculated as the median values for the corresponding category of universities. The PR indicators are total for the category of universities. Further, we compared the results of examined activities in each group.

The obtained results of aggregation and the comparative analysis are shown in the Fig. 6.
Table 6
Aggregated indicators for university categories obtained using the Displaced Ideal Method.

| Indicator name | Description | Type of data | Formula for calculating a value |
|----------------|-------------|--------------|---------------------------------|
| OffsetC1       | Education activity (offset of the ideal among all university categories) | Analyzed | OffsetC1 = $\frac{1}{3} \sqrt{\sum_{i=1}^{6} (EA_{\text{norm}}_{i})^2}$ |
| OffsetC2       | Scientific activity (offset of the ideal among all university categories) | Analyzed | OffsetC2 = $\frac{1}{3} \sqrt{\sum_{i=1}^{8} (S\&RA_{i})^2}$ |
| OffsetC3       | International activity (offset of the ideal among all university categories) | Analyzed | OffsetC3 = $\frac{1}{3} \sqrt{\sum_{i=1}^{3} (IA_{i})^2}$ |
| OffsetC4       | Financial activity (offset of the ideal among all university categories) | Analyzed | OffsetC4 = $\frac{1}{3} \sqrt{\sum_{i=1}^{4} (FA_{i})^2}$ |
| OffsetC5       | Public recognition (offset of the ideal among all university categories) | Analyzed | OffsetC5 = $\frac{1}{3} \sqrt{\sum_{i=4}^{6} (PR_{i})^2}$ |

Ethics Statement

Not applicable.

Appendix. Supplementary Materials

The dataset associated with this article can be found online at: https://data.mendeley.com/datasets/cyryh76kps/1

Additional explanatory tables to the dataset:
Supplement 1. Table 1. Contents of the dataset «Universities»
Supplement 2. Table 2. Contents of the dataset «Categories of universities»

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT Author Statement

Anna I. Guseva: Conceptualization, Methodology, Software, Data curation, Investigation, Writing – original draft, Visualization; Viacheslav M. Kalashnik: Data curation, Investigation, Writing – original draft; Vladimir I. Kaminskii: Conceptualization, Methodology, Validation, Formal analysis, Supervision; Sergey V. Kireev: Conceptualization, Resources, Supervision, Project administration.

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Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2021.107695.
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