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# Public Service Provision and its Finance in Russia: The Case of Education

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**Abstract:** Public services, such as education and medical care, in the Soviet Union were provided universally for free to citizens. In this study, we focus on compulsory education in Russia and analyze how service provision and finance of education have changed after the transition to a market economy. We outline the chronology of educational reform in Russia as well as reform of fiscal federalism, and describe how the burden of educational spending, which has grown under the present Putin administration, was imposed on regional and local governments. In addition, we analyze regional disparity in education spending per pupil and whether fiscal centralization after 2000 has succeeded in lessening disparity and securing more equal opportunity of education. Our analysis showed that regional disparity in education spending in fact grew in the 2000s in spite of fiscal and political centralization, but it has clearly lessened in the 2010s.

**Keywords:** public service, education, public finance, fiscal federalism, regional disparity, Russia

**JEL Classification Numbers:** H52, H72, H75, I22, P35, P36

## 1. Introduction

Economic inequality of the world's population has tended to grow under economic globalization and has received even more attention after the publication of Thomas Piketty's bestseller, *Capital in the Twenty-First Century*, in many countries (Piketty, 2014). In addition, we can recognize the presence of serious inequality behind recent political movements in the United States, United Kingdom, and some other countries, where people are backing anti-globalization, anti-immigration policy.

Since the socialist regime in the USSR and East European countries has collapsed, the "victory of capitalism" has often led to the reduction of redistributive policy, such as social welfare and progressive income taxation in many countries, denying the concept of "equality of result." However, if we stand on the assumption that our economic conditions are increasingly unequal, paradoxically, more redistributive policy is needed to secure an "equal opportunity" for competition, especially from the viewpoint of young people from lower income groups. Education would be an especially important part of such policy in securing an equal starting point for young generations.[1]

It is well known that public services, such as education and medical care, in the Soviet Union and other socialist countries were provided to citizens universally for free. Although these socialist systems had fatal shortcomings, such as inefficient economy and oppressive politics, we could appreciate these public services positively, at least from the viewpoint of equality. Then, how have these practices of public service provision transformed after the transition to the market economy? Is the Soviet legacy of public service still evident in today's Russian society, or has it totally changed? How does the present Russian government deal with these services for its citizens?

In this study, we focus on the education system and its finance in Russia, mainly concentrating on compulsory education. After overviewing the education system in the Soviet period as the initial condition, we examine reform process during the transition period. In addition, we attempt to describe the disparity in government expenditure to compulsory education among regions in the Russian Federation, and we verify whether fiscal centralization under the Putin administration, which occurred from the 2000s, has succeeded in diminishing the inequality of regional education spending.

The reason for choosing the topic of education for our study is multiple. As we mentioned earlier in the introduction, education for young people is a critically important factor that determines their future careers and earnings. In addition, the relatively high educational standard in the former Soviet bloc, which can be considered a positive legacy of communism, has triggered our interest in the topic.

## 2. Literature overview

Not so many studies have focused on education service in Russia despite its importance to the economy. Pioneering research by Stewart (2000) focused on regional disparity in government spending on compulsory education in Russia, and showed that regional disparity of education financing grew during the first half of the 1990s. Stewart conducted an analysis of how intergovernmental transfers, which at the time had been recently institutionalized formally, succeeded in equalizing fiscal inequality among regions. However, the scope of analysis was limited to the period until the mid-1990s, and therefore, analysis of the period thereafter is necessary to describe the wider picture of public service provision in Russia. Concerning public spending on compulsory education in the later period, Verbina and Chowdhury (2004) examined factors determining various levels of education spending in Russian regions in 1999 and 2000. The authors empirically verified the existence of huge disparity among regional education spending and that this disparity had been brought about by the differences of regional income level, concluding that more federal transfers to poorer regions are needed.[2]

As for the equality of access to education, Russian researchers have pointed out the presence of growing inequality in access to higher education, caused by such factors as income level of

households, place of residence, and quality of secondary education (Aleksandrova, Ovcharova, & Shishkin, 2003; Ovcharova, Avraamova, & Chetvernina, 2005). According to the researchers, pupils living in rural areas tend to have fewer opportunities to receive high-quality education. The World Bank (2011) compared the efficiency of education spending across regions in Russia, taking regional educational spending per pupil as the input and examination scores (unified state examinations) as the output. The research showed there is no co-relation between input and output and concluded that there is a room to cut inputs, such as the number of teachers and schools, and to raise efficiency in some regions where education spending is higher. Such a policy might lead to a cut of inputs in remote rural areas with low population density, where education tends to be more costly than in big cities. However, reform by the Russian government has proceeded in this direction, as shown in the section 5 of this article.

Recent works by Russian researchers have focused on whether regional governments satisfy the norm for public spending for general education, which was introduced by federal law in 2012[3] (Abankina *et al.*, 2016, 2017). These researches have pointed out the difference in how regional authorities meet the requirement of federal government and that some regions still do not legally answer that. However, attempts to regulate education spending by formal institutions and to guarantee spending levels with subsidies are a step forward for the realization of more equal educational conditions across Russia. How, then, did the reform by the Russian government affect the provision and equality of education service among regions in the 2000s? This is the research question this study addresses.

## 3. Education system in Soviet era

The Russian literacy rate improved remarkably after the Russian revolution; it jumped from 29.6% in 1897 to 60.9% in 1926 and 89.7% in 1939, and was almost 100% by the late 1950s.[4] After the overthrow of the Czarist autocracy, the Soviet government had carried out education reform to achieve "democratic" education for all people, irrespective of their class and social status. The aims of the basic policy included eradication of illiteracy, realization of universal and non-religious general compulsory education, and liberal and creative self-education. To this end, a number of reforms have been carried out, such as the establishment of pre-schools, realized coeducation, guaranteed educational rights of minorities, secularized curriculum, and increased wages for teachers. Later, in the Stalin period, education came to be managed by decision of the Communist Party, and thus, educational practice became more unified across the country. At the same time, compulsory education for 4 years was introduced in 1934, and this was extended later to 7 years in 1949, to 8 years in 1975, and to 10 years in the 1980s.[5]

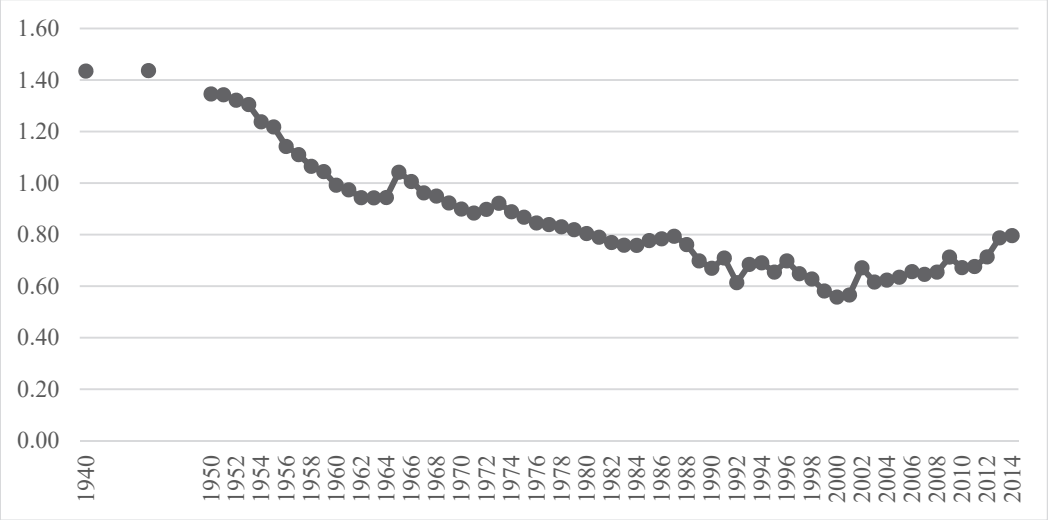
Throughout the Soviet period, the specific feature of the education system seemed to be abundant after-school activities that were provided by schools and *Pioneer* organizations, stress on education for workers, and bridging education between previous education and job, gender

equality, and emphasis on pre-schools to take care of children of female workers. A unique feature was the provision of free university education for all those who wished to attend university.

As for finance of education, the education spending of the government was estimated as 14% of the total national budget in the 1950s (Levin, 1959), which was larger than the 10–11% in the mid-2010s. School budgets were distributed through the education department of local administrations both in rural and urban areas. The amount of distributed budget was calculated based on the number of classes, pupils, and lessons and was supplemented by a budget for the wages of administrative workers in schools, equipment, repairs, after-school activities, libraries, and other extraordinary spending. The social status of teachers was high and their wages were as high as the salary of doctors, engineers, and other highly skilled laborers in the 1950s. However, the wages for teachers, compared with the average total wage, consistently decreased though the Soviet era until the end of the 20th century, as shown in Figure 1.

The legacy of the Soviet education system can be seen in present Russia. According to Aleksandrova *et al.*(2003), the main characteristics of the Russian education system, which was inherited from the Soviet era, are summarized as follows: there is the right to free general and elementary vocational education for all, there is the right to receive free secondary and higher vocational education for those selected by competition, education is financed by the state and partly by state-owned companies, and education services are provided by state educational organizations in a unified education program and a centralized system of administration (Aleksandrova *et al.*, 2003, p.75).

**Figure 1. Average wage for teachers (average wage of total workers = 1)**




Source: Federal State Statistics Service Russia. http://www.gks.ru/

Thus, in the Soviet Union, free and universal general education as well as pre-school and higher education were secured by the state. In addition, Soviet schools provided not only academic subjects but also various kinds of after-school activities and supported both the working generation and future workers. However, while the basic system seems to have survived after the transition to capitalism, it has faced many challenges and reforms, as discussed in the next section.

## 4. Transition and education reform

Basic education reform in Russia started in the 1980s during the Perestroika, whose goal was to democratize education. The reformers held that institutional development of education should be carried out by communities, schools, and pupils, and not by the party and state. The western model of the education system, especially the US model, was considered a goal in this period and the unified curriculum was replaced by one with participation by federal and regional governments and schools. These policies were not realized in the form of legislation, as the Perestroika resulted in the collapse of the Soviet Union, although the direction of the reform was taken over in the education reform in post-Soviet Russia (Kawanobe, 2012, pp.2–3).

After the collapse of the communist regime, a new basic law on education was introduced in 1992 and brought various changes to Russian education. The characteristics of the new law were: regional autonomy in education was strengthened, the goal of education to develop builders of communism was replaced by a more humanized goal that emphasized freedom, private schools were legitimized, the rights of learners were improved, and the unified curriculum was replaced by one that accepted more variety according to differences of region, ethnicity, and school (Kawanobe, 2012, pp.4–5).

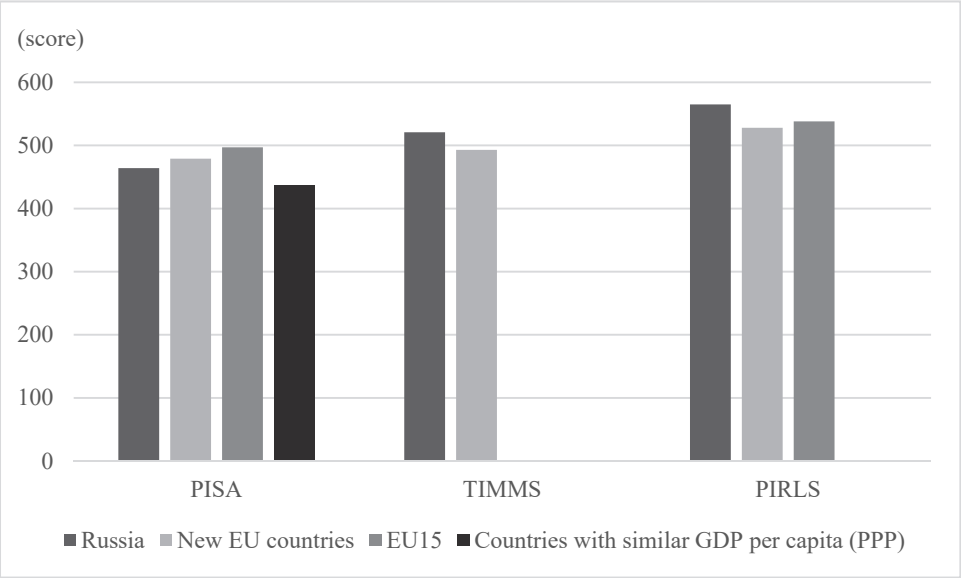
However, the education situation in Russia deteriorated fundamentally in the 1990s, as a result of economic crisis during the transition to market economy. During that time, teachers suffered widespread non-payment and salary arrears, and their average wages fell to a little more than half that of the average of the total population (Figure 1). Therefore, teachers had to endure this situation patiently and the education sector could no longer attract new teachers.

With regard for the finance of education, the decentralization policy under the Yeltsin administration resulted in growing disparity between wealthy and poor regions in terms of both political authority and tax revenues that they could retain within the region, thereby bringing huge inequality in the financial competence of subnational governments. Moreover, growing income inequality between rich and poor households has brought about inequality in access to education, which did not exist during the Soviet period.

In spite of such poor conditions, the Russian education system maintains comparably good results. Figure 2 shows the achievement test scores in general education of Russian pupils in the mid-2000s. Comparing the scores from international tests, such as PISA (Program for

International Student Assessment), TIMMS (the Trends in International Mathematics and Science Study), and PIRLS (the Progress in International Reading Literacy Study), the performance of Russian pupils is as high as in old and new EU members and higher than countries with similar GDP per capita. How can we understand this result? We might consider that there is a time lag for the result of education to be visualized. If miserable economic conditions for teachers in Russia continues, we can easily imagine that the achievement scores of Russian pupils could deteriorate sooner or later. Therefore, there is an urgent need for policymakers to reconstruct the education system while maintaining good performance results.

**Figure 2. Russia's educational test scores from an international perspective**




Note: PISA is the average for math, science, and reading from 2006, TIMMS is the average for math and science for eight graders in 2007, PIRLS is reading for 2006.
Source: World Bank, 2011, p.19.

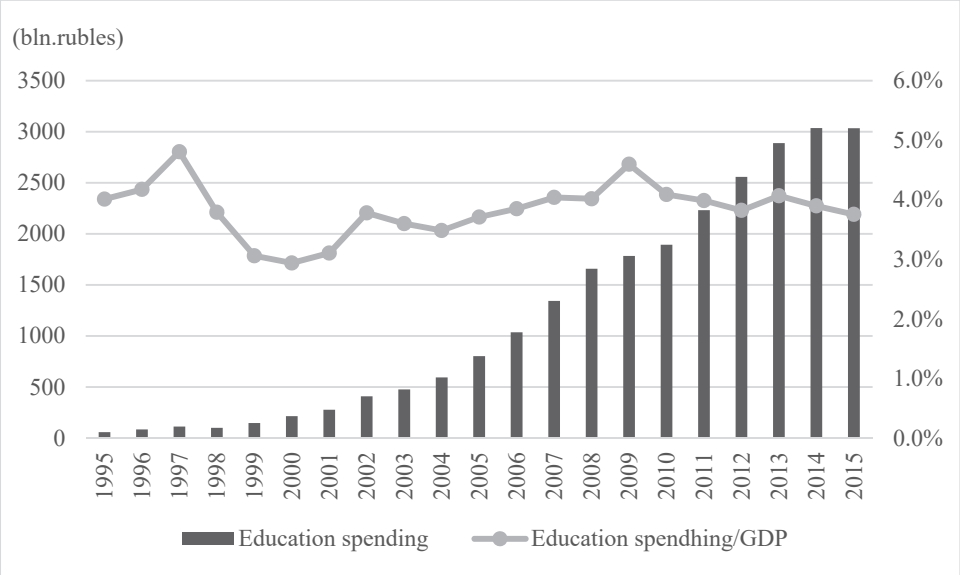
## 5. Reconstruction of education system after 2000

The education policy of the Russian government changed clearly after 2000. The aims of the reform under Putin administration included the following factors: state guarantee of equal opportunity to receive education, guarantee of modernized quality of education from pre-school to higher education, utilization of off-budget resources, improvement of social status and specialty of teachers, and division of responsibility in education among various actors. Judging from these policies, the orientation of education reform has changed from liberalization in the 1990s to an emphasis on state guarantees for education service (Kawanobe, 2012, p.6).

Under the new policy, a unified national examination, which serves as both a graduation exam for secondary school and an entrance exam for university, was introduced and has been in practice across the county since 2008. Other reforms include the extension of elementary and secondary education to 12 years, the reinforcement of vocational education, and the transition of a university bachelor's degree from 5 years to 4 years, followed by a master's course for 2 years and a doctoral course for 3 years, following Western universities (Kawanobe, 2012, p.6).

As for finance of education, the Russian government's spending on education increased after 2000. Public spending on education in Russia was as low as 3% of GDP in 1999–2001, although it has currently stabilized at around 4%, as Figure 3 shows. The wages of teachers had dropped to 56% of total average wage in 2000, but it increased visibly thereafter and recovered in the pre-transition level in 2013–2014 to 80% of the total average wage (Figure 4).

**Figure 3. Education spending of Russian government**

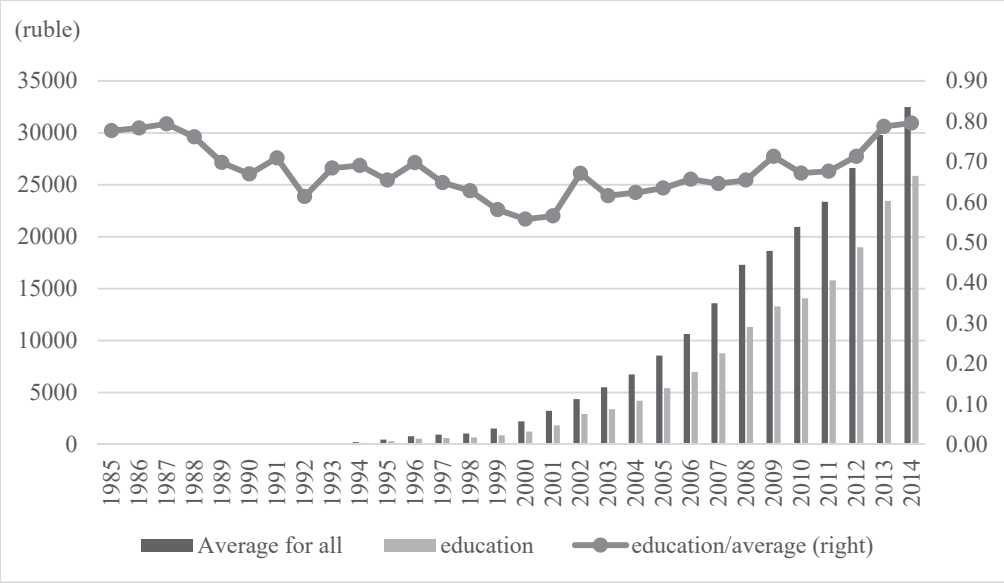



Source: Calculated by author based on Finansy Rossii, Russian Statistical Yearbook.

If we compare the size of public spending for education in Russia and OECD countries as a share of GDP, Russia is ranked in the third lowest position after Turkey and Japan, as shown in Figure 5. This means that Russia, in spite of its history of big government, which provided plenty of free public services to people under the communist government, has now become a state with relatively small government and low social spending.[6]

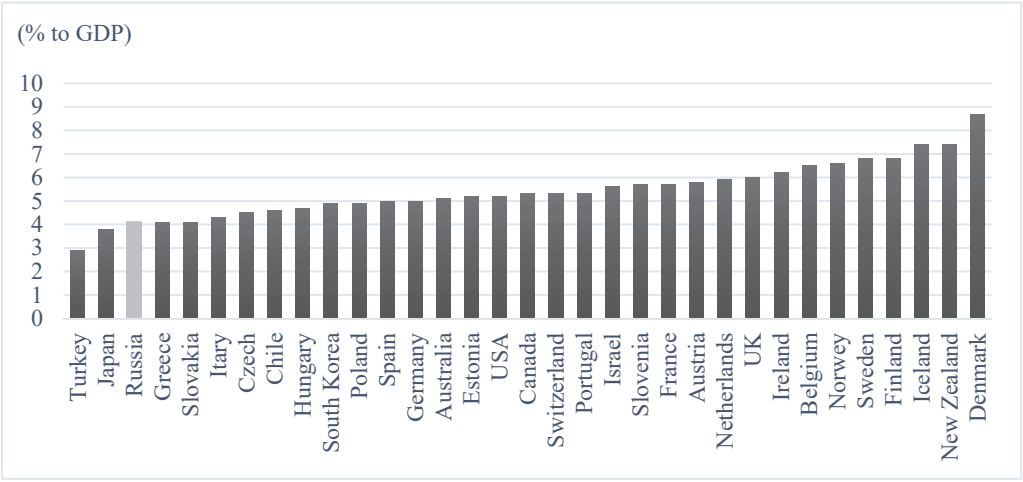
Structural reforms in Russian schools proceeded in this period. Figure 6 shows the student–teacher ratio in Russian compulsory education. As the figure illustrates, the student–teacher ratio in Russian schools decreased sharply from 17.8 in 1980/1981 year to less than 10 in the

**Figure 4. Monthly wage of teachers and all workers in Russia**




Source: Calculated by author based on data of Russian Federal State Statistical Service.

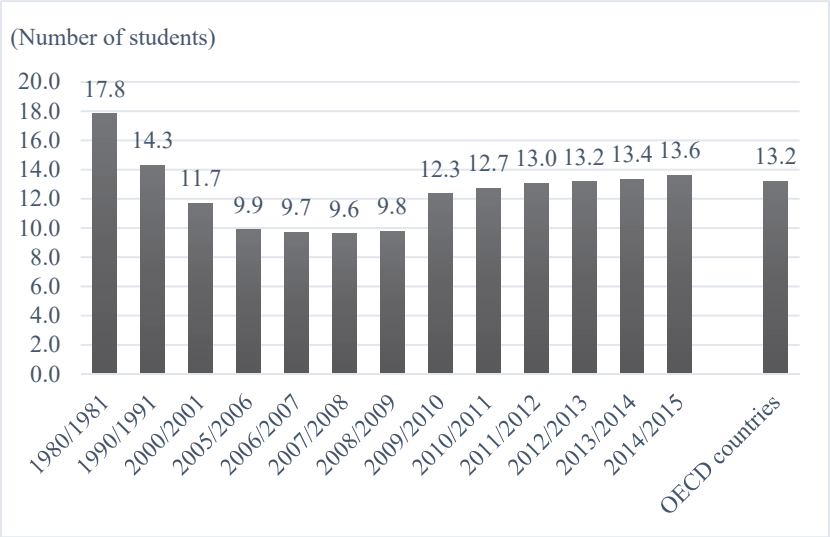
**Figure 5. Public spending for education in OECD countries and Russia: 2005–2014**




Source: UNDP, *Human Development Report 2015*.

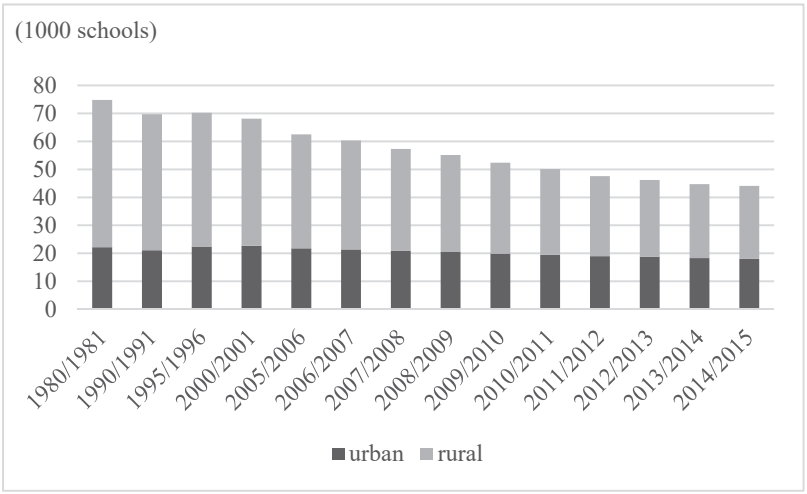
latter half of the 2000s. Presumably such a change was caused by a severe decline of the birth rate in 1990s Russia. However, the student–teacher ratio has since risen to about 13, which is equivalent to the average in OECD countries, because of cuts in the number of teachers. Furthermore, the number of public schools for general education in Russia declined visibly after 2005, as Figure 7 illustrates. The decline was caused almost entirely by consolidation of schools

**Figure 6. Student–teacher ratio in Russian compulsory education**




Source: Russian Federal Statistical Service, World Bank, 2011, p.19.

**Figure 7. Number of public schools for general education**

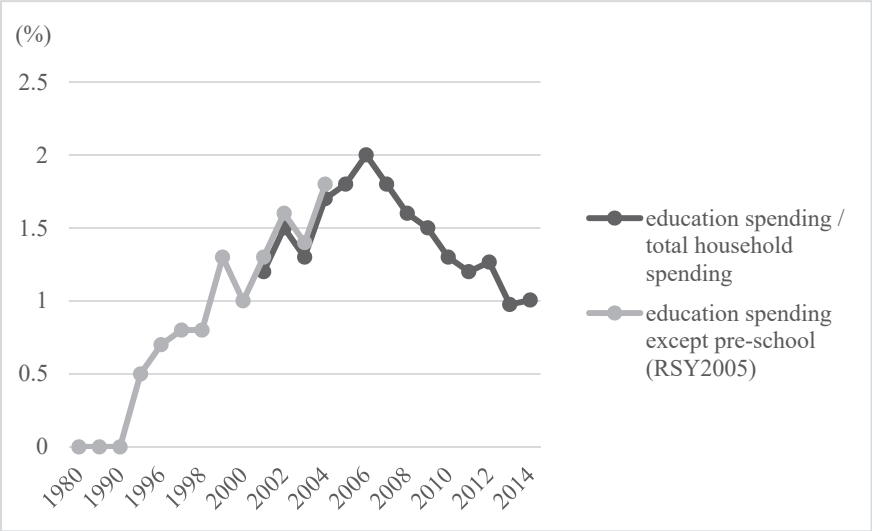



Source: Russian Federal Statistical Service.

in rural areas. The number of rural schools has nearly halved from the pre-transition period. During the transition to the market economy, those rural areas have been losing their population, and therefore, we presume that costly schools in remote areas with scarce population have been consolidated for more efficient use of public money.

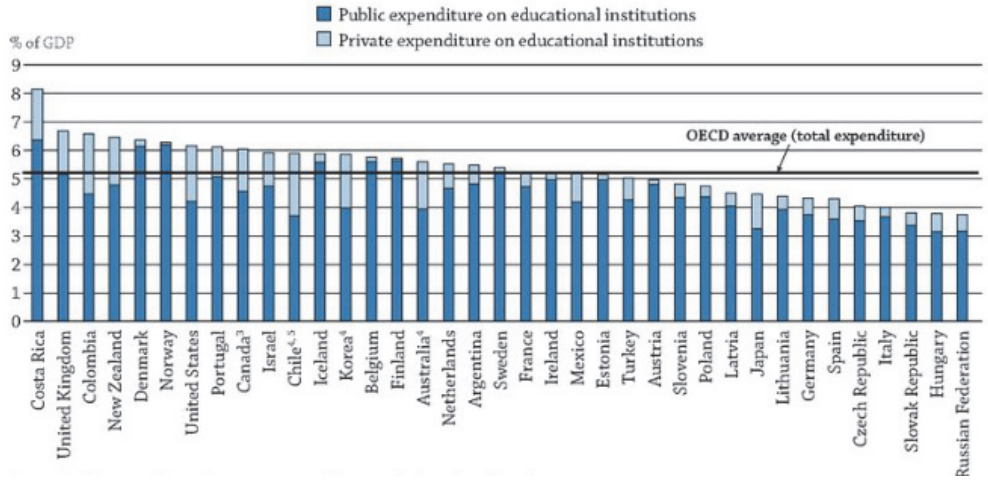
The surprising feature for us about the Russian education system is the small burden of

**Figure 8. Share of education spending in total household consumption spending in Russia**




Source: Calculated by author based on data of Russian Federal Statistical Service, Russian Statistical Yearbook.

**Figure 9. Public and private expenditure on educational institutions, as a percentage of GDP (2013)**




Note: Public sources includes public subsidies to households attributable to educational institutions, and direct expenditure on educational institutions from international sources.

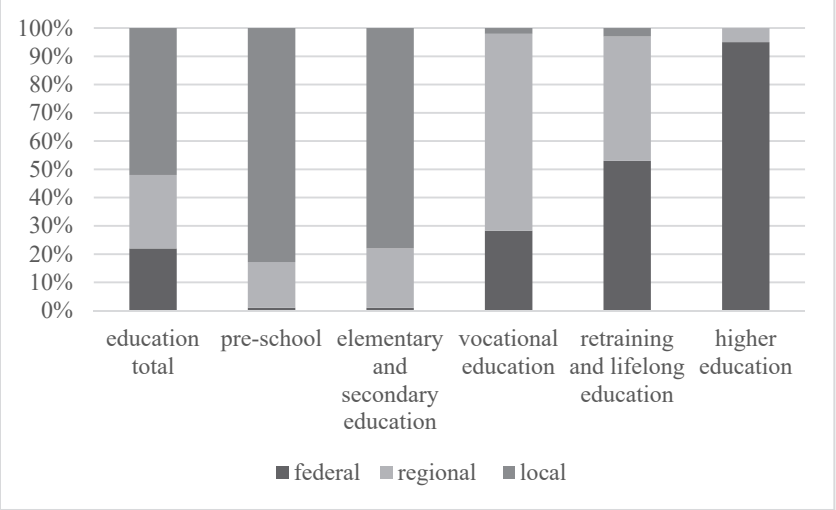
Source: OECD, *Education at a Glance 2016*, p.198.

educational cost for households. As Figure 8 shows, the education spending of each household comprises only 1–2% of total household consumption spending. The share peaked at 2% in 2006, and then dropped to 1% in 2013–2014.[7] Russia's proportion of private education spending is very small compared to the international situation. Figure 9 provides an international comparison of the size of public and private expenditure on educational institutions, according to which we point out that private educational spending in Russia is relatively small. The cost of education for households tends to be small in former communist countries as well as in other continental European countries. Here we find the legacy of communist era's free public service provision in present Russia.

## 6. Fiscal federalism and the role of sub-national government

Responsibility for the provision of educational services in Russia is actually shared among federal, regional, and local governments. While tertiary education is under the control of the federal government and vocational education is managed by federal or regional governments, general elementary and secondary education as well as pre-school education are mostly managed by local governments, as Figure 10 illustrates.

**Figure 10. Division of educational spending between different levels of government in Russia (2006)**



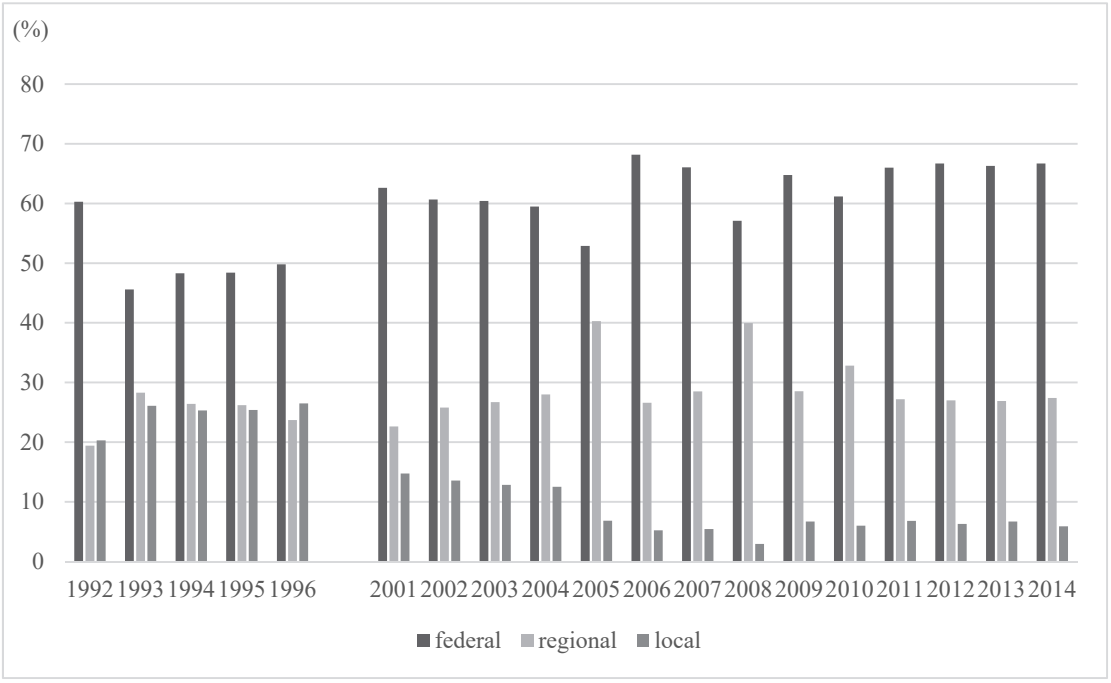

Source: De Silva, *et al.*, 2009, pp.55-56.

According to the Russian law on general principles of organization of local self-government, which was adopted in 2003[8], provision of free elementary and secondary compulsory education and financing thereof belongs to the jurisdiction of local government, namely, cities and districts

(*raion*).[9] However, an important point is that regional governments have to guarantee financial resources for municipalities to provide these educational services.

In the 1990s, local government in Russia used to be given tax shared with the upper levels of government as well as various kinds of original tax bases. According to the principle law on taxation of 1991, which regulated taxation throughout the 1990s, tax revenue of local governments was composed of a certain share of major federal taxes, such as value-added tax, corporate income tax, and personal income tax, and 23 local original taxes, including land tax and personal property tax. However, those local taxes were reduced to five by the enforcement of the Tax Code in 2001, and to only 2 taxes after an amendment to the Tax Code in 2005. Moreover, local government has been losing some of important revenue sources in the form of tax sharing with federal and regional taxes; it lost VAT from 2001 and corporate income tax and corporate property tax from 2005.[10]

**Figure 11. Distribution of tax revenue among federal, regional, and local government (total=100)**

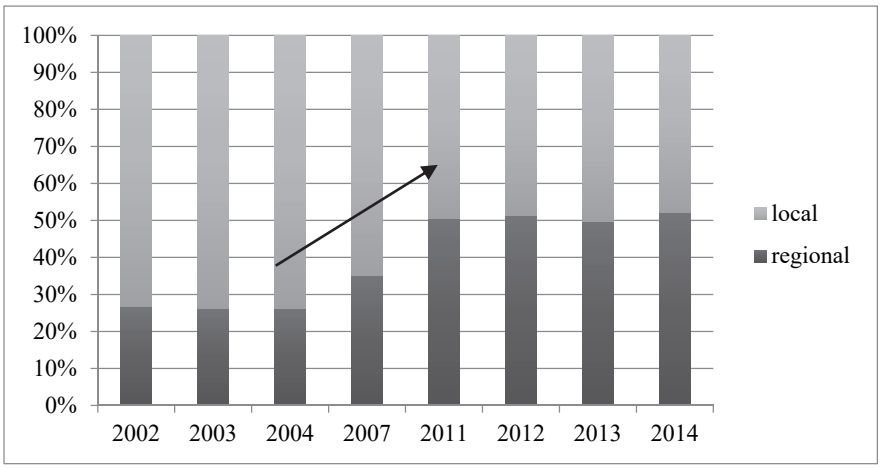



Source: Compiled by author based on data of Russian Federal Treasury, Freinkman and Yossifov, 1999, pp.46-47, Senhcagov, 2011, p.86.

These reforms in intergovernmental tax distribution have resulted in shrinking tax revenue of local government. Figure 11 shows how the share of local government's tax revenue in Russia's total tax revenue has shrunk in the 21st century, especially after 2005. The share of local tax

revenue was as high as 25% in the mid-1990s, dropped to 12–13% in the early 2000s, and then fell to about 5% after 2005. By contrast, federal government has come to hold much more tax than in the 1990s, and its share has amounted to 65% of total tax revenue in recent years. Therefore, it has been pointed out that centralization of fiscal resources proceeded under the Putin administration along with the centralization of political authority. Interestingly, however, regional governments are still enjoying almost the same share of tax revenue as in the mid-1990s, although they are forced to be politically more loyal to the federal center.

**Figure 12. Change in share of education spending by regional and local government**




Source: Compiled by author based on data of Russian Federal Treasury.

Along with the change in tax distribution, there also was a change in the balance of education spending between regional and local government. Comparing the share of regional and local governments in educational expenditure of consolidated regional budgets, that is the sum of regional and local budgets, the share of the local budget diminished from 73% in 2002–2004 to 65% in 2007 and about 50% after 2011, as shown in Figure 12. On the contrary, the relative weight of regional budgets has increased to 50%, seemingly around 2010. This means that regional governments now have bigger responsibility for financing education, as local budgets have become smaller and less capable. Actually, local budgets of cities and districts (*raion*) have become increasingly tight with educational spending, as Table 1 indicates—the share of education spending in the expenditure of city budgets increased from 37.2% in 2011 to 49.1% in 2014—while their dependence on transfers from regional government has been enhanced. Likewise, districts spent 46.3% of their expenditure on education in 2011, while the share grew to 56.7% a few years later. Moreover, districts depend for two–thirds of their revenue on transfers from regional budgets. The reason for such a change presumably lies in Putin's presidential decree in May 2012, which ordered a raise in teachers' wages and giving an additional burden to

local budgets (Zubarevich, 2014). Municipalities no longer have any room for their autonomous policy and are simply carrying out the obligatory task of providing educational services depending on transferred subsidies from regional government.

**Table 1. Dependence on transfers and share of education spending of regional and local government (mln. rubles)**

| | | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| region | total revenue(a) | 6,478,906 | 6,867,582 | 6,849,093 | 7,643,329 |
| | transfer from upper government(b) | 1,646,683 | 1,625,020 | 1,516,832 | 1,672,198 |
| | transfer/revenue(b/a) | 25.4% | 23.7% | 22.1% | 21.9% |
| | Total expenditure(c) | 6,498,841 | 7,118,870 | 7,448,453 | 8,036,284 |
| | education spending(d) | 1,138,761 | 1,378,294 | 1,554,632 | 1,829,679 |
| | education/expenditure(d/c) | 17.5% | 19.4% | 20.9% | 22.8% |
| city | Total revenue(a) | 1,453,300 | 1,510,625 | 1,619,509 | 1,689,943 |
| | transfer from upper government(b) | 707,449 | 787,497 | 831,286 | 955,855 |
| | transfer/revenue(b/a) | 48.7% | 52.1% | 51.3% | 56.6% |
| | Total expenditure(c) | 1,484,641 | 1,541,631 | 1,662,900 | 1,728,298 |
| | education spending(d) | 552,446 | 645,614 | 783,965 | 847,859 |
| | education/expenditure(d/c) | 37.2% | 41.9% | 47.1% | 49.1% |
| district (raion) | Total revenue(a) | 1,214,425 | 1,288,891 | 1,400,106 | 1,432,616 |
| | transfer from upper government(b) | 913,319 | 963,494 | 1,037,377 | 1,101,521 |
| | transfer/revenue(b/a) | 75.2% | 74.8% | 74.1% | 76.9% |
| | Total expenditure(c) | 1,200,697 | 1,289,965 | 1,405,808 | 1,452,763 |
| | education spending(d) | 556,222 | 655,769 | 779,198 | 824,019 |
| | education/expenditure(d/c) | 46.3% | 50.8% | 55.4% | 56.7% |
| urban and rural settlement | Total revenue(a) | 282,487 | 322,012 | 351,124 | 368,463 |
| | transfer from upper government(b) | 167,974 | 183,022 | 194,088 | 182,695 |
| | transfer/revenue(b/a) | 59.5% | 56.8% | 55.3% | 49.6% |
| | Total expenditure(c) | 280,644 | 317,754 | 343,459 | 365,882 |
| | education spending(d) | 8,913 | 7,578 | 6,076 | 5,296 |
| | education/expenditure(d/c) | 3.2% | 2.4% | 1.8% | 1.4% |

Source: Russian Federal Treasury.

## 7. Regional education spending disparity and redistribution effect

Considering the serious economic disparity in Russian regions, we can easily imagine the existence of huge inequality in public spending for compulsory education among regions and municipalities. The Russian government needs to guarantee the equal quality of compulsory education to its people in order to secure more equal opportunities for their higher education and future career paths. In this sense, it is important to examine how the education and fiscal federalism reforms under the Putin administration (i.e., centralization of authority and fiscal resources) have affected inequality of education spending among regions. Did it succeed in providing the young generation with more equal educational opportunities?

In this section, we examine the size of disparity in regional education spending and its change under the Putin administration. Unfortunately, we could not analyze the disparity in education spending among cities and *raion* districts on a national scale, because of technical problems related to the number of municipalities. Instead, we compared educational spending by consolidated regional budgets, that is, regional budgets, including municipal budgets in their territory, per resident under the age of 16 years. We used the budgetary data from the Russian Treasury Service and presented simple descriptive statistics in Table 2, which examined the size and disparity of public education spending of 83 consolidated regional budgets per regional residents under the age of 16 years, for selected years.

**Table 2. Disparity in education spending by consolidated regional budget, per resident under 16years old (N=83)**

| | 2002 | 2004 | 2008 | 2011 | 2014 |
|---|---|---|---|---|---|
| Average (ruble) | 14,530 | 21,856 | 14,746 | 80,030 | 108,574 |
| Standard deviation | 12,387.68 | 21,434.70 | 18,643.34 | 55,051.81 | 72,204.30 |
| Coefficient of variation | 0.85 | 0.98 | 1.26 | 0.69 | 0.67 |
| MAX (ruble) | 90,735 | 180,925 | 136,392 | 359,410 | 478,284 |
| MIN (ruble) | 3,942 | 4,049 | 2,395 | 26,908 | 42,531 |
| Ratio of top to bottom | 23.02 | 44.69 | 56.94 | 13.36 | 11.25 |

Note: Author has attempted calculation for every 3 years from 2002-2014, but the data for 2005 was unavailable. Data of some regions, which were integrated later into bigger subnational jurisdiction, were summed up according to their new status.

Source: Calculated by author based on the data of Russian Treasury Service and Russian Statistical Yearbook.

According to Table 2, in 2002 when the Putin administration was still in its early stage, average

education spending at regional level was 14,530 rubles per pupil, ranging from 90,735 rubles in Chukotka Autonomous Okrug to 3,942 rubles in the Republic of Ingushetia, and the coefficient of variation was 0.85. Interestingly, the coefficient of variation then increased to 0.98 in 2004 and 1.26 in 2008. In addition, the difference between the top and bottom regions grew from 23 to 45 times in 2004 and 57 times in 2008.

However, the trend changed after 2008; the coefficient of variation decreased to 0.69 in 2011 and to 0.67 in 2014. Such an equalization effect was seemingly caused by the increase of regional educational spending, which is indicated by the increase of average spending; it jumped up from 14,746 rubles in 2008 to 108,574 rubles in 2014. The increase of regional education spending presumably contributed to the rise of bottom-line of educational spending, as the average spending increased 5.4 times for the 2008–2011 period and 7.36 times for 2008–2014, while the minimum spending level increased 11 and 18 times for each period, respectively.

According to the author's calculation, while the consolidated regional government spent 7.2% of its total expenditure in 2008 on education, it spent 22.5% in 2011 and 27.2% in 2014. Moreover, total expenditure of consolidated regional government shrank from 15.1% of GDP in 2008 to 13.8% in 2011 and 12.4% in 2014. These changes mean that equalization of regional education spending in the 2010s has been realized by the effort of regional governments, which are now spending a bigger share of resources on education from their shrinking budgets.[11]

This change was caused by the education policy of the federal government. Federal law No.273 on education in 2012 stipulated that wages for educational workers of municipal general schools could not be lower than the average salary in their region. Moreover, regional governments are obliged to provide subsidies to local governments to finance these wages.[12] Therefore, government policy to sustain educational workers has strongly affected the equality of regional education spending.

Thus, inter-budgetary reforms and education policy after 2000 resulted in an enlargement of inequality of regional education spending in the 2000s, in spite of the centralization of fiscal resources and political authority. Meanwhile, it succeeded in reducing inequality and providing more equal educational opportunities in the 2010s, at least as far as compulsory education is concerned.

## 8. Conclusion

In this study, we reviewed the Russian education system and provision of education as a public service from the Soviet era to today. Free and universal education service in the Soviet period was transformed, with the preceding research pointing out that there was growing inequality in education in present-day Russia, especially with respect to access to higher education. Education in 1990s Russia was left in a miserable condition by poor financial resources, and not only have teachers' wages fallen far below the average wage but teachers have often been left

unpaid. However, the trend changed after 2000, as education reform under the Putin presidency put more emphasis on state guarantee of equal opportunity to receive education. Government expenditure on education and teachers' wage level have started to increase, although public expenditure on education in Russia at 4% of GDP is still small compared with OECD countries. What has remained unchanged throughout these periods is the small burden of education cost on households and the relatively good performance of Russian pupils in achievement tests, both of which can be considered as a positive legacy of the communist era.

However, in the process of education reform and reform of fiscal federalism in Russia, regional and local governments have come to bear a bigger burden of the cost of education, and their budgets, especially those of cities and *raion* districts, have become very tight. Local budgets are now heavily dependent on transfers from regional governments and local governments do not have any room for autonomous policy. In addition, regional governments have received increased responsibility for financing education, that is, guaranteeing financial resources for municipalities to pay teachers' salaries, while legislation introduced in 2012 to raise teachers' salaries have constrained their budgets even further.

By examining data of the Russian Federal Treasury Service, we showed that disparity in regional education spending per resident under the age of 16 years increased between 2002 and 2008, and then shrank until 2014, at least with regard to consolidated regional budgets. Therefore, we point out that state guarantee of more equal access to general compulsory education in Russia was realized only after the global financial crisis. Until then, regional inequality had been growing, in spite of political and fiscal centralization. Our further research will consider how past reforms of fiscal federalism (i.e., tax distribution between different levels of government and the fiscal transfer system) affected regional budgets and educational spending.

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## Notes

[1] In the same context, Japanese economist Yoshinori Hiroi insists on the importance of shift

attention from an ex post redistribution policy, which secure the equality of result, to an ex ante distribution, which secure the equal opportunity for young people, naming the latter "social security for the first half of people's life." Education policy is considered as an important element of this (Hiroi, 2006, pp.123–124).

[2] With regard to Russia's fiscal transfer system, many works have focused on this issue since the 1990s. See, for example, Moscow Center of East West Institute (1999), OECD (2000), Shleifer and Treisman (2000), Hanson (2006), and Thiessen (2006). According to a recent work by Ermasova and Mikesell (2016), the transfer system slightly eased regional inequality of tax revenue during 2008–2011.

[3] Federal law No.273 "On education in the Russian Federation" from December 29, 2012.

[4] Literacy rate of people aged 9–49 years (Russian Statistical Yearbook).

[5] Compulsory education in Russia was extended to 11 years from 2007/2008.

[6] According to the World Bank (2011), public social expenditure in Russia, which includes education, health, and social protection, was 17.6% of GDP in the mid-2000s, while the United States spent 20%, Japan spent 22%, and Scandinavian countries spent more than 30% of GDP for the same purpose (p.16).

[7] There are differences in the size of education spending depending on the household's income level and richer families tends to spend more on education. For example, in 2000, people of the 10$^{th}$ decile income group spent 1.3% of their consumption on education while the first decile income group spent only 0.6% (Aleksandrova, *et al.*, 2003, p.97).

[8] Federal law No.131 "On general principle of organization of local self-government in Russian Federation" from October 6, 2003.

[9] Rural and urban settlements, which belong to districts, are not in charge of education.

[10] See Yokogawa (2010) for details.

[11] On the other hand, education spending of the Russian federal government did not change a lot during the same period. The share of education in total federal expenditure was 4.7% in 2008, 5.1% in 2011, and 4.8% in 2014. In addition, the share of total federal expenditure to GDP has remained around 18–19% since 2007 (except 2009 and 2010 under the global financial crisis).

[12] Reforms to introduce objective calculations to the determination of the subsidy size started in 2016. See Abankina, *et.al.* (2016, 2017).

## References

Abankina, I., Alashkevich, M., Barinov, S., Derkachev, P., Kravchenko, I., Merkulov, M., Rodina, N., Slavin, S. (2017) *Spravedlivosti normativnovo podushevovo finansirovaniya obrazovaniya v Rossii*, Seriya Sovremennaya analitika obrazovaniya, No.2(10), Higher School of Economics, Institute of Education (in Russian).

Abankina, I., Alashkevich, M., Vinarik, V., Derkachev, P., Merkulov, M., Slavin, S., Filatova, L.

(2016) *Analiz normativnovo podushevovo finansirovaniya obshevo obrazovaniya v sub'ektov rossiiskoi federatsii*, Seriya Sovremennaya analitika obrazovaniya No.6, Higher School of Economics, Institute of Education (in Russian).

Aleksandrova, A., Ovcharova, L., Shishkin, S. (2003) *Dokhody naseleniya i dostupnosti sotsial'nykh uslug*, Independent Institute of Social Policy, The Institute for Urban Economics (in Russian).

De Silva, M., Kurlyandskaya, G., Andreeva, E., Golovanova, N. (2009) *Intergovernmental Reforms in the Russian Federation*, The World Bank.

Ermasova, N. and Mikesell, J. (2016) "Fiscal disparity and equalisation in the Russian Federation", *Post-Communist Economies*, Vol.28, No.1: 1–15.

Freinkman, L. and Yossifov, P. (1999) "Decentralization in regional fiscal systems in Russia: Trends and links to economic performance", The World Bank Policy Research Working Paper 2100.

Hanson, P. (2006) "Federalism with a Russian face: Regional inequality, administrative capacity and regional budgets in Russia", *Econ Change*, Vol. 39: 191–211.

Hiroi, Y. (2006) *Jizoku kanou na fukushi syakai*, Chikuma Shinsyo (in Japanese).

Kawanobe, S. (2012) "Rosia renpou no kyouiku kaikaku doukou to kenkyu no kiseki", *Rosia Eurasia no Keizai to Shakai*, No.956: 2-8 (in Japanese).

Levin, D. (1959) *Education in USSR*, Iwanami Shinsho (in Japanese)

Moscow Center of East West Institute (1999) *Federal'nyi budget i regiony: oput analiza finansovikh potokov*, Moscow, Dialog-MGU (in Russian).

OECD (2000) *Economic Surveys: Russian Federation*.

OECD (2016) *Education at a Glance*.

Ovcharova, L., Avraamova, E., Chetvernina, T. (2005) *Dokhodi i sotsial'nie uslugi: neravenstvo, uyazvimosti, bednosti*, Independent Institute of Social Policy (in Russian).

Piketty, T. (2014) *Capital in the Twenty-First Century*, Misuzu shobou (translation in Japanese).

Senchagov, V. K. (ed.) (2011) *Modernizatsiya finansovoi sferi Rossii*, Moscow, Nestr-Istoriya (in Russian).

Shleifer, A. and Treisman, D. (2000) *Without a Map*, The MIT Press.

Stewart, K. (2000) *Fiscal Federalism in Russia: Intergovernmental Transfers and the Financing of Education*, Edward Elgar.

Thiessen, U. (2006) "Fiscal federalism in Russia: Theory, comparisons, evaluations", *Post-Soviet Affairs*, Vol. 22, No. 3: 189–224.

Verbina, I. and Chowdhury, A. (2004) "What determines public education expenditures in Russia?", *Economics of Transition*, Vol.12, No. 3: 489–508.

World Bank (2011) *Russian Federation. Social Expenditure and Fiscal Federalism in Russia*, Human development Sector Unit, Europe and Central Asia Region, The World Bank.

Yokogawa, K. (2010) "Rosia ni okeru chuo shukenka to tihoujititai zaisei" (Centralization and

Local Public Finance in Russia), *Hikaku Keizai Kenkyu*, Vol.47, No.2: 1-14 (in Japanese). English translation of this paper was released as KIER Discussion paper No.697, Kyoto Institute of Economic Research, http://www.kier.kyoto-u.ac.jp/DP/DP697.pdf

Zubarevich, N. (2014) Rjavie skrepi sverkhtsentralizatiya, *Ekspert*, No.3 (in Russian).