

## DRIVERS OF FISCAL RESOURCES AT THE LOCAL LEVEL IN RUSSIA: ROLE OF INSTITUTIONS REFLECTED IN REGIONAL DEBT

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### Abstract

The paper seeks to clarify the consequences of fiscal institutions and centralization of intergovernmental relations in Russia related to regional debt sustainability and intraregional fiscal decentralization. The consolidated regional debt is considered to be the indicator that incorporates various features of institutional framework of the Russian budgetary system, while local fiscal decentralization reflects the number of fiscal resources at the local level. The relationship between governmental debt sustainability and fiscal decentralization is known to be a complex phenomenon. Yet under the analytical framework of this research, I show that the decrease of intraregional fiscal decentralization in Russia is attributable to the growing regional debt. Essentially, I conclude that centralization of intergovernmental relations in Russia leaves little room for maneuver for regional authorities and lead both to growing risk of debt sustainability and shrinking number of fiscal resources at the local level.

It is found that more prosperous Russian regions exhibit higher fiscal decentralization. This finding reinforces the established theory. However, in the rich northern regions of Russia dependent on oil, gas and other commodities the decentralization is relatively high, so some theoretical predictions seem to be misleading. Those unobserved factors remain to be investigated.

Further research agenda consists of conducting calculations based not just on pooled but panel data. It will help considering characteristics of each region. Furthermore, the results need to be reassessed for different indicators of fiscal decentralization.

**Keywords:** intergovernmental relations, fiscal institutions, local fiscal decentralization, debt sustainably, ordinary least squares, Russia.

### Introduction

Achieving sustainable rates of economic growth depends on a successful governmental policy. Effective public sector hinges on a variety of institutional factors and features through which the governmental system operates. Mechanisms of fiscal policy

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encompassing the budgetary system and system of intergovernmental relations play a key role there. One of the issues in developing a working and stable budgetary system is the issue of decentralization of fiscal powers - how much of authority of forming and spending state funds is distributed among local and central governments. Fiscal decentralization defined as the process of distributing the powers within the budgetary systems related to disposing the budgetary funds forms one of the pillars of institutional structure of the fiscal system. The whole system of institutions within the fiscal system bears a significant impact on the business climate at the local and regional levels through measures of fiscal policy.

Decentralization of fiscal powers is tightly interconnected with the stance of regional or local government at the debt market. Regional debt sustainability is highly sensitive of the quality of the debt policy conducted by regional public administration. In turn, the scope of powers regulating regional borrowing and government debt are closely associated with the rights regarding formation of budget revenues and expenditures.

Due to both external economic factors and drawbacks within the intergovernmental system the issue of regional debt sustainability in Russia is viewed to be among the most complicated ones. Since the intergovernmental relations in Russia are highly centralized, endogenous tools of dealing with the problem of rising debt, for instance, design and implementation of special steps locally, might not be an option. Consequently, it should be some sort of federal programs aimed at alleviating the debt burden. Indeed, in practice the risk of low regional creditworthiness is now mitigated by recent federal initiatives. However, the problem is far from resolved. But there are also other aspects of debt sustainability at the regional level. Consider a number of unintended consequences of piling up debt and then reducing it. One of them is an impact from the regional debt and broader debt sustainability on distribution of budget resources within the regional budgetary system - intraregional (local) fiscal decentralization.

The relationship of debt sustainability and decentralization is not a simple cause-and-effect relationship but multidirectional and complex. It is highly vague and the topic remains to be explored. On one hand, most researches approach this issue from the perspective of behavior of local authorities at the debt market and what forces them to act one way or the other, given a certain amount of fiscal powers vested on them (see, for example, (Alexeev et al. 2019)). In other words, in those papers the impact from decentralization on regional public debt policy is analyzed. However, reverse relationship is also possible. For example, a large amount of debt and low debt sustainability could drive a regional government to accumulate and consolidate most of the budget funds in the regional system as well. It would lead to the lowering of the size of resources disposable by local administrations one way or the other. Ambiguous association between the two indicators and an unquestionable linkage between them could be utilized in various ways. But certain assumptions should be made.

One of the promising areas of research on the problems of fiscal decentralization is the very factors that cause it. There is a whole set of indicators known in the literature that affect the vertical distribution of fiscal powers in the federations. A lot of those factors are traditional indicators of social and economic development, such as personal income or degree of income inequality, for instance. At the same time, institutional features of the fiscal system that affect decentralization are much less studied. Such

factors are very hard to estimate and consider in a quantitative analysis. Moreover, in each fiscal system the intergovernmental relations related to the formation of tax and non-tax revenues and expenditure obligations are organized in a unique way. Nevertheless, they are as important in studying fiscal decentralization as those traditional indicators that are relatively well-probed.

The main focus of this paper is the determinants, or factors of fiscal powers and resources at the level of municipalities in Russia, that is, intraregional fiscal decentralization. Unfortunately, the power of decentralization to boost entrepreneurship and economic development is hardly used in the practice of public administration in Russia. Deeper knowledge of the relationship among institutional characteristics within the budgetary system opens up new perspectives as to how well it is organized, enriches our tools for estimating its overall performance, and shed light on what kind of incentives it creates for agents within the public sector as well as in the private sphere of the whole economy.

The aim of this study is to establish the role of a bundle of current institutional features of intergovernmental relations in Russia in shaping the level of intraregional fiscal decentralization. The regional debt is considered to be the indicator that incorporates various features of institutional framework of the Russian budgetary system. I expect the amount of consolidated regional debt to reflect the influence of institutional factors in an adequate way mainly because of the nature of indebtedness being dependent on other fiscal parameters within the system. Technically, the relationship of consolidated regional debt and local fiscal decentralization is analyzed in this paper, and the indicator of regional debt is held to be an independent variable. But essentially, the point is that under the conceptual framework of this research one could capture the fiscal incentives arising from institutional features at the federation-region level and generating responses at the region-local level where local fiscal decentralization is formed. The quantitative analysis of this study is conducted region-wise so that there is a sufficient pool of data required to find out more reliable information about the relationship among the variables.

The hypothesis of this study is that the growth of the debt of the Russian regions somehow leads to a decrease in fiscal decentralization within the regional budgetary system. There are at least two explanations for it corresponding one another. Firstly, the rise of debt level could cause the consolidation of funds in the regional budgets. This effect is supported and enhanced by the stated obligation by the side of the regions to primarily fulfill the priority-spending items at the expenditure side of the budget. This certainly affects the incentives of regional administrations to transfer funds to local governments. Secondly, the concentration of resources on the priority areas of budget expenditures and fiscal policy in general makes it hard for regional authorities to finance their own programs. In this case, decrease in regional transfers is expected since the regions generally have much more incentives to transfer funds to municipalities within their own spending initiatives. So, overall decrease in the amount of local resources follows, and fiscal centralization occurs.

## Local fiscal decentralization

In the literature, there is a whole set of indicators that affect intraregional (local) fiscal decentralization. Theoretically, decentralization is promoted by high standard of living (Alexeev and Mamedov 2017; Panizza 1999). This could be captured by indicators of personal income, level of urbanization as well as low inflation and unemployment. Income disparity is more ambiguous predictor since it is often greater in high-income territories (Libman 2010). Population density, area of the territory and the population size matter as well. It is presumed that the more dispersed the type of settlement is, the less there should be fiscal and administrative powers at the local level of public administration. The reverse also holds true. Furthermore, Mohammad Arzaghi and J. Vernon Henderson (2005) note that decentralization is fostered by governance that is more democratic.

Heterogeneity of tastes regarding public policy is reported to be the main driver of decentralization (Boffa, Piolatto, and Ponzetto 2016). Economies of scope and public awareness from taxpayers also play a role and should be accounted for. Political economy factors are also at play both at national and intraregional levels. For example, decentralization is more common if the budget's defense burden is lower and tax revenues are institutionally less regulated (Bahl and Nath 1986). Regional governors are often deeply involved in the budget process and the more authority they possess over fiscal issues the more centralized are the budget expenditures (Baker 2000).

Lev Freinkman and Alexander Plekhanov (2008) classify all possible factors of local fiscal decentralization into two groups. First, the factors that capture demand for fiscal decentralization on the part of taxpayers. Second, the factors of supply of fiscal decentralization on the part of regional authorities. These researchers also point out the importance of such indicators as the share of incoming intergovernmental transfers in overall budget revenues and budget expenditures on housing and communal services. The former is supposed to reduce local powers while the latter is assumed to increase them.

The analysis of possible factors of decentralization found in the literature brings us to the following conclusions. Firstly, high values of most socio-economic indicators generally lead in practice to a fiscally decentralized system of public administration. Secondly, lagging positions by the main indicators of socio-economic development and the need for redistribution of funds lead to fiscal centralization.

Apart from predictors, the problem of assessment of fiscal decentralization is also worth mentioning. The correct estimation method regarding decentralization is a tricky question in itself. There is not a standard methodology for measuring the scope of powers of local authorities in the academic literature, as J. Harguindéguy and coauthors (2019) emphasize it in their recent paper. However, a fiscal approach, that is a calculation of the share of local fiscal parameters in general government total resources, prevails in quantitative studies. But concrete methodic nuances within that approach might also differ. For example, Antonis Adam and coauthors (2014) rely on OECD database and also on the effective estimates of tax decentralization elaborated by Dan Stegarescu (2005). They also use IMF databases, such as Government Financial Statistics (GFS). So, finding the right source of factual data on fiscal decentralization is an arduous attempt

in itself and a very complex issue. Besides, Jenny E. Ligthart and Peter van Oudheusden (2017) prefer using indirect indicators of decentralization, such as the nature of the legal system, the area of the territory and the density of location of large economic centers.

Although various research papers document numerous predictors of fiscal decentralization, knowledge of the composition of factors and the nature of their impact on fiscal decentralization is more or less formed in the literature. However, empirical analyses focused on individual budgetary systems often contradicts the established stylized facts. Indeed, practical “field” studies based on actual data in Russia show that in the regions with high income inequality, the size of fiscal powers of the local authorities is surprisingly high. Resource-rich regions in particular, where income distribution is very uneven, are, oddly enough, more decentralized. In addition, life expectancy is larger in the regions with low fiscal decentralization although favorable socio-economic environment is believed to generate more demand on local empowerment.

Meanwhile, the role of regional debt among factors of local fiscal decentralization received little attention in the literature. Still high level of debt could provide incentives for the administration to transfer part of the budgetary powers and resources to lower levels of the budgetary system. However, the more realistic implication seems to be that highly-indebted regions tend to consolidate money resources in order to possess more autonomy over fiscal spending. That autonomy becomes critical with regard to the current administrative aspect of separation of expenditure obligations in Russia and general institutional environment.

### **Main methodological features**

Here are the main methodological features of this study.

First, the amount of debt is considered to be the main indicator of debt sustainability and a proxy of whole institutional features of intergovernmental relations at the federation-region level. The consolidated debt of the subjects of the Russian Federation is analyzed, that is, the sum of regional and municipal debt without adjusting for budget or treasury credits, that is loans from regional to local governments. The indicator is taken as the ratio per unit of tax and non-tax revenues of the consolidated regional budget. The fact is that the analysis of municipal debt is no less important than the regional debt itself. For example, at the level of Russian cities a high amount of debt has been accumulated recently and mainly for the purpose of carrying out current, not capital, expenditures (Zemlyansky and Medvednikova 2021). Apparently, the issue of effective debt policy at the regional level are closely connected with the issue of fiscal independence not only of regional, but also of local governments.

Second, in calculating the indicator of intraregional fiscal decentralization I follow the approach by the International Monetary Fund (IMF) (Table 1). Accordingly, local spending and revenues are adjusted for and divided by consolidated regional spending and revenues.

**Table 1. Indicators of intraregional (local) fiscal decentralization**

<i>Indicator</i>	<i>Formula</i>
Expenditure local decentralization	$\frac{\text{Own local spending}}{\text{Consolidated regional spending}}$
Revenue local decentralization	$\frac{\text{Own local revenues}}{\text{Consolidated regional revenues}}$

*Source:* IMF.

In theory, the majority of variation of the metric of local fiscal decentralization can be explained by drivers of demand and supply. However, I presume that some part of fluctuation of the dependent variable could also be explained by the indicator of regional debt (1).

To conduct the formal quantitative regression analysis, I employ a simple ordinary least squares method. The period of analysis is 2011-2020. All subjects of Russian Federation are included in the estimation except Moscow, Saint-Petersburgh, Republic of Crimea and Sevastopol.

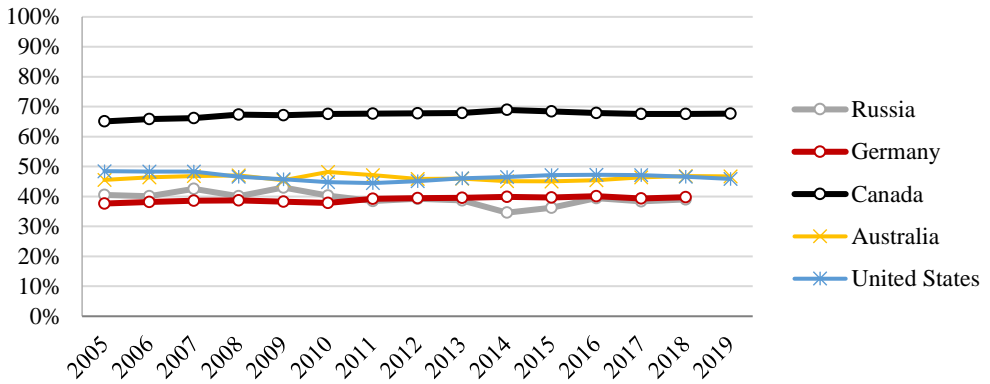
<i>Local fiscal decentralization</i> $= f(\text{Demand, Supply, Debt})$	(1)
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The linear approach towards exploring the factors of fiscal decentralization has its limits (Delgado 2021). However, a heterogeneity in observations within a single federation is likely to be not so large as to prevent from applying simple regression analysis.

### **Fiscal decentralization and government indebtedness in Russia**

Subnational (parameters of regional plus local budgets excluding the funds transferred from one to the other) fiscal decentralization in Russia is small compared to other federative states. According to IMF, the share of regional expenditures was around 40% in 2005-2018 and comparable to that of Germany's. It is significantly less compared to that of Australia and the U.S.' and a way less as compared with Canada's (Figure 1).

**Figure 1. Subnational expenditure fiscal decentralization (in %)**

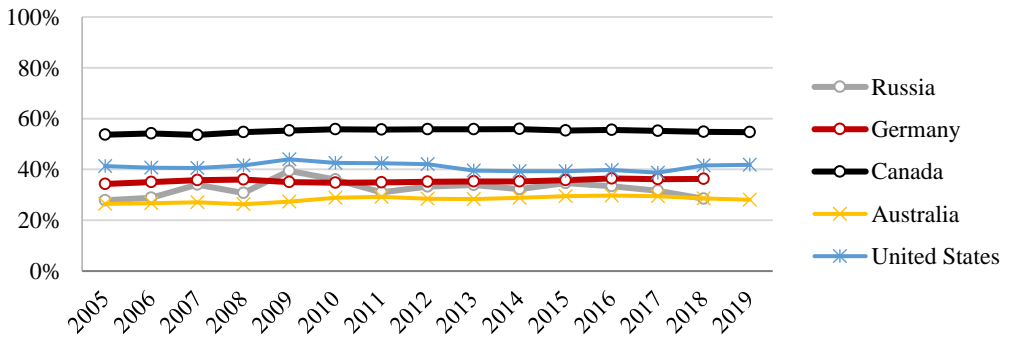


Source: Fiscal Decentralization Database, IMF. Accessed June 6, 2022.

<https://data.imf.org/?sk=388DFA60-1D26-4ADE-B505-A05A558D9A42&sId=1479329132316>.

On the revenue side, the subnational fiscal decentralization in Russia is smaller which is also the case for all the rest states (Figure 2). It is around 35% and similar to Germany’s and Australia’s. The revenue fiscal decentralization in the U.S. and Canada is noticeably higher.

**Figure 2. Subnational revenue fiscal decentralization (in %)**



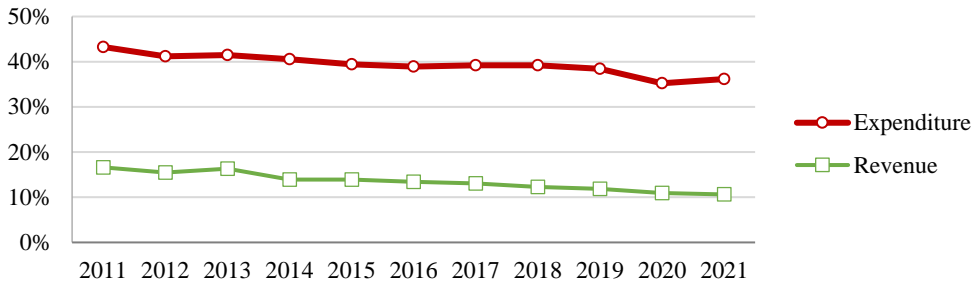
Source: Fiscal Decentralization Database, IMF. Accessed June 6, 2022.

<https://data.imf.org/?sk=388DFA60-1D26-4ADE-B505-A05A558D9A42&sId=1479329132316>.

One can clearly see the trend of squeezing amount of funds at the local level in Russia at least since the beginning of 2010s (Figure 3). Decrease of local fiscal decentralization is seen to have happened at both aspects of the budget - expenditure and revenue. Huge disparity among them is explained by the method of calculation (Table 1) and, particularly, very large amount of intergovernmental transfers from regional to local

levels. It is estimated to be around 20-25% of consolidated regional spending and revenues.

**Figure 3. Local fiscal decentralization in Russia (in %)**

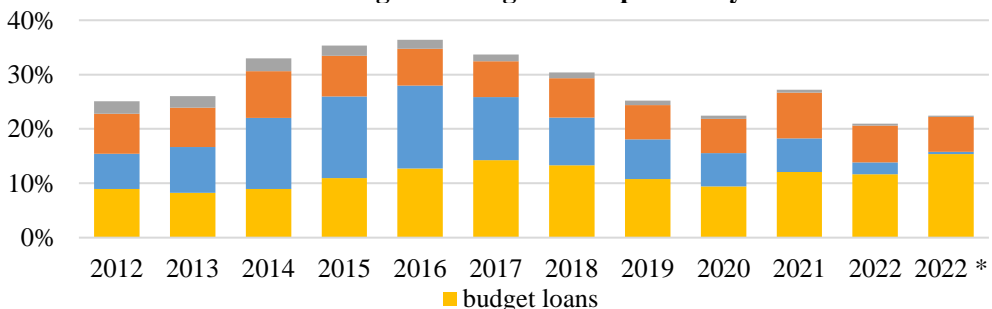


*Source: author's calculations based on the data from Treasury of Russia.*

*Note: average for all the Russian regions.*

Regional debt in Russia soared in 2014-2016 but later diminished (Figure 4). To keep debt sustainable, the federal government prohibited regional authorities to take on spending in the areas that belong to their own (exclusively regional) fiscal jurisdiction. Such spending programs also could not be financed by general transfers from the federal budget. The debt grew again in 2020 but less rapidly thanks to generous financial support from the federal budget. Rising own revenues, a year later in 2021 and further in 2022 brought the level of debt back. However, the decline of the “private” component and growing share of the federal loans in the structure of debt became the most vivid characteristics of regional debt dynamics in Russia in the last decade.

**Figure 4. Regional debt in Russia at the beginning of the year, per tax and non-tax revenues of regional budget in the previous year**



*Source: Ministry of Finance of Russia. Accessed November 1, 2022.*

[https://minfin.gov.ru/ru/performance/public\\_debt/subj/](https://minfin.gov.ru/ru/performance/public_debt/subj/)

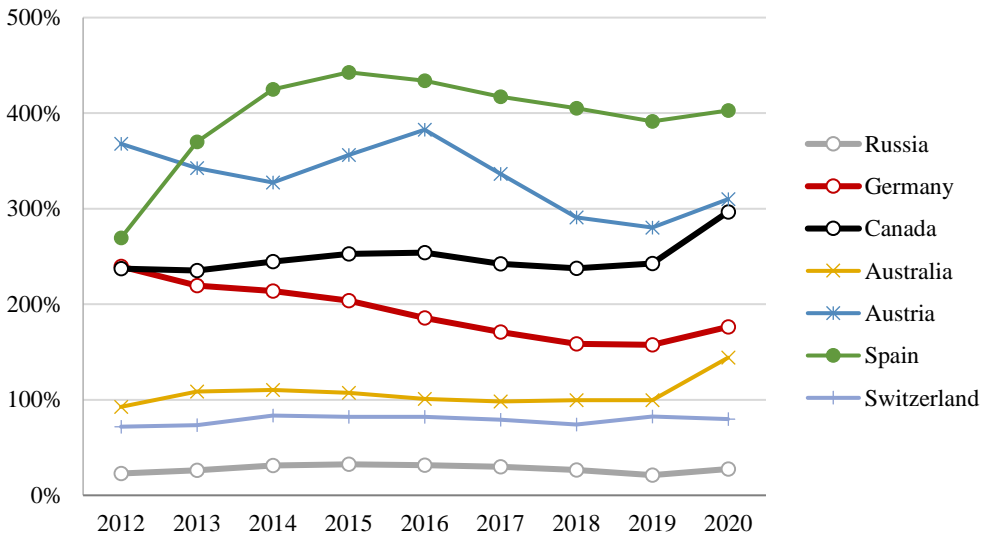
*Note: \* on August, 1, 2022.*



Regional debt in Spain and Austria is the highest and approximately three and four times more the amount of own revenues the respective regional governments in that countries accumulate every year (Figure 5). This is explained not only by the high level of debt but also little size of tax and non-tax revenues of the budgets. In contrast, in Russia the regional debt is the smallest and around 30% of own revenues. However, debt sustainability as a more complex phenomenon is still a problem in Russia mostly because of the institutional characteristics of the intergovernmental relations. For example, the effective debt policy is hindered by the lack of authorities at the regional tier over it.

At the beginning of 2010s the debt levels in Canada and Germany were almost identical, though later experienced different trajectories. Likewise, in Australia and Switzerland the amount of regional debt was approximately the same and matched the size of own revenues. Interestingly, in all the states but Russia and Switzerland the regional debt significantly increased for 2020 when the coronavirus pandemic occurred.

**Figure 5. Regional debt, per tax and non-tax revenues of regional budget**



Source: Government Finance Statistics Database, IMF. Accessed June 1, 2022. <https://data.imf.org/?sk=388DFA60-1D26-4ADE-B505-A05A558D9A42&sId=1479329132316> (author's calculations).

### Regression analysis

The negative impact of regional debt on local fiscal decentralization is sustainable and found both for expenditure and revenue decentralization (Table 2). Thus, the higher the debt, the lower the intraregional fiscal decentralization with plenty of other predictors on demand and supply sides of decentralization accounted for. Proportion of the variation of the debt predictable from the independent variables is rather high especially for the revenue local fiscal decentralization.

There are several regressors that have statistically significant coefficients both for expenditure and revenue local fiscal decentralization. Surprisingly, the more the population density and life expectancy, the less the size of local fiscal decentralization. However, high degree of transfer dependency of regional budget and size of social expenditures also drive decentralization down, which is in accordance with the theory. Large values of personal income are mainly reported in more decentralized regions, which is also anticipated. The negative sign for the share of the mining industry in GRP is documented in academic literature as well.

Modelling revenue local decentralization exhibits more predictive power and has more statistically reliable coefficients. Notably, the more the share of the population living in urban conditions and the more the income disparity in a region, the more the revenue local decentralization is. This inconsistency with the theory is explained by unexpectedly high actual values of local decentralization in resource-rich northern territories of Russia.

Interestingly, the dummy for 2014 is also statistically significant for revenue local decentralization which is explained by the regulative decrease of the local budgets' sharing rate of personal income tax that year.

**Table 2. Regression results**

Indicator / Dependent variable	Expenditure local decentralization	Revenue local decentralization
Intercept	0,73 ***	0,11 **
Debt, %	-0,04 ***	-0,01 **
Population density, people per km <sup>2</sup>	-0,00 ***	-0,00 *
Average monthly nominal personal income, thousand rubles per person	0,10 ***	0,07 ***
Share of urban population, %	-0,05	0,08 ***
Gini coefficient, 0-1	-0,13	0,15 ***
Life expectancy at birth, years	-0,01 ***	-0,00 ***
Share of the mining industry in GRP, %	-0,01	-0,05 ***
Share of incoming intergovernmental transfers in the regional budget, %	-0,11 ***	-0,06 ***
Expenditures of consolidated regional budget on social policy, thousand rubles per person	-0,01 ***	-0,00 ***
Expenditures of consolidated regional budget on housing and communal services, thousand rubles per person	-0,00	-0,00 ***
Dummy for 2012	-0,01	0,00
Dummy for 2014	0,01	-0,01 **
Jarque-Bera test	0,00	0,19
Breusch-Pagan test	0,19	0,08
Durbin-Watson test	0,08	0,00
R <sup>2</sup> adjusted	0,29	0,59

Indicator / Dependent variable	Expenditure local decentralization	Revenue local decentralization
No. of observations	810	810

*Source: author's calculations.*

*Note: \* - coefficients significant at the level of 10%; \*\* - at the level of 5%; \*\*\* - at the level of 1%. The p-value is specified for the tests, and high values indicate that the prerequisites of regression analysis are met.*

## Discussion and Conclusion

Given that intergovernmental relations in Russia are driven mostly by federal level, each fiscal indicator at the regional tier, especially a debt, is closely associated with institutions regulating the whole regional fiscal policy. That is a general premise this study was based upon. Therefore, the amount of debt and a broader status of debt sustainability could be modelled as a proxy of that system of fiscal institutions.

Fiscal decentralization is also a prominent characteristic of fiscal institutions of a budgetary system. The relationship between governmental debt sustainability and fiscal decentralization is a complex phenomenon and hardly follows cause-and-effect pattern. However, both indicators without any doubt reflect complicated institutional composition of the budgetary systems and intergovernmental relations. One strand of the literature on fiscal federalism states that fiscal decentralization is shaped by various forces. All of those forces, however, could be seen as reflecting the demand for local fiscal powers and the willingness of regional authorities to provide the local authorities with the rights to regulate a certain part of intergovernmental relation. At the same time, the amount of debt might also impact the fiscal incentives related to the distribution of fiscal resources inside regional budgetary systems.

Sticking to those premises stated above, the study confirmed the hypothesis of decreasing intraregional fiscal decentralization due to the growth of consolidated debt of the subject of the Russian Federation. I corroborate that the centralized character of intergovernmental relations in Russia and little room for maneuver for regional authorities lead both to growing risk of debt sustainability and shrinking number of fiscal resources at the local level. Both of that definitely are the consequences of ineffective fiscal institutions. The resulting high risk of poor fiscal performance reflect distorted incentives of regional authorities. Those incentives arise from the need to consolidate scarce fiscal resources of the regional budget to fund the priority items of expenditures. Such prioritization is made compulsory by federal government and reflects the characteristics of Russian model of fiscal federalism. Low spending powers of regions and the rigidity of federal regulation of spending and debt policy complicate allocation of funds among expenditures items. Yet financing of those areas of expenses is mandatory for regional authorities and end up diverting resources away from public sector at the local level.

Other findings further contribute to the theory of drivers of fiscal decentralization in a centralized federative system. Overall, I confirm that more prosperous Russian regions in terms of taxable income exhibit higher share of local fiscal parameters. In addition,

administrative regulation of sharing rates is found to be important and accounted for. The elements of inconsistency with the theoretical prediction are likely to be explained by the rich northern regions of Russia where the share of local budgets in general regional budget parameters is high. Other forces of local fiscal decentralization seem to operate there in the North, and they need to be further investigated.

Finally, the areas of further research include conducting calculations based on panel data, thus taking into account characteristics of each region and, afterwards, refining the results obtained for different indicators of decentralization.

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