

ISAK FROUMIN AND ALEXANDER POVALKO

5. TOP DOWN PUSH FOR EXCELLENCE

Lessons from Russia

INTRODUCTION

The publication of the results of the international university rankings in early 2000 shocked Russian policy makers and the professional community. They had assumed that the leading Russian universities were highly competitive. Russia was proud of its Soviet education legacy, which included universal secondary education, free high quality pre-school mass education, industry-oriented vocational education, and differentiated higher education system. This system was developed as a part of “grand project” by the Communist Party to provide highly trained and specialized personnel for the planned economy.

The main feature of this system was the desire to have a complete alignment between the quality and quantity of the graduates on the one hand and the manpower needs of the economy on the other (Camoy et al., 2013). To achieve this objective, the Soviet government established a well-differentiated system of public higher education institutions which included more than 500 institutions (in Russia) at the beginning of Perestroika in 1991 (Froumin, Kouzminov, & Semyonov, 2013). Most of them were very specialized and belonged to more than 40 sector ministries. They formed a number of groups with quite specific missions: medical institutes, institutes for railway engineers, agricultural institutes, etc. The so-called “classical universities” had a more comprehensive nature (although they almost never had medical or engineering programs) and they represented an important part of this system. Their special mission was to train local and national managerial elites and personnel for the research institutes of both specialized research and development institutes and the institutes of the Russian Academy of Sciences. The whole system of higher education was quite hierarchical. Each specialized group included one or two leading institutions that performed methodological supervision of other institutions; they also trained professors for other institutions in the group. So there was an elite group even in a very homogeneous higher education system in Russia. These leading (elite) universities usually had twice as much financing per student than “average” universities; they also conducted research.

However, the distinctive feature of the Russian higher education system was its separation from research and development (Kouzminov, Froumin & Semeyonov, 2013). The Russian Academy of Sciences and hundreds of applied research and development institutions (affiliated with specialized industrial ministries) performed most of the knowledge creation and application, leaving the universities

ISAK FROUMIN AND ALEXANDER POVALKO

with the supply of personnel. The majority of professors had a relatively high teaching load because their research activities were not regarded as a priority by the university administrators. Graduate students at universities did not participate in large research projects conducted at the research institutes.

The picture, however, was more complex than this simple outline. The majority of researchers from the Academy of Sciences and specialized applied research institutes worked as part-time professors at local universities. They supervised graduate students and taught regular courses. There were examples when such part-time professors constituted the majority of teaching staff (Novosibirsk State University, Moscow Institute for Physics and Technology). Such universities considered in partnership with the research institutes could be counted as research universities. However, these were rather rare cases. Other rare cases were represented by few universities that included research institutes as semi-autonomous units, such as the Astronomy Institute at Moscow State University or the Mathematics institute at Kazan State University.

Even taking into account these exceptions, one can say that even elite Russian universities had weaker positioning as research universities, compared to their Western competitors. Most of the research funding went directly to the Academy of Sciences and specialized research institutes (Indicators of Science, 2007).

During the first post-Soviet years, this situation worsened because of brain drain and difficult economic circumstances. Many professors had to teach in a number of universities and they abandoned the research activities completely. According to the Indicators of Science provided by the Higher School of Economics, approximately only 10-15 percent of university faculty were active in research at that time (Indicators of Science, 2007). Another usual source of research production – graduate programs – also suffered. Scholarships for the graduate students were not sufficient to survive. As a result, the majority of graduate students had (and still have) to work full-time outside of the university. It made for very low productive graduate research and of low quality. Teaching at universities became very unattractive for researchers from the Academy of Sciences. The links between higher education institutions and research institutes became much weaker.

Discussions on the building of a knowledge economy in Russia often points to the separation of higher education from the research sector as one of main institutional weaknesses in the Russian knowledge sector. Strong arguments have been made in favour of creating in Russia a strong research university segment (Salmi & Froumin, 2013).

So when the first global university rankings (focused on research productivity) were published, the Russian Government was ready to take steps to increase the role of universities in knowledge production and innovation. However, this idea was not welcomed either by the universities or the research community. Researchers from the Academy of Sciences and other research institutes called for the restoration of the Soviet-type of research organization. Universities mostly found their niche in the new social and economic environment. They opened fee-paying programs in popular areas like management and law, neglected research

and tried to maintain the status-quo (Dobryakova & Froumin, 2010). So the Government faced a challenge to initiate a new type of university in Russia – modern research universities. This model was widely discussed in the literature of 2000s (Mohrman, Ma, & Baker, 2008). This chapter examines the instruments of government policy to revive research activities at universities and to encourage them to leave the convenient stability in search of a global competitiveness.

We examine three key steps undertaken by the Government before the full-scale excellence program that started in 2013. In the first step, two existing universities with good records of research productivity – Moscow State University and Saint Petersburg State University – were given a special legal status. They were also provided with significant resources for infrastructure development. They developed plans to improve their research activities and quality of education.

The second step focused on creating a network of strong universities with significant research component in the Russian regions. Nine such universities created from recently merged institutes of higher education are now searching for a development strategy to achieve competitiveness.

The third step was the creation of a network of 29 National research universities started in 2008 and has become a significant move towards a thorough institutional reconstruction of the higher education system. The universities chosen on a competitive basis have significant financial support and constitute a relatively new type of Russian higher education institute which is aimed at producing knowledge and innovation. This project also aims to weaken the traditional monopoly of research by the Russian Science Academy.

During the last four years there have also been other efforts towards the global competitiveness of Russian research universities. First, significant efforts were made to attract leading researchers in the world to Russian institutes of higher education. One of the examples of this is the “220 Project” which allowed the use of US\$400m during the three years (2010-2012) directly for the development of world class laboratories at Russian universities by inviting leading international scholars to implement their projects in these laboratories (Government of the Russian Federation, 2010). This measure enabled not only the growth of research quality, but also stimulated openness of Russian universities to international knowledge circulation. It also acted as a catalyst for many universities to create similar laboratories using their own funds – not Government money.

One can say that the main strategy of movement towards greater global competitiveness of Russian universities focused on the measures to consolidate and modernize existing higher education institutions. This strategy is used in most countries solving similar problems, although in some countries (Hong Kong, Kazakhstan, Saudi Arabia, Singapore) new universities were created to accomplish this (Salmi, 2009). The only example of the establishment a new university in Russia in recent years (October 2011), which immediately focused on the highest global standards, is the Skolkovo Institute of Science and Technology (SkolTech), whose mission is to fill the existing gaps in the research spectrum, something critically important for Russian competencies and technologies.

ISAK FROUMIN AND ALEXANDER POVALKO

The experience of more than five years of federal universities, the completion of the first stage of national research universities program (in 2013) and the first phase of the international laboratories (in the “Project 220” framework) requires in-depth analysis of the successes and failures of these Government actions for the future. We suggest some approaches to such analysis in this chapter.

Before we focus on specific projects we have to make a few clarifications:

First, higher education in Russia encompasses a wide range of institutional models (Abankina et al., 2013). These are not only “to-be” research universities, but also teaching institutions that conduct personnel training for the industry; the “general” higher education institutions that satisfy family desire for “some” higher education as a sign of social status; industrial and municipal colleges, “open universities” with part-time forms of education, and so on – and they all produce a variety of skilled specialists needed by the labour market than simply higher education diploma holders. Each type of institution carries out important functions, and it is often the main task for the government to balance the development of the various components of the system. The challenge for Government is not to shake the whole system but to build a new segment.

It is necessary to stress once again that in this chapter, as in all discussions about the world-class universities, the focus is on very specific type of universities – research universities, the major product of which is less well-trained specialists than new knowledge, technologies and competencies, “implanted” in people and presented in various forms. There is a consensus that the strength of research universities today is an important condition for the global competitiveness of nations and innovative economic development. Governments recognize the role of world-renowned universities in attracting talent from different countries (and especially their own talent). However, the Russian government has additional reasons to implement this model. It considers the creation of this new institutional form to be an element of the general social and economic modernization of Russia, and an element of the new openness of the Russian education and research sphere.

Second, there is always a question about the meaning of the words “world-class university.” It is especially important when it comes to the assessment of the policies. When we try to evaluate the performance of these policies, unfortunately we have to use imperfect but the most common operational tool – the international rankings of universities. We are critical about the ratings. We are sceptical of the validity of many of the indicators and their weights. However, a comparison of different universities using the same indicators gives us an opportunity to draw meaningful conclusions and interpretations, so in this chapter we will use the rankings as one of the instruments to evaluate the progress of the Russian universities.

Third, the literature on the world-class universities tends to focus on the questions of institutional conditions and strategies to become better, more visible, and more international. As mentioned above, in the Russian case, the Government is the initiator. This is why we focus on the question of the role of the Government here, and its limitations and opportunities in creating a new segment within a well-established higher education system.

TOP DOWN PUSH FOR EXCELLENCE

“NATIONAL TREASURES”

Moscow and Saint-Petersburg State universities always played leading role in the Russian higher education system. Special laws and generous subsidies created favourable conditions for their development. However, the universities did not develop innovative programs to achieve research excellence. Instead, the funding has been used to support existing structures and not for serious structural reform. Indeed, both universities appeared in the Academic Ranking of World Universities (AWRU). In 2012 Moscow State University (MSU) was 80th, and St. Petersburg State University in the 401-450 group. The Higher Education Evaluation and Accreditation Council Taiwan (HEEACT) has MSU the 12th in the world in mathematics. If we turn to a more subjective ranking, such as the Times Higher Education (THE) rankings or Quacquarelli Symonds (QS) rankings, where reputation plays a significant role in the evaluation, then the gains does not seem to be impressive (Table 1).

Table 1. Dynamics of Moscow State University and St. Petersburg State University in THE and QS ranking.

	The THE World University Rankings			The THE World Reputation Rankings			QS		
	2010-2011	2011-2012	2012-2013	2011	2012	2013	2010	2011	2012
MSU	Non (200 ranks)	276-300	201-225	33	non (100 ranks)	50	93	112	116
SPbU	Non (200 ranks)	351-400	non	non (100 ranks)	non (100 ranks)	non (100 ranks)	210	251	253

Source: QS World University Rankings (2013); THE World University Rankings (2013).

The Government respected the autonomy of these great institutions. It did not set demanding targets and indicators to provide incentives for them to improve faster. It also did not insist on rapid internationalization. Recently, both universities have started to establish new centres of excellence aiming at higher research productivity. It is too early to say if this is an important change, but one can suggest that these universities have become hostages to their great past. They can move forward in favourable environment but the speed of this progress cannot be fast.

“FEDERAL UNIVERSITIES” PROJECT

In the fall of 2005, the President of Russia set the goal of creating two universities of a new type of university in the Russian regions. There was no clear understanding of the form these universities would take. It was understood,

ISAK FROUMIN AND ALEXANDER POVALKO

however, that the order referred to research universities that would help develop an innovative economy. Almost every Russian region expressed the desire for such a university to be created in its territory. The project generated interest from the professional community and spurred wider public discussion. This was the first post-Soviet case of focused state support for a higher education institution located outside the capital. It was also an interesting precedent of the mobilization of the significant regional support for the development of federally managed higher education institutions. One cannot underestimate also the brave move from the administrative top-down selection of the region and university to a kind of competition (even if the rules of this competition were not clear and transparent enough).

The main discussions were about whether to create this new type of university from nothing (a “green field” model) or on the base of existing universities (a “brown field” model). The arguments in favour of creating a new university according to the green field model are based on the risks of institutional inertia (Salmi & Froumin, 2007). However, the idea of developing major universities, created to have to the same combined capacity as a few regional universities, ultimately won out. The idea of creating a powerful multidisciplinary university on the territory where Russia’s strategic interests are being presented, where the problem of consolidating the population and creating a new quality of life is critical, became the central for the launch of two pilot projects to establish federal universities in the south of Russia and in Siberia (Knyazev & Arzhanova, 2013). Another reason for choosing the “brown field” model was efficiency. Policy-makers wanted to create a strong university using existing resources and without too much expense.

Both the Siberian and the Southern federal universities were created by combining four universities in 2006.

This decision was formalized by a special law (18-F3) on 11 February 2009, which enshrined a new type of educational institution in Russian educational law: the Federal University. Article 11 of the Act defines the Federal University as:

- An institute of higher education, which
- Implements innovative educational programs for higher and post-graduate education, which are integrated into the world educational space.
 - Provides for the systematic modernization of higher and post-graduate education.
 - Offers training, retraining and/or skills development for the all-purpose social-economic development of the region by using modern educational technology.
 - Carries out basic and applied research across a wide spectrum of sciences. Ensures the integration of sciences, education and production, including channeling the results of intellectual activity into practical application.
 - Is a leading scientific and methodological centre.

This was the first legal formalization of the tasks of a university, such as the mandatory development of a strategic plan, approval of this plan by the Government of the Russian Federation, the establishment of a Supervisory Board,

TOP DOWN PUSH FOR EXCELLENCE

the right of the university to develop its own educational standards (curricula), and the appointment of a rector by the Government of the Russian Federation.

The passage of the law triggered an entire series of regional initiatives across all federal districts, all offering themselves as a springboard for the creation of new federal universities. There were over 20 of these initiatives.

In 2009, five federal universities were created. The Federal University of the Urals brought together the polytechnic and classical universities in the Urals capital. In Kazan, the Federal University of Kazan (Volga) was formed by joining a series of other institutes with the University of Kazan. In Archangelsk and Yakutsk, almost all local universities joined to become the Northern (Arctic) and Northeastern Federal Universities. In Vladivostok, the major classical and polytechnic universities were brought together along with other city universities from Vladivostok and nearby Ussuriysk to create the Federal University of the Far East.

With the organization of the Federal University of the Baltics in Kaliningrad in 2010, and the Federal University of the North Caucasus in 2012, which brought a number of Stavropol's universities together, the network settled into its current configuration.

In just eight years a group of federal universities were created across all of the major regions of Russia. Almost 40 universities merged into nine federal universities.



Figure 1. The federal universities map.

Today, the situation is as follows:

- There are 281,900 students studying at federal universities, including 167,900 full-time students (59.6 percent), of which 10,300 (6.2 percent) are full-time master's students.

ISAK FROUMIN AND ALEXANDER POVALKO

- There are 23,500 faculty members at the federal universities, of which 15,700 (66.7 percent) have doctorates or Candidate of Sciences degrees.
- There are 7,100 PhD candidates, of which 4,700 (66.4 percent) are enrolled full-time.

The creation of these universities by means of unification led to serious difficulties with the formation of a new corporate culture, as shown by a special study carried out by the Higher School of Economics (Knyazev & Arzhanova, 2013).

First, it is unsurprisingly a difficult and slow process to form a new unified university culture. The researchers identified only two values shared by key managers of the university, namely a “results-oriented” approach and “the importance of personal responsibility and personal effectiveness.” Conducting business on the basis of these values was deemed effective by high-ranking management.

Second, the corporate culture of these consolidated universities covers only representatives of the rectors’ offices. It influences the middle managers to a lesser degree, while department heads are not covered at all. This leads to a situation where the majority of department heads do not adopt the new organizational culture. Therefore, many of the management’s actions, decisions and values do not flow through to the departments.

Third, it is difficult to assimilate the values and particularities of the affiliate universities’ cultures into a culture of a unified university. This causes a negative reaction from their representatives. These representatives perceive a loss of identity, largely because the values of which the original university was proud were embodied in its culture, but not reflected in the emerging culture of the unified university.

The problem of improving the quality of incoming students also remains a problem for the federal universities. The low quality of school graduates applying to federal universities limits the possibilities of not only elite, but even quality training of specialists for priority areas of knowledge-intensive scientific and technological development in the regions. Only two federal universities, the Volga and the Southern, have incoming test scores over 70 (out of 100), while the others are all in the 56-58 range.

During the implementation of the strategic plans in the Siberian and Southern Federal Universities from 2007 to 2012, there was a significant increase in the number of students studying for master’s programs. At the Southern Federal University, this amounted to 9.35 percent (an increase of more than double), and at the Siberian Federal University the number of master’s students grew 4.6 times to reach 6.4 percent. Overall, in light of the positive growth trends in the numbers of master’s students in federal universities, the structure of their student bodies is quite different from the structure of the top-100 world universities. In these leading world universities, up to 40 percent of the students study graduate programs, while in our federal universities it is only 6.2 percent. In our opinion, there are reasons to be concerned, especially given the expected influence of federal universities on the regional vocational training systems associated with the development of master’s

TOP DOWN PUSH FOR EXCELLENCE

and doctoral education. For this reason, the government is heavily investing in the development of material and technical bases for education and scientific research in federal universities.

The progress of the federal universities could be indicated by their place in the world rankings. At the end of 2012, not a single federal university was appeared in the THE rankings or Shanghai's ARWU. In the QS ratings, only the Federal University of the Urals appeared in the 451- 500 range.

Six of the universities plan to enter the Times Higher Education rankings in 2019-2021, hoping to occupy spots from 350th (Kazan Federal University) to 100th (Northeastern Federal University). The analysis shows that to achieve these performance levels, the universities must radically change their development programs. For example, based on the 2011 figures, the university expected to occupy 300th place by 2019, the University of East Anglia (UK), has 1,930 publications each year, as indexed by Scopus, and £125m (US\$6b, 250 million roubles) in research funding. Main research productivity indicators did not change quickly enough.

An analysis and comparison of development programs and a comparison with the real achievements of leading world universities shows that the federal universities face the following challenges:

- A relatively low quality of applications.
- An insufficient number of students studying masters' and graduate programs in priority areas with high research potential.
- Insufficient demand from local businesses for the universities to innovate in breakthrough sciences and technology. This includes the resulting lack of necessary development at the project and experimental phases, as well as certification and economic evaluation.
- Measures for developing potential human resources are ineffective in terms of increasing the scientific productivity and publication activity of the teaching and research staff.
- The lack of activity in terms of developing international partnerships and representing the university in the international academic space.

One can agree with the researchers who insist that, the potential of this project has not yet been uncovered. A mechanism for correcting university strategic plans is necessary in accordance with changing priorities in the socio-economic development of the regions, as well as a clear definition of these universities' mission (Knyazev & Arzhanova, 2013). It is not obvious that such large organizations should be built using only one model, namely the research university. Rather, it is necessary to liberate the research core and the units whose main purpose is the training of professionals for the development of regional economies.

NATIONAL RESEARCH UNIVERSITIES INITIATIVE

Decree 1448 of 7 October 2008 by the President of the Russia launched the National Research Nuclear University "MEPHI" and the National University of

ISAK FROUMIN AND ALEXANDER POVALKO

Science and Technology “MISIS” as a pilot project. From the results of a competitive selection among university development programs in 2009 and 2010, the category “National Research University” (NRU) was set for another 27 universities.

Nine classical universities, 17 technical universities, a medical university, an economic university, as well as the Academic Research and Education Centre of the Russian Academy of Sciences, now have the official “National Research University” status. The greatest number of NRUs, eleven, is concentrated in Moscow, with another four in St. Petersburg. The largest number of NRUs (17) is in the priority field of development, information and communication technologies; 16 are focused on energy efficiency and energy saving; five universities are in the field of space technology; five universities are in medical technology; and a further three universities in the field of nuclear technology.

The network of the 29 NRUs can be characterized by the following consolidated figures (as of 31 December 2012):

- the total enrolment at NRUs is 458,800 students, including 300,200 full-time students (65.4 percent), of which 22,500 (7.5 percent) are full-time master’s students;
- the total academic staff is 39,300, of which 28,900 (73.8 percent) have doctoral and Candidate of Sciences degrees;
- the number of postgraduate and doctoral students is 14,900, of which 12,100 (81.2 percent) are full-time students;

The total funding allocated from the federal budget for the National Research Universities development program for the period 2009-2012 is equal to 34.8247 billion rubles – about 10 percent of total revenue of these universities.

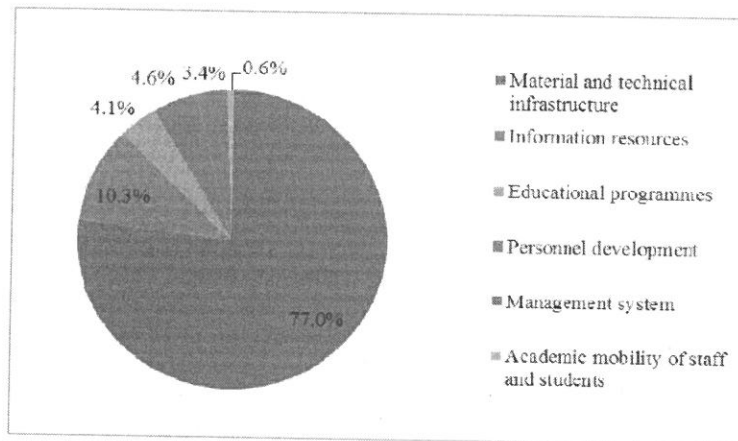


Figure 2. Spending within the NRU project.

In 2012, 77 percent of the federal budget finance was used to update material and technical infrastructure through the purchase of modern scientific and

educational equipment; 10.3 percent of the funds went to the development of information resources; 4.1 percent went to the development of educational programs; 4.6 percent on personnel development; 3.4 percent towards improving the management system; and 0.6 percent on the academic mobility of staff and students (see Figure 2).

Since 2009, the NRUs have developed their own original educational standards and 716 educational programs are based on these standards. Experience in the development and implementation of these standards allows us to formulate the following general characteristics of the new educational process in NRUs:

- ensuring graduates meet international learning outcomes, for example, in engineering education, the World-wide CDIO Initiative standards;
- increasing the values of general intellectual and cross-cultural competencies of graduates;
- increasing the role of student research and project activities.
- increasing flexibility based on increasing the number of elective courses;
- increasing academic mobility through the implementation of joint educational programs, including international programs;
- active usage of modern educational technologies and methods, strengthening their role in the educational process (information-communication technology, case methods, business games, etc.).

The situation with the quality of undergraduates at NRUs is better than for the federal universities, but the quality nevertheless varies considerably within networks of National Research Universities; the average score on the Unified State Examination in NRU networks is 73.9. The particular scores are: the Moscow Institute of Physics and Technology, 93.2; the Higher School of Economics, 89.0; Saratovsky State University, 68.5; Kostroma State Technological University and Kazan State Technical University, 67.4; Moscow Aviation Institute, 64.9; Perm Polytechnic University, 64.1; Kazan National Research Technological University, 63.7; and Irkutsk State Technical University, 61.6 (RIA News, 2013).

The average volume of research and development activities at a National Research University (measured by revenues from different sources) over four years (2009-2012) increased by three-and-a-half times and significantly (4.6 times) beyond the current level of the average for the country's technical universities: 960.8 million rubles in total, with about 205 million rubles a year at one university (Arzhanova, 2012).

In 2012, NRU academic staff, students, post-graduates and doctoral students published 29,325 articles in scientific periodicals indexed by foreign and Russian organizations (Web of Science [WoS], Scopus, Russian Science Citation Index), more than a 23 percent increase compared with 2011. During the implementation of the NRU development programs during 2008-2012, the quantity of indexed publications by an average for one university increased by almost three times. At the same time, the absolute figures were low. 12.7 percent of the Russian publications indexed in the WoS were NRU publications. Only 17 percent of NRU publications from the s are indexed by the WoS, with Novosibirsk State University

ISAK FROUMIN AND ALEXANDER POVALKO

having the highest at 39.9 percent, and Kazan State Technical University the lowest, at 0.4 percent.

National research universities are actively and effectively participating in open competitive tenders aimed at government support for co-operation with universities with existing business in order to develop high-tech industries, promote innovation, and the involvement of leading foreign research scientists.

Key management efforts at universities are aimed at the creation of conditions for the effective work of academic staff, including the establishment of effective systems of motivation to improve research productivity and the innovation activity of academic staff and students (Kastoueva-Jean, 2013).

In 2012, the share of doctors and Candidates of Science engaged in teaching and research in the NRUs increased from 70.4 percent in 2011 to 73.8 percent. Since 2009, the share of academic staff under the age of 49 years old increased steadily and had reached 49.8 percent by the end of 2012.

All NRUs spend significant resources on staff training and retraining in the world's leading research universities. The number of the professors and graduate students who underwent such training increased by 3.6 times in 4 years to reach 8,342 in 2012.

NRUs implement a variety of programs and projects for the development of staff, including the strengthening of selective incentives. All NRUs are taking steps to ensure the inflow of young, creative, active academic staff. They develop such instruments as targeted scholarships and grants to perform research, special support for internships at leading academic centres, as well as at high-tech industrial companies.

National Research Universities use a significant part of the targeted Government funding to strengthen physical infrastructure: 127 laboratories were modernized and equipped; new sites for testing innovative technologies and the commercialization of science-intensive products were created.

A number of NRU established science and technology "Foresight" centres, to perform the forecasting and evaluation of technological trends and development scenarios.

A significant result of the NRUs strategy implementation is the creation and development of innovation infrastructure: creation of technology transfer centres, business incubators and technological bureaus, pilot plants, industrial parks and other infrastructure.

The development of university management systems was as follows:

- Developing information management systems, including the modernization of information-telecommunication infrastructure; establishing the learning management systems; and providing access to Russian and international information resources.
- The improvement of quality management systems in terms of their certification; the development of measures for the quality assessment of educational services; and accreditation of educational programs at the national and international levels.

Overall, the primary outputs of the National Research Universities quality management improvement include:

- the creation of university standards for the development of basic educational programs and disciplines, for the development of programs and modules with credit-module structure and the assessment of educational outcomes;
- development, in collaboration with employers, a list of competencies that ensures the competitiveness of graduates in the labour market, and their certification;
- development of materials that measure learning;
- co-ordination of quality management systems in education and science in compliance with ISO 9001:2000, and systems certification to the specified standards.

Internationalization has become one of the key aims of the NRUs strategic plans. Its implementation included: the promotion of the educational services of these universities abroad; participation in international educational and research projects; co-operation with international organizations; and the organization of events with international participation.

In order to promote their educational services abroad, all of the universities took measures to: increase information about the universities for foreign audiences; prepare and implement educational programs in foreign languages; and improve living conditions and security for foreign students. As a result, the share of international students at NRUs in 2008-2012 increased nearly twofold.

The positioning of the National Research Universities in the international system of higher education institutions can be characterized by their position in the global rankings. At the end of 2012, none of the NRUs were represented in Shanghai's ARWU, but in the THE ranking, NRNU "MEPHI" was ranked 226-250. In the QS Ranking, Bauman University has 352nd, Novosibirsk State University 371st, the Higher School of Economics in the 501-550 group, Tomsk State University, 551-600, and both Tomsk Polytechnic University and the Lobachevsky State University of Nizhni Novgorod in below 600.

One of the reasons for the lack of presence of NRUs in the international rankings is not just poor academic performance but also their weaknesses in representing themselves in the international academic space: the full English language sites are poor, there is slow implementation of international peer review of different aspects of university life, and there are barriers to academic mobility. NRUs do not pay sufficient attention to comparative evaluation and the implementation of measures to promote the international image of universities.

In general, one can say that this program has had a greater success than the "Federal universities" project. At the same time, though, we have to note that the group of 29 universities became even more diverse than at the beginning of the project. The most active universities increased research productivity, educational innovation, and commercialization. Others have been waiting and spent money not on innovation but to fill the gaps in the existing process. This policy proved to be inefficient (Fedukin & Froumin, 2010).

ISAK FROUMIN AND ALEXANDER POVALKO

LESSONS

The lack of the effectiveness of these projects is in need of serious analysis. Failure or delay of movement by Russia in this direction could result in a leakage, or insufficient supply, of talent and, as a consequence, serious risks to the global competitiveness of the universities and the country as a whole. An analysis of the “Federal universities” and “National Research Universities” projects allows us to draw important lessons for further policy actions in the “race to the top.”

The first lesson is the role of pre-project stage. Universities developed their strategies in a hurry, to win a competition. They did not have the time or desire to do a thorough preliminary analysis of different opportunities, to engage external stakeholders in discussions of possible goals and the means to achieve them. They set unrealistic expectations which have led to an unacceptably “laid-back” project implementation, and have made project outcomes practically unattainable.

The Government did not pay enough attention to the current stage of the development of the participating universities. The lack of a pre-determined eligibility criteria for institutions to participate in the competition-based selection process for National Research University status, as well as the fact that Federal Universities were often established without a realistic assessment of the potential of those merged institutions, has caused dramatic discrepancies in the initial conditions that universities had for the implementation of their proposed and approved development programs.

The development of the strategic plans for federal and national research universities happened too quickly without a proper external evaluation.

The second lesson is about flexibility in financing. At the program development and approval stage, strict limits were set on the national research universities for the use of allocated funds. The financial resources could be used exclusively for the purpose of purchasing laboratory, training and research equipment; further training and professional development of academic staff; curriculum development; information resources development; and improving the quality of the education and research management system (according to Decree 550 [13 July 2009] of the Russian Federation Government), finance for research (including international research projects) was not available, and the universities were also forced to spend all of the funding allocated for that particular year. All this led to inefficiencies and a lack of project-based funding and planning.

The third lesson is about the flexibility in implementation. No mechanism has been put in place to promptly adjust the universities’ development programs in line with the changing social, economic and technological development priorities in the regions and industries that would ensure they correspond to newly adopted programs and legislation in the fields of education and science, at both the national and sub-national levels, as well as in the case of the substantial reorganization of higher education institutions in the educational network optimization framework. As a result, the program performance evaluation indicators, which were established for a 10-year period, and the contents of events that are being evaluated, have become considerably outdated and unrealistic.

The fourth lesson is openness and transparency in institutional development, especially in improving learning. Teaching materials produced by professors in large quantities were not properly reviewed and made fully available to the public through institutional websites. These are not easily accessible to the academic community, as well. As a rule, materials produced by universities are out of reach to independent peer-review – unless universities volunteer to submit their educational programs for public and professional appraisal, for national or international accreditation.

The fifth lesson is about the importance of focus. Most universities have failed to work out an efficient system to stimulate scientific publications by the faculty in peer-reviewed literature and indexed by international citation services. As to domestic publications, they are undermined because of a lack of systematic efforts in Russia to promote the inclusion of prominent national publications into international peer-review databases and citation indexing services. When it comes to positioning within the global higher education system, it turns out that the Universities' development programs and performance evaluation indicators have not been targeted to achieve particular results, which can be fairly objectively mirrored by institutional global ranking positions. As a result, universities have largely underestimated the importance of comparative evaluation/benchmarking, falling short on building their institutional image globally, as well as on improving their institutional development outcomes by achieving high ranking positions against these internationally acknowledged performance evaluation indicators.

The sixth lesson is about the importance of national partnerships. The implementation of the strategies showed that universities that had strong links with the Academy of Sciences, with successful companies, and with regional authorities, managed to achieve their results faster. The partnership with the Academy of Sciences proved to be very effective for growth in research productivity.

The seventh lesson is about the importance of courage to make real changes to the management structure, to teaching and to international co-operation. Those universities that created new units to perform new tasks and hired new people for these units showed better progress. Those universities that used fully their right to create their own educational standards (and improved the teaching of English and developed English-language programs) attracted better students and young professors. Those universities that opened new research units for bright researchers (including young and foreign) proved to be more productive.

The eighth lesson is about time. It is unrealistic to expect quick results in this field. The formation of advanced scientific groups even when key competencies are imported is at least three to seven years. Therefore, the lack of progress among Russian research universities can be explained not only by their low zeal and irregular organization, but also insufficient time for significant results.

The ninth lesson concerns adequate funding. The slow progress of the Russian research universities can be partly explained by inadequate and poorly concentrated investments. . Buying half of the equipment, or to attracting foreign scientists, but not funding translation, is a half-measure and a waste of resources.

ISAK FROUMIN AND ALEXANDER POVALKO

NEW INITIATIVE

The understanding of the importance and complexity of Russian universities competitiveness goals is shown by political leaders and the Decree 599 (7 May 2012) by the President of the Russian Federation, and the State Education Development Program, in which a goal was set to have by 2020, “at least five Russian universities in the top one hundred of the world’s leading universities according, to the world ranking of universities.”

By offering such a formulation, of course, Russian leaders do not mean just the achievement of a formal parameter in a particular list. The goal is to dramatically accelerate the achievement of the advance team of research universities in global competitiveness. Russia is not the first country to set such a goal.

The new Russian excellence initiative is not free from simplifications and unrealistic expectations. However, in designing this initiative, the Ministry of Education has tried to use the lessons learned.

The decision was made to increase the financing of this program by three times (per university) and decrease the number of universities to 15. Each university should develop its own original strategy to improve its global competitiveness. This strategy should be discussed with a number of expert bodies and stakeholders before it is finalized.

The Ministry delegated the steering of the project to the International Council, representing leading higher education reformers from three continents.

The universities received greater autonomy (including in the spending of a government grant) in exchange for greater transparency and accountability: one of the conditions of awarding the grant was the establishment of a governing board at each university with the right to appoint the university president.

Each year the International Council will evaluate the progress of the project’s implementation and suggest necessary corrections. These institutional arrangements should help to improve the international competitiveness of the leading research universities in Russia with greater effectiveness and efficiency.

ACKNOWLEDGEMENTS

The authors would like to thank I. Arzhanova; E. Knyazev; Y. Kuzminov; J. Salmi; and V. Zhurakovsky for their valuable data for the chapter and useful discussions, as well as M. Lisytukin for editorial help.

REFERENCES

- Abankina, I., Aleskerov, F., Belousova, V., Gokhberg, L., Zinkovsky, K., Kiselgof, S., & Shvydun, S. (2013). A typology and analysis of Russian universities’ performance in education and research. *Foresight-Russia*, 3, 48-63.
- Arzhanova, I. V. (2012). *Dynamics of scientific potential of leading universities development*. Presentation at Baltic Forum, Retrieved from <http://balticeducationforum.ru/presentation/02.pdf>.
- Carnoy, M., Loyalka, P., Dobryakova, M., Dossani, R., Froumin, I., Kuhns, K., Tilak, J. B., & Rong, W. (2013). *University expansion in a changing global economy: Triumph of the BRICs?* Stanford University.

TOP DOWN PUSH FOR EXCELLENCE

- Dobryakova, M., & Froumin, I. (2010). Higher engineering education in Russia: Incentives for real change. *International Journal of Engineering Education*, 26(5), 1032-1041.
- Fedukin, I., & Froumin, I. (2010). Rossijskie vuzy-flagmany (Russian flagship universities). *Pro et Contra*, 3, 19-31.
- Froumin, I., Kuzminov, Y., & Semenov, D. (2013). Ot gosplana k masterplanu (From "Gosplan" to master-plan). *Otechestvennye zapiski. The Journal of Russian thought*, 4, 85-98.
- Government of the Russian Federation. (2010). *Measures to attract leading scientists at Russian higher education institutions*. The decree of the Government of the Russian Federation, p. 220.
- Indicators of Science. (2007). *Statistical book*. Moscow: Higher School of Economics.
- Kastoueva-Jean, T. (2013). New missions and ambitions for Russian universities. *International Higher Education*, 73, 26-28.
- Knyazev, E., & Arzhanova, L. (2013). Sozdanie federalnykh universitetov (konceptiya i realnost) [Establishment of federal universities (concept and realities)]. *University Management: Practice and Analysis*, 7-14.
- Kuzminov, Y., Semenov, D., & Froumin, I. (2013). The structure of higher education institutions network: From Soviet to Russian master-plan (in Russian). *Journal of Educational Studies*, 4, 8-64.
- Mohrman, K., Ma, W., & Baker, D. (2008). The research university in transition: The emerging global model. *Higher education policy*, 21(1), 5-27.
- Salmi, J. (2009). *The challenge of establishing world-class universities*. Washington DC: The World Bank.
- Salmi, J. & Froumin, I. (2007). Russian universities in the world-class universities competition. *Journal of Educational Studies*, 3, 5-46 [in Russian].
- Salmi, J., & Froumin, I. (2013). Excellence initiatives to establish world-class universities: Evaluation of recent experiences. *Journal of Educational Studies*, 1, 25-69 [in Russian].
- QS World University Rankings. (2013) Retrieved from <http://www.topuniversities.com/university-rankings/world-university-rankings/>.
- RIA News, National Research University Higher School of Economics. (2013). Quality of admission in Russian higher education institutions. Retrieved from: http://www.hse.ru/ege/second_section2013/
- The World University Rankings. (2013) Retrieved from <http://www.timeshighereducation.co.uk/world-university-rankings/>.

Isak Froumin
National Research University
Higher School of Economics, Russia

Alexander Povalko
Ministry of Education and Science of
Russian Federation, Russia