DISCUSSION PAPER SERIES

No. 9356

RUSSIAN FISCAL FEDERALISM: IMPACT OF POLITICAL AND FISCAL (DE)CENTRALIZATION

Michael Alexeev and Shlomo Weber

PUBLIC POLICY

Centre for Economic Policy Research

www.cepr.org

Available online at: **www.cepr.org/pubs/dps/DP9356.asp**

ISSN 0265-8003

RUSSIAN FISCAL FEDERALISM: IMPACT OF POLITICAL AND FISCAL (DE)CENTRALIZATION

Michael Alexeev, Indiana University
Shlomo Weber, Southern Methodist University, New Economic School and CEPR

Discussion Paper No. 9356
February 2013

Centre for Economic Policy Research
77 Bastwick Street, London EC1V 3PZ, UK
Tel: (44 20) 7183 8801, Fax: (44 20) 7183 8820
Email: cepr@cepr.org, Website: www.cepr.org

CEPR Discussion Paper No. 9356

February 2013

ABSTRACT

Russian Fiscal Federalism: Impact of Political and Fiscal (De)centralization

The extent of political and fiscal centralization in Russia has experienced dramatic changes since the end of the Soviet era. The heavily centralized, both politically and economically, federal structures became dysfunctional and unstable until the introduction of the Budget and Tax Codes over the last decade induced a relative clarity to revenue assignments and expenditure and management responsibilities of different levels of government. While the creation of federal districts and the elimination of elections of regional governors in 2005 have brought a substantial rise of political centralization, the reforms had an ambiguous effect on fiscal centralization and fiscal independence of the regions, the estimation of which is addressed in this paper. We use an updated and extensive dataset and apply a novel estimation technique by evaluating the response of regional government's expenditures to changes in the size of the GRP (gross regional product) and to changes in the region's tax collections. While the results related to regional shares of tax revenues and expenditures are somewhat ambiguous, the examination of marginal fiscal incentives suggests an increase in fiscal centralization in Russia over the last decade. Our investigation also indicates that, contrary to Treisman's (2000) conjecture, no decline in the variability of tax revenues had taken place in the last decade. We also show that the recent variability of GRP has been smaller than for tax revenues but greater than for budget expenditures, which stresses the effectiveness of budget equalization policies of the central government. Finally, we briefly addressed the issue of intra-regional fiscal relations, which is of crucial importance for political and economic progress of the country.

JEL Classification: H71, H73 and H77
Keywords: expenditures, intergovernmental fiscal relations, political centralization, Russian regions, tax revenues and transfers

Michael Alexeev
Wylie Hall Room 105
Indiana University
Bloomington, IN 47405
USA

Email: malexeev@indiana.edu

For further Discussion Papers by this author see:
www.cepr.org/pubs/new-dps/dplist.asp?authorid=115170

Shlomo Weber
Department of Economics
Southern Methodist University
Dallas
Texas 75275-0496
USA

Email: sweber@smu.edu

For further Discussion Papers by this author see:
www.cepr.org/pubs/new-dps/dplist.asp?authorid=161025

Submitted 11 February 2013

1. Introduction

Due to the size of the country and its tremendous diversity in terms of geography, climate, economic potential, ethnicity, religion, languages and culture, the governance of Russian regions is naturally suited for a federation structure. However, despite its formal federation status during both Soviet and post-Soviet times, the degree of independence of Russia's regions and localities has fluctuated dramatically over time. Even though many important decisions during much of the Soviet era, were *de facto* made at the local level, Russia was relatively centralized, both politically and fiscally. However, immediately prior to and for several years after the break-up of the USSR, Russia functioned as a rather loose federation, where many regions, including Chechnya, demanded and often received a great deal of fiscal and political independence (the so-called "parade of sovereignties") through various deals with the central government. For example, in 1994, the Republic of Tatarstan received full control over its oil and other resources and the right to enter into economic agreements with other countries in return to abandoning its sovereignty claim and the acceptance of the taxation authority of the central government. In some instances regional governments refused to transfer federal tax revenues to the central government, while other regions obtained fiscal and political powers ceded to them by the federal center under various bilateral treaties. Many regions negotiated the arrangements that allowed their budgets to retain tax shares as well as transfers received from the center (Zhuravskaya 2000, Martinez-Vazquez and Boex 2001, Solanko and Tekoniemi 2005). In fact, during the early 1990s, there seemed to be a real threat of secession of some regions and even a break-up of the entire country.

This situation began to change in the mid-1990 with the formalization and stabilization of intergovernmental fiscal relations, particularly at the level of municipalities. Even more important changes were initiated in the late 1990s with the approval and adoption of several measures, that included the Budget Code (effective as of 2000) that regulated spending responsibilities and fiscal powers of different levels of government, Part 2 of the Tax Code (2000) that specified federal, regional, and local taxes, and the Concept for Intergovernmental Fiscal Relations reform in 1998. By 2005, reforms had established a uniform and relatively stable formula for equalization grants to regions based on regional tax raising capacity and eliminated most of the unfunded regional expenditure mandates such as allowances for children and benefits for disabled persons. Moreover, reforms provided a formula-based allocation of other types of grants, including transfers for public infrastructure improvements and matching grants for "socially enhancing" spending, and clarified revenue assignments and expenditure and management responsibilities of different levels of government. While additional reforms were introduced after 2005, no major changes to intergovernmental fiscal relations have taken place since then. The timeline for the specific legislation and formal reform programs is shown in Table 1.

While the reforms had arguably produced a somewhat ambiguous effect on fiscal centralization and fiscal independence of the regions, Mr. Putin's ascent to the Presidency in 2000 signified a substantial rise of the degree of political centralization. In fact, one of the first acts after his inauguration was the dismissal of the Head of the Department of Local Governments in the President's Office and further dismantling of the department. Other, even more visible signs of the re-centralization shift, both *de jure* and *de facto,* were the creation in 2000 of federal districts (*federal'nye okruga*) headed by Presidential "plenipotentiary representatives" or envoys, and the elimination of elections of regional governors in 2005.

Currently, Russia is divided into 83 regions ("Subjects of the Federation") that include 21 ethnic republics, 46 provinces ("*oblasts*"), nine *krais*, one autonomous oblast', four autonomous districts ("*okrugs*"), and two federal cities (Moscow and St. Petersburg). The republics have the highest degree of formal independence from the federal center, while the autonomous districts and oblasts have the least. Each region has one or two tiers of various types of urban and rural municipalities (local self-governments). There are more than 2,500 first-tier municipalities containing more than 21,000 second-tier municipalities. The regions are divided into eight federal districts, each with an appointed presidential envoy who oversees activities of regional administrations in the district. While Russia's regions have traditionally swayed a great deal of political and fiscal power over their constituent municipalities, the control of the federal center over the regions was significantly enhanced by the institution of the presidential envoys and the *de facto* appointment of regional governors by the federal government.

The above overview of the recent history and basic political structure of the Russian Federation is obviously quite parsimonious. Much more detailed survey can be found in Thissen (2005) and De Silva et al. (2009). The focus of our chapter, however, is the evaluation of the degree of fiscal independence of Russian regions and the analysis of economic consequences of fiscal and political centralization. In this undertaking we use a more up-to-date and more extensive dataset and different estimation techniques compared to other literature on this topic. The paper is organized as follows. In the next section we discuss the main theoretical tradeoffs engendered by fiscal decentralization. Section 3 is devoted to the empirical evaluation of the evolution of fiscal independence of Russian regions since 2001. Section 4 briefly addresses regional disparities, especially with respect to government revenues and expenditures. Section 5 concludes.

2. Implications of fiscal decentralization

The theoretical and empirical literature on fiscal decentralization is too extensive to be surveyed here even briefly. We will limit ourselves to a summary of the main insights from the general literature that lists the following main outcomes of fiscal decentralization:

(i) horizontal competition among localities that results in suboptimally low subnational tax rates on (and/or suboptimally high subsidies to) mobile factors of production or exceedingly high local investments in productivity-enhancing public goods such as infrastructure;
(ii) vertical competition between upper and lower levels of government for tax revenue collected from essentially the same tax base, resulting in the suboptimally high combined burden of federal and local tax rates;

(iii) greater Tiebout-like ability of the citizens to sort themselves to localities that fit their preferences with respect to taxes and public goods provision, and better information of local decision makers about individual preferences with respect to public goods provision, local taxation, and other activities of local governments;
(iv) stronger incentives of local officials to enhance welfare of relevant local constituencies (elites) and improved monitoring of local officials' efforts by these constituencies;
(v) challenges faced by relatively independent localities in cooperating with the central government or with other localities on large public goods projects that cannot be efficiently undertaken by a single region.

There are, of course, other possible outcomes of fiscal decentralization that are, however, less important in our view. For example, under certain circumstances, multi-tiered nature of government with overlapping functions and responsibilities may result in administrative confusion and increase corrupt overgrazing (see, e.g., the Shleifer and Vishny (1993) setup with independent monopolists).At the same time, the existence of different local governments with similar authorities may mitigate corruption by creating competition among potentially corrupt officials. Also, cross-border spillovers of local public good benefits can make decentralization inefficient (Oates 1972). In addition, decentralization can generate benefits from different types of reforms implemented in various regions without subjecting the entire economy to potentially costly failures. The most successful reform pattern can later be adopted by all regions. Arguably, relatively decentralized nature of the Chinese economy contributed to its transition process although there are obvious drawbacks to such decentralization in terms of lower degree of regional specialization (Qian et al. 2006). Finally, negative effects of decentralization could be welfare enhancing in the second-best world. For example, horizontal competition among localities could raise opportunity cost of local government's resources and thus reduce its propensity to bail out local enterprises represented by the so-called "soft budget constraint" (Qian and Roland 1998).

It is important to note that outcome (i) (horizontal competition) is relevant only if at least some important factors of production are mobile, outcome (iii) requires mobility of the population, and outcome (iv) can emerge only if local constituents can exert significant influence on the local officials (or if populations are mobile) and if local governments exhibit a sufficient degree of fiscal independence to be discussed below. More generally, advantages of decentralization are closely linked with the "market-preserving" nature of fiscal federalism.[1]

In the above list, outcomes (ii)-(iv) reflect advantages of fiscal decentralization under the conditions stated in the previous paragraph, while (v) favors centralization. Moreover, horizontal and vertical modes of competition tend to generate opposite effects and their combined impact depends on various factors. For example, if a benevolent central government can make lump-sum transfers to regions, tax competition ceases to be a problem. When such transfers are not feasible, the combined outcome of horizontal and vertical competition is determined by the elasticity of supply of the taxed factor, usually capital. If the supply of capital is relatively elastic such as in the case of a small country with capital mobility across the border, the vertical competition effect dominates the horizontal one. If the supply of capital is inelastic, the reverse is true.[2]

The above discussion suggests that the tradeoffs between fiscal decentralization and centralization are influenced by many factors and are in general ambiguous. Therefore, the effects of relative decentralization in Russia in the 1990's and the subsequent re-centralization in the 2000s are largely empirical issues that are usually examined on the basis of a cross-section or a panel of countries rather than in the context of a single country. Moreover, as we will argue in the next section, there is significant ambiguity about the degree of fiscal centralization and even about its measurement. We will discuss the findings of the recent literature on these issues as we present our own results in the remainder of this paper.

---

[1] Montinola et al. (1996) formulated the following five principal characteristics of market-preserving fiscal federalism:
F1. A *hierarchy* of governments with a *delineated scope of authority* (for example, between the national and subnational governments) exists so that each government is autonomous within its own sphere of authority.
F2. The subnational governments have primary *authority over the economy* within their jurisdictions.
F3. The national government has the authority to police the *common market* and to ensure the mobility of goods and factors across subgovernmental jurisdictions.
F4. Revenue sharing among governments is limited and borrowing by governments is constrained so that all governments face *hard budget constraints*.
F5. The allocation of authority and responsibility has an *institutionalized degree of durability* so that it cannot be altered by the national government either unilaterally or under the pressures from subnational governments.

[2] The outcome of the two types of competition can also depend on the elasticity of supply of relatively immobile factor and, in the case of capital mobility across borders, on whether the country is an importer or exporter of capital. These and some other related issues are surveyed in Wilson (2006).

3. Empirical evaluation of trends in fiscal and political centralization since 2001

While reforms of intergovernmental relations undertaken in Russia since 2001 have produced somewhat uncertain effects on fiscal decentralization, they clearly resulted in a significant centralization of political power in the hands of the federal center. The most visible evidence of this power concentration has been the elimination of elections of regional governors, who, since early 2005, have been appointed by the federal government subject to approval of regional legislatures. We now examine the evolution of the degree of fiscal (de)centralization since 2001 revealed in the data on federal and regional budgets, and evaluate some of the consequences of political centralization for intergovernmental fiscal relations in Russia.

The degree of fiscal decentralization is usually measured by the subnational share in total tax revenues and budgetary expenditures. These measures do not necessarily reflect the degree of fiscal independence of subnational units and are used mostly due to their availability rather than for more substantive reasons. The subnational shares of revenue and expenditures offer only limited information on which level of government controls revenue collection and spending. Perhaps more importantly, these measures do not reflect the marginal considerations. As forcefully argued by Zhuravskaya (2000), the incentives of subnational government are determined by the effect, on the margin, of the government ability to collect revenue on the expenditures under its control. While it is difficult to establish the true degree of subnational control of various expenditure items, it is possible to describe at least approximately the degree of regional control of major revenue categories and to evaluate incentives created by marginal fluctuations of revenues and expenditures.

Despite their flaws as indicators of fiscal decentralization, we begin with the analysis of the subnational shares in the overall tax revenue and expenditures. As Tables 2 and 3 indicate, the trends in subnational shares of revenues were somewhat different from those for subnational expenditures during 2001-2011. While 2008-2009 data were presumably affected by the financial and economic crisis that raised federal expenditures, the trends prior to 2008 reflect no significant changes in the share of (consolidated) regional budgets in overall government revenue (from 43.2% in 2001 to 42.6% in 2007) and a falling share of regional budgets in expenditures (from 49.4% in 2001 to 44.5% in 2007).[3] Note, however, that tax revenue data do not include customs revenue, in particular, export fee for oil. If customs revenues were included, the total share of regional revenue would decline from 37.1% in 2001 to 31.1% in 2007. One could argue, however, that the appropriate comparison is between federal and regional tax revenues, excluding customs fees. In any case, a regional allocation of customs fees across regions would have been assigned through transfers from the federal budget.[4]

Table 3 shows the dynamics of the main components of regional tax revenue and the role of transfers in regional budgets. Two main sources of subnational tax revenue are corporate income tax (CIT), and personal income tax (PIT) that combine for over 70% of their total tax revenue. We note the small revenue role of the simplified tax regime (i.e., taxes on small business income – see Alexeev and Conrad 2013) and property taxes. These are quintessentially local revenue sources that are seriously underdeveloped in Russia.[5] Another notable trend shown in Table 4 is the sizeable expansion of the role of transfers in regional budgets that took place in large part due to the economic crisis of 2009, the aftermath of which continues to be a significant factor in 2010-2011. The crisis is also reflected in a precipitous drop in CIT revenue in 2009.

Another impact of the crisis on national budgets is a significant increase in subnational debt and debt service, although the latter still constitutes a relatively small portion of regional expenditures. By far the largest portion of the debt has been accumulated by the city of Moscow and Moscow region. These two regions accounted for 39.7% of 456.9 billion rubles of the total subnational debt as of January 1, 2008, and for 40.7% of 1,096 billion rubles total as of 1/1/2011 (IEP 2011, 79). However, even in 2011, debt service on subnational debt was only slightly more than 75 billion rubles or less than 1% of all regional budget expenditures.[6]

---

[3] Our data come from the Russian Treasury website (http://www.roskazna.ru). Due to availability issues and in order to assure consistency with our data on composition of expenditures and tax revenue, we used two different forms for pre-2005 revenue and expenditures and those for 2005-2011. Generally, the data in these forms are very close, except for expenditures data for 2007 where one of the forms shows substantially higher federal numbers. If we used these higher numbers, the share of regional expenditures in 2007 would have been 41.7%.
[4] In fact, even the numbers in Table 2 include VAT and excises on imported goods, i.e., revenue that would be difficult to assign to particular regions in a reasonable way even if the federal government wanted to do it.
[5] Note that the main portion of revenue from property tax in Russia is from taxation of movable property, particularly enterprise assets, rather than real property.
[6] The data are from the Russian Treasury website (http://www.roskazna.ru).

As noted earlier, the above measures are not very indicative of the degree of real fiscal decentralization in Russia. In particular, the rising share of regional tax revenue does not necessarily reflect greater independence of regional governments in revenue collection. All taxes in Russia have always been collected by the federal tax service. The federal government also determines the tax bases of all major taxes. Regions have somewhat greater flexibility with respect to tax rates. They set (within limits) the rate of enterprise property tax and are allowed to lower CIT rate by up to 4.5 percentage points. Revenues from major taxes, i.e., VAT, CIT, enterprise property tax, PIT, and the mineral extraction tax (MET), including its oil and natural gas component, used to be shared between the federal government and the regions. As a result of 2002-2005 reforms, tax sharing has been greatly reduced with CIT remaining the only major shared tax. Federal government currently receives two percentage points of CIT and regional governments receive up to 18 percentage points. VAT and MET on oil and natural gas accrue to the central budget while PIT and enterprise property tax are a part of regional budgets.[7] Almost complete elimination of tax sharing allows the regions to emphasize the development of the tax base that benefits their own budgets rather than the federal one, and, therefore, it can be viewed as an enhancement of regional fiscal independence. However, the lack of political independence and the important role played by transfers limit regional governments' ability to use this tool to effectively strengthen their fiscal independence.

Political centralization has also limited the ability of regional governments to protect enterprises in their regions from federal tax collectors – the effect emphasized by Treisman (2000). In fact, this appears to be one of the important consequences of political centralization that has taken place since 2000. The data on tax arrears, both those that include fines and interest, and those that include only principal amounts, illustrate this point (see Table 5).The two types of arrears to both federal and regional budgets have decreased dramatically between 2001 and 2008. Interestingly, there does not seem to be a significant difference between the trends in arrears to

[7] See in particular Articles 50, 56, and 61 of Budget Code. Sharing rates of CIT have varied over the years. During 2005-2008, the federal rate was 6.5% and the regional rate was 17.5%. The latter could be lowered at the discretion of regional government to as low as 13.5%. VAT used to be a shared tax through 2000. Enterprise property tax had been shared through 2002. MET on oil had been shared through 2009 but the regional share was only five percentage points starting in 2005. The federal budget has been receiving 100% of MET on natural gas since 2004. PIT has accrued to regions only since 2003. Regions also get 90% of revenue from small business taxes, but that revenue is relatively small. Some taxes are still shared, notably MET on many minerals other than hydrocarbons, diamonds and some excises. Sharing rates for MET are set in the Budget Code, but sharing rates for some of the excises, such as those on gasoline and diesel fuel, are set in annual federal budget laws.

different types of budgets. This may suggest that if regional governments were able to protect enterprises from tax collectors in 2001, they were doing that both with respect to federal and regional shares of taxes.

The formal rules for assignment of different tax revenues also do not reflect the degree of fiscal independence partly because in any federal arrangement subnational units receive significant transfers from the federal government. The need for transfers is at least twofold. First, some major taxes are more efficiently collected at the federal level because information necessary for collecting these taxes may need to be gathered across different regions, and/or the point of tax collection could be located outside the region of the original tax base. While this is particularly true with respect to VAT and foreign trade taxes, it could apply also to CIT and even PIT. For example, in order to collect VAT or audit compliance with it, the records of suppliers and customers from different regions might need to be examined. Also, import tariffs or VAT on imported goods are normally collected at the point of entry rather than in the region where the goods are sold. Second, subnational units generally have very different potential revenue bases and transfers can be used to provide for a degree of equalization of budget expenditures and, therefore, public goods provision across subnational units. As shown in Table 3, in Russia, as in other federal countries, transfers play an important role in intergovernmental fiscal relations. The existence of transfers, however, may or may not undermine fiscal independence of the regions. If transfers are independent of regional tax and other non-transfer revenue (the so-called "own" revenues of the region), they would not affect the regional government's incentives to raise revenue on the margin. At the same time, transfers could be very useful to assure adequate provision of public goods in localities with a limited revenue base.[8]

Typically, however, transfers cushion changes in own revenues of a region.[9] This cushion would not have significant effect on regional incentives if changes in transfers offset only those regional revenue shifts that occur independently of the actions of regional governments (e.g., revenue

[8] In addition, macroeconomic stability of the economy may require concentration of revenues at the federal level.
[9] There are several different types of transfers from the federal government to the regions and localities. Equalization grants constitute a major portion of federal transfers. They are unrestricted in their use and are allocated to the regions via a formula. The federal government also compensates the regions and localities for revenue shortfalls or increased expenditures due to federal policies and for expenditures related to federal mandates. In addition, the federal government provides co-financing of social expenditure, investments under federal development programs, grants to incentivize public finance reforms and other subsidies.

losses incurred by major natural disasters). But regional government actions are not in general observable. Also, central government might not let the region's populations suffer from significant under-provision of local public goods even when the shortfall is caused by the regional government. For these reasons, transfers usually at least partly compensate even the revenue changes that result from regional government's actions. The degree of fiscal independence is then reflected by the extent to which transfers offset changes in own revenue on the margin.

One empirical approach to evaluating the degree of fiscal independence of a locality (either region or municipality) is to estimate the response of transfers and other revenues such as flexibly shared taxes received by the locality at the discretion of the upper level of government, to changes in the locality's own revenues (see Zhuravskaya 2000, and Alexeev and Kurlyandskaya 2003, for estimation of fiscal independence of municipalities within regions). It is often difficult, however, to distinguish region's "truly" own revenues from those provided at center's discretion. A simpler approach is to estimate the following regression (Plekhanov, 2004):

$$\Delta EXP = \alpha + \beta \Delta GRP + \gamma Z + \varepsilon \qquad (1)$$

where ΔEXP denotes the change in per capita regional government's expenditures, ΔGRP stands for the change in per capita gross regional product, and Z is a vector of controls. This is an indirect approach to estimating the effects discussed above. Here ΔGRP is used instead of regional revenue and the change in government expenditures is presumed to be reflective of the sum of own revenue and transfers. On the other hand, to a large degree this approach gets at the heart of the matter. After all, regional government incentives to raise tax revenue are generally important not for their own sake, but because they presumably reflect government incentives to facilitate the growth of regional economy, represented by ΔGRP.

Our benchmark estimation uses a panel of data for Russia's regions for 2001-2009. We exclude from estimation all "okrugs" and regions that produced significant amounts of oil or natural gas.[10] Note that there is potentially significant endogeneity between regional government

[10] We excluded regions with the revenue from the average tax on hydrocarbons of more than 50 RUR per person during 2001-2009. The reason for this exclusion was that the assignment of this tax between federal and regional

expenditures and GRP. For this reason, our benchmark estimation is via Arellano-Bond system-GMM approach that uses lagged values of the variables, both levels and differences, as instruments. In addition, system-GMM makes appropriate adjustments for first-order autocorrelation in the data. We also present fixed effects estimates and fixed effects with adjustment for autocorrelation for comparison purposes and as a robustness check.

In order to test for the possible changes in fiscal relations between federal government and the regions from the time of elimination of governors' elections in 2005, we include an interaction variable between ΔGRP and a dummy variable that has a value of 1 for years 2005-2008 and zero otherwise.[11] We also experimented with using a dummy variable for 2006-2008. The results were qualitatively the same as for the 2005-2008 dummy.

The only control variables we include in regressions presented below are dummy variables for each year. Following Plekhanov (2004), we also experimented with including the share of small business employment in the region's population that had no significant impact on the results. In addition, we present regressions using the change in regional tax revenue instead of the change in GRP.

The results from our main regressions are shown in Tables 6 and 7. The main parameter estimate, β, is quite small but highly statistically significant, suggesting that while regional government's incentives to increase GRP are weak, they are not completely wiped out by transfers. In the GMM specification, the elasticity of the change in regional expenditures with respect to the change in GRP (Table 6) is only about 0.08, which is significantly smaller than the elasticity calculated in Plekhanov (2004) for 1994-2000. This elasticity appears to have increased somewhat in 2005-2008 relative to 2001-2004 when it was about 0.06. The elasticity estimated using fixed effects approach is considerably greater than the elasticity estimated by system-

budgets changed dramatically during this period. These changes presumably would not have a significant effect on GRP of the relevant regions, but could obviously have large effects on their budget revenues and expenditures. Indeed, regressions that include oil producers have the same signs of relevant coefficients, but their statistical significance is lower and other statistical properties are worse in GMM specifications than in the corresponding regressions that exclude major oil producers. The differences, however, are not large. Okrugs are excluded because they are generally small units and their relationships with the corresponding oblast' have evolved significantly during 2001-2008. While this evolution presumably did not have a profound effect on non-oil producing oblast', the effect on some of the okrug's budgets could have been significant.

[11] While governors elected prior to 2005 mostly remained in office until the end of their terms, their incentives presumably changed as soon as they understood that in order to continue in office they would have to be reappointed by the central government rather than be re-elected by the local voters.

GMM. Whether or not we adjust for first-order autocorrelation, this elasticity is of the order of 0.3-0.35. The elasticity in the post-2004 period is marginally higher. The elasticities in system-GMM regressions where regional tax revenue replaces GRP are about the same as those in regressions with GRP (see Table 6). In fixed effects regressions, however, tax-based elasticities are smaller than those calculated on the basis of per capita GRP. Tax revenue regression coefficients are particularly easy to interpret. For example, the point estimate in column (1) of Table 6 implies that for each 100 rubles of additional tax revenue the regional expenditures increase by approximately 23 rubles. This exercise implies that regional government incentives to increase GRP and tax revenue during 2001-2008 were positive, but relatively weak, particularly if we use system-GMM estimates. Also these incentives appear to have declined relative to the second half of the 1990's despite the apparently stricter use of formulas in the determination of transfers. Presumably this outcome has resulted from the use of equalization transfers.

Whatever the reasons, the broad conclusion from the analysis of total tax revenue and expenditure, and marginal fiscal incentives suggests on balance some increase in fiscal centralization in Russia over the last decade. As we noted earlier, political power in Russia had also centralized dramatically during 2001-2010. Before analyzing the impact of political and fiscal centralization, in line with Treisman (2000), one has to recognize that some of the implications are ambiguous because the effect of political centralization is often opposite of the consequences of fiscal centralization. However, one unambiguous implication of simultaneous fiscal and political centalization is the decline of interregional disparity of tax revenues.[12] In order to test this implication we first compare the coefficient of variation of regional per capita tax revenues for 2001 and 2008.[13] For all regions, including okrugs, this coefficient had declined rather dramatically from 1.49 in 2001 to 0.92 in 2008, although it rose again to 1.19 in 2009. However, okrugs usually have relatively small populations and high variance of tax revenues, in part due to the variance in oil and natural resource endowments. Excluding okrugs, the coefficient of variation of per capita tax revenues had risen from 0.63 in 2001 to 0.73 in 2007,

---

[12] Another unambiguous implication is that both political and fiscal centralization increase central government's revenue. This is a fairly straightforward implication and we have already discussed central and regional government revenue trends earlier in the chapter.

[13] The data on tax revenues in specific regions are from the website of Russia's Federal Treasury (http://www.roskazna.ru).

even though retreating somewhat to 0.68in 2008 and 0.66 in 2009. Similar trend is observed if, in addition to okrugs, also oil and gas producing regions are excluded. In other words, contrary to Treisman's conjecture, no decline in the variability of tax revenues had taken place between 2001 and 2008. This outcome is presumably due to a large extent to the fact that profits tax played a much more important role in regional tax revenues in 2008 than it did in 2001 while the role of taxes on consumption (VAT, sales tax, and excises) shrunk during the same period. Profits tax revenues are usually more volatile and more dependent on the economic situation of the region than revenues from taxes on consumption. This is confirmed by significantly greater variation of per capita CIT than of taxes on consumption among Russia's regions.

The trends in variability of regional expenditures are quite different from those of tax revenue. Whether we include okrugs and oil producers or not, there had been a dramatic decline in the coefficient of variation of per capita regional budget expenditures between 2001 and 2008. This coefficient of variation dropped from 1.35 to 0.92 for the entire set of regions, from 0.66 to 0.51for non-okrugs, and from 0.71 to 0.53 for regions that produced neither oil nor natural gas. This outcome is consistent with relatively low elasticities of expenditures with respect to GRP and tax revenues estimated in Tables 6 and 7, and probably in part reflects an increased role of equalization transfers. Somewhat surprisingly, the economic crisis of 2009 did not have a substantial effect on the variability of per capita tax revenue and budgetary expenditures, measured by the coefficient of variation. If we do not include okrugs in the calculations, the variability remained stable between 2001 and 2007, and declined slightly between 2008 and 2009. If significant oil producers are excluded, the coefficient of variation of per capita GRP in recent years has been smaller than that for per capita tax revenues but greater than for per capita budget expenditures. This is also an indirect evidence of the effectiveness of budget equalization policies of the central government.

4. Intraregional fiscal relations

While the focus of this chapter is on the fiscal relationship between the federal center and the regions, the relationships between the regions and their constituent municipalities also are an important aspect of Russia's fiscal federalism. Most Russia's regions have a two-tiered structure of their municipalities. As of January 1, 2010, Russia had 2,577 “first-tier” municipalities that contained a total of 21,330 of “second-tier” municipalities (Regiony 2010).

The current legal and administrative status of municipalities, their rights and responsibilities, and their relationship with the regional governments are defined in the 2003 Law on General Principles of the Organization of Local Self-Government (131-FZ). The framework for the fiscal aspect of region-municipal relationship is set in the Budget Code. Among other things, the Budget Code assigns specific minimum shares of some taxes such as PIT or the land tax to the budgets of municipalities where these taxes are collected. But the Code also leaves a great deal of discretion to the regional governments with respect to other tax assignments as well as the sharing rates in excess of the minimums set in the Code. The main limitation on this discretion is the Budget Code’s requirement that tax sharing rates used in a given region are uniform for all first-tier municipalities or are calculated according to a uniform methodology based on a limited number of factors such as demography and revenue-raising capacity. In addition to sharing tax revenues, regions can provide equalization subsidies and other financial support to municipalities, but again, they are required to use uniform methodology for calculating the amounts of these subsidies.[14] On the expenditure side, municipalities are supposed to pay for local (public) goods and services that are specified in the 2003 Law mentioned above (particularly, in Chapter 3 of the Law) as well as for the expenditures delegated to them by the regional and federal governments.

Given the significant amount of discretion that regional governments have with respect to their municipalities, it would not be surprising if the degree of fiscal inequality and fiscal independence of municipalities varied significantly from one region to another. These issues require an extensive examination because the existing research is already outdated. The latest comprehensive study of the disparities among Russia’s municipalities that we are aware of (Martinez-Vazquez and Timofeev 2008) uses the 1999-2001 data that presumably no longer reflect current situation given fiscal federalism reforms implemented since then. In particular, revenue assignments and the rules for providing subsidies to municipalities have been tightened and standardized since 2001.

[14] For more information see, in particular, Articles 58, 61-64, and 137-138 of the Budget Code available here: http://base.consultant.ru/nbu/cgi/online.cgi?req=home .

As for fiscal independence, the recent research has focused on measures that reflect the degree of centralization of intra-regional revenues and expenditures rather than on the ability of municipalities to influence their budgets on the margin (Freinkman and Plekhanov 2009). Even though the degree of centralization of revenue and expenditures may not be an ideal proxy of fiscal independence, the results based on this measure are instructive. Freinkman and Plekhanov find that while intra-regional fiscal decentralization has no significant effect on inputs into such important public services as education and utilities, it has a statistically significant positive impact on the results.[15] While the above results represent a good starting point, more research is clearly necessary into the issues of intra-regional fiscal relations in Russia and their effects on regional economic performance.

5. Conclusions

The extent of political and fiscal centralization in Russia has experienced dramatic changes over the last twenty years. At the end of the Soviet era Russia was, at least formally, heavily centralized both politically and in terms of the economy. After the break-up of the Soviet Union, however, the Russian federal structure became weak and unstable. Threats of secession were coming from all directions and many regions were able to strike various fiscal and political power-sharing arrangements with the central government.

The first shift that altered the type of the loose federation that existed at the beginning of the post-Soviet era occurred in the mid-1990s and paved the way to stabilization of intergovernmental fiscal relations. Further and more substantial reforms were implemented a few years later and included the introduction of the Budget Code that addressed the issue of spending responsibilities and fiscal powers of different levels of government, and the Tax Code that attempted to sort out a complicated web of federal, regional, and local taxes. By 2005, those reforms had resulted in a more or less consistent fiscal equalization mechanism for regions based on their tax raising capacity and produced a formula-based allocation of some other types of grants, including those targeted at public infrastructure improvements and various types of social

[15] In the case of education, the results are measured by the average regional scores on standardized national examinations of high school graduates. For utilities, the performance is measured by the number of breakdowns per 100 km of network length in water, wastewater and district heating.

spending. Even more important in the long run is the fact that reforms brought a relative clarity to revenue assignments and expenditure and management responsibilities of different levels of government. While these reforms have arguably produced an ambiguous effect on fiscal centralization and fiscal independence of the regions, the creation of federal districts and the elimination of elections of regional governors have signified a substantial rise of political centralization in the new millennium.

By using an updated and extensive dataset as well as different estimation techniques relative to other literature on this topic, we examined and evaluated the degree of fiscal independence of Russia's regions and some of the economic consequences of fiscal and political centralization. To that end, we analyzed the dynamics of the shares of regional tax revenues and expenditures in the respective totals and the dynamics of tax arrears during the 2000's.We also discussed briefly the changes in tax setting and tax assignment during the same period. More importantly, we evaluated the degree of fiscal independence of the regions by estimating the response of regional government's expenditures to changes in the size of the GRP (as a proxy for the region's tax base) and to changes in the region's tax collections. The motivation for this approach is that if regional government expenditures are highly responsive to GRP, the regional government has strong incentive to increase GRP and could be viewed as reasonably fiscally independent on the margin. While the analysis of regional shares of tax revenues and expenditures paints a somewhat ambiguous picture, the examination of marginal fiscal incentives suggests an increase in fiscal centralization in Russia over the last decade.

Our investigation also indicates that, contrary to Treisman's (2000) conjecture, no decline in the variability of tax revenues had taken place between 2001 and 2008.This outcome is presumably due to a large extent to the fact that a relatively volatile profits tax played a much more important role in regional tax revenues in 2008 than it did in 2001 while the role of taxes on consumption had been reduced during the same period.

We also noted that the trends in the variability of regional expenditures has diverged from those of tax revenue and showed that the variability of GRP in recent years has been smaller than that for tax revenues but greater than for budget expenditures. This offers support for the effectiveness of budget equalization policies of the central government. Finally, we briefly addressed the issue of intra-regional fiscal relations. This aspect of fiscal federalism in Russia has been much less analyzed than the center-regions fiscal relations. Meanwhile, intra-regional fiscal relations are important both for the political situation and for economic performance of the country. This issue represents a particularly promising area for research and policy innovations in Russia in the near future.

References

Alexeev, Michael, and Galina Kurlyandskaya. 2003."Fiscal federalism and incentives in a Russian region", *Journal of Comparative Economics,*31: 20-33.

De Silva, Migara O., Galina Kurlyandskaya, Elena Andreeva, and Natalia Golovanova. 2009.*Intergovernmental reforms in the Russian federation: one step forward, two steps back?* The World Bank, Washington, DC.

Freinkman, Lev, and Alexander Plekhanov (2009) "Fiscal decentralisation and the quality of public services in Russian regions," EBRD Working Paper No. 111.

IEP. 2011. Russian economy in 2010: trends and outlooks. Moscow: Gaidar Institute Publishers.http://www.iep.ru/index.php?option=com_bibiet&Itemid=99999999&catid=119&lang=en&task=showallbib.

Martinez-Vazquez Jorge, and Jameson Boex. 2001. "Russia's transition to a new federalism", World Bank Institute, Washington D.C.

Martinez-Vazquez, Jorge, and Andrey Timofeev. 2008. "Regional-Local dimension of Russia's Fiscal Equalization," *Journal of Comparative Economics,* 36(1):157-176.

Montinola, Gabriella, Yingyi Qian, and Barry R. Weingast. 1996. "Federalism, Chinese Style: The Political Basis for Economic Success," *World Politics*, 48: 50-81.

Oates, Wallace. 1972. *Fiscal Federalism*, Harcourt Brace Jovanovich, New York.

Plekhanov, Alexander. 2004. "Incentive aspects of revenue sharing: Central and regional government in Russia", Cambridge Working Papers in Economics, #0440.

Qian, Yingyi, and Gerard Roland. 1998. "Federalism and the Soft Budget Constraint," *American Economic Review*, 88(5):1143-61.

Regiony. 2010.*RegionyRossii: sotsial'no-ekonomicheskie pokazateli 2010*.Moscow: Rosstat.http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main/publishing/catalog/statisticCollections/doc_1138623506156 .

Shleifer, Andrei, and Robert Vishny. 1993. "Corruption," *Quarterly Journal of Economics*, 18(3): 599-617.

Solanko, Laura and Merja Tekoniemi. 2005. "To recentralize or decentralize – some recent trends in Russian fiscal federalism," Institute for Economies in Transition, Working Paper #5.

Thissen, Ulrich. 2005. ”Analysis of modern models of fiscal federalism on the basis of socio-economic efficiency of intergovernmental relations.Theory, evidence of the OECD countries, analysis of the situation in Russia”, Russian-European Center for Economic Policy (RECEP).

Treisman Daniel. 2000. “The causes of corruption: a cross-national study,” *Journal of Public Economics,* 76: 399-457.

Qian, Yingyi,Gerard Roland, and Chenggang Xu. 2006. “Coordination and Experimentation in M-Form and U-Form Organizations,” *Journal of Political Economy,* 114(2): 366-402.

Wilson, John D. 2006. “Tax Competition in a Federal Setting,” in *Handbook on Fiscal Federalism*, E. Ahmad and G. Brosio, eds., Edward Elgar Publishing Ltd, Northampton, MA.

Zhuravskaya, Ekaterina. 2000. “Incentives to provide local public goods: fiscal federalism, Russian style,“ *Journal of Public Economics,*76 (3): 337-368.

Tables

Table 1. Main stages of fiscal federalism development in Russia since 1991

Years	Milestones
1991-1993	***Initial Decentralization*** 1991 – Establishment of multilevel budgetary system: Federal Law No. 1550-1 (principles of local self-government); Federal Law No. 2118-1 (foundations of the tax system); 1992 – Most subjects of the Federation sign Federative Agreements; 1993 – Federal Law No. 4807-1 (foundations of the budgetary rights and the formation and use of extra-budgetary funds by regions and local self-government); 1993 – Russian Federation constitution adopted
1994-1998	***Making rules uniform and strengthening local self-government*** 1994 – Imposing uniform sharing rates for federal shared taxes for most regions; establishment of the Federal Fund for Financial Support of the Regions; 1995 – Federal Law No. 154-FZ (general principles of the organization of local self-government); 1997 – Federal Law No. 126-FZ (financial foundations of local self-government); 1998 – Passing the Budget Code, Tax Code (Part 1), adopting the *Strategy of the intergovernmental fiscal relations (IGFR) reform for 1999-2001*
1999-2001	***Further fiscal decentralization and political recentralization*** 1999 – Federal Law No. 184-FZ (general principles of the organization of legislative and executive government bodies in regions) 2000 – Development of the formula for equalization transfers; establishment of Federal Okrugs; development of provisional methodological recommendations on IGFR for subjects of the Federation; adopting Tax Code (Part 2); Budget Code becomes effective 2001 – *Fiscal federalism strategy through 2005* adopted
2002-2004	***Local government reform and further political centralization*** 2002 – Implementation of *Fiscal federalism strategy through 2005*; 2003 – Passing Federal Law No. 131-FZ (general principles of the organization of local self-government); 2004 – Passing of Federal Law No. 122-FZ that amends the Budget Code and a number of other federal laws, abolishes some federal laws, focusing on delineation of responsibilities of federal and regional governments, revenue assignments, transfer allocation, and monetization of in-kind benefits; elimination of the election of governors
2005-2008	***Stabilization of IGFR*** 2005 – Federal Law No. 122-FZ becomes effective; 2006 – Federal Law No. 131-FZ becomes effective; some regions are merged; 2008 – Transition to medium-term planning, changing methodology for equalization transfers

Source: Table 3.1 from De Silva et al. (2009) and Konsul'tantPlius (a database of Russian legislation and regulations) available at http://base.consultant.ru/nbu/cgi/online.cgi?req=home

Table 2. Federal and subnational tax revenues and expenditures excluding customs revenues and extra-budgetary funds, 2001-2011 (monetary values are in 1000's RUR)

Year	Federal Tax Revenue (without customs)	Consolidated Regional Tax Revenue	Total Tax Revenue	Share of Regional Tax Revenue in Total (%)	Share of Total Tax Revenue in GDP (%)
2001	1,129,057,687	859,617,235	1,988,674,922	43.23	22.24
2002	1,712,229,179	1,087,934,780	2,800,163,959	38.85	25.88
2003	1,941,371,098	1,341,076,380	3,282,447,478	40.86	24.85
2004	2,294,524,843	1,787,810,672	4,082,335,515	43.79	23.98
2005	3,178,384,562	2,789,336,000	5,967,720,562	46.74	27.62
2006	3,695,485,563	2,734,906,951	6,430,392,514	42.53	23.89
2007	4,802,181,795	3,562,972,182	8,365,153,977	42.59	25.16
2008	5,132,688,047	4,293,348,781	9,426,036,827	45.55	22.84
2009	3,986,830,355	3,844,759,350	7,831,589,706	49.09	20.18
2010	4,439,090,843	4,580,866,711	9,019,957,555	50.79	19.97
2011	5,985,115,365	5,273,053,842	11,258,169,207	46.84	20.71

Sources: Website of the Federal Treasury of the Russian Federation (http://www.roskazna.ru) including archived data; GDP in current prices are from Rosstat (http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main); authors calculations

Notes: Tax revenue does not include revenue from foreign trade activities (customs fees such as tariffs and export fee) and revenues of extra-budgetary funds such as social security contributions; customs fees constitute a significant part of federal budget revenue; extra-budgetary funds account for significant shares of both federal and regional revenues.

Table 3. Federal and subnational expenditures excluding extra-budgetary funds, 2001-2011 (monetary values are in 1000's RUR)

Year	Federal Expenditures	Consolidated Regional Expenditures	Total Expenditures	Share of Regional Expenditures in Total (%)	Share of Total Expenditures in GDP (%)
2001	1,321,902,684	1,289,744,387	2,611,647,071	49.38	29.20
2002	2,054,250,683	1,950,355,626	4,004,606,309	48.70	37.01
2003	2,358,546,300	1,984,252,343	4,342,798,643	45.69	32.88
2004	2,698,867,163	2,372,985,970	5,071,853,133	46.79	29.79
2005	3,512,182,986	2,940,426,978	6,452,609,964	45.57	29.86
2006	4,281,329,185	3,658,918,658	7,940,247,844	46.08	29.50
2007	5,983,035,510	4,803,307,679	10,786,343,189	44.53	32.44
2008	7,566,638,716	6,253,536,452	13,820,175,168	45.25	33.48
2009	9,636,823,314	6,256,280,803	15,893,104,117	39.36	40.95
2010	10,117,454,467	6,636,900,730	16,754,355,197	39.61	37.10
2011	10,935,222,555	7,679,309,832	18,614,532,387	41.25	34.24

Sources: Website of the Federal Treasury of the Russian Federation (http://www.roskazna.ru) including archived data; GDP in current prices are from Rosstat (http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main); authors calculations

Notes: Expenditures do not include expenditures of extra-budgetary funds that constitute a significant part of both federal and regional expenditures.

Table 4. Shares of main taxes and transfers in total tax revenue (%)

	Type of tax						Transfers as % of total tax revenue
Year	CIT	PIT	Excises	Simplified regime	Property	MET	
2005	34.25	25.35	5.25	2.57	9.08	1.94	15.22
2006	42.44	34.02	5.85	3.51	11.37	2.49	21.27
2007	42.96	35.55	5.03	3.47	11.54	2.09	17.58
2008	40.81	38.81	4.41	3.76	11.49	2.41	26.38
2009	27.81	43.33	6.39	3.94	14.82	1.88	38.69
2010	33.17	39.09	7.15	3.91	13.71	0.65	30.54
2011	36.56	37.85	7.06	4.08	12.86	0.66	31.18

Source: Russian Treasury website (http://www.roskazna.ru); authors' calculations.

Table 5. – Tax Arrears for Payments to Federal and Regional Budgets in % of the Corresponding (i.e., Federal or Regional) Tax Revenue

Year	Federal arrears, including fines and interest	Regional arrears, including fines and interest	Federal arrears, principal only	Regional arrears, principal only
2001	35.94	7.96	17.26	4.66
2002	26.00	6.93	6.53	8.78
2003	22.59	6.26	9.26	2.96
2004	34.86	5.15	11.55	2.76
2005	20.64	3.52	6.03	1.96
2006	17.93	3.47	5.24	1.88
2007	10.04	2.61	3.62	1.50
2008	9.10	2.14	3.23	1.35
2009	14.81	2.82	6.31	1.87
2010	13.18	2.61	5.25	1.80

Source: Form 4-HM of the Russian tax reporting statistics available at http://www.nalog.ru/nal_statistik/statistic/3777820/ (Archival data were used for years prior to 2006)

Table 6. – Regression analysis of regional fiscal incentives, 2001-2009

	System-GMM		Fixed effects with correction for autocorrelation		Fixed effects	
	(1)	(2)	(3)	(4)	(5)	(6)
ΔGRP [elasticity]	.027*** (.006) [.079]	.021** (.008) [.061]	.117*** (.009) [.342]	.108*** (.011) [.315]	.115*** (.017) [.336]	.108*** (.018) [.315]
$\Delta GRP \times post2004$ [elasticity]	-	.007** (.003) [.064]	-	.008* (.005) [.073]	-	.006 (.016) [.055]
R-square	-	-	-	-	.365	.367
AR(2) p-value	.276	.270	-	-	-	-
Hansen test p-value	.142	.357	-	-	-	-
Regions	66	66	66	66	66	66
Observations	527	527	527	527	527	527

Notes: (1) All regressions are linear. The estimates of elasticities (shown in square brackets) are evaluated at midpoints of the respective variables;

(2) *, **, and *** denote significance at 10%, 5%, and 1% levels, respectively.

Table 7. – Regression analysis of regional fiscal incentives, 2001-2009

	System-GMM		Fixed effects with correction for autocorrelation		Fixed effects	
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta Tax\ revenue$ [elasticity]	.230*** (.045) [.093]	.230*** (.076) [.093]	.398*** (.037) [.162]	.353*** (.046) [.143]	.399*** (.122) [.162]	.381*** (.105) [.155]
$\Delta Tax\ revenue \times post2004$ [elasticity]	-	-.000 (.032) [-.000]	-	.063* (.037) [.068]	-	.024 (.085) [.026]
R-square	-	-	-	-	.346	.347
AR(2) p-value	.662	.668	-	-	-	-
Hansen test p-value	.194	.167	-	-	-	-
Regions	66	66	66	66	66	66
Observations	527	527	527	527	527	527

Notes: (1) All regressions are linear (i.e., not in logs);the estimates of elasticities (shown in square brackets) are evaluated at midpoints of the respective variables;

(2) *, **, and *** denote significance at 10%, 5%, and 1% levels, respectively.