

Higher Education System Development in Russia: Realization and Criticism

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Abstract. *The paper is based on the research devoted to the development of higher education system in Russia. It deals with the topical issues related to the educational reform, competitiveness of Russian universities on the international market of educational service, and ways to promote Russian universities and business schools through world rankings such as The Times Higher Education World University Rankings, QS World University Rankings, Academic Ranking of World Universities. The paper describes the project initiated by The Ministry of Education and Science of the Russian Federation which is aimed at the integration of leading universities into the global educational environment. The main point is connected with the analysis of the Project 5-100 as the innovation approach to the management of higher education reform with a view of achieving concrete results including entering at least five Russian universities into the top 100 of the most influential education rankings.*

Keywords: higher education, universities, competitiveness, rankings, Russia

JEL Codes: A20, I21, I25.

1. Introduction

The assessment and development of national higher education system is a matter of a pressing concern for any country. Along with the importance of universities for the comprehensive domestic progress, they play a major role in social and economic integration of a country and cultural understanding in the global community. The promotion of national educational standards provides the improvement of international profile and presence to expand exchange initiatives in various spheres of cross-country cooperation.

Bringing the university educational and research programs in line with the best international examples is one of the priorities for Russian internal and external development. Such a progress requires complicated reforms on the basis of the historical analysis of educational stereotypes, research of instruments aimed at the current implementation of state strategies, and reflection of experience resulted in taken steps. [1]

This paper is focused on the opportunities of increasing competitiveness of Russian universities on global educational market through the following achievements:

- entry of at least five Russian universities into the top 100 of global education rankings;
- at least 15% international students in each University's student body;
- at least 10% international faculty members.

These and other practical challenges are included in the Project 5-100 as a part of the national educational reform which is currently carried out in Russia. This project and ways of its realization became a basis for the study whose objective is to assess the potential of measures introduced.

There were a number of tasks to be completed to achieve this goal:

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- to examine the educational sector and Russia and clarify the innovative approaches that are applied by the state to measure, regulate and maintain Russian universities' educational and research activity;
 - to describe the Academic Excellence Program development, and the Project 5-100;
 - to assess the positions of Russian universities in international rankings;
 - to evaluate the progress of the Project 5-100 realization;
 - to identify criticisms related to the Project 5-100 current development;
 - to draw conclusions about the potential competitiveness of Russian universities of and way of its increasing.

As a hypothesis it is assumed that the government should use more transparent schemes to select the universities which participate in academic development projects and ensure public control over their funding while remaining open to criticism.

Methodologically, the research is based on the qualitative and quantities analysis including the method of KPI, Porter Five Forces analysis, PEST and SWOT analyses, and examination of expert opinions.

The basic results of the study are described in this article. The paper discusses some conceptual issues connected with specifics of Russian higher education system, the most significant characteristics of the Project 5-100, including the analysis of its internal and external specifics, and promising opportunities for strategic development of Russian universities in the global educational environment.

2. Higher education system in Russia: traditions and challenges of the present

A short overview of educational development in Russia is definitely needed to better understand the conditions for modern reforms. Some significant points connected with higher education profile and its main characteristics are presented below.

Historically, Russian higher education system was developed on the basis of models adopted by German and French universities.

After the Revolution in 1917, there was no common view with regard to the matter of educational questions. Some politicians demanded the complete elimination of existing universities to build an absolutely new educational system based on radical changes in the class composition. Others opted to maintain the current system with restructuring programs in accordance with the aims of the new politician, economic and social directions². However, at that time the framework of higher education system in the USSR had been agreed. At their core there were the basics conformed to the general ideology of the industrialization and planned economy.

The strict separation and specialization of the educational model's components and their vertical integration was one of the fundamental principles of the system. This approach resulted in the separation of research and teaching activities of higher education organizations which were enshrined³. Industrial professional institutes, research laboratories, universities and specialized colleges along with the Academy of Sciences created a scientific and educational profile of the country as the set of unites just formally connected each other. This system hardly allowed universities to link research to education. [2] On the other hand, such a divisional structure made it possible to achieve the directed and accelerated development of science that advanced the economic interests of the USSR.

Another feature of the introduced educational system was related to the establishment of specialized academic institutions implemented by line ministries. Managed as a university, they became a fundamental element of the Soviet educational consistency. Students were trained for the narrow professional framework. The strength of such specialized institutions was the harmonization of higher education with requirements of

² URL: http://intellect-invest.org.ua/content/userfiles/files/social_history_pedagogic/material_period/Avrus_History_universities.pdf

³ URL: <http://eric.ed.gov/?id=EJ903728>

a concrete industry, or a branch; however, the weakness occurred in duplication of effort, inefficient use of financial and human resources and often insurmountable barriers precluding movement within the system. [2]

There also should be mentioned such an important conceptual component of the further development of the educational system as an ongoing process of deliberately displacing basic and industrial science from universities. Despite the fact that a number of regulatory acts stressed the need to closely tie specialist training with research activities, basic research was transferred to the Academy of Sciences and the industrial research institutes. Research and design institutes were formed at the largest universities only, and large degree development tasks were reassigned away from university research.

However, the reality required some oncoming movements. The collaboration between education, research and development was supported by the common practice of combining opportunities of both academies and universities for researchers and practitioners. In fact these relationships represented consortia of departments and institutes as well as consortia of departments and laboratories.

The ideologists of the Soviet reforms understood the risks of excessive specialization and concentration as well as the weak links between universities and industry science. Therefore, structural policy provided a range of financial and regulatory frameworks that improved system efficiency in solving problems. Of course, all of these mechanisms formed an organic part of the tools of the planned economy and the administrative control system.

Thus, being a subsystem of a planned economy the higher education in Russia had very limited driving forces for its transformation. The universities could be classified in three categories:

1. Universities formed on the basis of territorial-production principles with the main function consisting in staffing specific sectors of the regional socio-economic system. Following this principle, educational, medical, polytechnic and other institutions were established in each region or group of regions. Some colleges and groups of universities were absorbed then into industry agencies and ministries.

2. Industry universities focused on staffing particular economic sectors at the national level. This group included (a) specialized universities that belonged to Soviet-style industry clusters (for example, Transportation Engineering Institutes and Aviation Universities in the regions); (b) factory technical colleges; (c) central industry universities that performed the additional functions of providing scientific and methodological support for industry or other specialized institutions (e.g. Gubkin Moscow Oil Institute, the Moscow Institute of Steel and Alloys).

3. Classic universities that trained specialists for science and other universities, in fundamental disciplines mainly, as well as local administrative elites (education in economics, history, and law; e.g. the Moscow State University).

This way of organizing higher education is not entirely consistent with what B. Clark has called a state-controlled system⁴. The key feature of the Soviet version is not so much the full inclusion of the higher education system into a single planned organized complex of the national economy, but rather its rigidity and the combination by the state of staff training and main employer functions, just like in corporate staff training systems. This system of higher education can be characterized as quasi-corporate, especially in light of the fact that Lenin characterized the socialist economy as functioning like “a single factory”⁵.

For decades during the Soviet period only a small number of structural adjustments were made in the network of universities, which supported the ties between the system of higher education and labor markets and technologies. Of course, some changes were made on the level of regional-industry structure, however the typology of the system remained the same.

The supporting pillar of higher education system was direct state orders for training. At the same time, starting in the postwar period, the higher education system had “input” risk elements, since applicants could

⁴ URL: <http://eric.ed.gov/?id=EJ903728>

⁵ URL: http://royallib.com/book/lenin_vladimr/gosudarstvo_i_revolyutsiya.html

freely choose which university to go. Of course, the choice was restricted by both national and social quotas as well as direct training orders for the best employees from enterprises, but nevertheless it existed.

The current higher education model in Russia is the result of the chaotic transformation period. The failure of regionalization reform in the early 1990s and centralization reinforcement in the 2000s preconditioned the fact that the ratio of regional and federal (national) universities has actually remained unchanged over twenty years. [4]

The industry-specific character of university management is practically constant as well. Today the higher education system includes universities subordinate to more than twenty national executive authorities.

The main managerial functions at the national level are distributed among several bodies. The Ministry of Education and Science of the Russian Federation (MOES) provides general regulation over the universities including development and implementation of national policy, and financial and methodological support. Line ministries affect the areas of funding and development of their subordinate universities, and control educational standards and requirements. The Federal Supervision Service for Education and Science performs the functions of control and supervision in the sphere of education and response for accreditation and licensing of educational institutions.

At the current stage the question is if this institutional capacity is adequate to new challenges. Russia shares modern market-based mechanisms and values for more than 20 years. Being a point of intersection of social and business activity educational sphere is assessed through market-driven indicators. Universities are full members of global network in different directions: communications, culture, entrepreneurship, etc. So education becomes an open system that hardly can be limited within the national borders. As players of international educational market Russian universities should be demanded and competitive. To achieve these goals serious improvements are needed. [3]

3. Academic excellence development. A phenomenon of rapid growth

The main focus of the Government's effort for the development of Russian higher education system is aimed at the creation of long-term competitive advantages and internationalization in all spheres of the universities' activity. Several programs are created to realize the projects designed to promote the integration of national universities in the world education space. [4]

Thus, there is the project "Supporting Universities" launched by MOES that directly supports the restructuring of educational organizations. Participants are selected based on the development of capabilities in the following areas⁶:

- modernization of educational activities;
- modernization of research and innovation;
- the development of personnel potential;
- modernization of the university management system;
- modernization of material and technical basis and social infrastructure.

Each potential participant needs to present the clear program of its development for a period of five years. Additionally, the entrant agrees to provide co-financing at least 20% of requested grant. The project involves the consolidation of universities which takes part in restructuring process to move to the well-established stage of prudent expansion.

The expected results of the project "Supporting Universities» to be achieved by 2020 are presented here (table 1).

⁶ URL: <http://минобрнауки.рф>

Table 1: Expected results of the project «Supporting Universities»⁷

Performance indicators	Results
The total number of students enrolled in bachelor, specialist or master full-time studies	10 000 persons
Consolidated budget	minimum 2 billion rubles
The number of implemented groups of preparation	minimum 20
Share of the number of students under master's programs and programs of training of the teaching staff in graduate school, in the total number of students in basic educational programs	minimum 20%
The volume of scientific work per 1 employee	minimum 150 thousand rubles
The number of publications indexed in International Science Citation systems, based on 100 employee	Web of Science – minimum 15 publication Scopus – minimum 20 publications

By 2016 there are 11 universities-winners which obtained grant funds to 150 million rubles.

Another direction of the educational reform is connected with giving leading universities special status of “unique scientific and educational complexes of the oldest universities in the country having huge value for development of Russian society”. Thus, Moscow and St. Petersburg State Universities have the special status due to which they enjoy some exclusive rights and privileges. For example, both universities can establish branches and open representative offices in Russia and abroad. Their educational programs are based on self-imposed standards and requirements. The procedures of licensing for educational activity and state accreditation are specially created by the government of the Russian Federation. Finally, these universities have the right to introduce additional requirements for admission of students.

While the above-mentioned programs are associated mainly with the internal development of higher education system mainly, there is a plan directly oriented on the development of international potential. This is the Russian Academic Excellence Project aimed at enhancing the competitiveness of leading universities among major global scientific and educational centers.

The main goals of the Russian Academic Excellence Project include:

- development and implementation of measures aimed at creating long-term competitive advantages for Russian universities;
- internationalization in all spheres, development of infrastructure to recruit the best scientists, faculty, managers and students;
- production of world-class intellectual outcomes;
- development of outstanding academic reputation by doing breakthrough research and recruiting the world’s leading scientists;
- bringing university educational programs in line with the best international examples;
- development of cooperation between the academic environment, industrial sector the business activity;
- increased export of educational services.

In the context of this project in 2013 Russia’s government approved the plan named “Project 5-100” that must be resulted in the following achievements⁸:

- minimum five Russian universities are among top 100 educational organizations according to the most influential rankings;
- minimum 15% international students in each University’s whole number of students;
- minimum 10% international faculty members in the regular staff.

⁷ URL: <http://5top100.ru>

⁸ URL: <http://5top100.ru>

In 2013 the Russian Government announced a resolution whereby a council would convene to oversee further development of leading Universities. The Council on Competitiveness Enhancement of Leading Russian Universities among Global Research and Education Centers has been designed to enjoy long-term service as a permanent interdepartmental advisory body, its mission to handle the various issues that arise under its umbrella. Its goes over the Universities' reports, suggests how much money is needed to follow through on everything, and then communicates what it thinks ought to be done to the Russian Ministry of Education and Science in terms of continued support of the Project's selected Universities⁹.

To date, 21 Russian University are taking part in Project 5-100 and winners of the contest for government support. The University-participants in the Project report to Council and MOES on how their "excellence programs" are faring. Subsidies are given to the universities whose action plans (roadmaps) have borne fruit, including, of course, their injection into global rankings. Also, in order to get these subsidies, the university has to demonstrate the ability to garner co-financing funds from non-budgetary sources.

Annually the government issues the state contract and defines funding to be distributed with the involvement of the Autonomous Research Institution "Centre of Sociological Research" ("Sociocentre") which is recognized as the Project 5-100 Office (table 2).

Table 2: Funding of the Project 5-100¹⁰

Year	Volume of financing of the project "5-100" (million rubles)		
2015	10 140	349,913	10 489,913
2014	10 150	370,474	10 520,474
2013	8 700	220,771	8 920,771
Total	28 990	941,158	29 931,158

In September 2015 the Times Higher Education magazine published The World University Rankings 2015-2016. Phil Beatty, the editor of this issue, reported "impressive progress" of Russian universities, which he explained by the realization of the Project 5-100. "This program recognizes the necessity of creating a separate fund to finance the best universities because they hardly compete on the world stage without having a very serious financial support", – said the expert¹¹.

Table 3 presents 10 universities (out of 21) with their positions in international rankings: The Times Higher Education World University Rankings (THE WUR); QS World University Rankings (QS WUR); Academic Ranking of World Universities (ARWU).

In 2012, 8 universities only were ranked by QS WUR. In 3 years of Project "5-100" implementation the amount of Russian universities quoted in QS WUR ranking has increased to 12. In 2012, only one university-participant of the project was ranked by THE occupying the position of the 226-250 group. In 2015, the rating of THE doubled (from 400 to 800) and 9 universities are currently evaluated. For the first time, in 2015 the Russian university – Novosibirsk State University – occupies a position in ARWU¹².

Despite such undeniable progress, the Project 5-100 is intended to address a wider range of problems. Undoubtedly, the improvement of positions in global university rankings demonstrates the high potential of Russian education system as a whole. However the further implementation of the Project requires the careful analysis of indicators and further actions in order to realize if they are really effective to manage and improve the education system.

⁹ URL: <http://5top100.ru>

¹⁰ URL: <http://5top100.ru>

¹¹ URL: <http://обрнадзор.пф/wp-content/uploads/2015/11/5-100-doklad-chast-1.pdf>

¹² URL: <http://обрнадзор.пф/wp-content/uploads/2015/11/5-100-doklad-chast-1.pdf>

Table 3: Project 5-100 Participants' positions in international rankings¹³

№	Universities-participants of the project "5-100"	Ranking 2016-2015		
		ARWU	THE	QS
1	Far Eastern Federal University			651-700
2	Kazan (Volga region) Federal University		301-350	551-600
3	Moscow Institute of Physics and Technology		601-800	431-440
4	National University of Science and Technology MISIS		601-800	701+
5	Tomsk State University		601-800	481-490
6	Tomsk Polytechnic University		251-300	481-490
7	National Research University "Higher School of Economics"			501-550
8	National Research Nuclear University "MEPhi"		301-350	501-550
9	Lobachevsky University			701+
10	Novosibirsk State University	401-500	401-500	317

3. Analytical issues and criticism of the Project 5-100

The Project 5-100 is considered as the management tool aimed at increasing competitiveness of leading Russian universities among global educational and research centers. Within a few years the Project has been demonstrating the successful results. As already mentioned, this progress can be associated mainly with increased funding. Of course, the financial aspect is one of the crucial factors that influence any development. However such a complicated system as education is definitely based on the combination of specifics which have equal power and influence.

In order to determine the significance of the Project 5-100 and its impact on the educational reform in Russia, the related internal and external factors have been analyzed.

The most important internal characteristics which define the competitive advantage of the Project 5-100 were studied on the basis of Key Performance Indicator (KPI) since this approach lets understand what is really important for the Project's realization.

Every industry has its own specific requirements for the combination of key success factors. In this case five groups of factors were outlined¹⁴:

1. KPI based on the scientific and technical superiority of universities.
2. KPI related to the organization of teaching and research processes.
3. Marketing-based KPI (promoting and improving the reputation of universities among other educational institutions, understanding of universities-rivals, collaboration with students)
4. KPI based on the progress of knowledge and experience.
5. KPI related to organization and management

The general findings are summarized in the table 4.

¹³ URL: <http://news.sfu-kras.ru/node/17268>

¹⁴ The information is based on the special survey of MOES officials who are directly associated with the Project 5-100

Table 4: Objective KPIs¹⁵

№	Factors	Scale	Score	Balanced assessment
1	The ability of universities to keep up with the latest updates technology	0,2	9	1,8
2	Healthy competition between universities	0,15	10	1,5
3	Providing full information about the faculties and study programs on request	0,1	8	0,8
4	High quality universities purchased goods	0,2	7	0,14
5	Continuous maintenance and improvement of communications with students and applicants, as well as guests of the universities	0,05	9	0,45
6	Prohibition of corruption and bribery	0,05	10	0,5
7	The revolutionary optical, aerospace and other nanotechnology	0,05	9	0,45
8	The use of new advanced materials in laboratories	0,2	10	2,0
	Total	1	72	9,35

The analysis indicated main drivers: new technologies applied by each university, and internal competition between universities-participants of the Project 5-100. The first one is predictable to some extent. Appearing as a strategic factor, the application of advanced technologies for development of both material and technical basis and teaching methods is the ordinary concern of any educational organization. These processes can be stimulated by financial incentives as it was mentioned above. As for the competition, this factor requires more detailed consideration.

To examine the peculiarities of competition in educational sphere as well as possible strategies for further development Porter Five Forces analysis was applied. Here are some findings which are described briefly in correspondence with each element of the model (table 5).

Table 5: Competition analysis of Russian higher education sphere¹⁶

	The Porter's Force	Qualitative Evaluation of Strategic Position
1	Industry Rivalry	Competition in the market of higher educational services is low. State universities have the advantage over non-state and private institutions since they provide a guarantee of high quality education that is recognized by Russian an international employers. Additionally, state universities provide free education.
2	Threats of New Entrants	Threat of new competitors on the market in question is low because of the need to meet the official requirements, fulfill complicated procedures and follow the state standards.
3	Power of Suppliers	Since the suppliers are government authorities the impact of this factor is very considerable. It is definitely an advantage because of financing system when the funds are large enough and the payback period is practically zero.
4	Power of Consumers	The power of buyers (students) on the educational market is traditionally low that is logically connected with the lack of competition. Additionally, the higher education is highly demanded.
5	Threat of Substitutes	Students prefer studying in state educational organizations to get state diploma. Even in case of outstanding teaching programs commercial, private and non-state universities hardly can substitute the current players. There can be some risk associated with the corporative universities, however this practice is not widespread yet.

The results of KPI and Porter Five Forces analyses show that the universities-participants of the Project 5-100 have serious intention to increase the competitiveness through the optimization of material and technical basis and providing students and teachers with the best conditions to study and develop. The weak competition with private universities should not be considered as an advantage. Facing a challenge of the poor attractiveness because of the lack of state diploma they make every effort for development. The prospect of competition on the global market makes state universities pay special attention to these players since the practice of non-state education is usual overseas experience.

¹⁵ Author's development

¹⁶ Author's development

Educational projects are also influenced by the external environment. The research presented here is based on the PEST and SWOT analyses that help to identify factors of the greatest importance.

Figure 1 demonstrates the scan of political, economic, social and technological factors which affect the Project 5-100 realization.

The overview of the macro-environmental factors reveals a contradiction between the readiness of universities to realize the Project 5-100 and structural problems of the economy. These findings are being confirmed by SWOT analysis which identified such strengths and opportunities as state policy aimed at development of educational sector, improvement of academic and teaching capacity, regular funding. At the same time the following points are outlined among weaknesses and threats: orientation on international rankings without any critical analysis of their criteria and selection, the existence of similar projects in other countries – in particular, Chinese project “985”, opaque systems of funding and accounting with the possibilities of bribery shames.

The criticism of the Project 5-100 is based on following points.

- not sufficiently flexible system of criteria which selects the universities-participants;
- focusing on the rankings and their indicators to the detriment of the real improvement;
- poor management;
- difficulties in establishing the efficient accountability and evaluation mechanisms and evidence of corruption.

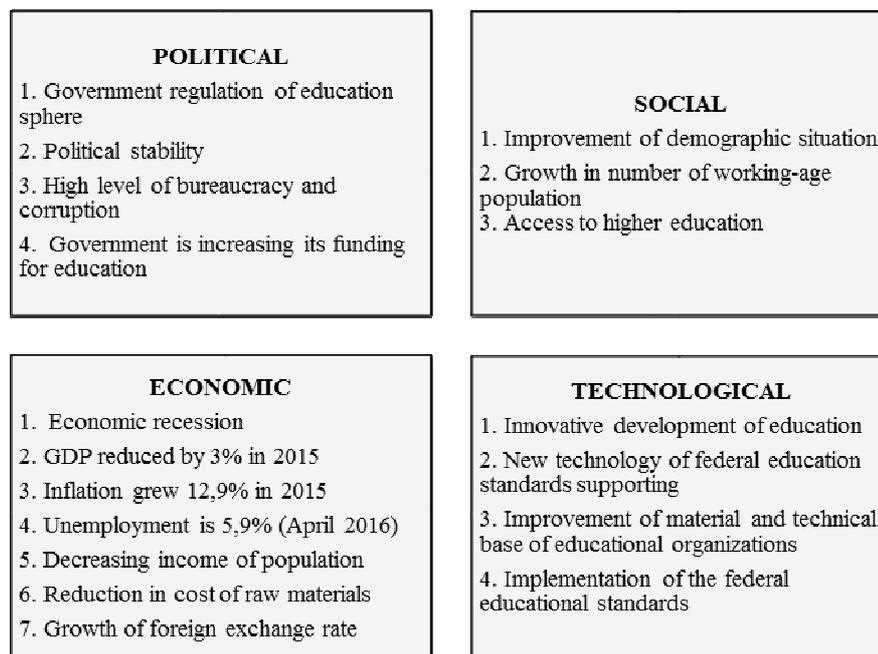


Figure 1: PEST analysis of the Project 5-100 indicators¹⁷

Experts and independent observers emphasize such problems connected with the Project 5-100 as zero dynamics or negative trends in rankings as opposed to the official rhetoric, opacity of estimates, complicated and non-transparent procedures of decision making, unfair tenders¹⁸¹⁹.

¹⁷ Author's development

¹⁸URL: <http://professionaly.ru/Link/16680431.html>

¹⁹ URL: <http://tass.ru/obschestvo/2749802>

4. Conclusion

From one year to another, the Russian Government and independent experts are opposing each other regarding the problem of quality assessment in higher education system. The society does not share the positive forecast concerning officially expected development of academic excellence programs. The Project 5-100 and procedures of the universities' selection, allocation of funds, activities, reporting and results achieved is the subject of intensive debate.

This paper briefly describes the main points associated with the core idea and the most critical comments addressed do the developers of the Project 5-100. In fact, there hardly can be an objective evaluation at the current stage of the Project realization since the available information for the comprehensive analysis is rather controversial.

The research shows that, on the one hand, more favourable conditions are being created for Russian universities to increase their competitiveness to reach a worthy position in the global educational space. The government declares clear programs, sets logical goals, creates councils, and commits recourses. On the other hand, the process of these programs' realization rises great concerns to universities-participants and communities of interest. Independent experts reasonably discuss the slow dynamics of declared goals' achievement that they connect with a range of problems. The most frequently discussed aspects are related to the lack of transparency in the Project 5-100 realization.

All in all, the necessity of the program aimed at the development of Russian higher education on the global market is beyond doubt. However, the system of criteria on which the real action depends, especially in financial terms, should be clearer. In particular, the recommendations should be aimed at the universities' involvement in the process of developing indicators depending on their specific and real estimates. That helps to design and implement the reforms in more appropriate ways since the universities should consider themselves as not just accountable organizations but full participants of restructuring performance in the educational sphere.

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