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The review provides a detailed analysis of main trends in Russian economy in 2016. The paper contains 6 big sections that highlight single aspects of Russia's economic development: the socio-political context; the monetary and budget spheres; financial markets; the real sector; social sphere; institutional challenges. The paper employs a huge mass of statistical data that forms the basis of original computation and numerous charts.

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5.5. Education system in Russia in 2016¹

In 2016, no events happened that would significantly influence the development of the Russian education system. The agenda that had emerged in 2012–2015 was being implemented. The regular monitoring of the effectiveness of higher education institutions was conducted, the average salary of teachers was raised, the principle of normative per capita financing of vocational education continued to be implemented, mergers of higher education institutions were carried out, the core higher education institutions were chosen. Project 5-100 which is designed to help at least five Russian universities make their way to the top-100 lists of the major institutional university rankings – Times Higher Education, QS and ARWU (Shanghai ranking) was also implemented, and 21 leading universities have already been included into this Project since 2015. The change of the minister and the ministerial team has not yet affected the education policy, although its vector shift was announced. The only thing that the new minister has done so far is cancelling the merger of several universities that was previously announced. This pause can be broadly explained by the elaboration of a new road map for the Russian Ministry of Education and Science. We can also assume that, first of all, further reform of general education – pre-school and school one – will serve as its basis. It may well be that the school teacher and the nursery teacher will become the leading figures of the reforms. At the same time, most measures that could be offered in this situation have been either already implemented or discussed for several years.

5.5.1. Reforming general education: teachers' salaries and professional growth

Among the measures implemented in the area of general education during the last several years of reforms, there are: increasing the average salary of teaching employees since 2012, changing the procedure for their merit rating, introducing an “effective contract” and switching to advanced training once in three years instead of once in five years.

A system of voucher funding of advanced training for teachers is discussed and has even been tested in several Russian regions. It gives a teacher an opportunity to choose modules within a given program in different educational institutions of additional professional education and higher education institutions, satisfying their professional interests and requirements of their employer.

Additionally, in recent years, the question of changing the approach to teacher training has been studied. The main idea is that a specialist (mathematician, physicist, philologist, historian, etc.) is trained at a university, and then, if he or she wants to become a teacher, they take a one-year course that allows them to become a teacher. This approach is broadly due to the fact that pedagogical higher education institutions are currently among the weakest institutions of higher education, and students are also quite weak there (*Fig. 22*).

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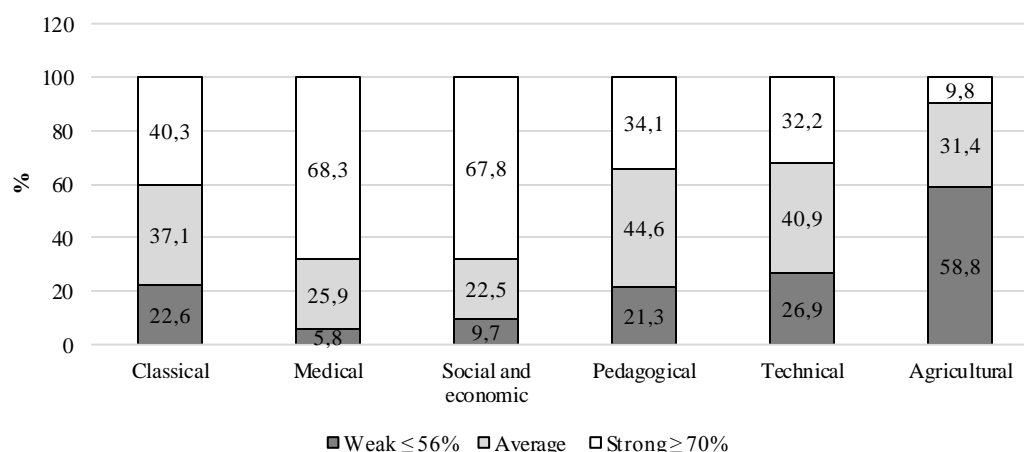


Fig. 22. Distribution of first year students by the average score of the uniform state exam depending on the profile of the higher education institution (%), 2015

Source: Monitoring of the Quality of University Enrolment in 2015. HSE and RIA Novosti.

It is believed that increasing the salary of teaching employees has led to stronger applicants deciding to go to pedagogical higher education institutions in 2016: the uniform state exam average grade of the first year students admitted to state-funded places in the training program “Pedagogical education” increased from 65.7 to 67.2 points.¹

As noted in the Monitoring of the Quality of University Enrolment, “in 2016, out of 68 enlarged programs of higher education, the average quality of state-funded enrolment grew by more than 1.5 points (this is a very significant growth across the country) in 23 programs and fell only in two programs (“International relations” and “Preservation of monuments”). The first group (where the quality increased) consists mostly of engineering and technology programs and computer science. Among them: “Aviation and rocket and space technology”, “Automation and control”, “Computer science and computer technology”, “Metallurgy”, “Technological machines and equipment”, “Quality management”, and “Mathematics”.

The second group of programs in which the quality of enrolment grew consists of virtually all pedagogical programs, as well as “Nursing” and “Physical education”.

The third group is made up of social sciences and economics. The programs where the quality of enrolment grew are: “Economics”, “Management”, “State and municipal management”, “Political science”.

The fourth group is humanities and “communication” disciplines. Those where the quality of enrolment grew are: “Design”, “Linguistics and foreign languages”, “Philology”, “Journalism”.²

At the same time, one should keep in mind that the overall improvement in the uniform state exam results may be due to changed conditions of how it is organized or changed procedure of calculating test scores.

It should also be taken into account that the proposed measure implicating that a teacher-to-be gets education in a classical university and then gains additional pedagogical competences elsewhere will only be effective in case that classical universities are strong. Unfortunately, it

¹ Monitoring of the Quality of University Enrolment in 2016. HSE and RIA Novosti.

² https://www.hse.ru/ege/stata_2016

is not the case in Russia. As we can see in *Fig. 22*, classical universities are generally slightly stronger than pedagogical higher education institutions, but the proportion of weak students there is even higher. It seems to be due to the fact that in the 1990s, many pedagogical higher education institutions were transformed into classical universities, but this did not lead to improvements in the quality of their education.

If we consider the situation with the state-funded enrolment in the program “Pedagogical education”, in 2016 it was as follows (*Table 11*).

In the first 11 pedagogical higher education institutions, the average score of the uniform state exam in 2016 was over 70 points, i.e. their first-year students were strong enough by the standards of 2015. In the remaining nine higher education institutions, the average score of first-year students admitted to state-funded places was below 70 – they were mostly average performers. At the same time, among all these higher education institutions, it is only in the Russian State Vocational Pedagogical University (Yekaterinburg) that the average score of the weakest student admitted to a state-funded place was higher than 56 points. At three other higher education institutions, this score was 50 or higher, and at the remaining ones, it was 39.3–48.5 points. In other words, even in the top 20 pedagogical higher education institutions by the quality of enrolment, low-performing students will be taught on state-funded places. The same students will most likely go to schools to teach children since stronger students will probably choose another career (or they will stop teaching at school after a few years).

Table 11

**State-funded enrolment in the program “Pedagogical education” in 2016
(top 20 pedagogical higher education institutions)**

	Higher education institution	Average uniform state exam score	Average score of the weakest applicant admitted to a state-funded place
1	Moscow City University	76,6	51,0
2	Moscow State University of Education	76,5	48,5
3	Russian State Vocational Pedagogical University, Yekaterinburg	76,3	57,0
4	Kozma Minin Nizhny Novgorod State Pedagogical University	76,0	43,3
5	Herzen State Pedagogical University of Russia, Saint Petersburg	73,6	44,3
6	Pushkin Leningrad State University, Saint Petersburg	73,1	50,0
7	Samara State University of Social Sciences and Education	72,5	44,3
8	Voronezh State Pedagogical University	71,6	39,3
9	Urals State Pedagogical University, Yekaterinburg	71,0	48,0
10	Vladimir Korolenko State Pedagogical University of Glazov	70,1	43,7
11	Ivan Yakovlev State Pedagogical University of Chuvashia, Cheboksary	70,1	45,7
12	Volgograd State University of Social Sciences and Education	69,9	42,0
13	Perm State Humanitarian Pedagogical University	69,9	45,3
14	Nizhni Tagil State Institute of Social Sciences and Education	69,6	40,7
15	Orenburg State Pedagogical University	69,3	44,3
16	Naberezhnye Chelny Institute of Social and Pedagogical Technology and Resources	69,1	55,3
17	Chelyabinsk State Pedagogical University	69,1	44,0
18	Ilya Ulyanov State Pedagogical University of Ulyanovsk	68,9	41,0
19	Novosibirsk State Pedagogical University	68,8	40,3
20	Tula State Lev Tolstoy Pedagogical University	68,8	43,7

It seems that the fact that slightly stronger applicants began to enroll in pedagogical higher education institutions is not only, and maybe not at all, due to the increase in teachers’ salaries but rather due to people wanting to get a profession that will be in high demand even in times of economic difficulties in the country – as it was in the 1990s, when specialists from other branches of the economy started to work at schools. In those years, employment in the public

sector increased significantly, which largely determined its “budgetary” inefficiency in the 2000s and 2010s.

It should be borne in mind that the increase in teachers’ salaries observed in recent years, coupled with a certain reduction in the number of teachers, can give way to a reverse process: freezing teachers’ salaries coupled with a growth in the number of teachers. For many Russian regions, especially subsidized ones, this is a standard measure to maintain social stability. The “effective contract” of teaching is replaced by a “social contract” which is much more important in times of economic decline. In the meantime, there has been an increase in teachers’ negative assessment of their socioeconomic status, primarily the size of their salaries (*Fig. 23*).

As the monitoring of school effectiveness that has been prepared since 2013 by the RANEPA Center for Economy of Continuing Education shows, it was already in 2015 that teachers began to feel unsatisfied with their salary. But back then, it was not as pronounced as it was in 2016, when the share of teachers who were “satisfied” and “rather satisfied” with their salary declined while the share of those who were “not satisfied at all” rose sharply. The overall share of positive estimates declined compared to 2015 by 5.9 percentage points – from 40.6% to 34.7%, while the share of negative estimates increased from 59.4% in 2015 to 65.3% in 2016. So the prevalence of teachers’ negative assessments of their salaries over positive ones that had already existed before just increased in 2016.

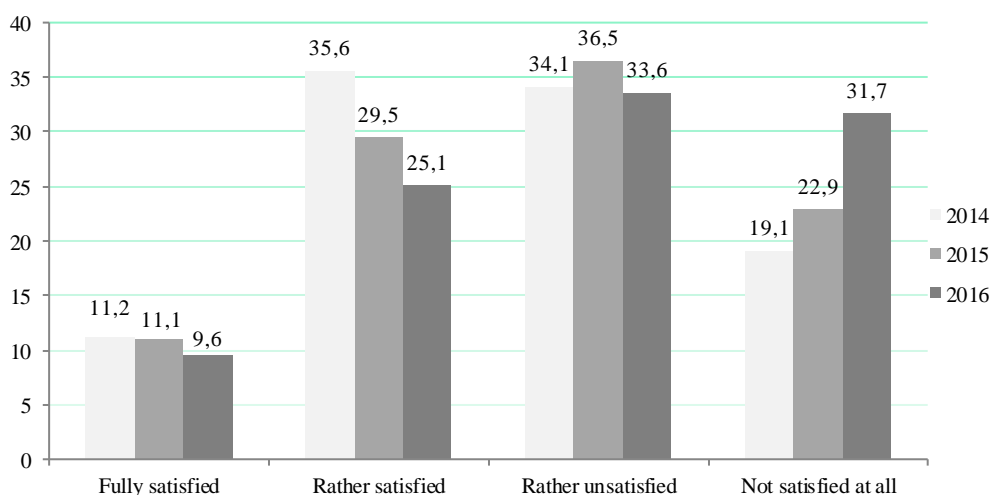


Fig. 23. Teachers’ satisfaction with the size of their salaries in 2014–2016. (Distribution of answers to the question: “Are you generally satisfied with your salary?”)

Source: Monitoring of School Effectiveness prepared by RANEPA Center for Economy of Continuing Education.

If we look at the situation with teachers’ professional development and their assessments of what was happening – according to the monitoring, it was as follows. Teachers actively improved their qualification in the system of additional professional education (*Fig. 24*); only 12.6% of teachers have not done it in the last three years.

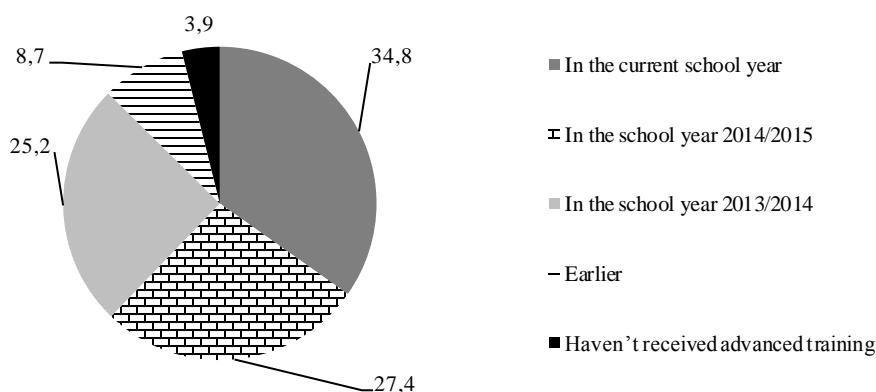


Fig. 24. Teachers' advanced training (%)

The main competences teachers obtained during the programs of additional professional education are presented in *Fig. 25*. During this advanced training, teachers paid most attention to new educational technologies and methods of teaching a subject (75.6%). To a lesser extent, the problems of mentoring and socialization of schoolchildren were discussed (42%), as well as new forms of management activities (21%).

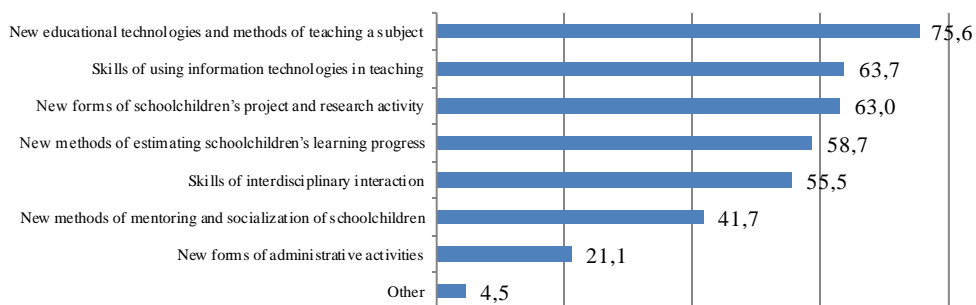


Fig. 25. Teachers' answers about what programs of additional professional education were more important for them (% of those who received advanced training, several answers were allowed)

According to teachers, the most effective advanced training programs are provided by institutions of additional professional education. Secondary to them are pedagogical higher education institutions that implement the relevant programs. Mentoring training at their own schools as well as training at other schools within the framework of school network interaction were not referred by teachers to effective forms of advanced training (they were mentioned by less than 10% of respondents) (*Fig. 26*).

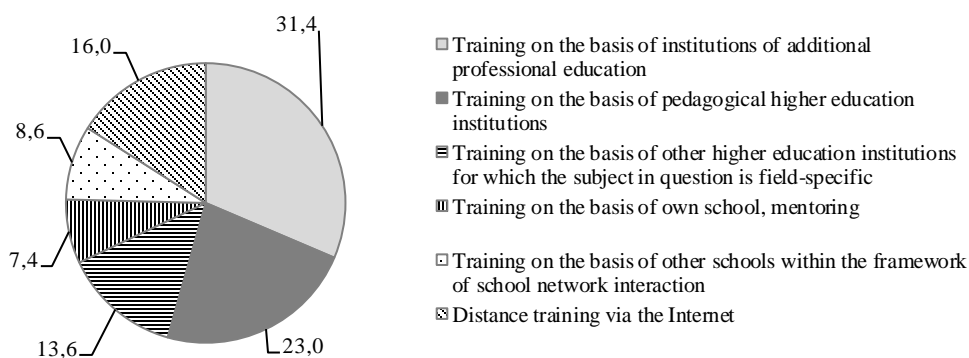


Fig. 26. Teachers' views on the most effective forms of advanced training (%)

On the one hand, these data seem to contradict the notion that pedagogical higher education institutions can not train good teachers and therefore the whole pedagogical education needs to be restructured. On the other hand, advanced training programs at pedagogical higher education institutions are usually attended by “regular” teachers who likely studied at the same institutions before, often more than 5 to 10 years ago. Their assessments are involuntarily shifted to a positive spectrum: in the process of advanced training, they find themselves in the familiar environment and familiar pedagogical culture and perceive the programs positively. At the same time, it is possible that some teachers have quite formal attitude to the process of advanced training in general: they will pass it if necessary, and they have no motivation to evaluate the process negatively.

As for the choice of the training program, the programs that last 72 hours proved to be the most popular ones (they were chosen with a wide margin) (Fig. 27).

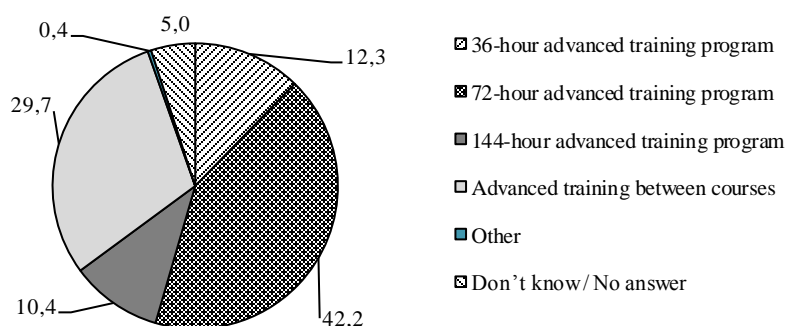


Fig. 27. Teachers' demand for advanced training programs (%)

As the monitoring showed, only 16% (1/6) of teachers considered additional professional education so important that they were ready to pay for it themselves if necessary. Another third of respondents were ready to consider this possibility. At the same time, half of respondents would not agree to pay for advanced training out of their own pocket (Fig. 28).

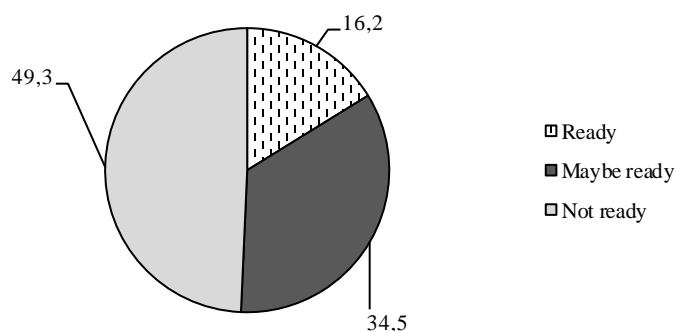


Fig. 28. Teachers' readiness of to pay for advanced training programs themselves, provided they are useful (%)

Headmasters of general education institutions showed a somewhat different, albeit close view of the professional development of a teacher during the monitoring process. In their opinion, the following directions of advanced training are important: the subject content of the discipline, particularly in the context of the introduction of federal state educational standards for general education; psychological training for working with schoolchildren; modern educational technologies and teaching methods; legal aspects of professional activity; the development of a regulatory framework for education; developing ICT skills. It should be noted headmasters mentioned the special importance of developing namely the latter direction of teachers' advanced training. At the same time, when speaking about the duration of additional professional education programs, some headmasters noted that programs requiring 72 hours or more cause problems related to the organization of educational process at school, so they prefer to send employees to short-term advanced trainings (up to 36 hours).

"In-house" education, i.e. advanced training provided within the school itself is also a widespread practice. According to headmasters, this form is the most convenient one for organizing advanced training because it can be carried out without discontinuing work. Some headmasters said they were ready to create "pedagogical workshops" for their teachers and teachers from other educational institutions on the basis of their schools. Headmasters believe that organizing in-service training on the basis of the school is one of the most effective tools for managing the quality of education since it is aimed at solving problems that are relevant for a particular educational institution. Within the "in-house" training of teachers, the practice of mentoring is also widespread. At the same time, as indicated earlier, teachers consider "in-house" training as the least effective.

The issues of reforming school education are trending all over the world since the quality improvement of human capital has recently been seen as one of the leading factors of the growth of countries' competitive ability, and the school lays foundation of the human capital. A teacher's advanced training, professional development, creating conditions for the "extension" of his or her career ladder are considered important components in solving the problem of the effectiveness of school education. Russia, as can be seen, goes the same way, focusing on the professionalism of teachers, their motivation and career advancement.

5.5.2. Vocational education

Secondary vocational education. In 2016, no significant changes happened in the system of secondary vocational education. In recent years, the system of secondary vocational education has integrated two types of training programs: those for highly qualified workers and those for mid-level specialists.

The system of primary vocational education was abolished by the Federal Law “On Education in the Russian Federation” due to the fact that it was not in demand by employers, although the need for workforce is constantly being declared as extremely acute. Such a situation developed because employers were satisfied neither with the qualification of the workforce trained (3rd grade) nor with the level of their discipline and work culture. As a result, the following basic models of training new workers for the manufacturing system were formed:

- Large successful enterprises incorporated institutions for training workers, so they trained and continue to train their staff at these in-house training centers (with that, they are dissatisfied with the fact that the state can not provide the necessary level of training). At the same time, students who were trained at these primary vocational education institutions were, as a rule, older than 20 years;
- If an enterprise actually began to control and finance a state (municipal) primary vocational education institution, it set strict requirements for the administration, teachers and masters of vocational training, as well as screened out those students who did not strive to study and work well.

Employers who could not afford to create an in-house training center or control a primary vocational education institution preferred to recruit young people who had appropriate vocational education but served in the Russian Armed Forces, and then teach them directly at the workplace.

State and municipal primary vocational education institutions financed from the budget had, as a rule, outdated facilities and pedagogical staff who were poorly informed about modern production technologies. The situation at institutions that had been transformed into resource centers was somewhat better, because their facilities had been substantially updated, and teachers and masters of vocational training had attended retraining courses and been introduced to new production technologies.

Due to the low prestige of primary vocational education which provided blue-collar training after the 9th grade of school (at 15–16 years of age), the system of primary vocational education was integrated into the system of secondary vocational education. However, as a result, the prestige of workforce training did not increase while the prestige of the system of secondary vocational education decreased dramatically.

As the sociological surveys that the RANEP Center for Economy of Continuing Education has conducted since 2013 show, employers consider the level of basic training of workers much lower than the basic training of specialists and management personnel.

In the school year 2015/16, those who finished the 9th grade made the following choice:

- 55.0% went to the 10th grade (to high school);
- 33.2% went on to receive secondary vocational education;
- 11.8% gave up their studies due to various reasons.

In the same school year, 17.2% of those who finished the 11th grade went on to study at secondary vocational education institutions, and 83.4% of graduates from the system of secondary vocational education strived to enroll in higher education institutions, while more than 35% of them did not even enter the labor market. Among graduates of secondary

vocational education institutions entering the labor market are, as a rule, those who received the professions of waiters, hairdressers, cooks, cabinet makers, etc., and are oriented at working in the service sector, as well as nurses (gaining experience before entering medical higher education institutions), nursery teachers and teachers who graduated from teacher training colleges (3–4 years later, they, too, will try to enter pedagogical higher education institutions).

The network of secondary vocational education institutions changed insignificantly between academic years 2007/08 and 2015/16 (the “dip” in 2014 was caused by transferring statistical records on education from Rosstat to the Ministry of Education and Science) (*Fig. 29*).

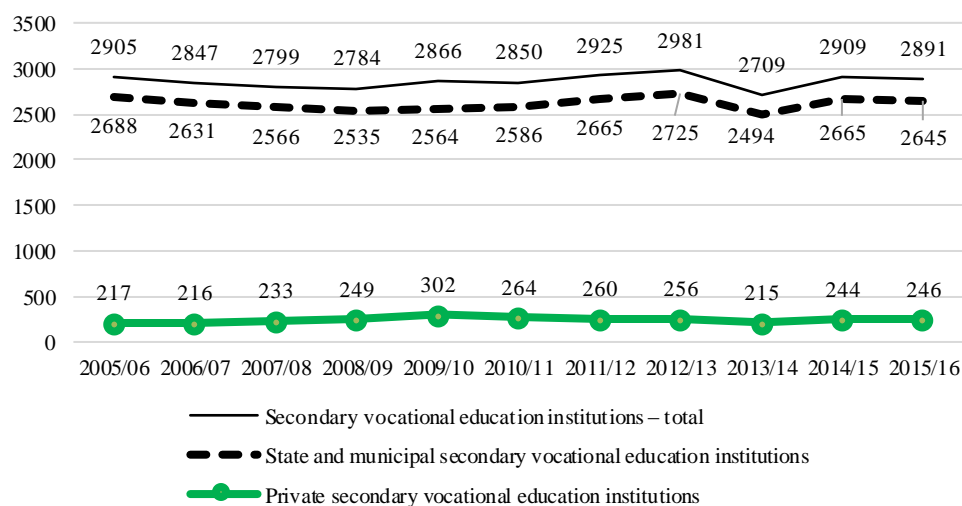


Fig. 29. The number of secondary vocational education institutions in the academic years 2007/08 – 2015/16.

Source: Rosstat.

The number of students in secondary vocational education institutions is presented in *Fig. 30*.

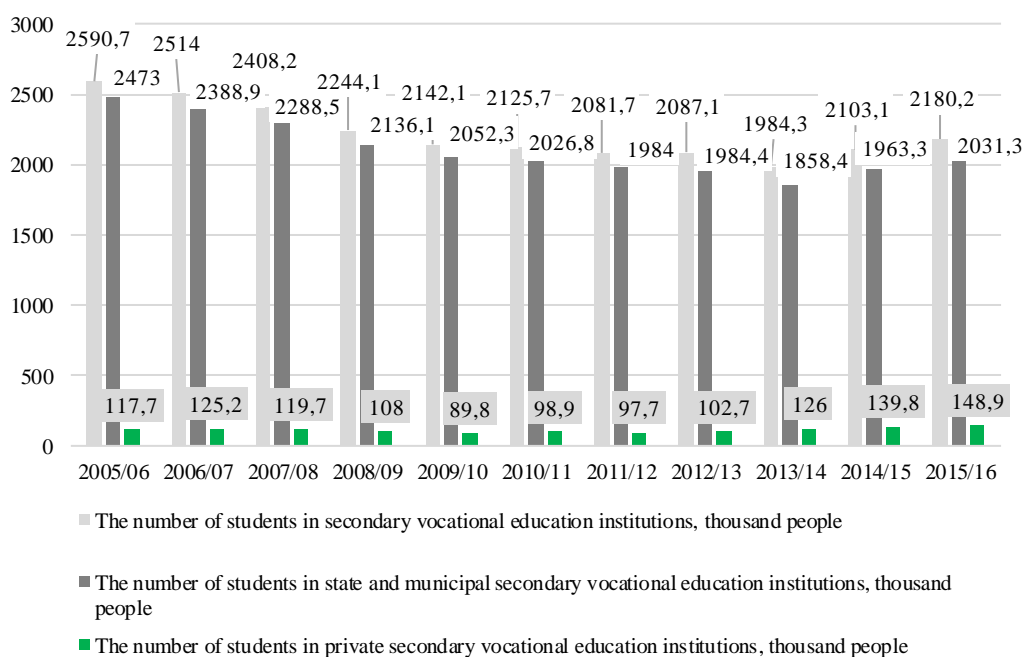


Fig. 30. Number of students in secondary vocational education institutions (training mid-level specialists) in academic years 2005/06 – 2015/16, thousand people.

Source: Rosstat.

In the academic year 2015/16, the share of private educational institutions in the secondary vocational education was 8.3% of their total number, and 6.8% of the total number of students at this level of education were enrolled in them.

A special feature of mid-level specialist training (applied training) in secondary vocational education institutions is that the majority of students there study full-time, the same is the case in private secondary vocational education institutions.

In state and municipal secondary vocational education institutions, the share of full-time education is more than 80%; in private ones it is almost 75%. These figures are much bigger than in higher education institutions: in state and municipal higher education institutions, the share of full-time education in the academic year 2015/16 was 55.9%, in private higher education institutions – only 15.7%.

Since the introduction of the uniform state exam in 2009, the number of graduates from the 9th grade entering secondary vocational education institutions has grown quite noticeably, because heading to a higher education institution through the system of secondary vocational education became a way of “bypassing” the uniform state exam. The orientation towards higher education did not diminish. According to the surveys conducted in the framework of monitoring the school effectiveness, the overwhelming majority of parents (or legal representatives) want their children to enter a higher education institution: in 2016, such desire was expressed by 85.3% of them.

So the system of secondary vocational education remains, as it was, a transit system between the school and the higher education institution.

Higher education. In 2016, conducting a monitoring of the effectiveness of higher education institutions sparked almost no interest among the higher education community. Today, the fact that the monitoring becomes the basis for checking if the higher education institution complies with the requirements of the Federal Service for Supervision in Education and Science does not surprise anyone. At the same time, the accreditation of higher education institutions remains in place, which means that the mentioned educational institutions fall under double pressure. For a while, the monitoring and recognizing some higher education institutions as ineffective were among the mechanisms for the growing prestigious higher education institutions to obtain additional property, as well as an instrument in the struggle for the diminishing contingent of students. But as a result of fighting inefficient higher education institutions, inefficiency of the system of higher education itself began to increase due to the growth of monopoly in it. This does not call off the task of fighting the low quality of educational programs. However, for this purpose, there are mechanisms of licensing and accrediting higher education institutions – the procedures that have been increasingly profaned in recent years. But instead of organizing the work of these mechanisms, someone has been actually replacing them by the effectiveness monitoring that has no legal force, which further emphasizes the problems with the development of all the mentioned institutions in the higher education system.

Equally problematic is the distribution of admission quotas (budget places and budget funds) among higher education institutions. As is known, admission quotas are allegedly distributed on a competitive basis.

Top 10 higher education institutions by the quality of budgetary enrolment in 2016 are presented in *Table 12*.

Table 12

Top 10 higher education institutions by the quality of budgetary enrolment in 2016

		Average uniform state exam score			Enrolled, people	
		2016	2015	Change relative to 2015	2016	2015
1	MGIMO University	95,4	94,7	0,7	460	436
2	Moscow Institute of Physics and Technology	93,8	93,8	0	910	890
3	National Research University Higher School of Economics, Moscow	92,2	89,3	2,9	1963	2448
4	Saint Petersburg University	90	88,1	1,9	2003	2340
5	Lomonosov Moscow State University	87,8	87,1	0,7	3678	3848
6	National Research Nuclear University MEPhI, Moscow	87,8	86,3	1,5	542	475
7	National Research University Higher School of Economics, branch, Saint Petersburg	87,1	84,6	2,5	500	529
8	ITMO University	86,9	82,7	4,2	1174	1122
9	Russian Presidential Academy of National Economy and Public Administration, Moscow	85,8	85,6	0,2	613	611
10	Moscow State Linguistic University	84,7	80,2	4,5	804	763
11	Kutafin Moscow State Law University	83,5	82,6	0,9	692	576

Source: HSE Monitoring of the quality of university enrolment.

For training programs “Economics” and “Law”, the distribution of admission quotas in 2016 is presented in *Tables 13* and *14*.

Table 13

**Top 10 higher education institutions by the quality of budgetary enrolment
for the training program “Economics”, 2016**

	Higher education institution	Quality of enrolment, based on the average uniform state exam score	Change relative to 2015	Number of students admitted to state-funded places
1	National Research University Higher School of Economics, Moscow	93,3	0,6	286
2	MGIMO University	92,5	0,4	94
3	Russian Foreign Trade Academy, Moscow	90,0	0,8	106
4	Lomonosov Moscow State University	89,6	0,7	203
5	Saint Petersburg University	88,7	1,4	100
6	Voronezh State University	88,4	5	10
7	National Research University Higher School of Economics, branch, Saint Petersburg	88,2		110
8	ITMO University	87,9	3,1	33
9	National Mineral and Raw Material University “Gornyi”, Saint Petersburg	87,7	3,8	10
10	Kazan Federal University	86,5	5	25

Source: HSE Monitoring of the Quality of University Enrolment.

Table 14

**Top 10 higher education institutions by the quality of budgetary enrolment
for the training program “Law”, 2016**

	Higher education institution	Quality of enrolment, based on the average uniform state exam score	Change relative to 2015	Number of students admitted to state-funded places
1	MGIMO University	96,1	0,3	94
2	Saint Petersburg University	94,8	0,6	90
3	National Research University Higher School of Economics, Moscow	93,1	0,9	160
4	Russian Foreign Trade Academy, Moscow	92,5	-0,2	52
5	Plekhanov Russian University of Economics, Moscow	90,5	5,3	19
6	Lomonosov Moscow State University	90,2	1,2	322
7	RUDN University, Moscow	88,9	2,4	35
8	Russian Presidential Academy of National Economy and Public Administration, Moscow	88,8	-5,8	26
9	National Research University Higher School of Economics, branch, Saint Petersburg	88,3	2,4	90
10	Samara National Research University	87,4		29

Source: HSE Monitoring of the Quality of University Enrolment.

At the same time, in 2016, both in the training programs “Economics” and “Law”, weaker higher education institutions with weaker contingent also received state-funded places (Table 15).

Table 15

**Higher education institutions that admitted applicants with the average
uniform state exam score 56–57 to state-funded places in the training
programs “Economics” and “Law” in 2016**

Enlarged group	Higher education institution	Quality of enrolment, based on the average uniform state exam score	Change relative to 2015	Number of students admitted to state-funded places
1	2	3	4	5
Economics	Dagestan State Institute of National Economy, Makhachkala	56,5	1,5	104
Economics	Siberian State Aerospace University, Krasnoyarsk	55,8		20

Cont'd

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1	2	3	4	5
Economics	Chechen State University, Grozny	54,9	5,4	140
Law	Dagestan State Institute of National Economy, Makhachkala	57,4	-0,8	100
Law	Chechen State University, Grozny	50,5	0,7	200

Source: HSE Monitoring of the Quality of University Enrolment.

So *Table 15* shows that the distribution of admission quotas in 2016 was inefficient from the viewpoint of the final result, which stresses the need for changing both the procedure and approaches to the distribution of admission quotas among Russian higher education institution.