Challenge of Developing a Multidimensional Ranking Methodology for Higher Education System in the Russian Federation

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Project “Development and Approbation of a Template Methodology for National Ranking of Higher Education Institutions” 2011-2013

I. Project background

Project “Development and Approbation of a Template Methodology for National Ranking of Higher Education Institutions” 2011-2013

implemented by National Training Foundation in collaboration with International Organizations Research Institute of the National Research University Higher School of Economics at the request of the Russian Ministry of Education and Science.

Project goal

To develop and approbate a template methodology for ranking of Russian higher education institutions through:

- comparative analysis of global, national and specialized rankings; national approaches to evaluation of higher education institutions performance
- public and expert discussions of the draft methodology
- approbation of the draft methodology
- processing and discussion of the approbation outcomes
- consultations with IREG experts

Project tasks

2011

- Analyzing the Russian approaches (methodologies and indicators) used to evaluate performance of higher education institutions.
- Conducting a comparative analysis of global, foreign, and specialized rankings; identifying their strengths and weaknesses.
- Carrying out a comparative analysis of the methodologies and approaches used in international /foreign and Russian practices.
- Developing a template methodology for national ranking of higher education institutions.

2012

- Approbation of the developed methodology.
- Processing the approbation results
- Organizing public and expert discussions of the approbation results.
- Consulting with IREG experts to audit the methodology for national ranking of the higher education institutions.
- Amending the draft methodology in accordance with the results of the discussions.

2013

- Developing recommendations on the application of the template methodology for national ranking of higher education institutions.
- Organizing an international conference to discuss the template methodology for national ranking of higher education institutions and the approbation outcomes.

II. General approaches to the template methodology for HEIs ranking

Key principles:

1. The methodology should provide reliable information on performance of higher education institutions and their position in rankings.
2. The methodology should inform users of educational services on diversity of higher education institutions and education programmes providing friendly and easy-to-use information
3. The methodology should facilitate improvement of quality and competitiveness of higher education institutions
4. The methodology should be a source of valid data for global and regional rankings

Key principles

The methodology should take into account:

1. Experience and achievements of the Russian higher education institutions in the area
2. Objectives to improve competitiveness and facilitate integration of the Russian higher education institutions into global education and research environment
3. Increasing number of the Russian higher education institutions that participate/will participate in global rankings
4. Pragmatic approach to the methodology: data collected for national ranking should correlate with the data universities provide for global rankings
5. Strengths of quantitative indicators
6. Strengths of global ranking methodologies

Methodology for a Comparative Analysis

3 levels of analysis

- **1 level:** Comparative analysis of methodologies on key selected parameters (*target groups*, *key objectives*, *areas of evaluation*, *frequency*, *method of data collection and processing etc).*
- **2 level:** Assessing ranking methodologies against Berlin principles on ranking of Higher Education Institutions and the IREG audit criteria
- **3 level:** Identifying key quantitative indicators and assessing the indicators against criteria of relevance to the Russian education system development objectives, validity and feasibility of data collection

1 level: Comparing methodologies using common parameters

Criteria for selection of ranking methodologies:

- Rankings in which Russian universities participate or are expected to take part
- Most popular rankings, which top listing is perceived as “signal” of universities competitiveness in international education and research
- Rankings with methodologies available in open access to ensure transparency and understanding of indicators’ relevance and validity of the obtained results

Criteria for selection of ranking methodologies (continued)

- possibility of assessing ranking methodologies against Berlin principles on ranking Higher Education institutions and IREG audit criteria
- account of diverse practices of various countries
- inclusion into analysis of different methodologies
- feasibility of application for the national HEIs ranking

Types of analyzed methodologies (19)

Type	Characteristics	Methodologies
Single-dimensional ranking (rankings, league tables)	-Normalizes -Assigns scores - Compares higher education institutions and creates a hierarchical list of HEIs from “best” to “worst” based on composite scores - Uses single aggregate score - User-driven	Shanghai, THE, QS, US News, Leiden, Times, Guardian, Guardian Sp, Time Good Education Guide, Forbes, Financial Times, Bloomberg Business Week, The Economist
Multi-dimensional ranking	- Assesses - Compares - Displays diversity - Does not use aggregate scores - Creates hierarchical lists of higher education institutions	U-multirank, CHE University, CHE Excellence, CHE Employment, CHE Research, Indicators for Mapping and Profiling Internationalization
Classification	- Groups objects with similar characteristics - Describes - Displays horizontal diversity - Considers various activities of higher education institutions	U-Map, Carnegie

Position of Russian universities in global rankings

QS	Shanghai	THE	Leiden	US News and World report
Ranking 2011 (700 universities) Moscow State University - 112 St. Petersburg State University - 251 Bauman Moscow State Technical University - 379 Moscow State Institute of International Relations - 389 Novosibirsk State University - 400 Tomsk State University – 451-500 Ural Federal University – 451-500 Higher School of Economics – 551-600 Tomsk Polytechnic University – 551-600 People's Friendship University – 551-600	**Ranking 2011 (500 universities)** Moscow State University – 77 St. Petersburg State University – 301 – 400	**Ranking 2011 (400 universities)** Moscow State University – 276-300 St. Petersburg State University – 351-400	**Ranking 2011 (500 universities)** Moscow State University – 499 St. Petersburg State University - 500	**Ranking 2011 (400 universities)** Moscow State University – 112 St. Petersburg State University – 251 Bauman Moscow State Technical University – 379 Moscow State Institute of International Relationships – 389 Novosibirsk State University – 400

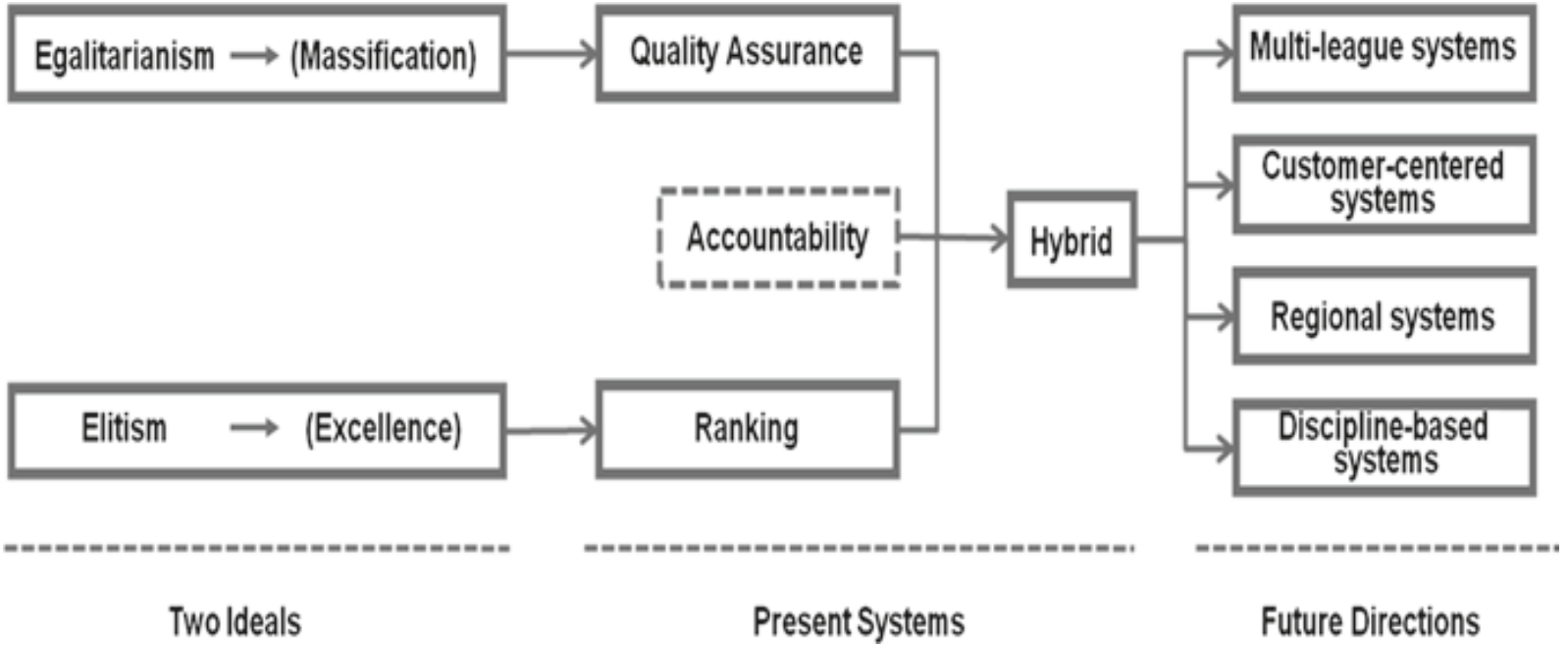
Parameters for comparing ranking methodologies

1. Focus (mission, goal, objectives)
2. Target groups
3. Subject areas (Arts and Humanities, Engineering and Technology, Life Sciences etc.)
4. Geographical scope
5. Education levels (undergraduate/postgraduate)
6. Ranking methodology:
   - key principles;
   - indicators, weights;
   - procedures for data collection;
   - data processing methods;
   - data transformation into ranking.
7. Ranking outcome (league table, multi-dimensional ranking, clusters of universities).
8. Criticism and controversy of indicators used in a ranking.
9. Ranking reputation.

Single-dimensional rankings main disadvantages

- **Validity**: Focus on reputation surveys reduces confidence in procedures, sampling and proceeding the 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 ability 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. Thus, weights of internationalization indicators are underestimated, though internationalization is a key characteristic of the world class universities. The procedures of weightening indicators as less scientifically grounded are of the main concern for criticism
- **Data availability**: Some methodologies assign minimal values to universities, if data is not available, in order to include them into rankings
- **Informativeness:** Single-dimensional ranking methodologies do not assess diversity of HEI systems; teaching quality and research are assessed more frequently than other universities' functions. Therefore, limited information on HEIs quality is provided to consumers

Development of ranking systems



Source: Shin J.Ch., Toutkoushian R.K., Teichler U. (eds.) University Rankings: Theoretical Basis, Methodology and Impacts on Global Higher Education. Springer, 2011. P.14.

Regional / National multi-dimensional rankings: The CHE Rankings

CHE University Ranking	CHE Research Ranking	CHE Excellence Ranking	CHE Employability Ranking
Target group: Prospective students, students and HEIs **Criteria:** 1.Teaching and learning 2.Infrastructure 3.Internationalization 4. Labour market 5. HEI reputation (students survey) 6. Research 7. University and Town	**Target group:** Researchers, academics and research universities **Criteria:** 1. Third-party funding spent on individual subjects 2. Publications and citations 3. Patents/inventions 4. Number of doctorates	**Target group:** Undergraduates from European, non-European universities intending to earn a Master's or PhD degree **Criteria** 1. Publications and citations 2. Outstanding researchers (only natural sciences) 3. Marie Curie projects (only natural sciences) 4. Student mobility 5. Teaching staff mobility 6. Erasmus-Mundus Master's programmes 7. ERC grants (only natural sciences)	**Target Group:** Bachelor students, labour market, HEIs **Criteria:** 1. Methodological skills 2 Soft skills 3. Practical experience 4. Internationality

Regional/ National Single-dimensional rankings: The CHE Rankings
Quality signals

- **Indicators' balance:**

  The balance of universities' quality assessment is achieved by using multi-dimensional indicators. Aggregated indicators are not used. This approach allows universities' comparison by various indicators.

- **Data processing:**

  70% of all data used for universities' ranking is collected via on-line surveys and self-evaluations reports. This increases the risk of data falsification.

  Nevertheless, all collected data is audited to assure reliability and validity. Data is sent to universities' for final approval.

  In case of data falsification a university is excluded from ranking.

- **Validity and relevance of indicators**

  The ranking methodology is regularly renewed. The reputation evaluations are replaced by the quantitative data.

- **Responsiveness and Transparency**

  The CHE rankings are highly interactive and consumer-driven. Consumers are provided with an optional choice to rank or compare universities on the basis of a single indicator or group of indicators.

  Information on methods of data collection, calculation of indicators' values and universities' assessment is available in open access.

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

Criteria for assessing ranking methodologies strengths and weaknesses

- Berlin principles on ranking of Higher Education Institutions
- IREG Ranking Audit Criteria for assessing ranking methodologies

Logical framework for assessing ranking methodologies against the IREG audit criteria

Scale for assessment of methodologies against IREG criteria

0 – criterion is not applicable/data is not available

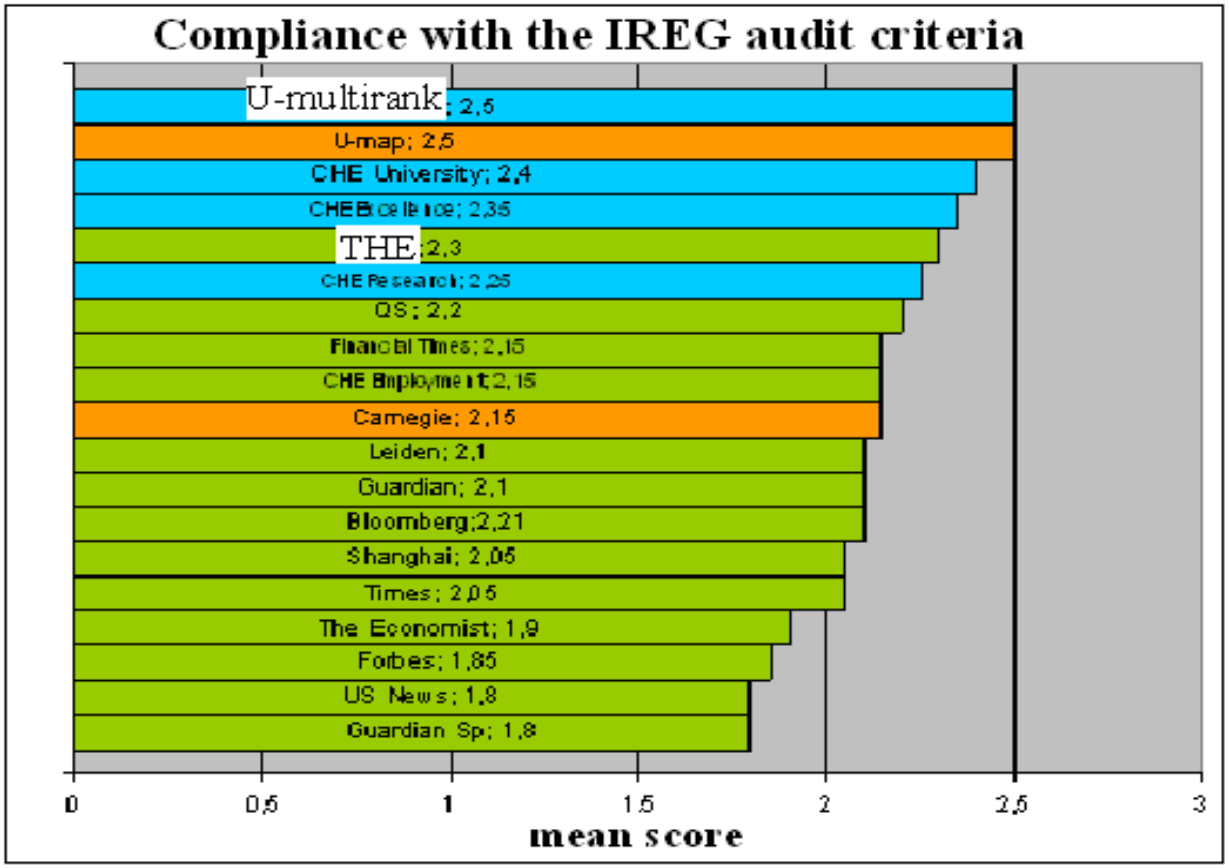
1 – does not comply with the criteria

2 – partially complies with the criteria

3 – fully complies with the criteria

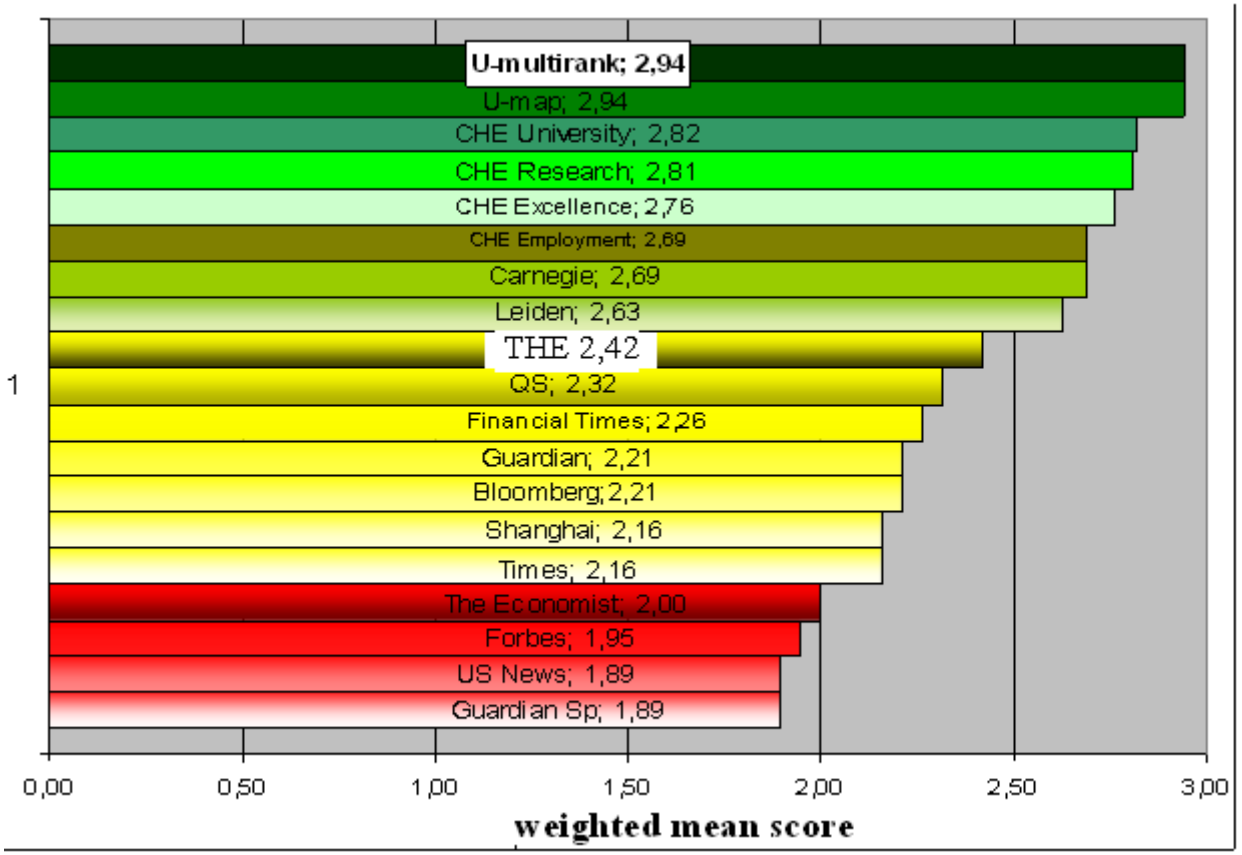
			Basic Approach			Methodology										Transparency Responsiveness			Quality Assurance					
Type of the Methodology		CRITERIA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	TOTAL	MEAN 20	MEAN COR
League table	Global	**Shanghai**	2	1	2	2	1	3	2	3	3	3	3	3	3	1	2	2	1	1		3	41	2,05	2,16
League table	Global	**THE**	3	1	2	2	2	2	3	3	2	2	3	3	3	2	2	3	3	2		3	46	2,3	2,42
League table	Global	**US News**	3	1	2	1	2	2	1	1	2	2	3	2	1	1	2	2	3	2		3	36	1,8	1,89
League table	Global	**Leiden**	3	1	1	3	1	3	3		3	3	3	3			3	3	3	3		3	42	2,1	2,63
League table	Global	**QS**	3	1	2	2	2	2	3	3	2	2	3	3	2	2	2	2	3	2		3	44	2,2	2,32
League table	National	**Times**	3	1	2	2	2	2	2	3	3	3	2	3	1	2	2	1	3	2		2	41	2,05	2,16
League table	National	**Guardian**	3	2	2	2	2	2	2	2	3	3	3	3	1	2	2	1	3	2		2	42	2,1	2,21
League table	National	**Guardian Sp**	3	1	2	2	2	2	1	1	3	1	3	2	1	2	2	1	3	2		2	36	1,8	1,89
League table	National	**Forbes**	3	1	1	2	2	2	2	3	2	3	3	2	1	1	2	1	3	1		2	37	1,85	1,95
League table	Specialized	**Financial Times**	3	2	2	2	3	3	2	3	2	2	3	3	2	2	2	1	2	2		2	43	2,15	2,26
League table	Specialized	**Bloomberg BusinessWeek**	3	2	1	3	3	3	2	1	3	2	3	2	1	2	3	1	2	3		2	42	2,1	2,21
League table	Specialized	**The Economist**	3	2	1	2	2	3	3	2	1	1	3	3	2	1	2	1	2	2		2	38	1,9	2,00
Ranking	Global	**U-multirank**	3	3	3	3	3	2	3		3	3	3	3		3	3	3	3	3		3	50	2,5	2,94
Ranking	National	**CHE University**	3	2	3	3	3	2	3		3	3	3	3		3	3	3	3	2		3	48	2,4	2,82
Ranking	National	**CHE Excellence**	3	2	2	3	3	2	3		3	3	3	3		3	3	3	3	2		3	47	2,35	2,76
Ranking	National	**CHE Employment**	3	2	2	3	3	2	3		3	3	3	3		1	3	3	3			3	43	2,15	2,69
Ranking	National	**CHE Research**	3	2	2	3	3	2	3		3	3	3	3		3	3	3	3			3	45	2,25	2,81
Classification	Regional	**U-map**	3	3	3	3	3	2	3		3	3	3	3		3	3	3	3		3	3	50	2,5	2,94

2 level: Assessing ranking methodologies against the IREG audit criteria (20 criteria)



2 level: Assessing ranking methodologies against the IREG audit criteria (adjusted criteria)

Compliance with the IREG audit criteria



Limitations of ranking methodologies (U-multirank, CHE University)

- Resource intensity
- Lack of comparable data on HEIs performance
- Complexity of indicators and procedures used for data collection
- Challenges of ensuring validity of data received from surveys
- Challenges of ensuring validity and quality of collecting large volume of data
- Difficulties associated with processing of large volume of data

3 level of analysis: Assessing the indicators against criteria of relevance to the Russian education system development objectives

Identification of similar/repeatable/most frequently used and relevant quantitative indicators

Distribution of quantitative indicators to areas of evaluation, including

- Research
- Teaching and learning
- Internationalization
- Knowledge transfer
- Engagement with regional stakeholders

Analysis of the most frequently used quantitative indicators on the merits of

- data availability
- indicators' weights

Critical assessment of the most frequently used quantitative indicators against criteria of relevance to the Russian education system development objectives, validity, feasibility of data collection (see the logical framework for assessment of identified indicators in the next slide)

Logical framework for assessment of identified indicators for ranking HEIs methodology

Area of evaluation	Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the IREG audit criteria	Relevance to the methodology
Research. Input indicators							
Research. Output indicators							
Teaching and learning. Input indicators							
Teaching and learning. Output indicators							
Internationalization. Input indicators							
Internationalization. Output indicators							
Employment/salary							
Knowledge transfer. Input indicators							
Knowledge transfer. Output indicators							
Engagement with regional stakeholders. Input indicators							
Engagement with regional stakeholders. Output indicators							
Gender balance							
Student profile							

Experts' assessments results

4 groups of indicators identified

Group 'A' «Core 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 on recommendations of experts though they do not fully comply with some of the above criteria

Group 'B'

Comply with the criteria of:

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

Do not comply with the criteria of

- validity, availability, relevance

Group 'C' indicators

Do not comply with the criteria of:

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

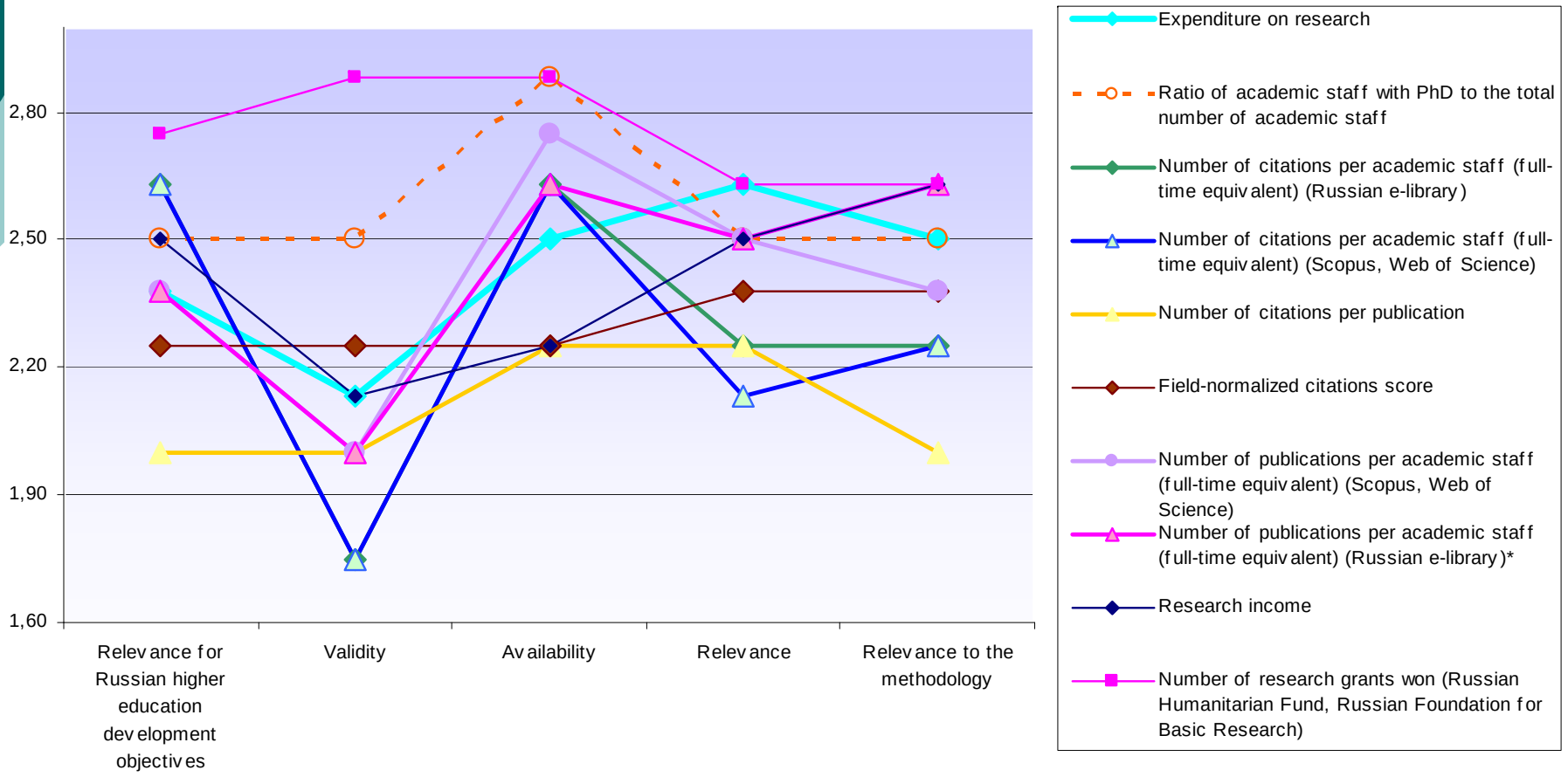
Group 'D' indicators

Additional indicators recommended by experts

Experts' assessments results
Group "A" Research

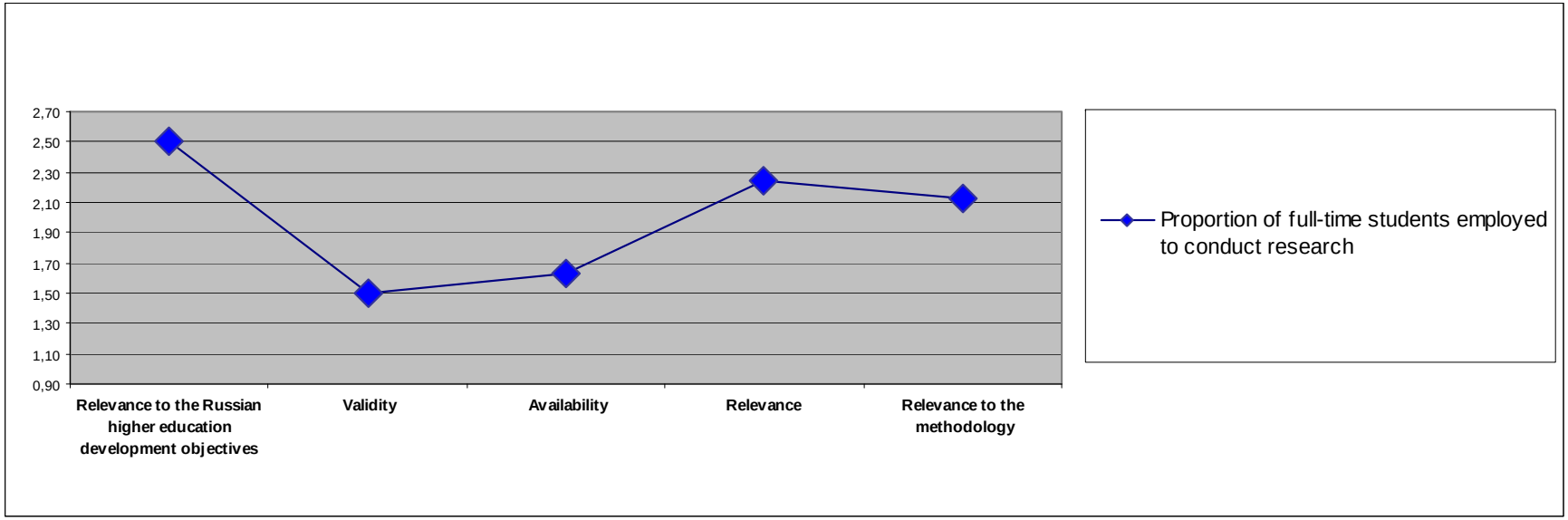
Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Expenditure on research	2,38	2,13	2,50	2,63	2,50
Ratio of academic staff with PhD to the total number of academic staff	2,50	2,50	2,88	2,50	2,50
Number of citations per academic staff (full-time equivalent) (Russian e-library)	2,63	1,75	2,63	2,25	2,25
Number of citations per academic staff (full-time equivalent) (Scopus, Web of Science)	2,63	1,75	2,63	2,13	2,25
Number of citations per publication	2,00	2,00	2,25	2,25	2,00
Field-normalized citations score	2,25	2,25	2,25	2,38	2,38
Number of publications per academic staff (full-time equivalent) (Scopus, Web of Science)	2,38	2,00	2,75	2,50	2,38
Number of publications per academic staff (full-time equivalent) (Russian e-library)*	2,38	2,00	2,63	2,50	2,25
Research income ratio	2,50	2,13	2,25	2,50	2,63
Number of research grants won (Russian Humanitarian Fund, Russian Foundation for Basic Research)	2,75	2,88	2,88	2,63	2,63

Experts' assessments results
Group "A" Research



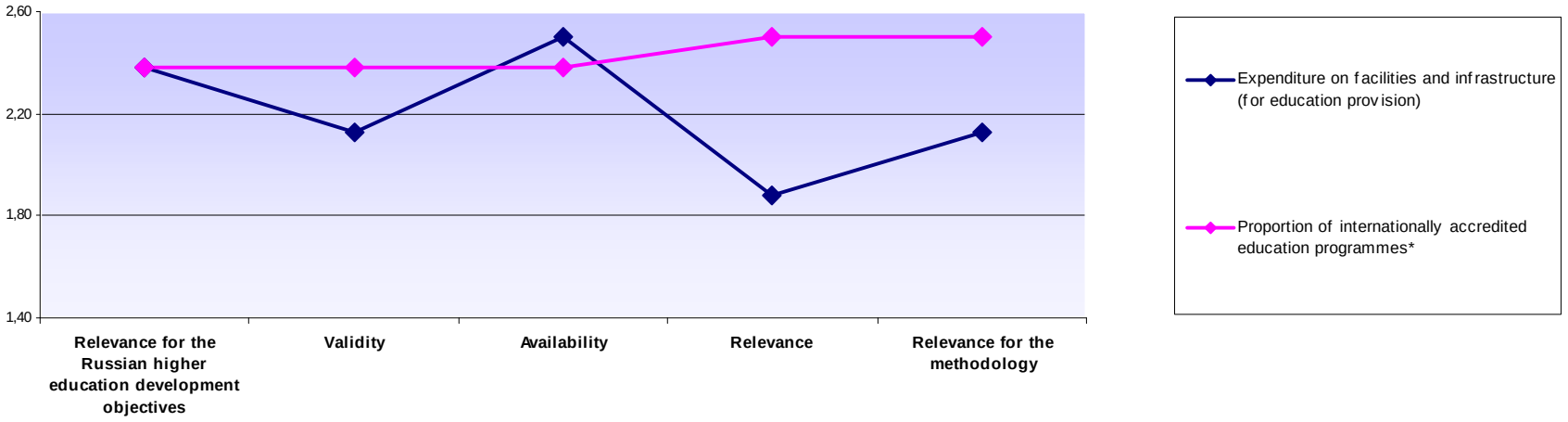
Experts' assessments results
Group "B" Research

Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Proportion of full-time students employed to conduct research	2,50	1,50	1,63	2,25	2,13



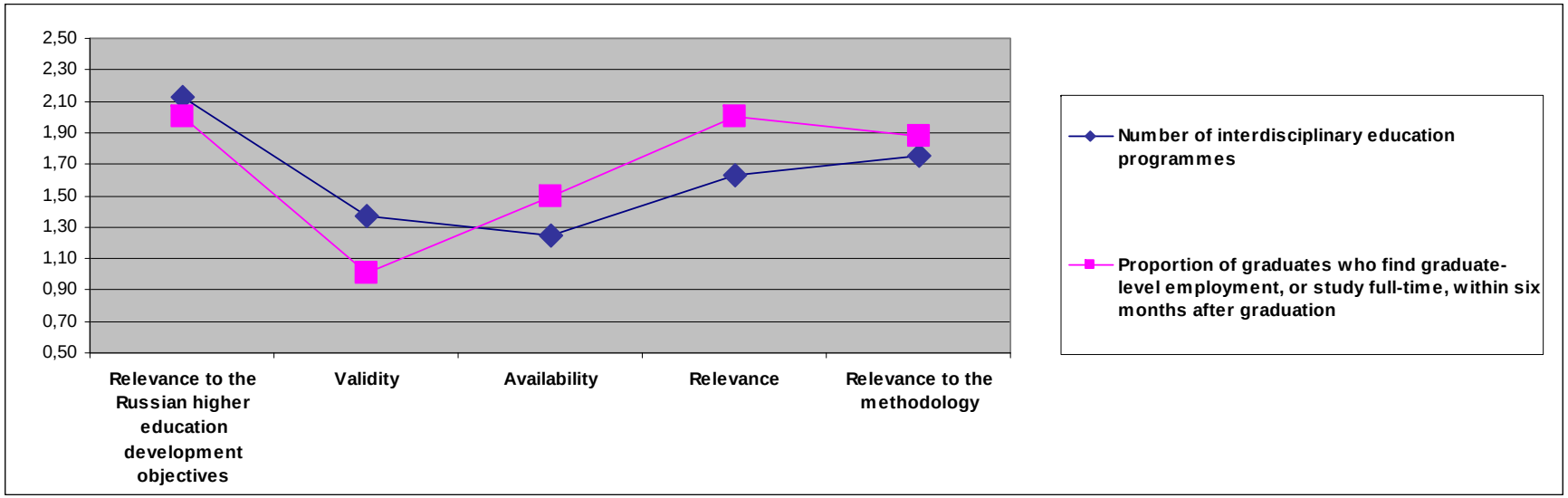
Experts' assessments results
Group "A" Teaching/learning

Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Expenditure on facilities and infrastructure (for education provision)	2,38	2,13	2,50	1,88	2,13
Proportion of internationally accredited programmes*	2,38	2,38	2,38	2,50	2,50



Experts' assessments results
Group "B" Teaching/learning

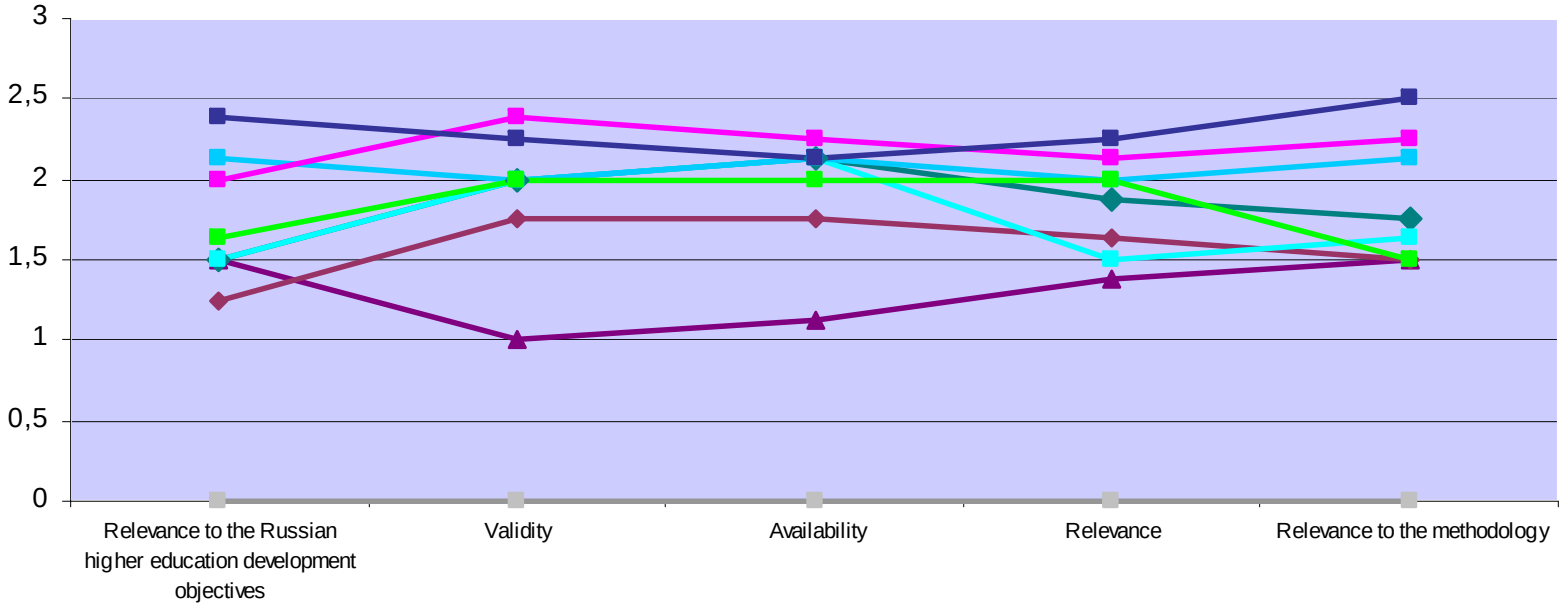
Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Number of interdisciplinary education programmes	2,13	1,38	1,25	1,63	1,75
Proportion of graduates who find graduate-level employment, or study full-time, within six months after graduation	2,00	1,00	1,50	2,00	1,88



Experts' assessments results: Group "D" Teaching/learning

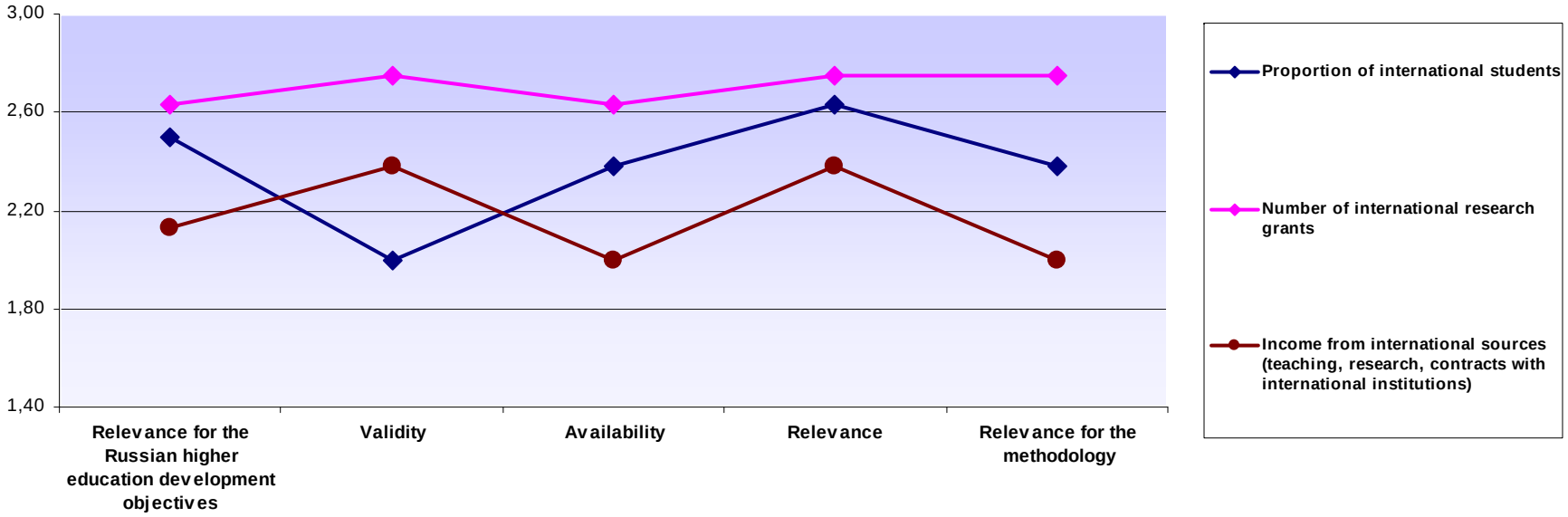
Indicator	Relevance for the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Number of bachelor students employed to conduct research	1,50	1,00	1,13	1,38	1,50
Proportion of programmes enrolling applicants with high Unified State Examination scores (quality of prospective students) in the previous academic year	1,25	1,75	1,75	1,63	1,50
Proportion of applicants who won national education Olympics in the previous academic year	1,50	2,00	2,13	1,88	1,75
Proportion of students who won prestigious scholarships (President scholarship, Governor scholarship, Mayor scholarship, Potanin Foundation scholarship)	1,50	2,00	2,13	1,50	1,63
Proportion of graduates entered PhD programmes in the previous academic year	2,13	2,00	2,13	2,00	2,13
Ratio of students enrolled on master programmes to students enrolled on bachelor programmes	2,00	2,38	2,25	2,13	2,25
Ratio of graduates from other universities enrolled on master programmes to the total number of students enrolled on master programmes	2,38	2,25	2,13	2,25	2,50
Proportion of academic staff (full-time equivalent) under 35 y.o. who won competitive national awards (President Award, Governor Award, Potanin Foundation Grant)	1,63	2,00	2,00	2,00	1,50
Proportion of academic staff (full-time equivalent) who are members or associate members of the Russian Academy of Sciences	0	0	0	0	0

Experts' assessments results: Group "D" Teaching/learning



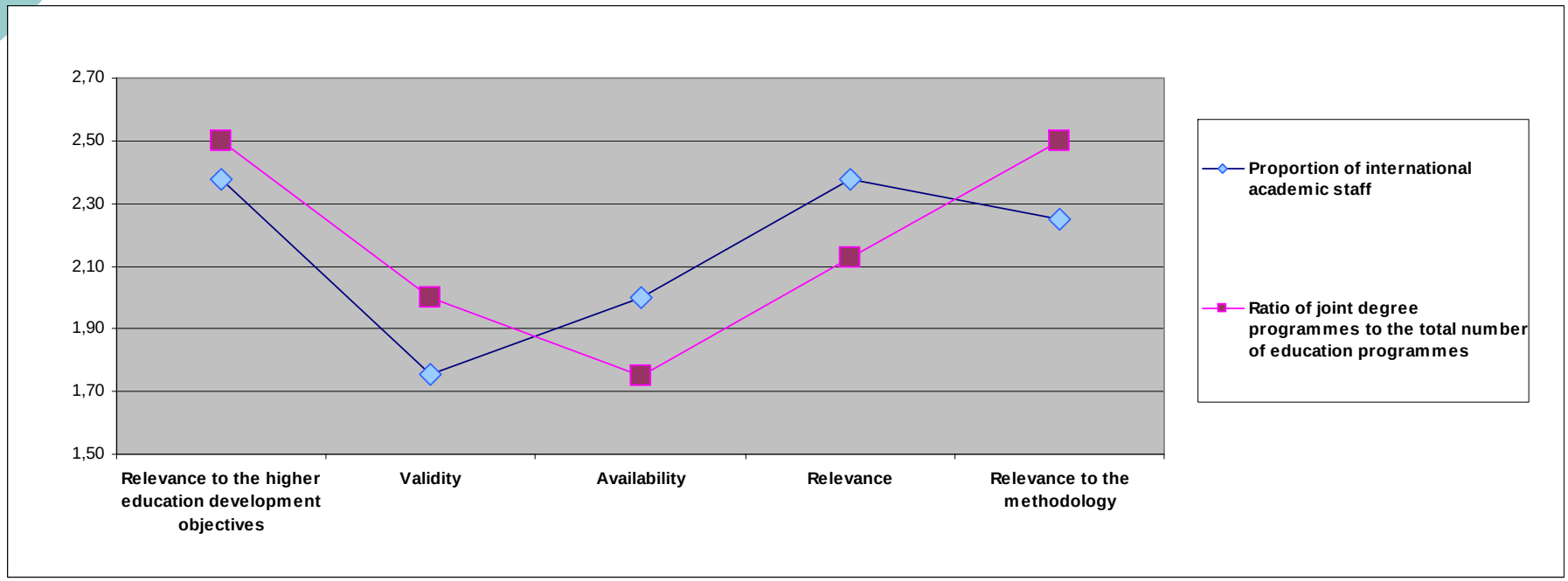
Experts' assessments results
Group "A" Internationalization

Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Proportion of international students	2,50	2,00	2,38	2,63	2,38
Number of international research grants	2,63	2,75	2,63	2,75	2,75
Income from international sources (teaching, research, contracts with international institutions)	2,13	2,38	2,00	2,38	2,00



Experts' assessments results
Group "B" Internationalization

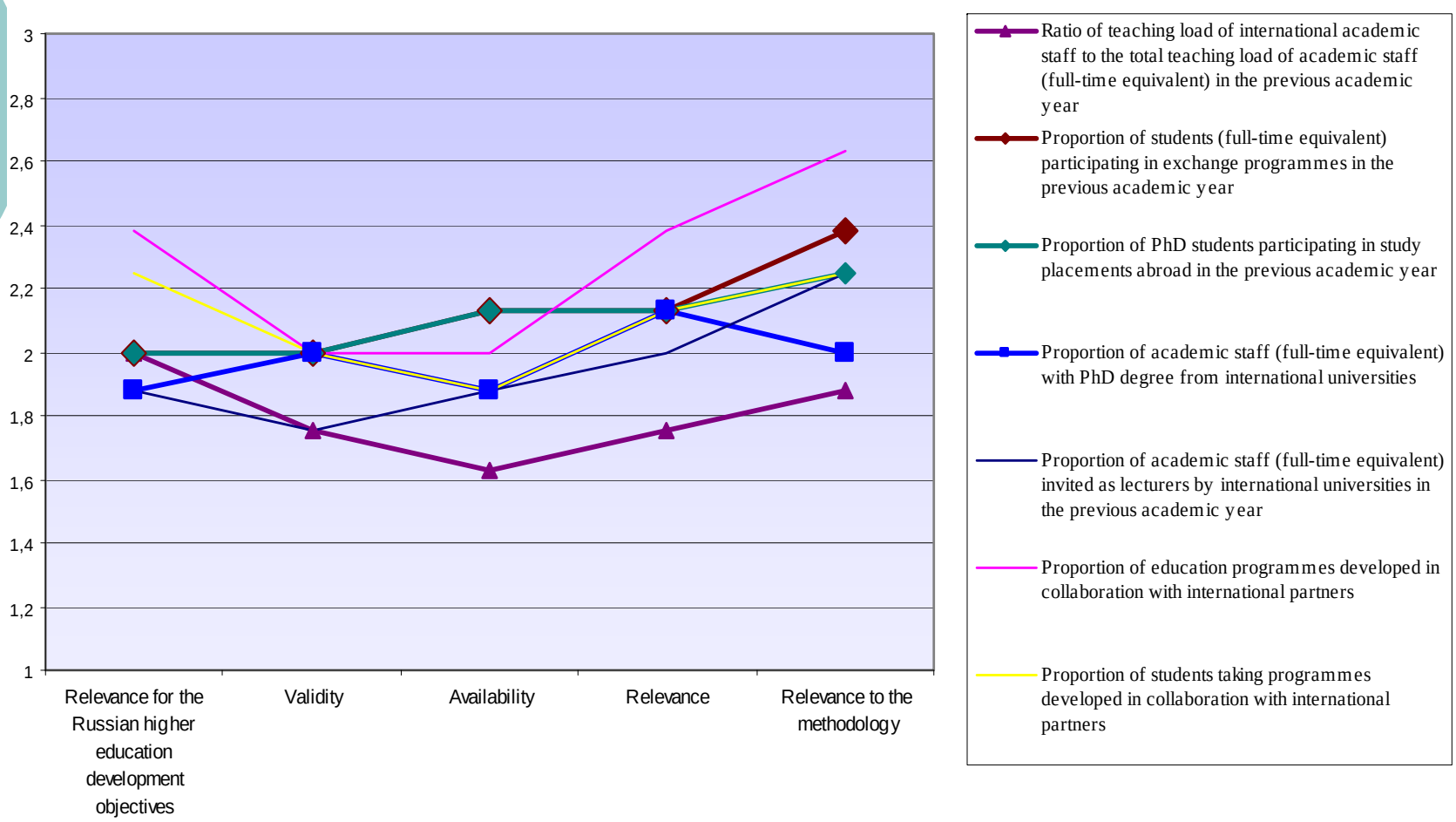
Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Proportion of international academic staff	2,38	1,75	2,00	2,38	2,25
Ratio of joint degree programmes to the total number of education programmes	2,50	2,00	1,75	2,13	2,50



Experts' assessments results: Group "D" Internationalization

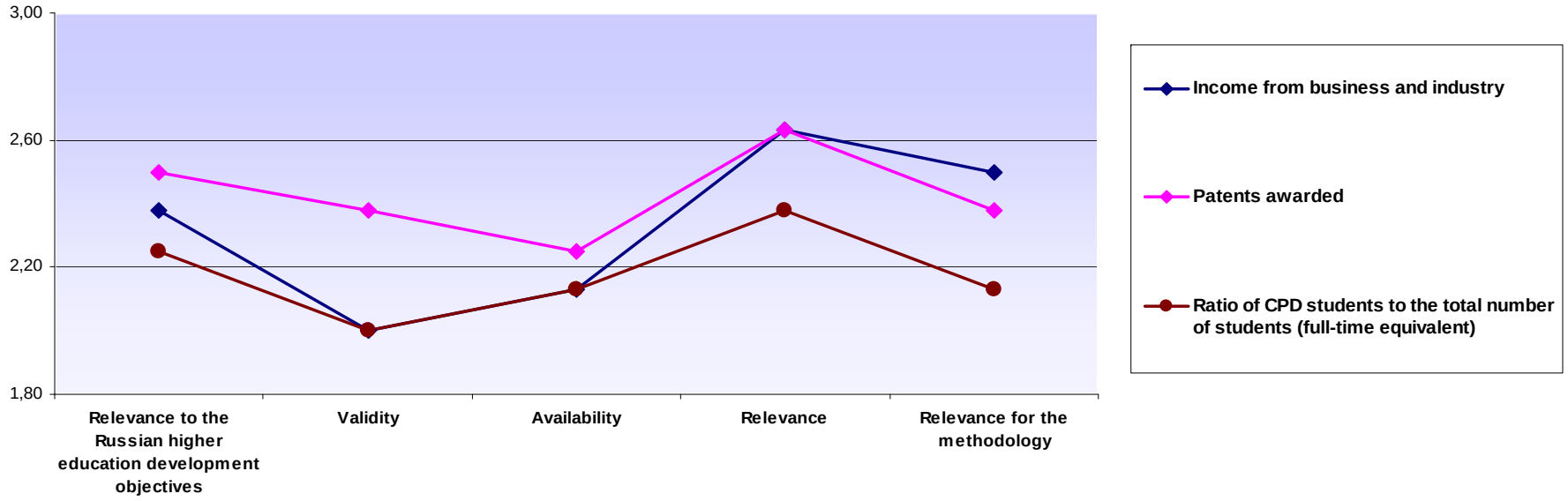
Indicator	Relevance for the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Ratio of teaching load of international academic staff to the total teaching load of academic staff (full-time equivalent) in the previous academic year	2,00	1,75	1,63	1,75	1,88
Proportion of students (full-time equivalent) participating in exchange programmes in the previous academic year	2,00	2,00	2,13	2,13	2,38
Proportion of PhD students participating in study placements abroad in the previous academic year	2,00	2,00	2,13	2,13	2,25
Proportion of academic staff (full-time equivalent) invited as lecturers by international universities in the previous academic year	1,88	1,75	1,88	2,00	2,25
Proportion of academic staff (full-time equivalent) with PhD degree from international universities	1,88	2,00	1,88	2,13	2,00
Proportion of education programmes developed in collaboration with international partners	2,38	2,00	2,00	2,38	2,63
Proportion of students taking programmes developed in collaboration with international partners	2,25	2,00	1,88	2,13	2,25

Experts' assessments results: Group "D" Internationalization



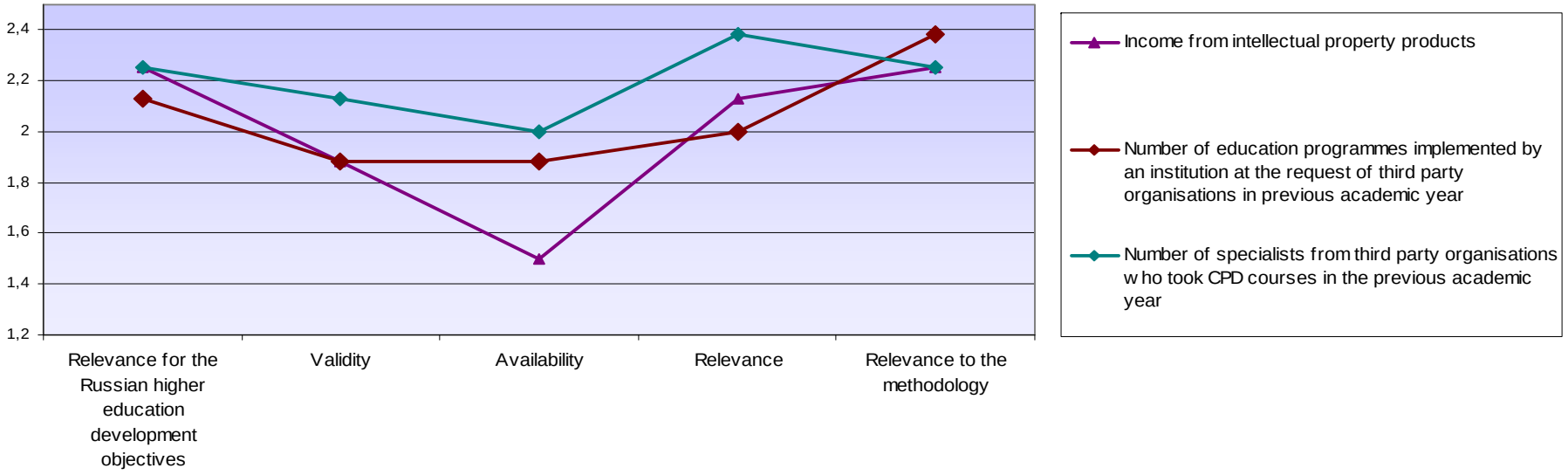
Experts' assessments results
Group "A" Knowledge transfer

Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Income from business and industry	2,38	2,00	2,13	2,63	2,50
Patents awarded	2,50	2,38	2,25	2,63	2,38
Ratio of CPD students to the total number of students (full-time equivalent)	2,25	2,00	2,13	2,38	2,13



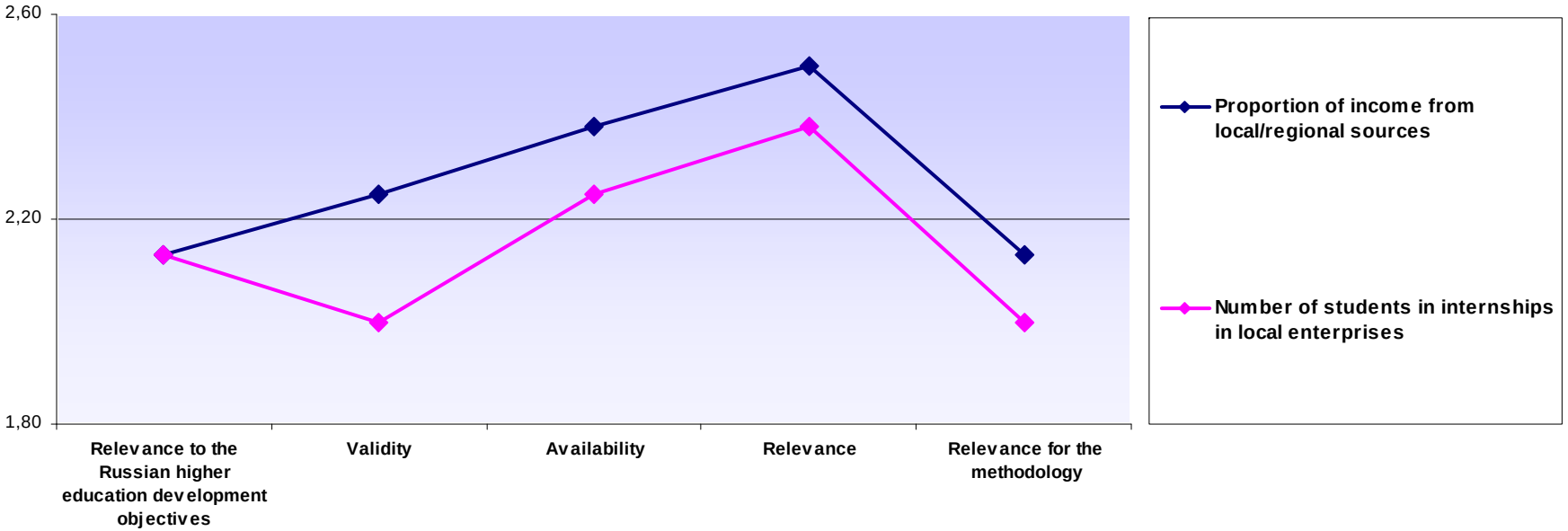
Experts' assessments results: Group "D" Knowledge transfer

Indicator	Relevance for the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Income from intellectual property products	2,25	1,88	1,50	2,13	2,25
Number of education programmes implemented by an institution at the request of third party organisations in previous academic year	2,13	1,88	1,88	2,00	2,38
Number of specialists from third party organisations who took CPD courses in the previous academic year	2,25	2,13	2,00	2,38	2,25



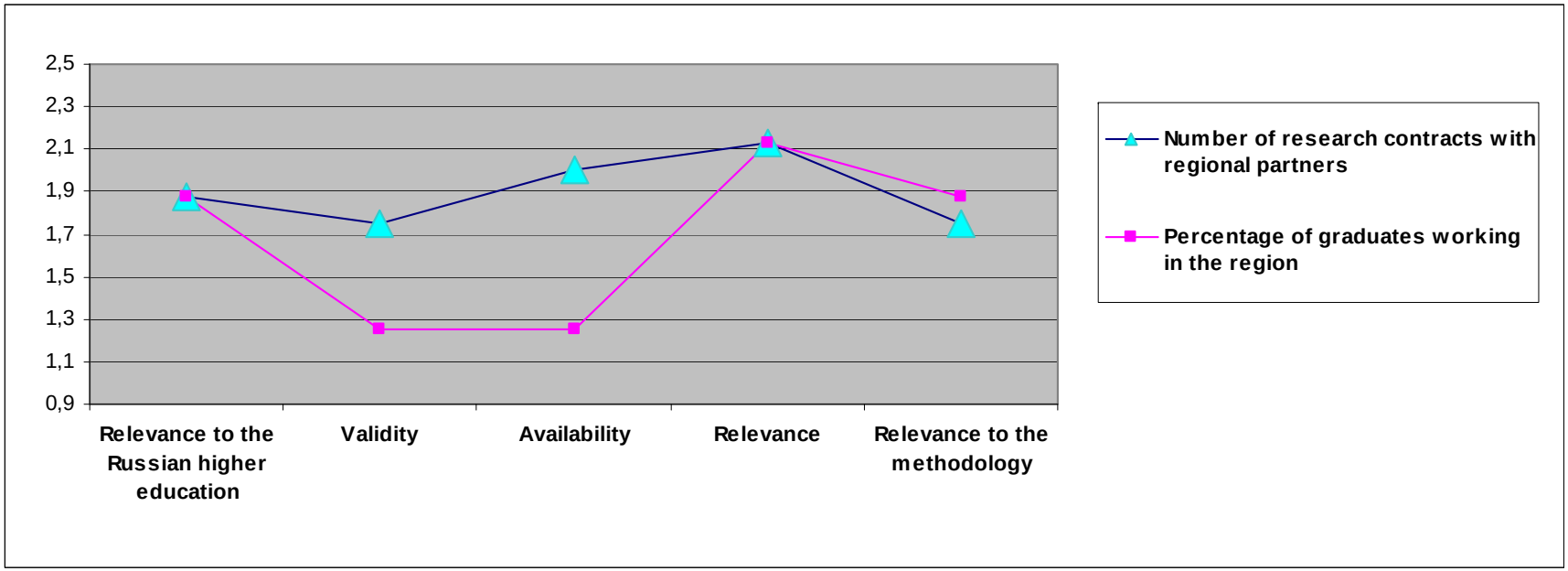
Experts' assessments results
Group "A" Engagement with regional stakeholders

Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Proportion of income from local/regional sources	2,13	2,25	2,38	2,50	2,13
Number of students in internships in local enterprises	2,13	2,00	2,25	2,38	2,00



Experts' assessments results
Group "B" Engagement with regional stakeholders

Indicator	Relevance to the Russian higher education system development objectives	Validity	Availability	Relevance	Relevance to the methodology
Percentage of graduates working in the region	1,88	1,25	1,25	2,13	1,88
Number of research contracts with regional partners	1,88	1,75	2,00	2,13	1,75



Quantitative indicators' list based on experts assessment

Research

- Ratio of expenditure on research to the total institution expenditure in the previous financial year **(group "A")**
- Ratio of academic staff with PhD 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")**

Quantitative indicators' list based on experts assessment

Research

- 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 sum 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 employed to conduct research to the total number of bachelor students in the previous academic year **(group "B")**

Quantitative indicators' list based on experts assessment

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 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")**

Quantitative indicators' list based on experts assessment

Teaching/learning

- Proportion of graduates who find employment by specialization within 1 year after graduation **(group "B")**
- Proportion of graduates entered PhD programmes in the previous academic year **(group "D")**
- Ratio of students enrolled on master programmes to students enrolled on bachelor programmes **(group "D")**
- Ratio of graduates from other universities enrolled on master programmes to the total number of students enrolled on master programmes **(group "D")**
- Proportion of academic staff (full-time equivalent) under 35 y.o. who won competitive national awards (President Award, Governor 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")**

Quantitative indicators' list based on experts assessment

Internationalization

- Proportion 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) participating in exchange programmes in the previous academic year **(group "D")**
- Proportion of PhD students participating in study placements abroad in the previous academic year **(group "D")**

Quantitative indicators' list based on experts assessment

Internationalization

- Proportion of academic staff (full-time equivalent) invited as lecturers by international universities in the previous academic year **(group "D")**
- Proportion of academic staff (full-time equivalent) with PhD degree from international universities **(group "D")**
- Proportion of education programmes developed in collaboration with international partners **(group "D")**
- Proportion of students taking programmes developed in collaboration with international partners **(group "D")**

Quantitative indicators' list based on experts assessment

Knowledge transfer

- Proportion of extra-budgetary funding in the previous financial year **(group "A")** from
  - teaching
  - research
- Income from intellectual property products **(group "D")**
- Number of intellectual property items put on accounting balance sheets **(group "A")**
- Number of education programmes implemented by an institution at the request of third party organisations in previous academic year **(group "D")**
- Number of specialists from third party organisations who took CPD courses in the previous academic year **(group "D")**

Quantitative indicators' list based on experts assessment

Engagement with regional stakeholders

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

III. Developing Tool for Approbation a Template Methodology for National Ranking of Higher Education Institutions

The decomposition of indicators:

- Coding indicators (40 basic indicators prior and 65 after testing procedure)
- Extracting subindicators (72 subindicators prior and 86 after testing procedure)

  (e.g. B1 Ratio of expenditure on research composes of:

  B1.1 - funds for research allocated from HEI own resources, including:
  B1.1a – fundamental research
  B1.1b – applied research
  B1.2 - total expenditure in the previous financial year (thousand rubles))
- Defining subindicators that are common for basic indicators *(e.g. A10 Total number of academic staff in the previous academic year would be common for e.g. B3 Number of citation per academic staff in bibliometrics data bases, or C17 Ratio of students to academic staff)*
- Composing 5 semantic blocks from 86 (74+12) subindicators (after testing)
- Deriving a formula for a basic indicator on the basis of individual subindicators *(e.g. B1=∑(B1.1a+B1.1b)/B1.2)*

A Tool for Approbating a Template Methodology for National Ranking of Higher Education Institutions

A tool consists of 6 semantic blocks

- HEI profile
- Students and postgraduate students
- Academic, research and other staff
- Education programmes
- Publications and citations
- Budget
- Infrastructure (included additionally after testing procedure in order to address the needs of larger consumers' groups)

Testing a Template Methodology for National Ranking of Higher Education Institutions

Goal:

- Modeling the data collection process (questionnaire filling-in)
- Identifying perception and understanding of indicators by different groups of universities
- Clarification the description of indicators on the basis of experts' feedback
- Evaluating data availability for each indicator for different groups of universities on the basis of experts' feedback
- Amending a tool for the approbation
- Completing methodological notes on tool's approbation

Participants: HEIs participating in the project expert group (Ural Federal University, Northern Eastern Federal University, Saint Petersburg State Polytechnic University, Saint Petersburg State University, Tomsk Polytechnic University, Tomsk State University, National Research University Higher School of Economics, Moscow City Pedagogical University, Russian New University (Rosnou))

Procedure:

- Sending a questionnaire to HEIs participating in testing
- Filling in the questionnaire by HEIs
- Collecting and proceeding the obtained results
- Analyzing the results and experts' feedback

Result:

A tool tested by different groups of universities in relation to perception and understanding of indicators and data collection at an institutional level

Sampling of higher education institutions for the methodology approbation

Sampling is based on the following principles:

- reflect diversity of the Russian HEI
- represent various Russian regions
- consider recent trends in Russian higher education system development
- take into account experts recommendations

148 higher education institutions (~ 10% from the total number of the Russian HEIs) are included into the sampling

Sampling of higher education institutions for the methodology approbation

HEI represented in the sampling:

- Leading Russian universities (Moscow State University, St. Petersburg University)
- Federal universities (9 universities)
- National research universities (29 universities)
- Higher education institutions which received government support of their strategic development programmes (55 HEI)
- Higher education institutions with best education programmes (catalogue 2011 – 2012 “Best education programmes: innovation Russia) (40 HEI)
- Higher education institutions recommended by experts (10 HEIs, private)
- Higher education institutions interested to take part in approbation (3 HEI)

Sampling structure

	Federal District	Classical universities	Technical HEI	Pedag. HEI	HEI with Economics/ Law programmes	Medical HEI	Agricul. HEI	TOTAL
1	North-Western	7	8	3	3	1		21
2	Central	9	17	8	5	2	1	40
3	Volga	9	12	3	2	1	2	29
4	Southern	3	4		2	1		10
5	North-Caucasian	5	1	1				7
6	Ural	3	3		1			7
7	Siberian	5	7	4	3	2	1	22
8	Far-Eastern	6	2		1			9
	TOTAL	**47**	**54**	**19**	**17**	**7**	**4**	**148**

Lessons from 2011-2012 phase of the project

- Multidimensional approach to a template methodology
- Focus on the needs and interests of at least four main target groups (school graduates and their families, students and post-graduate students, higher education institutions, authorities responsible for higher education policy development)

IV. Next steps:

- Approbate the template methodology for ranking of higher education institutions
- Carry out expert and public discussions on the results of the template methodology approbation
- Conduct consultations with IREG experts on the results of the template methodology approbation

Thank you for your attention!

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