Key Provisions of a Template Methodology for Ranking Russian Higher Education Institutions

The template ranking methodology concept

Key principles of the template methodology for ranking Russian higher education institutions build on the features which should a new approach to HEIs assessment should conform to:

1. The methodology should provide reliable data on performance of higher education institutions and their position in system of higher education;
2. The methodology should take into account diversity of the Russian higher education institutions, their missions and functions;
3. The methodology should be a useful tool for users of educational services providing friendly and easy-to-use-and-interpret information on diversity of higher education institutions and education programmes;
4. The methodology should take into account diversity of education services users;
5. The methodology should facilitate quality improvement and competitiveness of higher education institutions;
6. The methodology should facilitate integration of the Russian higher education institutions into global education and research environment as their position in rankings is perceived as a "signal" of universities competitiveness;
7. The methodology should be a source of valid data for global and regional rankings.

Institutions included in the ranking are categorized with account of the Russian higher education system diversity, existing HEIs classification and recent projects and initiatives implemented by the Russian Ministry of Education and Science. The following groups and types of HEIs are included in the methodology:

- leading universities (Moscow State University, Saint Petersburg University, federal universities, national research universities);
- classical universities;
- engineering and technical higher education institutions;
- humanitarian and pedagogical higher education institutions;
- higher education institutions with economics and law programmes;
- agricultural higher education institutions;
- medical higher education institutions.

Five ***functions*** of higher education institutions have been identified and included in the ranking methodology: research, teaching and learning, internationalization, knowledge transfer,

engagement with regional stakeholders. The methodology for ranking Russian higher education institutions takes into account information needs of the following several **target users groups**:

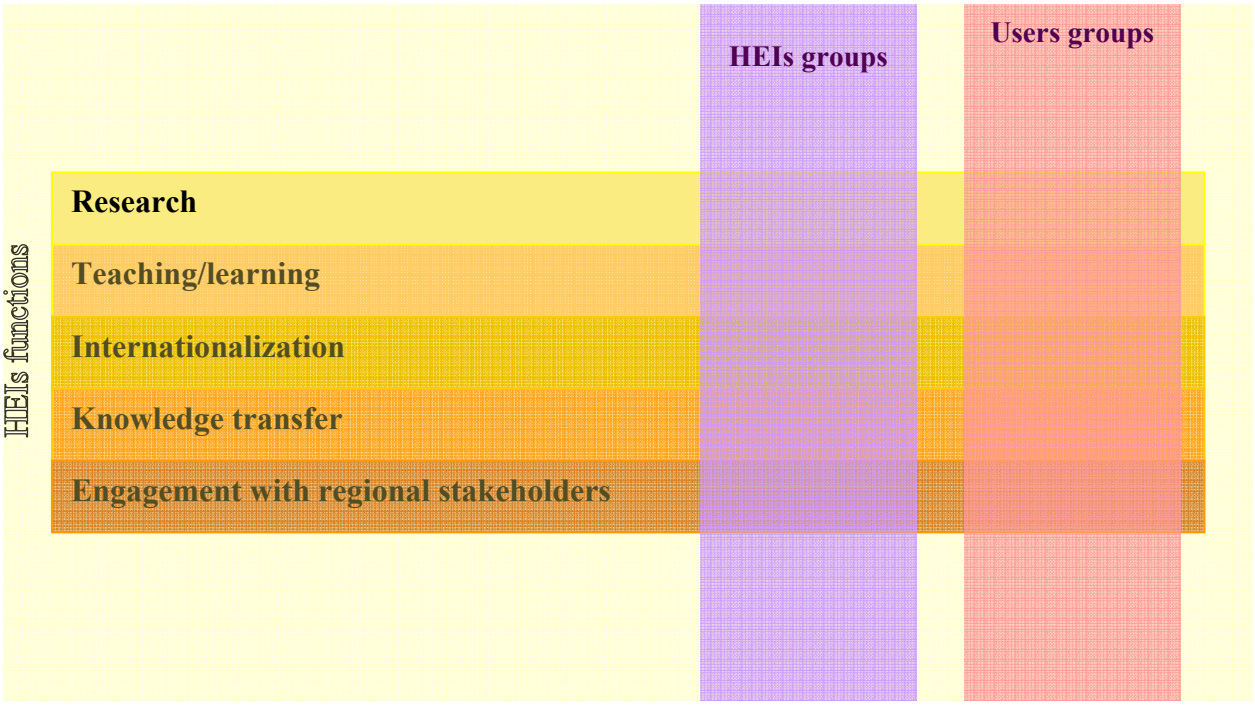
1. Prospective students and their parents;
2. Government (central and local);
3. Employers and labour market;
4. Academic community (researchers, lecturers);
5. Business organisations.

A ***multidimensional approach,*** used in the methodology, is aimed at achieving maximum relevance in HEIs assessment and correctness in their comparison. Under a multidimensional approach an aggregated score is not used to assess and/or compare HEIs.

Multidimensionality of the methodology is based on confluencing several evaluation areas (figure 1):

- Five identified HEIs functions: teaching, research, knowledge transfer, engagement with regional stakeholders, internationalization.
- HEIs' groups identified according to their missions: leading universities (Moscow State University, Saint Petersburg University, federal and national research universities), classical universities, engineering and technical HEIs, humanitarian and pedagogical HEIs, HEIs with economics and law programmes, agricultural and medical universities.
- Groups of users identified according to their information needs: prospective students, academic community, government, business organisations.

Figure 1



As outlined in the key methodology principles the ***mission*** of the template methodology is to provide reliable and objective information on HEIs performance to satisfy information needs of various groups of education services users with account of the Russian higher education system diversity.

Main ***goals*** of the template methodology are, as follows:

- Assessment of higher education institutions against 5 identified functions.
- Developing a database of the Russian higher education system (current state and development trends) taking into account its diversity, with possibility of creating HEIs rankings and ratings on specifies indicators.
- Developing a transparent tool for external assessment of the Russian higher education institutions.
- Contributing to the Russian higher education system development through creating an information and analytical basis for benchmarking (best practices identification) and facilitating demand for higher education services in the country.

Developing the template ranking methodology

The template methodology complies with the methodological standards for rankings development:

- standards for empirical research;
- rankings quality criteria developed by the international expert group on Academic Ranking and Excellence (IREG) and Berlin principles on ranking higher education institutions;
- practices on developing global, national and specialist rankings.

At the moment the template methodology does not use qualitative data received from surveys of students, academic staff and employers. This is explained by the lack of specialized national sociological research. However, inclusion of qualitative data into the methodology is perceived as one of the directions of the Russian higher education system development.

All elements included in the methodology (in the first instance, quantitative indicators) have been discussed and evaluated by experts.

Experts' inputs has been used for:

- indicators identification for each of 5 functional areas of assessment with account of international and Russian practice;
- assessing indicators against the criteria of relevance to the Russian higher education system development objectives; their validity; availability; relevance to the methodology;
- testing the template ranking methodology;
- weighting indicators within each functional area.

On the basis of the experts' assessment 65 indicators on 5 HEIs' functions (research, teaching and learning, internationalization, knowledge transfer, engagement with regional stakeholders) have been identified.

Developing the toolkit for the template ranking methodology

Structure of the Indicators Groups

The toolkit consists of 6 indicators groups formed on the basis of experts' discussions and evaluations. These groups include:

Group A «Higher Education Institution Profile»

Group B «Research»

Группа C «Teaching and Learning»

Группа D «Internationalization»

Группа E «Knowledge Transfer»

Группа F «Engagement with Regional Stakeholders»

Each group has its internal structure and content. The full list of indicators is presented in Appendix 1.[1]

Group A – Higher Education Institution Profile (A1 – A19)

This group consists of indicators providing general information on HEI. This information includes indicators such as HEI type (A2), category, group (A3, A4), affiliation (A5), organisational and legal form (A6), HEI geographical location (A7) and territorial belonging (A8). Number of students (A9), number of academic staff (A10), number of researchers (A13), number of non-academic staff (A11) are also included in HEI profile. This group of indicators enables to define HEI's capacities for education services provision. Information on undergraduate education programmes (A12), and on opportunities for postgraduate education (PhD and doctorate programmes) (A14, A15) is added to provide more detailed information on HEI profile. Other information useful for users of education services can be added to HEI profile and the indicators' list could be expanded.

Specific characteristic of group A indicators is their functionality. On the one hand each indicator has its own meaning and can be used individually and not for assessment purposes, on the other hand some of these indicators are included in the structure of indicators from the groups (B, C, D, E, F) and can be used for calculations of indicators from these groups.

[1] Detailed information on the project «Developing and Approbating a Template Methodology for National Ranking of Higher Education Institutions» is available on the National Training Foundation website (http://ranking.ntf.ru/); and International Organisations Research Institute (IORI) of the National Research University Higher School of Economics website (http://www.hse.ru/org/hse/iori/toplist)

Thus, indicator *A9 (number of students)* that presents the number of students (all programmes, all modes of study) in the previous academic year is used to calculate such indicators from groups C, D, F, as:

- C4 - Ratio of students who won prestigious scholarships to the total number of students;
- D1 - Ratio of international students to the total number of students;
- D6 - Ratio of students who have studied abroad to the total number of students;
- D11 - Ratio of students who studied in programmes implemented in collaboration with international partners to the total number of students;
- F3 - Ratio of students who did internships in regional organisations and enterprises to the total number of students.

Indicator *A10 (number of academic staff)* which gives the total number of academic staff is used to calculate such indicators from groups B,C,D as:

- B2 - Ratio of academic staff with PhD or Doctor of Science degree to the total number of academic staff ;
- B3 - Number of citations per academic staff (Russian e-library);
- B4 - Number of citations per academic staff in Scopus;
- B5 - Number of citations per academic staff in Web of Science;
- B9 - Number of publications per academic staff in the Russian e-library;
- B10 - Number of publications per academic staff in Scopus;
- B11- Number of publications per academic staff in Web of Science;
- C10 - Proportion of academic staff who are members or associate members of the Russian Academy of Sciences;
- D8 – Proportion of full-time academic staff who have been invited as lectures by foreign universities;
- D9 - Ratio of academic staff with degree/diploma from foreign universities to the total number of academic staff.

Indicator *A12 (number of education programmes offered by HEI in the previous academic year)* is also used to calculate some indicators from groups C, D, E:

- C1 - proportion of internationally accredited education programmes;
- C2 - proportion of programmes enrolling students with high Unified State Examination scores;
- D10 - proportion of education programmes implemented in collaboration with international partners;
- E4 - number of education programmes implemented at the request of third party organisations.

Data for group A indicators can be received from documents available in open access. The Federal law on “Education” specifies types and categories of higher education institutions. The RF Constitution defines the structure of the federal executive structures. A HEI’s affiliation is specified by HEI’s foundation documents. Organisational and legal forms of higher education institutions are described in the classification system developed by the Ministry of Education and Science of the RF. The territory belonging of HEIs can be identified by the Presidential Decree N 849 from 13 May 2000 "President's Representative in the Federal District" and the RF Constitution.

More detailed information on HEI profile can be obtained from the system that collects statistical information on Higher education institutions (HPE-1), and data provided by universities for accreditation purposes. Information on Federal universities and National Research universities can be received from the universities’ development programmes. However, existing databases have limitations. Indicators definitions differ as various information and monitoring systems have different goals. Therefore, it is not possible to substitute indicators used for ranking purposes by indicators from these external systems. Though, the data from external databases are used to supplement and enhance reliability of the data used in the rankings.

Data sources for group A indicators are, as follows:

- Data provided by HEIs for accreditation purposes;
- HEIs’ internal data.

Group B – Research (B1 – B15)

Indicators from the group B describe HEIs research performance. Both input and output indictors are included in the group.

The indicators of academic staff quality (B2), publication activity (B 12), HEI’s participation in grant programmes/projects (B13 – B14) are traditionally used for assessment of HEI’s research activity. International practice demonstrates that one of reliable methods to assess HEI’s research potential is assessment of HEI’s publication activity, its expenditure on research and research income.

Data sources for the group B indicators are:

- Data provided by HEIs for accreditation purposes;
- HEIs’ internal data;
- Bibliometric databases.

Group C – Teaching and Learning (C1 – C18)

Group C indicators assess HEI’s performance in learning and teaching.

This dimension can be characterized by quality of applicants / entrants (C3, C14), quality of students (C4), quality of academic staff (C9, C10, C12, C16), quality of education

programmes (C1, C2), graduates employability (C5), HEI expenditure on education services (C11, C18), opportunities for postgraduate education (C7, C13), and students mobility (C8). Russian and international practice demonstrate that assessment of applicants quality, quality of academic staff, expenditure on education services and graduates employability are one of the most frequently used indicators to assess HEI's teaching and learning.

Data sources for the group C indicators are:

- Data provided by HEIs for accreditation purposes;
- HEIs' internal data.

Group D – Internationalization (D1 – D12)

Group D indicators characterize HEI's internationalization. The quality of internationalization is assessed by indicators describing HEI's activity in attracting international students and lecturers (D1, D5, D12), students' and lecturers' mobility (D6, D7, D8), income from international sources (D2, D3, D4), and implementation of education programmes in collaboration with international partners (D10, D11). Both input and output indicators are included in this group. Thus, they enable to assess HEI's internationalization from different points of view.

Data sources for the group D indicators are:

- Data provided by HEIs for accreditation purposes;
- HEIs' internal data.

Data for federal and national research universities can be collected from universities' development programmes.

Group E – Knowledge Transfer (E1 – E5)

Group E indicators characterize HEIs activity in transfer of their knowledge to main stakeholders. HEI's performance in this area can be assessed by its economic activity (E1 – E3) and HEI's collaboration with external partners (E4, E5). It should be noted that the indicators used to assess this dimension of HEI's activity are insufficiently developed both in Russian and international practice. Data collecting on these indicators can be problematic. However, such indicators as income from non budgetary sources and income from intellectual property products are widely used both in Russian and international practice.

Data for the group E indicators can be obtained from:

- Data provided by HEIs for accreditation purposes;
- HEIs' internal data.

Group F – Engagement with Regional Stakeholders (F1 – F4)

The indicators from group F describe HEI's engagement with regional stakeholders. The indicators on HEI's economic activity in the region (F1, F2) and the indicators on training specialists for the region (F3, F4) enable to assess HEI's performance in this dimension.

Data for group F indicators can be collected from:

- Data provided by HEIs for accreditation purposes;
- HEIs' internal own data.

Procedure of designing the questionnaire structure and the questionnaire structure

The questionnaire for testing and approbating the template methodology for Russian HEIs ranking includes 6 semantic blocks representing various aspects of HEIs' activities, including:

- Higher education institution profile (general information);
- Undergraduate and postgraduate students;
- Academic, non-academic staff and researchers;
- Education programmes;
- Bibliometry;
- Budget.

6 blocks of indicators have been developed as the result of decomposition of 65 initial indicators identified by experts' assessment. Most of these initial indicators present relative values (ratio, %) assessing respective functions of higher education institutions.

The decomposition procedure enabled to convert the relative indicators into absolute indicators and collect data on the indicators represented absolute values.[2] Absolute indicators can be used for assessing the HEIs performance and/or characterizing their profile.

Decomposition includes an indictor's disintegration into elements and consists of the following steps:

1. Indicators coding. Each indicator receives an individual code according to 6 dimensions of HEI's activities:

Group A – HEI profile and infrastructure (A1 – A19)

Group B – Research (B1 – B15)

Group C – Teaching and learning (C1 – C18)

Group D – Internationalization (D1 – D12)

Group E – Knowledge transfer (E1 – E5)

[2] Information on decomposition of indicators is available on the website of National Training Foundation (http://ranking.ntf.ru/p122aa1.html); and International Organisations Research Institute (IORI) of the National Research University Higher School of Economics website website (http://www.hse.ru/org/hse/iori/edu_ranking)

2. Disintegration of 65 initial indicators into elements, subindicators. Each relative indicator generally consists of two or more absolute subindicators.

As an example, the structure of *D1 indicator «Proportion of international students»* consists of the following subindicators:

D1.1 - total number of international students in the previous academic year, including:

D1.1a - full-time international students from CIS countries;

D1.1b - part-time international students from CIS countries;

D1.1c - international students from CIS countries (off-campus education);

D1.1d - international students from CIS countries (external studies)

D1.1e - full-time international students from non-CIS countries;

D1.1f - part-time international students from non-CIS countries;

D1.1g - international students from non-CIS countries (off-campus education);

D1.1h - international students from non-CIS countries (external studies).

A9 - total number of students in the previous academic year:

A9.1a - bachelor students (full-time, part-time, distance-learning);

A9.1b - master students: (full-time, part-time, distance-learning);

A9.1c - students in specialist programmes (full-time, part-time, distance-learning).

The list of 65 indicators also includes indicators with 3 subindicators.

As an example, indicator E1 *«Ratio of income from non budgetary sources»* includes such subindicators as:

E.1.1 - income from education services from Russian non budgetary sources in the previous financial year;

E1.2 - income from research activities from Russian non budgetary sources in the previous financial year;

B12.2 - total income in the previous financial year.

It is obvious that subindicator B12.2 is also used for assessment of research activities. Thus, characterizing HEI's economic activity, this subindicator can be used for constructing indicators from different groups.

3. Identification of common subindicators. The decomposition procedure allowed identify subindicators used in composition of several initial indicators. Some of these subindicators can be used for information purposes.

As an example, let us examine indicator *A9 «Total number of students»* and the indicator *D1 «Proportion of international students».*

A9 is the indicator used in the Higher Education profile and is not used for assessment. However, A9 is included in the structure of D1 indicator to calculate relative value of international students which is used to assess and compare HEIs.

4. Constructing an initial indicator on the basis of data used in separate subindicators.

The questionnaire is constructed to collect separate absolute subindicators. Absolute subindicators data are used to calculate the 65 indicators.

As example, the value of indicator D1 «Proportion of international students» is calculated using indicators *D1.1* and *A9:* (∑D1.1)/(∑A9) – in other words relation of international students number (all programmes, all modes of study and all countries) to the total number of students (all programmes, all modes of study) in the previous academic year.

These calculations are made for all relative indicates (%, ratio).

The questionnaire also includes methodological notes and data source for each indicator.

Approbation of the template methodology

As the result of indicators disintegration a list of 86 subindicators has been developed. 12 additional indicators have been added to provide information on HEI profile (number of students, number of academic staff, number of education programmes, facilities, library stock).

The toolkit has been tested by nine universities, before launch of approbation it was amended taking due account of their recommendations. The final toolkit is available in excel format as a separate file.

148 higher education institutions have been invited to participate in approbation of the methodology.

The sample structure for the approbation includes:

- Leading Russian universities (Moscow State University, Saint Petersburg State University);
- Federal universities (9 universities);
- National research universities (29 universities);
- Higher education institutions which received government support of their strategic development programmes (54 HEIs);
- Higher education institutions which education programmes have been listed as the best educational programmes (catalogue 2011 – 2012 “Best education programmes: innovation Russia) (42 HEIs);
- Higher education institutions recommended by experts (10 HEIs, private HEIs);
- Higher education institutions which expresses interest in taking part in approbation (3 HEIs).

The data received within the framework of approbation will be used to develop a pilot ranking of Russian higher education institutions on 5 functions: **research, teaching/learning, internationalization, knowledge transfer, engagement with regional stakeholders**. Approbation results will be used for refining the ranking methodology.

Prospects for application of the developed methodology

The future applications of the developed methodology include three complementary options:

- Developing the database on the Russian higher education system (current state and development trends) with due account of its diversity and a possibility of creating rankings and ratings on specifies indicators. The number of indicators is not limited and can be expanded.
- Assessment and comparing HEIs on an aggregated score on separate HEIs functions.
- Monitoring HEIs performance on a set of indicators, on separate HSEs function areas, and on specific indicators.

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Appendix 1

List of indicators of the template methodology for ranking Russian higher education institutions

HIGHER EDUCATION INSTITUTION PROFILE			
№	**Indicator**	**Indicator, Group A**	**Source**
1	**A1**	Name	
2	**A2**	Type	Federal Law "Education", Art. 134
3	**A3**	Category	Federal Law "Education", Art. 135
4	**A4**	Group	
5	**A5**	Affiliation	RF Constitution
6	**A6**	Organisational and Legal form	Classification of the Ministry of Education and Science
7	**A7**	Federal district, RF	Presidential Decree №849 "President's Representative in the Federal District" 30 May 2000
8	**A8**	RF subject	RF Constitution
9	**A9**	Number of students	HPE-1 (system for collecting statistical information on Higher Education)
10	**A10**	Number of academic staff	HPE-1 (system for collecting statistical information on Higher Education)
11	**A11**	Number of non-academic staff	HPE-1 (system for collecting statistical information on Higher Education)
12	**A12**	Number of education programmes	HEI data
13	**A13**	Number of researchers	HPE-1 (system for collecting statistical information on Higher Education)
14	**A14**	Number of PhD (candidate of science) programmes	HEI data
15	**A15**	Number of doctorate programmes	HEI data
16	**A16**	Education and research facilities	HEI data
17	**A17**	Accommodation facilities	HEI data
18	**A18**	Library collection	HEI data
19	**A19**	Digital library collection	HEI data
RESEARCH			
№	**Indicator**	**Indicator, Group B**	**Source**
20	**B1**	Ratio of expenditure on research	Data collected for National Accreditation Agency.

21	**B2**	Ratio of academic staff with PhD and Doctor of Science degree	HPE-1 (system for collecting statistical information on Higher Education)
22	**B3**	Number of citations per academic staff (Russian e-library)	Russian e-library HPE-1 (system for collecting statistical information on Higher Education)
23	**B4**	Number of citations per academic staff in Scopus	Scopus HPE-1(system for collecting statistical information on Higher Education)
24	**B5**	Number of citations per academic staff in Web of Science	Web of Science HPE-1(system for collecting statistical information on Higher Education)
25	**B6**	Number of citations per publication in the Russian e-library	Russian e-library HEI data
26	**B7**	Number of citations per publication in Scopus	Scopus HEI data
27	**B8**	Number of citations per publication in Web of Science	Web of Science HEI data
28	**B9**	Number of publications per academic staff in the Russian e-library	Russian e-library HPE-1(system for collecting statistical information on Higher Education)
29	**B10**	Number of publications per academic staff in Scopus	Scopus HPE-1(system for collecting statistical information on Higher Education)
30	**B11**	Number of publications per academic staff in Web of Science	Web of Science HPE-1(system for collecting statistical information on Higher Education)
31	**B12**	Ratio of research income	Data collected for National Accreditation Agency.
32	**B13**	Number of Russian research grants (Russian Humanitarian Fund, Russian Foundation for Basic Research, Bortnik Foundation)	HEI data
33	**B14**	Total amount of Russian research grants (Russian Humanitarian Fund, Russian Foundation for Basic Research, Bortnik Foundation)	HEI data
34	**B15**	Ratio of full-time students who participated in research	Data collected for National Accreditation Agency.
TEACHING AND LEARNING			
№	**Indicator**	**Indicator, Group C**	**Source**
35	**C1**	Proportion of internationally accredited education programmes	Data collected for National Accreditation Agency.
36	**C2**	Proportion of programmes enrolling students with high Unified State Examination scores	HEI data
37	**C3**	Proportion of applicants who won national education Olympiads (competitions)	HEI data HPE-1(system for collecting statistical information on Higher Education)
38	**C4**	Proportion of students who won prestigious scholarships	HEI data

39	**C5**	Proportion of graduates who found employment by specialization/field of study within 1 year after graduation	HEI data HPE-1(system for collecting statistical information on Higher Education)
40	**C6**	Proportion of graduates who were enrolled in PhD programmes in the previous academic year	HEI data HPE-1(system for collecting statistical information on Higher Education)
41	**C7**	Ratio of students who were enrolled in master programmes to students who were enrolled in bachelor programmes	HEI dataHPE-1(system for collecting statistical information on Higher Education)
42	**C8**	Ratio of graduates (holders of bachelor and/or specialist degree) from other universities who were enrolled in master programmes	HEI data HPE-1(system for collecting statistical information on Higher Education)
43	**C9**	Ratio of full-time young academic staff under 35 y.o. who won prestigious national grants and awards to the total number of full-time academic staff under 35 y.o.	HEI data HPE-1(system for collecting statistical information on Higher Education)
44	**C10**	Proportion of academic staff who are members or associate members of the Russian Academy of Sciences	HEI data
45	**C11**	Expenditures on facilities and infrastructure (for education provision)	Data collected for National Accreditation Agency.
46	**C12**	Number of full-time academic staff and researchers who won national and international awards	HEI data
47	**C13**	Number of PhD students	Data collected for National Accreditation Agency.
48	**C14**	An average Unified State Examination score of admitted applicants	HEI data
49	**C15**	Ratio of PhD students who defended their theses	Data collected for National Accreditation Agency.
50	**C16**	Number of academic staff and researchers who defended their doctorate theses	HEI data
51	**C17**	Ratio of students to academic staff	HPE-1 (system for collecting statistical information on Higher Education)
52	**C18**	Funds for provision of education services	HEI data
INTERNATIONALIZATION			
№	**Indicator**	**Indicator, Group D**	**Source**
53	**D1**	Ratio of international students	Data collected for National Accreditation Agency. HPE-1 (system for collecting statistical information on Higher Education)
54	**D2**	Number of international research grants	HEI data
55	**D3**	Total amount from international grants	HEI data
56	**D4**	Ratio of income from international sources	Data collected for National Accreditation Agency.

57	**D5**	Ratio of teaching load of international academic staff to the total teaching load of full-time academic staff	Data collected for National Accreditation Agency.
58	**D6**	Ratio of students who studied abroad to the total number of students	Data collected for National Accreditation Agency. HPE-1 (system for collecting statistical information on Higher Education)
59	**D7**	Proportion of PhD students who participated in study placements abroad	HEI dataData collected for National Accreditation Agency.
60	**D8**	Proportion of academic staff invited as lecturers by foreign universities	Data collected for National Accreditation Agency. HPE-1 (system for collecting statistical information on Higher Education)
61	**D9**	Ratio of academic staff with degree/diploma from foreign universities	Data collected for National Accreditation Agency. HPE-1 (system for collecting statistical information on Higher Education)
62	**D10**	Proportion of education programmes implemented in collaboration with international partners	HEI data Data collected for National Accreditation Agency.
63	**D11**	Proportion of students who studied in programmes implemented in collaboration with international partners	HEI data
64	**D12**	Number of international academic staff	HPE-1 (system for collecting statistical information on Higher Education)
KNOWLEDGE TRANSFER			
№	**Indicator**	**Indicator Group E**	**Source**
65	**E1**	Ratio of income from non budgetary sources	HEI data
66	**E2**	Income from intellectual property products	HEI data
67	**E3**	Number of intellectual property objects put on accounting balance sheets	HEI data
68	**E4**	Number of education programmes implemented at the request of third party organizations	HEI data
69	**E5**	Number of specialists from third party organisations who did CPD courses	Data collected for National Accreditation Agency.
ENGAGEMENT WITH REGIONAL STAKEHOLDERS			
№	**Indicator**	**Indicator, Group F**	**Source**
70	**F1**	Proportion of income from regional sources	HEI data
71	**F2**	Number of research contracts with regional partners	HEI data
72	**F3**	Ratio of students who did internships in regional organisations and enterprises	HEI data
73	**F4**	Percentage of graduates working in the region	Data collected for National Accreditation Agency.

Appendix 2

Methodology of comparative analysis for identification indicators for a template ranking methodology

3 levels of analysis have been carried out for comparative analysis of Russian, foreign and international approaches to HEIs performance evaluation.

1st level: Comparing methodologies on common parameters.

2nd level: Assessing ranking methodologies against Berlin principles and the IREG audit criteria.

3rd level: Assessing the outcomes of 1st and 2nd level of analysis against criteria of relevance to the Russian education system development objectives (capabilities, demands and development goals of the system).

1st level: Assessing ranking methodologies on common parameters

The ranking methodologies included in comparative analysis have been identified on the following criteria:

- rankings in which Russian universities participate or plan to take part;
- most popular international rankings, listing in rankings is perceived as a "signal" of universities' competitiveness in international education area;
- international and foreign rankings which methodologies are available in open access, therefore ensuring transparency, indicators relevance and outcomes validity.
- possibility to assess methodologies against Berlin principles on ranking Higher Education institutions;
- possibility of assessing ranking methodologies against IREG audit criteria;
- account of diversity of practices of various countries;
- account of diversity of approaches;
- possibility of application for the Russian education system development.

The analysis of foreign and international methodologies and approaches to HEIs performance evaluation has been conducted on the basis of the parameters that enabled horizontal comparability of different methodologies.

9 key parameters have been identified:

- Focus (mission, goal, objectives of the ranking);
- Target groups;
- Subject areas;
- Geographical scope;
- Education levels (undergraduate/postgraduate);
- Ranking methodology:

- key principles of the rankings;
- systems of indicators and weights;
- tools (key procedures for data collection);
- data processing methods;
- data transformation into ranking;

- Ranking outcome (league table, multi-dimensional ranking, clusters of universities);
- Key issues related to indicators (criticism and controversy of indicators used in a ranking);
- Ranking reputation.

19 foreign and international methodologies have been analyzed against 9 common parameters, including:

Single-dimensional ranking: Shanghai, THE, QS, US News, Leiden, Times, Guardian, Guardian Specialist, Forbes, Financial Times, Bloomberg Business Week, The Economist.

Multi-dimensional ranking: U-Multirank, CHE University, CHE Excellence, CHE Employment, CHE Research.

Classification: U-Map, Carnegie.

Conducted analysis revealed the main problems associated with methodologies of single-dimensional rankings:

- Reliability: focus on reputation surveys reduces confidence in procedures, sample design and results of global, international and national surveys.
- Relevance: frequent usage of input indicators instead of output indicators reduces relevance of the applied methodology. Some input indicators raise doubts on their relevance to assess quality of universities. (e.g. using income indicators or faculty / student ratio to assess quality of teaching and learning, or research citation index to assess quality of research)
- Methodology: weights of indicators are criticized, especially weights for indicators to assess internationalization. Weights of indicators for internationalization are unreasonably undervalued despite the fact that internationalization is a key characteristic of a world-class university. Weighing procedures are criticized for not being scientifically proven.
- Data availability: Some methodologies assign minimal values to universities, if data is not available, in order to be able to include the universities into rankings.
- Informativity: Single-dimensional ranking methodologies do not assess diversity of HEI systems; teaching quality and research are assessed more frequently than other

universities' functions. Therefore, information on HEIs quality provided to users of education services is not full.

Considering modern trends of assessment systems development to take into account not only diversity of universities types and functions but also various groups of education services users, the analysis revealed characteristics of multidimensional rankings as a hybrid form of HEIs performance evaluation.

The multidimensional rankings positive characteristics are:

- Indicators balance

Abandoning the practice of using an aggregate indicator ensures a balanced assessment of universities performance and comparison against set of different indicators.

- Data collection:

70% of data used in CHE rankings is collected through on-line survey and self-assessment. Though it increases the risk of falsification, collected data undergoes an audit procedure on reliability and validity and is sent to HEIs for final confirmation. If an institution is suspected of data falsification it is excluded from ranking.

- Reliability and relevancy of indicators:

Ranking methodologies are constantly improving: increase in using quantitative data and decrease in using evaluative and reputation data is observed.

- Interactivity and transparency:

Most rankings (CHE) are interactive. Rankings users have an opportunity to choose one or several indicators for universities comparison. Information on data collection procedures, indicators calculation and HEIs performance evaluation is available in open access.

2nd level: Assessing ranking methodologies against Berlin principles and the IREG audit criteria

One of the analysis tasks is to identify criteria for strengths and weaknesses of selected methodologies. Berlin principles and IREG Ranking Audit Rules, that articulate criteria for methodology elements assessment, are key documents to identify these criteria.

Limitations associated with the application of the IREG audit criteria system to assess weaknesses and strengths of rankings methodologies have been taken into account. IREG methodology for HEIs rankings audit has been adapted in accordance with the project purposes.

Analysis of the rankings methodologies strengths and weaknesses on the basis of IREG audit criteria is justified as it is intended that the methodology developed in the project will undergo IREG audit.

Comparison and assessment of analyzed methodologies have been made in two steps. At the first step all methodologies were assessed against all recommended criteria. At the second step the assessment took due account of the particular characteristics of the analysed methodologies. On the one hand, this approach enabled a formal assessment of all selected rankings methodologies against IREG criteria, and on the other hand it allowed consider diversity of the analysed HEIs assessment systems.

The assessment procedure used a scale from 0 to 3:

0 – criterion is not applicable/data is not available

1 – methodology does not comply with the criteria

2 – methodology partially complies with the criteria

3 – methodology fully complies with the criteria

Once assessment against IREG criteria has been made, the scores calculation for each methodology was done on the basis of the mean score calculation for each methodology against each of 20 criteria and against criteria with due account of the special features of methodologies. (Figure 2)

	MEAN 20*
U-multirank	2,5
U-map	2,5
CHE University	2,4
CHE Excellence	2,35
THES	2,3
CHE Research	2,25
QS	2,2
Financial Times	2,15
CHE Employment	2,15
Carnegie	2,15
Leiden	2,1
Guardian	2,1
Bloomberg BusinessWeek	2,1
Shanghai	2,05
Times	2,05
The Economist	1,9
Forbes	1,85
US News	1,8
Guardian Sp	1,8

	MEAN**
U-multirank	2,94
U-map	2,94
CHE University	2,82
CHE Research	2,81
CHE Excellence	2,76
CHE Employment	2,69
Carnegie	2,69
Leiden	2,63
THES	2,42
QS	2,32
Financial Times	2,26
Guardian	2,21
Bloomberg BusinessWeek	2,21
Shanghai	2,16
Times	2,16
The Economist	2,00
Forbes	1,95
Guardian Sp	1,89
US News	1,89

Figure 2: Methodologies position: mean score/weighted mean score

The analysis against IREG criteria demonstrated that multi-dimensional methodologies mostly comply with the criteria. However, these methodologies have some limitations that should be

taken into account in the process of developing a national ranking methodology. These limitations are, as follows:

- Resource intensity
- Lack of comparable data on HEIs performance
- Complexity of indicators and procedures used for data collection
- Challenges of ensuring data validity received from surveys
- Challenges of ensuring data collection procedures validity and quality due to the large volume of data collecting
- Challenge of covering all subject areas

3rd level: Assessing the outcomes of 1st and 2nd level of analysis against criteria of relevance to the Russian education system development objectives

The key task of the 3rd level of analysis is to identify repetitive quantitative indicators in different rankings and conduct expert assessment of these indicators relevance to the Russian education system development objectives.

To achieve this goal the following steps have been completed:

- Identification of similar/repetitive /most frequently used and relevant indicators;
- Assessment of these indicators on the basis of international practice;
- Attribution of the indicators to the functional areas of assessment;
- Analysis of data availability and feasibility of data collection;
- Critical assessment against several key criteria: relevance to the Russian education system development objectives, validity, availability, compliance with IREQ criteria

Identified similar/ repetitive /most frequently used and relevant quantitative indicators have been assessed and discussed by experts.

Procedure of outcome indictors experts' assessment:

Objectives of the experts' assessment were:

- assess of the identified indicators for the ranking methodology;
- identify the key quantitative indicators to be included in the methodology approbation.

Procedure:

- assessing indicators against the criteria of relevance to the Russian higher education system development objectives; validity; availability; relevance to the methodology;
- 17 experts from higher education institutions, media, recruitment agencies;
- three rounds of quantitative and qualitative assessment.

Outcomes:

- A list of indicators for the ranking methodology;
- Recommendations for including indicators into the ranking methodology.

4 Groups of indicators have been identified on the basis of experts' assessment:

Group 'A' – "Core indicators"

These indicators comply with the criteria of:

- relevance to the Russian higher education system development objectives,
- relevance to the methodology,
- validity, availability, relevance.

Some indicators were included in group "A" at recommendations of the experts though they do not fully comply with some of the above criteria.

Group 'B'

These indicators comply with the criteria of:

- relevance to the Russian higher education system development objectives,
- relevance to the methodology.

They do not comply with the criteria of

- validity, availability, relevance.

Group 'C'

These indicators do not comply with the criteria of:

- relevance to the Russian higher education system development objectives,
- relevance to the methodology,
- validity, availability, relevance.

Group 'D'

Additional indicators have been recommended by experts.

As the result of expert assessment 40 indicators for 5 dimensions of HEIs activities have been identified:

Research

- Ratio of expenditure on research to the total institution expenditure in the previous financial year (group 'A');
- Ratio of academic staff with PhD or Doctoral degrees to the total number of academic staff (group 'A');
- Number of citations per academic staff (full-time equivalent) (Russian e-library) (group 'A');
- Number of citations per academic staff (full-time equivalent) (Scopus, Web of Knowledge) (group 'A');
- Number of citations per publication (group 'A');
- Field-normalized citations score (group 'A');

- Number of publications per academic staff (full-time equivalent) (Scopus, Web of Science) (group ‘A’);
- Number of publications per academic staff (full-time equivalent) (Russian e-library) (group ‘A’);
- Ratio of research income to the total institution’s income in the previous financial year (group ‘A’) including:
    - fundamental research
    - applied research;
- Number of grants won/total amount of grants won (Russian Humanitarian Fund, Russian Foundation for Basic Research, Bortnik Foundation) in the previous financial year (group ‘A’);
- Ratio of bachelor full-time students who were employed to conduct research to the total number of bachelor students in the previous academic year (group ‘B’).

Teaching/learning

- Expenditure on facilities and infrastructure for education provision in the previous academic year (group ‘A’);
- Proportion of internationally accredited education programmes (accredited by an agency with an internationally recognized reputation) (group ‘A’);
- Proportion of programmes enrolling students with high Unified State Examination scores (quality of prospective students) in the previous academic year (group ‘D’);
- Proportion of applicants who won national education Olympics (competitions) in the previous academic year (group ‘D’);
- Proportion of students who won prestigious scholarships (President scholarship, Governor scholarship, Mayor scholarship, Potanin Foundation scholarship) (group ‘D’);
- Proportion of graduates who found employment by specialization within 1 year after graduation (group ‘B’);
- Proportion of graduates who were enrolled in PhD programmes in the previous academic year (group ‘D’);
- Ratio of students who were enrolled in master programmes to students who were enrolled in bachelor programmes (group ‘D’);
- Ratio of graduates from other universities who were enrolled in master programmes to the total number of students who were enrolled in master programmes (group ‘D’);

- Proportion of academic staff (full-time equivalent) under 35 years old who won competitive national awards (President's Award, Governor's Award, Potanin Foundation Grant) (group 'D');
- Proportion of academic staff (full-time equivalent) who are members or associate members of the Russian Academy of Sciences (group 'D').

Internationalization

- Ratio of international students (full-time equivalent) (group 'A');
- Number of international grants won in the previous financial year (group 'A');
- Ratio of income from international sources (teaching, research, contracts with international organisations) to the total institution income in previous financial year (group 'A');
- Ratio of teaching load of international academic staff to the total teaching load of academic staff (full-time equivalent) in the previous academic year (group 'D');
- Proportion of students (full-time equivalent) who participated in exchange programmes in the previous academic year (group 'D');
- Proportion of PhD students who participated in study placements abroad in the previous academic year (group 'D');
- Proportion of academic staff (full-time equivalent) who were invited as lecturers by foreign universities in the previous academic year (group 'D');
- Proportion of academic staff (full-time equivalent) with PhD degree from foreign universities (group 'D');
- Proportion of education programmes developed in collaboration with foreign partners (group 'D');
- Proportion of students who studied in programmes developed in collaboration with foreign partners (group 'D').

Knowledge transfer

- Proportion of non budgetary sources in the previous financial year (group 'A') from
    - teaching
    - research;
- Income from intellectual property products (group 'D');
- Number of intellectual property objects put on accounting balance sheets (group 'A');
- Number of education programmes implemented by an institution within contracts with third party organisations in previous academic year (group 'D');
- Number of specialists from third party organisations who did continuous professional development courses in the previous academic year (group 'D').

Engagement with regional stakeholders

- Proportion of income from local/regional sources in the previous financial year (group ‘A’);
- Percentage of students in internships in local enterprises in the previous academic year (group ‘A’);
- Number of research contracts with regional partners in the previous financial year (group ‘B’).

Appendix 3

Questionnaire

HIGHER EDUCATION INSTITUTION PROFILE				
№	**Indicator**	**Methodological comments**	**Data**	**Comments**
A1	Name	Sheet 1		
A2	Type	1. College 2. Institute 3. University 4. Academy		
A3	Category	1. Federal University 2. National Research University		
A4	Group	1. Classical university 2. Engineering/Technological university 3. Humanitarian/pedagogical university 4. Law or Economics university 5. Medical university 6. Agricultural university 7. Art and Culture university 8. Physical Education and Sport university		
A5	Affiliation	1. RF Government 2. Ministry of Education and Science, RF 3. Ministry of Health and Social Development, RF 4. Ministry of Agriculture, RF 5. Ministry of Culture, RF 6. Ministry of Sports, Tourism, and Youth Policy, RF 7. Federal Railway Transport Agency, RF 8. Federal Agency for Fisheries, RF		
A6	Organizational and Legal form	1. State education institution 2. State education institution of the RF subject 3. Municipal education institution 4. Private education institution		

A7	Federal district, RF	1. Far Eastern 2. Volga 3. North Western 4. North Caucasus 5. Siberian 6. Ural 7. Central 8. Southern		
A8	RF Subject	Sheet 2		
FACILITIES				
№	**Indicator**	**Methodological comments**	**Data**	**Comments**
A16.1	Total floor space of classrooms and laboratories (sq. m.)	**…**		
A17.1	Total residence hall(s) floor space (sq m.)	**…**		
A18.1	Library collection (thousand, items)	**…**		
A19.1	Digital library collection (thousand, documents)	**…**		
STUDENTS, POSTGRADUATE STUDENTS, ATTENDEES OF EDUCATIONAL PROGRAMMES				
№	**Subindicator**	**Methodological comments**	**Data**	**Comments**
A9.1a	Number of students in the previous academic year including: number of bachelor students (persons)	It is required to indicate the total number of bachelor students (full-time, part-time, distance-learning programmes) in the previous academic year It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education)		

A9.1b	Number of master students (persons)	It is required to indicate the total number of master students (full-time, part-time, distance-learning programmes) in the previous academic year It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education)		
A9.1c	Number of students in specialist programmes (persons)	It is required to indicate the total number of students in specialist programmes (full-time, part-time, distance-learning programmes) in the previous academic year. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education)		
B15.1	Number of full-time students who participated in research in the previous academic year (persons)	It is required to indicate the total number of full-time students who participated in research in the previous academic year**.** It is possible to use the data collected for National Accreditation Agency		
B15.2	Number of full-time students in the previous academic year (persons)	It is required to indicate the total number of full-time students in the previous academic year. It is possible to use the data collected for National Accreditation Agency		
C3.1	Number of applicants admitted by the results of national education Olympiads (competition) in the previous academic year (persons)	It is required to indicate the number of applicants admitted to bachelor and specialist programmes in the previous academic year, including winners of: - All-Russian education Olympiad, organized by the Ministry of Education and Science (www.rosolymp.ru); - All-Russian Olympiad coordinated by the Russian Association of School Olympiads (www.rsr-olymp.ru) Data is collected by HEI		

C3.2	Number of admitted applicants in the previous academic year (persons)	It is required to indicate the number of applicants admitted to bachelor and specialist programmes in the previous academic year.		
C4.1	Number of students who won prestigious scholarships in the previous academic year (persons)	It is required to indicate the total number of students who won President scholarship, Governor scholarship, Mayor scholarship, Potanin Fund scholarship and other prestigious scholarships in the previous academic year. Data collected by HEI		
C5.1	Number of graduates who found employment by specialization within 1 year after graduation in the previous academic year (persons)	It is required to indicate the total number of graduates (full-time study) in the previous academic year who found employment by specialization within 1 year after graduation. Data is collected by HEI		
C5.2	Number of graduates (full-time study) in the previous academic year (persons)	It is required to indicate the total number of graduates (full-time study) in the previous academic year. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
F4.1	Number of graduates working in the region (data from the previous academic year) (persons)	It is required to indicate the total number of graduates working in the region. It is possible to use the data collected for National Accreditation Agency		
C6.1	Number of graduates who were enrolled in PhD programmes in the previous academic year (persons)	It is required to indicate the total number of graduates (full-time study) who were enrolled in PhD programmes. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
C6.2	Number of graduates in the previous	It is required to indicate the total number of graduates in the previous academic year.		

	academic year (persons)	It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
C13.1	Number of PhD students (all programmes) in the previous academic year (persons)	It is required to indicate the total number of PhD students (all programmes) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
C15.1a	Number of PhD students who defended their thesis within one year after completing their studies in the previous academic year (persons)	It is required to indicate the total number of PhD students who defended their thesis within one year after completing their studies in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
C15.1b	Number of PhD students who defended their thesis within two years after completing their studies in the previous academic year (persons).	It is required to indicate the total number of PhD students who defended their thesis within two years after completing their studies in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
C15.2	Number of PhD students who completed their studies in the previous academic year (persons)	It is required to indicate the total number of PhD students who completed their studies in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
C7.1	Number of HEI students admitted to full-time master programmes in the previous academic year (persons)	It is required to indicate the total number of students admitted to full-time master programmes in the previous academic year. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		

C7.2	Number of HEI students admitted to full-time bachelor programmes in the previous academic year (persons)	It is required to indicate the total number of students admitted to full-time bachelor programmes in the previous academic year. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
C8.1	Number of graduates (holders of bachelor and specialist degree) from other universities admitted to master programmes in the previous academic year (persons).	It is required to indicate the total number of graduates from other universities admitted to master programmes in the previous academic year. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
D1.1a	Number of full-time international students from CIS countries in the previous academic year (persons)	It is required to indicate the total number full-time international students from CIS countries in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D1.1b	Number of part-time international students from CIS countries in the previous academic year (persons)	It is required to indicate the total number part-time international students from CIS countries in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D1.1c	Number of international students from CIS countries (off-campus education) in the previous academic year (persons)	It is required to indicate the total number of international students from CIS countries (off-campus education) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		

D1.1d	Number of international students from CIS countries (external studies) in the previous academic year (persons)	It is required to indicate the total number of international students from CIS countries (external studies) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D1.1e	Number of full-time international students (non-CIS countries) in the previous academic year (persons)	It is required to indicate the total number full-time international students (non-CIS countries) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D1.1f	Number of part-time international students (non-CIS countries) in the previous academic year (persons)	It is required to indicate the total number part-time international students (non-CIS countries) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D1.1g	Number of international students from non-CIS countries (off-campus education) in the previous academic year (persons)	It is required to indicate the total number of international students from non-CIS countries (off-campus education) in the previous academic year.It is possible to use the data collected for National Accreditation Agency.		
D1.1h	Number of international students from non-CIS countries (external studies) in the previous academic year (persons)	It is required to indicate the total number of international students from non-CIS countries (external studies) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		

D6.1	Number of students who studied abroad within interuniversity agreements in the previous academic year (persons)	It is necessary to indicate the total number of students who studied abroad within interuniversity agreements in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D7.1	Number of mobile PhD students who visited foreign universities for upgrading their professional skills in the previous academic year (persons).	It is required to indicate the total number of mobile PhD students who visited foreign universities for upgrading their professional skills in the previous academic year. Data is collected by HEI		
D11.1	Number of students who studied in programmes implemented in cooperation with international partners in the previous academic year (persons)	It is required to indicate the total number of students who studied in programmes implemented in cooperation with international partners (higher education institutions, research organizations, enterprises) in the previous academic year, including programmes: - awarding degrees of Russian and foreign university/ies - awarding degree of a Russian university - other joint education programmes Data is collected by HEI		
E5.1a	Number of specialists who received off-job training in the previous financial year (persons)	It is required to indicate the total number of specialists who received off-job training in the previous financial year, including programmes. - professional development (more than 72 hours) - professional retraining (more than 500 hours) It is possible to use the data collected for National Accreditation Agency.		

E5.1b	Number of specialists who received off-job and in-service training in the previous financial year (persons)	It is required to indicate the total number of specialists received off-job and in-service training in the previous financial year, including programmes. - professional development (more than 72 hours) - professional retraining (more than 500 hours) It is possible to use the data collected for National Accreditation Agency.		
E5.1c	Number of specialists who received in-service training in the previous financial year (persons)	It is required to indicate the total number of specialists who received in-service training in the previous financial year, including programmes. - professional development (more than 72 hours) - professional retraining (more than 500 hours) It is possible to use the data collected for National Accreditation Agency.		
F3.1	Number of students who did internships in regional organizations and enterprises in the previous academic year (persons)	It is required to indicate the total number of students who did internships in regional organizations and enterprises in the previous academic year Data is collected by HEI		
ACADEMIC STAFF, RESEARCHERS AND OTHER STAFF				
№	**Subindicator**	**Methodological comments**	**Data**	**Comments**
A10.1a	Number of academic staff in the previous academic year including: full-time staff (persons)	It is required to indicate the total number of full-time academic staff in the previous academic year, including: - heads of faculties; - heads of departments; - professors; - associate professors; - senior lecturers; - lecturers, teaching assistants It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		

A10.1b	Total number of staff units occupied by academic staff (items)	It is required to indicate the total number staff units occupied by academic staff Please use the formula: ∑N=N1+4/3N2+2N3+4N4 ∑N - total number of occupied staff units N1 - number of staff units occupied by full-time academic staff N2 - number of staff units occupied by part-time academic staff (0,75 pay) N3 - number of staff units occupied by part-time academic staff (0,5 pay) N4 - number of staff units occupied by part-time academic staff (0,25 pay) It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
A11.1a	Number of non-academic staff in the previous academic year including: full-time non-academic staff (persons)	It is required to indicate the total number of non-academic staff, including: - engineering and technical personnel; - administrative staff; - service personnel; - support education staff; - support personnel; in the previous education year It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
A11.1b	Total number of staff units occupied by non-academic staff (items)	It is required to indicate the total number staff units occupied by non-academic staff Please use the formula: ∑N=N1+4/3N2+2N3+4N4 ∑N - total number of occupied staff units N1 - number of staff units occupied by full-time non-academic staff N2 - number of staff units occupied by part-time non-academic staff (0,75 pay) N3 - number of staff units occupied by part-time non-academic staff (0,5 pay) N4 - number of staff units occupied by part-time non-academic staff (0,25 pay) It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
A13.1a	Number of researchers in the previous academic	It is required to indicate the total number of researchers in the previous academic year.		

	year, including: full-time researchers (persons)	It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
A13.1b	Total number of staff units occupied by full-time researchers (items)	It is required to indicate the total number staff units occupied by researchers staff . Please use the formula: ∑N=N1+4/3N2+2N3+4N4 ∑N - total number of occupied staff units N1 - number of staff units occupied by full-time researchers N2 - number of staff units occupied by part-time researchers (0,75 pay) N3 - number of staff units occupied by part-time researchers (0,5 pay) N4 - number of staff units occupied by part-time researchers (0,25 pay) It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
B2.1a	Number of academic staff with PhD or Doctor of Science degree in the previous academic year, including: total number of full-time academic staff with PhD or Doctor of Science degree (persons):	It is required to indicate the total number of full-time staff with PhD or Doctor of Science Degree, including: - heads of the faculties; - heads of departments; - professors; - associate professors; - senior lecturers; - lecturers, teaching assistants It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		

B2.1b	Total number of staff units occupied by full-time academic staff with PhD or Doctor of Science degree (items)	It is required to indicate the total number of staff-units occupied by academic staff with PhD or Doctor of Science Degree in the previous academic year (as on 01.10.2011). Please use the formula: ∑N=N1+4/3N2+2N3+4N4 ∑N - total number of occupied staff units N1 - number of staff units occupied by full-time academic staff with PhD and Doctor of Science Degree N2 - number of staff units occupied by part-time academic staff with PhD and Doctor of Science Degree (0,75 pay) N3 - number of staff units occupied by part-time academic staff with PhD and Doctor of Science Degree (0,5 pay) N4 - number of staff units occupied by part-time academic staff with PhD and Doctor of Science Degree (0,25 pay) It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
C9.1	Number of full-time academic staff under 35 y.o. who won prestigious national grants and awards in the previous academic year (persons)	It is required to indicate the total number of full-time academic staff under 35 y.o., including: - heads of the faculties; - heads of departments; - professors;- associate professors; - senior lecturers; - lecturers, teaching assistants who won awards: - RF President - Governor, RF Subject - Potanin Fund - other awards from well-known organizations or funds. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		

C9.2a	Number of academic staff under 35 y.o. in the previous academic year, including: total number of full-time academic staff under 35 y.o. (persons)	It is required to indicate the total number of academic staff under 35 y.o.in the previous academic year. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
C9.2b	Number of staff units occupied by academic staff under 35 y.o. (items)	It is required to indicate the total number of staff-units occupied by academic staff under 35 y.o. in the previous academic year (as on 01.10.2011). Please use the formula: ∑N=N1+4/3N2+2N3+4N4 ∑N - total number of occupied staff units N1 - number of staff units occupied by full-time academic staff under 35 y.o. N2 - number of staff units occupied by part-time academic staff under 35 y.o. (0,75 pay) N3 - number of staff units occupied by part-time academic staff under 35 y.o. (0,5 pay) N4 - number of staff units occupied by part-time academic staff under 35 y.o. (0,25 pay) It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
C10.1	Number of full-time academic staff who are members or associate members of the Russian Academy of Sciences since 2001 (persons)	It is required to indicate the total number of full-time academic staff who are members or associate members of the Russian Academy of Sciences since 2001. Data is collected by HEI.		

C12.1	Number of full-time academic staff and researchers who have won national and international awards since 2001 (persons)	It is required to indicate the total number of academic staff and researchers who have won national and international awards since 2001 (Nobel Prize, Fields Prize, National RF Prize, Lomonosov Gold Medal and others. Data is collected by HEI.		
C16.1	Number of full-time academic staff and researchers who defended their doctorate theses in the previous academic year (persons)	It is required to indicate the total number of full-time academic staff and researchers who defended their doctorate theses in the previous academic year Data is collected by HEI		
D12.1	Number of international academic staff and specialists in the previous academic year (persons)	It is required to indicate the total number of international academic staff and specialists in the previous academic year. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
D5.1	Teaching load of international academic staff and specialists in the previous academic year (academic hours)	It is required to indicate the total teaching load of international academic staff and specialists**.** Regular teaching, guest lectures, participating of international academic staff in short programmes should be taken into account. It is possible to use the data collected within HPE-1 system (system for collecting statistical information on Higher Education).		
D5.2	Teaching load of full-time academic staff with PhD or Doctorate degree/academic title in the previous academic year (hours)	It is required to indicate teaching load of full-time academic staff with PhD or Doctorate degree/academic title in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		

D8.1a	Number of full-time academic staff who have been invited as lectures to CIS countries universities in the previous academic year (persons)	It is required to indicate the total number of full-time academic staff who have been invited as lectures to CIS countries universities (training or teaching) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D8.1b	Number of full-time academic staff who participated in study placements or taught in non-CIS countries in the previous academic year (persons)	It is required to indicate the total number of full-time academic staff who participated in study placements or taught in non-CIS countries universities in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
D9.1	Number of full-time academic staff holding Ms and/or PhD degrees from foreign universities in the previous academic year (persons)	It is required to indicate the total number of full-time academic staff holding Ms and/or PhD degrees from foreign universities in the previous academic year Data is collected by HEI.		
EDUCATION PROGRAMMES				
№	**Subindicator**	**Methodological comments**	**Data**	**Comments**
A12.1a	Number of specialist programmes in the previous academic year (items)	It is required to indicate the total number of specialist programmes in the previous academic year. (as on 01.10.2011) Data is collected by HEI.		
A12.1b	Number of bachelor programmes in the previous academic year (items)	It is required to indicate the total number of bachelor programmes in the previous academic year. (as on 01.10.2011) Data is collected by HEI.		

A12.1c	Number of master programmes in the previous academic year (items)	It is required to indicate the total number of master programmes in the previous academic year. (as on 01.10.2011) Data is collected by HEI		
A14.1	Number of PhD programmes in the previous academic year (items)	It is required to indicate the total number of PhD programmes in the previous academic year Data is collected by HEI		
A15.1	Number of doctorate programmes in the previous academic year (items)	It is required to indicate the total number of doctorate programmes in the previous academic year Data is collected by HEI		
C1.1	Number of education programmes accredited by international accreditation agencies in the previous education year (items)	It is required to indicate the total number of education programmes accredited by international accreditation agencies in the previous education year. It is possible to use the data collected for National Accreditation Agency.		
C2.1	Number of education programmes enrolling students with high Unified State Examination scores in the previous academic year (items)	It is required to indicate the total number of education programmes enrolling students with score 70 and higher (each subject) for Unified State Examination.		
C14.1	An average Unified State Examination score of admitted applicants in the previous academic year (score)	It is required to indicate an average Unified State Examination score of admitted applicants in the previous academic year (all programmes, all modes of study) Data is collected by HEI		

D10.1	Number of education programmes implemented in collaboration with international partners in the previous academic year (items)	It is required to indicate the total number of education programmes implemented in collaboration with international partners (international HEI, research organizations, enterprises) in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
E4.1	Number of education programmes implemented at the request of third party organisations in the previous academic year (items)	It is required to indicate the total number of education programmes implemented by the institution at the request of third party organizations (industry enterprises) in previous academic year. Data is collected by HEI		
BIBLIOMETRICS				
№	**Subindicator**	**Methodological comments**	**Data**	**Comments**
B3.1	Number of citations in the Russian e-library in the previous calendar year (items)	It is required to indicate the total number of institution's citations in the Russian e-library in the previous calendar year Data is collected by HEI		
B4.1	Number of citations in Scopus in the previous calendar year (items)	It is required to indicate the total number of institution's citations in Scopus in the previous calendar year Data is collected by HEI		
B5.1	Number of citations in Web of Science in the previous calendar year (items)	It is required to indicate the total number of institution's citations in Web of Science in the previous calendar year Data is collected by HEI		
B6.2	Number of publications by academic staff in the previous calendar year (items)	It is required to indicate the total number of publications by institution’s academic staff in the previous calendar year Data is collected by HEI		

B9.1	Number of publications by academic staff in the Russian e-library in the previous calendar year (items)	It is required to indicate the total number of publications by institution's academic staff in the Russian e-library in the previous calendar year Data is collected by HEI		
B10.1	Number of publications by academic staff in Scopus in the previous calendar year (items)	It is required to indicate the total number of publications by institution's academic staff in Scopus in the previous calendar year Data is collected by HEI		
B11.1	Number of publications by academic staff in Web of Science in the previous calendar year (items)	It is required to indicate the total number of publications by institution's academic staff in Web of Science in the previous calendar year Data is collected by HEI		
BUDGET				
№	**Subindicator**	**Methodological comments**	**Data**	**Comments**
B1.1a	Funds for fundamental research allocated from institution's own resources in the previous financial year (thousand rubles)	It is required to indicate the total amount of finance to conduct fundamental research allocated from institution's own resources in the previous financial year. It is possible to use the data collected for National Accreditation Agency.		
B1.1b	Funds for applied research allocated from institution's own resources in the previous financial year (thousand rubles)	It is required to indicate the total amount of finance to conduct applied research allocated from institution's own resources in the previous financial year. It is possible to use the data collected for National Accreditation Agency.		

B1.2	Total expenditure in the previous financial year (thousand rubles)	It is required to indicate the institution's total expenditure in the previous financial year (including expenditure on salaries, equipment financing, library financing etc.) It is possible to use the data collected for National Accreditation Agency.		
B12.1a	Funds for fundamental research received in the previous financial year (thousand rubles)	It is required to indicate the total amount of finance for fundamental research received by the institution in the previous financial year (including funding from the Ministry of Education and Science, other ministries, Russian research organizations and funds, local authorities and enterprises, international organizations etc.) It is possible to use the data collected for National Accreditation Agency.		
B12.1b	Funds for applied research in the previous financial year (thousand rubles)	It is required to indicate the total amount of finance for applied research received by the institution in the previous financial year (including funding from the Ministry of Education and Science, other ministries, Russian research organizations and funds, local authorities and enterprises, international organizations etc.) It is possible to use the data collected for National Accreditation Agency.		
B12.2	Total income in the previous financial year (thousand rubles)	It is required to indicate the institution's total income in the previous financial year (including budgetary funding, funding received to conduct research and for provision of education services) It is possible to use the data collected for National Accreditation Agency.		
B13.1	Number of national research grants (Russian Humanitarian Fund, Russian Foundation for Basic Research, Bortnik Foundation) won in the previous year (items)	It is required to indicate the total number of grants (Russian Humanitarian Fund, Russian Foundation for Basic Research, Bortnik Foundation) won in the previous year. Data is collected by HEI.		
B14.1	Total amount of funding from Russian research grants (Russian Humanitarian Fund, Russian Foundation for Basic Research, Bortnik Foundation)	It is required to indicate the total amount of funding within grants received from national funds (Russian Humanitarian Fund, Russian Foundation for Basic Research, Bortnik Foundation) in the previousyear Data is collected by HEI.		

	in the previous year (thousand rubles)			
C11.1	Expenditure on facilities and infrastructure for provision of education services in the previous academic year (thousand rubles)	It is required to indicate expenditure on facilities and infrastructure (library, IT, etc.) for provision of education services in the previous academic year. It is possible to use the data collected for National Accreditation Agency.		
C18.1	Budgetary funds allocated for education provision in the previous financial year (thousand rubles)	It is required to indicate the total amount of budgetary funds allocated for education services provision in the previous financial year. Data is collected by HEI		
D2.1	Number of international research grants won in the previous year (items)	It is required to indicate the total number of international research grants won by the institution in the previous year. Data is collected by HEI.		
D3.1	Total amount of funding from international grants won in the previous financial year (thousand rubles)	It is required to indicate the total amount of funding from international grants (research grants from international funds).received by an institution in the previous financial year Data is collected by HEI.		
D4.1	Income from international sources in the previous financial year (thousand rubles)	It is required to indicate income from international sources (contracts with international organizations) in the previous financial year excluding data from D3.1.It is possible to use the data collected for National Accreditation Agency.		
E1.1	Income from education services from Russian non	It is required to indicate income from education services from Russian non budgetary sources in the previous financial year		

	budgetary sources in the previous financial year (thousand rubles)	Data is collected by HEI		
E1.2	Income from research received from Russian non budgetary sources in the previous financial year (thousand rubles)	It is required to indicate income from research received from Russian non budgetary sources in the previous financial year. Data is collected by HEI		
E2.1	Income from intellectual property products in the previous financial year (thousand rubles)	It is required to indicate income from intellectual property products (inventions, know-how, innovation proposals) in the previous financial year Data is collected by HEI		
E3.1	Number of intellectual property objects put on accounting balance sheets in the previous financial year (items)	It is required to indicate the total number of intellectual property objects (inventions, know-how, innovation proposals) put on accounting balance sheets in the previous financial year. Data is collected by HEI		
F1.1	Income from regional sources in the previous financial year (thousand rubles)	It is required to indicate the total amount of funding received from contracts with regional organizations, institutions, enterprises in the previous financial year Data is collected by HEI		
F2.1	Number of research contracts with regional partners in the previous financial year (items)	It is required to indicate the total number of research contracts with regional partners in the previous financial year. Data is collected by HEI.		