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Russia's regions as winners and losers: political motives and outcomes in the distribution of federal government transfers*

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ABSTRACT
Russia is a nation with a remarkably low degree of homogeneity across regions and a large number of regional imbalances or disparities. This article analyses which political factors affect the distributive politics of the federal government and how it contributes to equalizing the disproportions. The authors studied the annual regional distribution of federal transfers over the last decade. Part of these transfers was defined as 'politically sensitive' (subsidies, 'other grants') as they differ from the transfers relying on purely economic indicators (equalization grants) or linked to the partial devolution of power to the regions (subventions). The authors used such variables as regional wealth (precursor of bargaining power), governors' political influence (measured by expert ratings), ethnic composition (buying loyalty of non-Russian regions), geopolitical vulnerability (areas claimed/influenced from abroad), and electoral campaigns ('pork barrel' and 'loyalty reward' politics). Most of these factors proved to be relevant.

KEYWORDS
Budget federalism; intergovernmental relations; capital transfers; regional policy; Russian federalism

Introduction

This article examines political motives and outcomes of Russia's fiscal federalism with due regard to the quasi-federal nature of the state and the hybrid political regime. It also continues the research started earlier by Sharafutdinova and Turovsky (2016). Political federalism in Russia is on the decline given the centralization efforts which are associated with Putin, even though they are, in fact, deeply rooted in Russian history. At the same time, fiscal federalism has not lost momentum. Russia preserves the classical multitier system of federal, regional, and municipal budgets, with taxes and other revenues collected at all the levels, and different kinds of large and varying capital transfers. Russia's federalism is characterized by the existence of the regional level, with strong regional elites fighting successfully for federal resources. On their part, the federal authorities do not oppose bargaining and agree to concessions to the regions. In general, Russia witnesses clashes between competing interests, both at the federal and regional levels. Unsurprisingly, this system is biased in favor of certain regions and both regional and federal elites.

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We determined that some transfers may be referred to as politically sensitive (PSTs). The division differs from the traditional distinction between discretionary and non-discretionary transfers. PSTs are similar, to a certain extent, to non-discretionary transfers, but they are not the same. We believe that the term 'politically sensitive' can be applied to the transfers which are predominantly dependent on a particular case of center-regional relations. PSTs include subsidies and 'other grants' and must be differentiated from equalization grants and subventions, which are much less dependent on politics due to more transparent ways of their distribution relying on the state of the regional economy and population figures.

Using the official data by the Russian Ministry of Finance, we measured the PSTs for all the regional budgets over 10 years (2006–2015). In terms of Russian politics, this period covers the end of Putin's second term in office, the whole of Medvedev's presidential term, and the current third term of Putin. In terms of electoral politics, it embraces both recent 'big' electoral cycles such as the 2007–2008 and 2011–2012 parliamentary elections followed by presidential elections. We deliberately excluded the 'consolidated' regional budgets, which include the regional budget and all the municipal budgets in the region, and focused exclusively on the regional budget considering each region separately.

We seek to account for political decisions and find political motives in the intergovernmental financial relations. In addition, we are mindful of the three competing concepts of Russian regional politics. Two of them are subject to debate among officials. One is equalizing politics intended to decrease huge regional imbalances in the economic indicators such as GDP per capita or the poverty level (Vartapetov, 2010). The other is stimulating politics aimed at establishing the poles of growth, or 'locomotives', as they say, in Russia. It targets promising areas and cares little about poor peripheries. Experts often disapprove of government policies since they aim to combine both kinds of regional politics to cater for the needs of most of the territories one way or another, but they fail to produce either proper equalization or real 'locomotives'. Finally, the third component is unofficial policies of distributing regional privileges and meeting lobbyist demands, which makes the matter even more complicated (Martinez-Vazquez, 2007; Treisman, 1996).

Political factors of intergovernmental transfers in federal states

This part revolves around the evolution of research, which explores basic regularities in intergovernmental transfers' policy in federal states. The focus is on federalism whose institutions contribute to clearly political relationships between the federal center and subnational units (Diaz-Cayeros, 2006). In federations, the political potential of the intergovernmental transfers is easily revealed (Rodden & Arretche, 2004). However, for years Riker's (1964) point of view that federalism and its institutions were unable to affect the state policy dominated the discourse. On the other hand, federalism creates a heterogeneous political space (Gibson, Calvo, & Falleti, 2004). Thus, the unequal distribution of political power is asymmetrical both horizontally (the executive, legislative, and judiciary branches) and vertically (center and regions). It is difficult to imagine that federal institutions have no effect on policies, in particular, on the distribution of intergovernmental transfers.

In the literature on fiscal federalism, political factors of intergovernmental transfers' distribution can be grouped into three distinct categories, including 'pork barrel', institutional effects, and partisanship/coalition building.

As some scientific papers state, transfers' distribution is seen either as a reward for loyalty (electoral or, more broadly, political) or as a means of vote-buying. In other words, it is all about patronage. The choice between rewarding or buying is in itself a research matter. As Cox and McCubbins (1986) point out, the federal government adheres to a risk-aversion strategy; therefore, more transfers go to the regions where the ruling party enjoys greater support. An alternative approach implies that the federal center can exert influence on the electorate beyond ideological cleavages, thus, reducing the costs of vote buying (Dixit & Londregan, 1998; Lindbeck & Weibull, 1993). The federal center can resort to buying 'cheap votes' through transfers channeled to increase wages or boost employment in the public sector (Calvo & Murillo, 2004). In addition, the appeal to the natural constituency presupposes the existence of stable preferences, which are the outcome of 'pork barrel' politics. That is why, some scholars believe that patronage does not contribute to sustainable relationships and engenders instrumental voting (Stokes & Medina, 2004). Rodden and Arretche (2004) obtained a curious result in the Brazilian case. They discovered that both strategies are used in the country, both the purchase of (new) votes and the attempts to preserve the core electorate, although the former strategy is relevant only in the Brazilian states where incumbent president Cardoso received fewer than 1 million of votes (Ibid: 23).

In this article, we differentiate between pre-electoral and post-electoral politics. We regard the expenditures during the electoral campaign or at a slightly earlier stage as determined by the pre-electoral logic and the retrospective approach underpinned by the conclusions drawn from the previous elections' outcome (traditional 'pork barrel' politics or the political business cycle). The expenditures after the polls may be considered a reward for loyalty demonstrated in the elections. In both cases, the opposition to the ruling regime may also drive the government to change their decisions about the allocation of the resources, but it works the other way round and presupposes either a kind of punishment (cutting transfers) or buying support of the regions opposing the regime.

Some scientific papers, in their turn, dwell on institutional effects which the electoral design has on intergovernmental transfers. The research focuses on the 'overrepresented' regions, which are characterized by a relatively high per capita ratio of deputies in a federal parliament in comparison with other regions. Argentina was the most illustrative example (Gélineau & Dubé, 2005; Gordin, 2006; Porto & Sanguinetti, 2001). Gibson *et al*. also confirmed this hypothesis using the cross-subnational strategy (Gibson et al., 2004). Moreover, the scholars admit that the institutional factor of overrepresentation affects intergovernmental transfers more strongly than socio-economic ones such as the poverty and income level. Given the insignificant influence of the State Duma and its deputies on the allocation of funds, we skip this factor in our analysis.

Finally, some scientific papers are cantered on coalition-building strategies. This group of scholars (Cox & McCubbins, 1986; Oates, 1972; Wallis & Oates, 1988) is critical of the transfers' distributor acting as a kind of a dictator. For example, the head of state has to prop up the ruling coalition, which can be done through distributive policies which he/she is able to exercise influence on. This logic is applicable in the Brazilian case as well

(Figueredo & Limongi, 2000; Pereira & Mueller, 2002; Rodden & Arretche, 2004). Rodden and Arretche also proved that the president had played a major part in the transfers' distribution in an attempt to maintain political stability. Empirical evidence proves that the regions where relatively high-ranking officials join the presidential coalition, receive more transfers.

Governors can also impact substantially on coalition building, for instance as they act as mediators in one's bargaining with legislative bodies (Samuels, 2000; Samuels & Abrucio, 2000). However, sometimes empirical evidence reveals that the influence of governors can be minimal (Gélineau & Dubé, 2005; Rodden & Arretche, 2004). As for the controversial assumptions about the power of Russia's governors, this article will analyse their influence on transfers' distribution.

Thus, the issue in question generates keen interest in the studies of federalism in Latin America. It was also raised in the Russian case, with the focus on the role of electoral politics and financial support for the loyal regions (Popov, 2004; Yakovlev, Markez, & Nazrullaeva, 2011). The Russian studies suffer from the lack of hypotheses to consider beyond 'pork barrel' politics. It seems that some of the results have to be revisited, especially the ones concerning the role of the ethnic republics in the federation because '… the status does not grant any particular advantages for the republics, there are only special privileges for individual republics' (Zubarevich, 2010, 91). In this study, we use the 'pork barrel' analysis and study the effects of coalition building, while bearing in mind spatial cleavages which are characteristic of Russia, such as ethnic cleavage, and a central role of geopolitical thinking.

Data and research design

To test the hypotheses, we used two methods of regression analysis. The first one was the ordinary least squares method (OLS) which we employed in case longitudinal data was missing (we lacked the recently introduced expert indices on governors' influence and efficiency). We also studied panel data. Preliminary tests to determine basic panel techniques[1] show that the fixed effects produce more consistent results than random effects and pooled data.

We analysed the federal transfers over the last decade (2006–2015) relying on the data provided by the Russian Federal Treasury web site (www.roskazna.ru). There are five dependent variables in the distribution of Russia's budgetary transfers (grants in total, their two parts such as equalization grants and 'other grants',[2] subsidies, subventions) in the regressions that measure each variable in its own way:

- transfers' share in regional budget revenues, %. This variable shows the dependence of a region on a particular type of transfers;
- transfers' concentration in a region, %– the share of a region in the overall volume of such capital transfers in Russia. This variable demonstrates the weight of a particular region in the transfers distribution system in Russia;
- per capita transfer to a region (at 2006 prices for some models, thousand roubles) reveals the amount of PSTs relative to the size of the regional population.

We also take such independent variables as:

- '*GRP*' – GRP per capita (2006–2014) / '*GRP at 2006 prices*'– Gross regional product per capita at 2006 prices (thousand roubles). The source is the Russian Federal State Statistics Service (www.gks.ru);
- '*Rus*'– percent of ethnic Russians residing in a region. The 2010 Population Census data as proxy for the 2015 models is used;
- '*GeoVul*'– Geopolitical Vulnerability Index (GVI). The authors calculated it themselves (given the complete lack of such indicators in the scientific literature). It is the sum of 1 or 0 depending on the presence or absence of each of the seven criteria in a region: being a border region, territorial claims to Russia, terrorist activities, external geopolitical or cultural ties of the population, ethnic conflicts and/or diversity, religious diversity, extreme geographical remoteness from the political center of Russia or the exclave position. The index ranges from zero to seven.
- '*Influence*' (lagged) – the expert based Governors Political Influence Index which is provided by the Agency for Political and Economic Communications (www.apecom.ru);
- '*Effic*.' (lagged) – the composite Governors Efficiency Index which is provided by the Civil Society Development Foundation (www.civilfund.ru) that encompasses the governors' public support (based on regular polls), basic economic indicators, e.g. GDP, industrial productivity, wages, as well as the expert survey;
- '*UR2007*' /'*UR2011*'– performance of the United Russia party in the 2007 and 2011 federal parliamentary elections, %. The information source is the Central Election Commission of the Russian Federation (www.cikrf.ru);
- '*Putin%*' / '*Medv%*'– performance of Putin and Medvedev in the presidential elections in 2012 and in 2008 respectively, %. The information source is the Central Election Commission of the Russian Federation.
- '*RegElect*'– regional elections – parliamentary or gubernatorial, a dummy variable takes the value of 1 if a region held election that year or 0 otherwise;

A variable introduced for control purposes:

- '*Population*' (2006–2015, million people). The information source is the Russian Federal State Statistics Service.

Preliminary analysis: subsidies, subventions, equalization and 'Other' grants

The analysis of the factors impacting on Russian intergovernmental transfers will initially evaluate the necessity of their scrupulous exploration. Some of the transfers may be insensitive to political factors and should be excluded from the analysis in accordance with Bonvecchi and Lodola's (2011) 'lack of clusterization' argument and the aim of this research. To accomplish the task, we conducted the regression analysis assessing the major predictors for dependent variables, such as subsidies, subventions, equalization and 'other' grants separately. There are also grants in total in the Russian budgetary system, but they are just the sum of equalization and 'other' grants which have a different nature.

The numerous regression models developed in the analysis do not allow describing each model in the article. We use just four dependent variables, with each measured in

three ways mentioned above, as well as several 'short-living' independent variables scattered over time. Therefore, we are going to present clear and scrupulously studied results without overloading the appendices with all the models.

The first major question is whether economic development affects intergovernmental transfers. The longitudinal data – despite being scarce – allows answering the question about the 2006–2014 period. We added GRP per capita at 2006 prices to our models, as well as included information about regional elections (dummies), population figures and the corresponding years (dummies). The analysis shows that the federal government allocates only equalization grants taking into account regional economic development (Appendix A1). It should be emphasized that we decided against considering all the individual effects, in other words, by removing all regional peculiarities (fixed effects models). In this case, the result corresponds to the widely accepted distinction between discretionary and non-discretionary transfers, because equalization grants are distributed with regard to the formulas, which assess the economic performance of a region, while the other grants depend on individual decisions.

It should be noted that the panel analysis does not guarantee that there will not be any deviations from this pattern in a particular year. Meanwhile, there may be discrepancies between subsidies, subventions, and 'other grants'. The model of the 2015 distributive policy (taking into account the influence and efficiency of the governors), as well as the model of 2007-08/2011-12 (taking into consideration the 'pork barrel' and 'loyalty reward' arguments in electoral years) confirm this assumption.

The major influence of geopolitical vulnerability on intergovernmental financial distribution was proved most convincingly. The factor is a most influential one, second only to economic development. Therefore, geopolitics is of much relevance in most cases, and, importantly, even in all the models evaluating equalization grants as a dependent variable (Appendix A2). In fact, economic development and geopolitical vulnerability are the two major predictors for that kind of transfers. In some models, geopolitical vulnerability beats[3] (if we include it in the model) electoral loyalty (voting for the powers that be) making it statistically insignificant (Appendix A2, Models 4 vs. 5). In other cases (equalization grants as a share of budget revenues), loyalty both to the United Russia party or Vladimir Putin fails the t-test (being insignificant) without including geopolitical variable into the model (Appendix A2, Models 6 and 7).

Can we argue that equalization grants are politically motivated? Yes, we can, but it should be noted that it is incommensurable along with economic development as indicated by the β-standardized coefficient. For instance, in the 2015 models of equalization grants' allocation (Appendix A2, Models 1–3) the β-standardized coefficient for GRP per capita varies from -.561 to -.620 (high influence), whereas for geopolitical vulnerability it ranges from .137 to .205 (low influence). Can we argue that this kind of transfers is influenced by current political factors, such as lobbyism of regional actors, 'pork barrel' politics, etc.? Actually, we cannot because there are no significant short-term predictors – like governors' influence and efficiency, subnational elections, voting for the incumbent authorities – for equalization grants. It refers to the statement that distribution patterns, to a certain extent, reflect political interests (Rodden & Arretche, 2004). Therefore, in this case a policy of the federal center aimed at helping poorer regions is implemented.

Similar conclusions concerning short-term political factors can be drawn from the analysis of subventions' distribution. We cannot pinpoint any relevant political factors except the omnipresent influence of geopolitical vulnerability (Appendix A3).

The influence of political factors on subsidies' distribution (Appendix A4) is the most systemic one. The regression analysis shows that governors' influence and efficiency are significant here. For the first variable, β is bigger than for economic development if we measure subsidies as their concentration in a region or as per capita transfers (Appendix A4, Models 1 and 3). In turn, governors' efficiency is less important than governors' influence at the federal level (Appendix A4, Models 1–4).

Support for the regime may be regarded as a major factor affecting subsidies' distribution both in 'post-electoral' and 'pre-electoral' politics within the electoral cycle of 2011/12 (Appendix A4, Models 5–8), but we have no clear evidence of the kind for the 2007/08 elections. In the 2011/12 case, the pre-electoral logic (the retrospective analysis of loyalty to the authorities demonstrated in the previous elections, such as the 2007/08 elections to allocate the 2011/12 transfers), was evident in presidential elections rather than parliamentary elections. However, in the 2007–2008 elections the support of United Russia and Medvedev was immediately rewarded.

The study of 'other grants' is challenging, because the models hardly explain the data. The problem arises most likely from the versatility of 'other grants' considered together in the statistics. Only for the post-electoral distribution in 2008, R-square equals .330, but usually it does not exceed .200 (Appendix A5). Moreover, some regression models including 'other grants' as a dependent variable fail the F-test (these models are totally insignificant).

Nevertheless, the influence of political factors seems to be more visible for pre-electoral financing (2011/12), where support of the United Russia party in the previous elections is believed to be a reliable predictor (Appendix A5, Models 1–3). Its impact on the 'other grants' distribution is the highest among the variables and exceeds the impact of economic development in absolute values of the β-coefficient: .332 vs. −.213 with "y" standing for other grants seen as a share of the regional budget revenues[4]. It is not only pre-electoral logic of 'pork barrel' that makes 'other grants' similar to subsidies in terms of political factors' influence. Within post-electoral models[5] (for 2008), subnational elections have also a role to play (positive, but limited influence). Taking all the above and due to the poor relation of some part of the state's distributive politics to the current financial and economic situation in the regions, we merged subsidies and 'other grants' into the unified category of the politically sensitive transfers (PST). Below we analyse if this merger really works as a dependent variable for the political factors we are studying.

Evolution of transfer politics in Russia

Our analysis of the PSTs distribution shows that their amount is contingent on crucial political events (such as federal elections), as well as economic developments (such as financial crises, which hit Russia twice over the period in question).

As regards the overall share of the PSTs, we can see their surge in 2007, the year of the State Duma elections (when the United Russia party attracted the unprecedentedly high percentage of the popular vote). However, almost a quarter of this surplus was given to the Chechen Republic (+33.5 bln.) and Moscow (+15.2 bln.). 2008 and 2009 saw further

growth, but in 2009, the allocation process was affected by the global (and Russian) financial crisis.[6] Unsurprisingly, state funds were intensively exploited and exhausted by 2009, which led to the first major cut in PSTs in 2010. The new growth marked the year of 2011 when the State Duma saw a new electoral cycle (the United Russia, however, performed worse). From 2012 till 2015, the PSTs stagnated, which was followed by a slump in 2015 in the wake of another financial crisis. Curiously, the two crises impacted on the transfers' distribution differently. In 2009, the federal government procured the resources for PSTs to the regions, while in 2015 it failed as the emphasis was on stabilizing the federal budget (Table 1).

The analysis of the inflation-adjusted year-to-year fluctuations of PSTs gives a less positive, but a similar picture. Our analysis shows the amount of PSTs has been on the decline since 2012, the year when Putin returned to presidency and formed a new cabinet headed by Medvedev. PSTs were generously distributed shortly before the federal elections and under Medvedev (boosted also by the need to prevent the 2008–2009 crisis from spilling over to the regions). However, the third term of Putin saw the demise of this politics. The exception was made for the newly incorporated Crimea, which immediately became a recipient of substantial transfers. The current crisis seems to have depleted the federal resources, with little, if anything, left to support the regions financially. As a result, regions were left to their own devices and had to develop their own survival strategies.

Considering PSTs per capita, we see that the peak in Russia was reached in 2009. The figures for 2013 and 2014 are nearly the same, but they are apparently inflated and, thus, are significantly lower (in real prices) than in 2009.

The regional disproportions in PSTs per capita allow us to start the analysis of regional inequalities (see also Table 2). The figure for Chukotka was the highest in comparison with the other regions in 2015 (51 thousand rub.), but it is a peculiar case of the remotest Arctic region with the population of just about 50 thousand people (that is why we excluded Chukotka from some models). Putting the Chukotka case aside, one can clearly see that the poorest republics of the North Caucasus (the Chechen Republic and Ingushetia), both regions of the Crimean Peninsula (the Crimean Republic and the city of Sevastopol), and the Kaliningrad exclave surrounded by Poland and Lithuania (which is only slightly behind) enjoy the largest PSTs per capita. Unsurprisingly, the lowest figures are associated with two most densely populated cities (Moscow is at the bottom of the list, and Saint

Table 1. Basic facts about the PSTs in Russia.

	Amount of the PSTs, bln. rub. (at current prices)	Annual PSTs change (inflation-adjusted), %	PSTs per capita, thousand rub. (at current prices)	Overall share of the PSTs in the regional budgets, %	PSTs per capita regional differentiation, coefficient of variation	PSTs share in federal transfers in general, %
2006	190.2		1337.5	6.0	3.5	30.9
2007	406.7	188.4	2864.1	10.1	3.0	64.4
2008	501.1	106.8	3510.5	9.7	2.3	44.1
2009	735.2	133.8	5147.5	14.8	2.1	49.3
2010	540.6	67.1	3783.9	9.9	1.0	38.6
2011	682.0	118.5	4767.1	10.5	1.9	41.4
2012	703.7	96.4	4908.8	10.2	1.6	43.3
2013	732.5	97.4	5098.4	10.7	1.3	48.3
2014	750.4	90.8	5130.1	9.8	1.1	44.9
2015	568.7	66	3880.7	7.1	1.2	35.1

Source: The Russian Ministry of Finance; the calculations done by the authors.

Table 2. Annual regional rankings (PST concentration) in special cases[a].

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Chechen Republic	1	1	1	2	3	1	2	1	3	2
Tatarstan	3	6	3	3	1	3	3	4	5	4
Bashkortostan	2	10	18	22	19	21	25	19	12	12
Crimea	–	–	–	–	–	–	–	–	1	1
Sevastopol	–	–	–	–	–	–	–	–	10	23
Moscow City	40	2	4	7	24	5	5	15	68	52
Moscow Oblast	7	4	5	5	10	14	4	3	2	3
Saint Petersburg	56	7	9	12	8	8	6	2	9	42
Kaliningrad	55	24	19	11	20	11	13	26	6	6
Krasnodar	5	11	6	6	4	2	1	5	11	5
Primorye	17	37	12	4	5	6	24	32	28	15

Source: the Russian Ministry of Finance; the rankings calculated by the authors.

[a]This table gives the annual rankings for several groups of Russia's most peculiar regions: a) an ethnically-based autonomy-seeking republic (the Chechen Republic, Tatarstan, Bashkortostan); b) metropolitan areas (Moscow City, Moscow Oblast, Saint Petersburg); c) Crimea and Sevastopol; d) principal geopolitical strongholds in the Baltic (the Kaliningrad exclave), the South (Krasnodar), and the Far East (Primorye).

Petersburg is last but two) and the richest oil and gas producers (Yamalo-Nenets Okrug is last but one). However, the amount of PSTs to capital cities can be colossal.

Interestingly, after the 2012 presidential elections the decline in PSTs led to smaller variation in their distribution. To check this fact, coefficients of variation for the PSTs per capita annual distribution in Russia's regions are needed. In the analysed period, 2006 saw the highest variation, while 2010 witnessed its decrease as the federal center seemed to have started backing its regions on an equal basis. Actually, following the 2009 crisis such support decreased in volume. Before the 2011 elections more individual decisions led to the rise in variation which was followed by a new drop. Consequently, the variation was at its low in 2010, which coincided with overall cuts in PSTs, and it remained low in 2014–2015. The decrease in transfers can be interpreted as a sign of less regional variations whereas their increase implies that the most privileged regions always get substantial transfers.

The analysis of the individual trajectories of the most privileged regions testifies to the fact. Although the Chechen Republic remains one of the major recipients of politically sensitive transfers, the region saw their rise only during the parliamentary elections in 2007 and 2011 (here we also consider the inflation factor, so the growth was 'real'). Tatarstan, another major recipient of PSTs, has been witnessing their steady decline since 2011. Primorsky Krai has been facing a fall in PSTs since 2010, and Krasnodar Krai has experienced the same since 2013.[7] Moscow saw a sharp growth in 2011, a plunge in 2013 and in 2014, and a slight drop in 2015. Saint Petersburg was accorded fewer PSTs in 2014 and 2015. Despite the fact that Moscow Oblast has seemed luckier over the recent years thanks to the 2012 considerable growth in PSTs, the falls were recorded in 2010, 2013 and 2015. As for the newly incorporated regions of Crimea and Sevastopol, they received copious amounts of PSTs in 2014 and far less in 2015.

In 2015, only a few regions received more PSTs than earlier given the inflation factor. The oil-producing Nenets region witnessed their massive rise, which could be accounted for by the launch of new infrastructure projects. However, the scale of transfers is still modest in the area. The two North Caucasus republics – Karachayevo-Cherkessia and Ingushetia – enjoyed a sufficient growth rate. Nevertheless, it does not reveal a further growth in support of the North Caucasus as it might seem. On the contrary, the year before Karachayevo-Cherkessia suffered a slump in PSTs and Ingushetia saw a drop in PSTs in 2013 and 2014. In addition,

Samara Oblast and Chukotka saw transfers edging up to become the last on the short list of Russia's regions gaining more PSTs in 2015. On balance, regional financial privileges were partly withdrawn after the recent federal elections and especially under the current crisis. Crimea's case became just a much-needed exception to the rule.

Our calculations show that the PSTs average share in Russia's regional budgets is rather modest. It accounted for 6% in 2006, but jumped to 10.1% in 2007 and reached its peak of 14.85% in 2009. This rise was obviously caused by the global financial crisis, thus leading to a more active subsidizing policy towards the troubled Russian regions. However, after 2009 this share remained at the level of 10% and moderately increased to 10.5% in 2011 when the parliamentary elections took place. The 10% share may be the adequate empirical result of the PSTs distribution in Russia. Against the background of the economic crisis, it fell to 7.1% in 2015. However, the PSTs shares vary much over the regions. In 2015, the percentage fluctuated from 0.25% in Yamalo-Nenets Autonomous Okrug and Moscow City to 46.2% in the Chechen Republic. Besides, some republics of the North Caucasus, including Ingushetia and Karachayevo-Cherkesia with almost 40% and 30% respectively, hinged on PSTs most, along with Crimea and Sevastopol with the 40% share. Throughout recent history, these shares peaked at 64.7% (the Chechen Republic in 2011), 66.5% (Crimea in 2014), and at 74.1% in 2007 (Koryak Autonomous Okrug in the Far East). Obviously, Russia's regions will completely depend on PSTs in case of low revenues and/or a relatively low amount of politically non-sensitive transfers, namely equalization grants and subventions. Ethnic republics are most reliant on PSTs, with Chechnya being an undisputed leader for years. It topped the list for the whole period in question. The country's poorest republics of the North Caucasus and Southern Siberia, especially Tuva and Altai Republic, also count on PSTs. Moreover, the Russian exclave of Kaliningrad derives massive support from the federal center through PSTs.

To illustrate this distribution it was necessary to consider regional budgets with the smallest percentage of PSTs. This list mainly includes the richest regions with largest budgets, with Moscow City and Saint Petersburg being the major recipients. Yet their own revenues reduce the share of PSTs in the budgets. In addition, Russia's major oil and gas regions, such as Khanty-Mansi Autonomous Okrug and Yamalo-Nenets Autonomous Okrug, are least dependent on PSTs, when it comes to small amounts of transfers and their tiny shares in the budgets.

However, to analyse the federal strategies on PSTs, it is more important to heed their concentration in Russia's regions (the PSTs percentage in a certain region from their whole amount in the state). This allows us to comprehend which regions enjoy privileges under the federal distributive politics. The Chechen Republic dominated the rating in 2006, 2007, 2008, 2011, and 2013. In 2014 and 2015, Crimea took first place; just as Tatarstan, Krasnoyarsk Krai, and Krasnodar Krai did in 2010, 2009 and 2012 (two years before the Olympic Games) respectively. In 2015, Crimea with the 6.2% share was followed by the Chechen Republic (5.7%), Moscow Oblast (5.3%), and Tatarstan (3.3%). Rarely did any region cross the 10% threshold, which would highlight a clear imbalance in the distribution. However, it was Crimea (11.6%) and Chechnya (10.9%) which exceeded the threshold in 2014 and 2007 respectively.

According to a rather rough indicator of the average annual concentration over the period from 2006 to 2015, the Chechen Republic comes first with the 6.4% share of PSTs, which is followed by Tatarstan with 4.5%, Krasnodar Krai with 3.7%, Moscow

Oblast with 3.5%, Krasnoyarsk Krai with 3%, Moscow City, Primorsky Krai, Rostov and Belgorod regions, and Bashkortostan with almost 2%. This list comprises the most privileged ethnic republics, such as the Chechen Republic, Tatarstan, and Bashkortostan, the key metropolitan region, namely Moscow City and Moscow Oblast, and the major international event venues, including Krasnodar and Primorsky Krai. Add to this mix Rostov Oblast, another big region in southern Russia, politically important Krasnoyarsk Krai in Siberia, and small Belgorod Oblast in central Russia, which is famous for its longest-serving governor (in power since 1993).

Testing the hypotheses

Our analysis involves testing four sets of hypotheses. Firstly, we wanted to explore the partly-political impact of economic wealth (or poverty) on the PSTs distribution. In this context, there is scope for making two contradicting assumptions. One of them considers the federal equalization politics, implying that the PSTs distribution is consistent with equalization grants, thus assisting poorer entities. At the same time, we examine greater lobbying capacity of more affluent regions, which can redistribute PSTs for their own benefit.

The regression analysis (see appendices) proves the hypothesis on the equalizing role of PSTs and on higher chances of poorer regions. As both the 2015 model (Appendix A6) and panel regression (Appendix A8, Models 1–3) demonstrate, GRP (gross regional product) per capita has something to do with all the three dependent variables.

Firstly, it is noteworthy that federal transfers have failed to reduce regional inequalities in Russia, which raises the issue of ineffective methods, be it equalization grants or PSTs. The latter is partly to blame for the failure, as they do not necessarily go to backward regions, thus undermining equalization. Our study shows that politically sensitive transfers deal with economic poverty and should have a particular equalizing effect on entities. Such transfers have recently ceased to accomplish their function as their drop coincides with Russia's new economic polarization. To check this, we calculated the coefficients of variation for the regions' own revenues (without transfers) per capita. This indicator shows regional diversity in terms of local financial capacities. In 2012, this variation fell for the last time and then started to grow steadily, especially in the hardest year of 2015. Before 2012, it had fluctuated reaching its low shortly before the crisis of 2008 and had changed each year throughout 2009–2012. Therefore, Russia's equalization policy is generally ineffective, and PSTs do not help to remedy the situation despite the fact that they mainly favor poorer regions (with some exceptions, of course).

Secondly, we examined 'real' political factors and analysed the influence of geopolitical and ethnic factors, given both our index of geopolitical vulnerability and the share of ethnic Russians in the regional population (according to the 2010 census). We assume that the federal government strives most vigorously to keep the most vulnerable areas under control by pumping money there, which is regarded as a sort of 'pragmatic' or 'prudent' policies. They can be interpreted as 'buying' of potential breakaway regions and developing them at the same time. The factor of geopolitical vulnerability turned out to be relevant to all the models. It is well correlated with all the dependent variables. Testing ethnic composition also produced good but less significant results (Appendix A6). Ethnic peripheries are indeed more vulnerable in terms of geopolitics, but the federal

government supports the distant Russian-speaking peripheries such as the Far East or Kaliningrad.

Ethnic politics and preventing separatism are apparent, when it comes to the Chechen Republic and Tatarstan. The case analysis proves that the federal authorities are eager to invest money in the republics with more centrifugal tendencies, thus paying for their loyalty. The most vivid example is Tatarstan, which, along some other regions, spearheaded the effort to acquire greater autonomy in 1990–1993 (the 'parade of sovereignties'), and the Chechen Republic, which sought to secede from Russia at that time. Undoubtedly, there was another strong reason to allocate money to Chechnya, such as its post-war reconstruction. Both regions have consistently remained top recipients of PSTs. The background of these entities makes it clear that the federal center needs to reward their loyal elites, given their possible nationalist sentiments.

Thirdly, we tested the hypothesis on regional lobbying capacity. We checked the influence of the two variables such as governors' influence on the federal center and their efficiency (Appendix A6). The first of these variables is calculated as an average of expert evaluations (from 0 to 10) for each regional governor monthly published by the Agency for Political and Economic Communications (APEC). We included the average annual evaluations for each region in our model and concluded that the influence of regional leaders is positively linked with the PSTs distribution (concentration) and regional dependence on such transfers. In other words, governors' lobbying capacity, at least, as a panel of APEC's federal experts believes, is another real factor in Russia's transfer policies.

Unsurprisingly, the variable of governors' efficiency turned out to be less relevant, since it encompasses many indicators including governor's local popularity etc. At the same time, the federal government can consider effective governors more reliable. In addition, this rating is strongly correlated to the above-mentioned APEC indicator. As we expected, it turned out that regional efficiency impacts upon the PSTs distribution rather than upon regional dependence on such transfers.

The 'governor factor' is rather elusive but salient because of its volatility, which can influence changes in the PSTs distribution (the other factors are more rigid and stable). Governors' rotation seems to be an important factor to impact upon regional lobbying capacity in many ways. This needs a more in-depth analysis at the individual level. In this study, we tested the role of gubernatorial appointments (Reuter & Robertson, 2012) in order to check the factor in general. From 2005 to 2012, the President appointed Russia's governors. Although direct elections have been held since 2012, the Head of State appoints interim governors before the election time, thus determining the campaign's future frontrunners. We assume that the federal center seeking to change the regional leadership may support its new favorites with more transfers following the appointment process. Therefore, we analysed the growth of PSTs the year after the appointment of the new governor.

In fact, the Kremlin performed rather effectively when supporting new appointees in 2011–2012, during the last federal elections overwhelmingly dominated by the political logic of financial decision-making (Appendix A7). In 2012, 19 governors were changed and 11 of the regions got more PSTs in 2013 while in most Russia's regions they decreased. In 2011, the corresponding number was small (six changes) and the ratio was equal (three gains and three losses in the 2012 PSTs). Anyway, the whole amount of the PSTs in 2012 fell and three victors stirred our interest.

The previous period typified by the absence of direct gubernatorial elections saw a favorable situation for most new appointees, but they were not alone. When the crisis happened and the number of PSTs decreased in 2010, almost all the nine appointees of 2009, except one governor, found themselves with fewer transfers. However, in better times they were well and alive. The ratio of winners and losers was 7–4 in 2007, 6–2 in 2008, and 14–5 in 2010. The policy of support for the new gubernatorial appointees ended only in 2014 with bitter ratios like 0–7 in 2013 and 1–7 in 2015, with the new governor of Nenets Autonomous Okrug being the only winner in 2015. This means that the governors' rotation was a central factor to have an effect on the next year after they came to power.

Finally, the fourth and most complicated set of hypotheses considers Russia's electoral politics and its 'pork barrel' implications (Appendix A7–A9). In this context, we tested many possible factors such as: 1) post-electoral support of loyal regions ('reward' for loyalty); 2) pre-electoral support of loyal regions (inspiring loyalty) or opposition ones ('buying' loyalty); 3) support for the regions where regional elections were held the same year (the logic of electoral authoritarianism in favor of incumbent governors and the ruling party). As it was mentioned before, the federal center allocated more PSTs to its regions before voting (especially in 2007). Nevertheless, the link between their regional distribution and electoral outcomes raises particular questions.

The post-electoral model of reward was applied to both the 2007–2008 and 2011–2012 electoral cycles relying on the distribution in 2008 and 2012. We also paid attention to the fact that the presidential elections were held early those years, namely in March, and the whole year of the presidential contest can be generally considered the year of reward for both parliamentary and presidential campaigns.

The two electoral cycles appeared to be different. The policy of reward was successful in 2012 when Putin was elected for his third term and after United Russia's poor electoral performance in 2011. However, we cannot prove that the same method was employed in 2008 when Medvedev was elected Russia's President (Appendix A8; Models 2, 4, 6). The only connection, which is statistically important (Appendix A8, Model 1), exists between United Russia's support and regional dependence on PSTs, which is explained by its extraordinary support in the national republics such as the Chechen Republic. Thus, the increase in PSTs and their overall distribution in 2008 were not directly linked to the electoral results. In 2012, the PSTs increased in absolute figures, but slightly decreased in prices of 2011. Their distribution significantly coincided with the electoral results on the regional scale, which can be seen as a sign of reward policy. However, we cannot say that such a 'pork barrel' policy is permanently used as an integral part of Russia's financial decision-making.

The pre-electoral logic of inspiring/buying loyalty was tested in the context of the 2011–2012 electoral cycle. We analysed the impact of regional loyalty at the previous federal elections (2007–2008) on the PSTs distribution shortly before the 2011 elections. It is noteworthy that the parliamentary elections were held in December and most money of the corresponding fiscal year had been spent before the procedure. The means of commanding previously existing loyalty turned out to be effective in the 2011–2012 elections (its relevance for the 2007–2008 elections is left for further studies). United Russia's results in 2007 influenced all the three dependent variables (Appendix A9). However, we cannot be sure about their effect on the concentration. Moreover, the case of the presidential elections is not clear at all. What we lack is the link between the regional voting for Medvedev in 2008 and the PSTs distribution (their

concentration in the regions) before Putin's election in 2012. However, Medvedev's result proves to be important for PSTs per capita and regional dependence on PSTs in 2011.

At the same time, we cannot state that the federal government made special efforts to buy the loyalty of more opposition-minded areas. Nor can we say that it punished them by cutting transfers before the elections (or after them). We analysed the voting for the Communist party and its candidate Zyuganov in the 2007–2008 elections as the most explicit case of opposition voting in comparison with other more loyal parties and candidates such as LDPR, and Just Russia. As a result, we found no connection with the PSTs distribution in 2011.

One can acknowledge the important role of federal elections in the PSTs distribution. However, we cannot insist that the federal government always pays close attention to electoral outcomes and funnels money into buying or rewarding regional loyalty. Anyway, the Ministry of Finance hardly analyses any electoral statistics while making decisions. Yet it can receive, albeit rarely, 'signals' from the Kremlin. We see that both the pre-electoral and especially post-electoral logic of 'pork barrel' politics strongly typified the recent federal elections. Interestingly, under federal elections the role of regional economic development (a more 'objective' factor) becomes minor while 'political factors' acquire renewed importance. At the same time, no particular financial policy has ever been ever implemented towards the opposition-leaning regions. This greatly differs from the 'regimes of punishment' in Latin America where the state's expenditures could be cut in the opposition-favoring regions. Moreover, there is no evidence that less loyal regions can be deprived of financial support despite the fact that this opinion is prevailing.

The analysis of the regional elections as a possible reason for investing federal money in the region did not produce any sufficient results. Their significance was established only in the time of federal elections, which can be explained by the overall influence of the electoral cycle. Nonetheless, in the periods between the federal elections this factor does not work. This means that the federal government considers the federal elections much more important than the regional ones, and that there is no coherent decision-making regarding the need to support the ruling regional elites when they stand for elections. Such support is more dependent on governors' own lobbying capacity while the voting procedure may be an additional argument.

To look closer at the role of regional elections, we took the period of direct gubernatorial elections re-established in 2012 in order to track the evolution and understand the overall approach of the federal government, while pointing to the successful cases of lobbyism. We see that the politics of individual support existed in the logic of electoral authoritarianism in 2012 (as it was with the federal elections in 2011–2012), but it gradually lost its importance amid the macroeconomic problems. At first, let us remember that the amount of PSTs in Russia has been decreasing since 2012. However, in 2012 among the five regions where gubernatorial campaigns were held, the three entities witnessed an increase in transfers. In 2013 the ratio of the regions with the gubernatorial elections gaining and losing PSTs became equal (four and four; but in all the three regions with the new governors appointed the same year, it rose). In 2014, it eventually worsened while the number of elections was most substantial. Among the thirty regions, only eight experienced a growth of PSTs. This list included the five regions with newly appointed governors who got more PSTs than previously and three regions, which, however, got fewer transfers. Finally, in 2015 all the 21 regions with the direct gubernatorial elections faced a decline in PSTs.

Electoral politics and governors' lobbying capacities seem to be the main factors of volatility in Russia's distributive politics, since ethnic composition, geopolitics, and regional wealth are more rigid factors. The analysis of the influence of the previous year's PSTs distribution on the next year's decision-making proves that path dependence really exists. Yet this factor is relevant to regional dependence on PSTs, which is the most obvious thing as poor national republics tend to be most reliant on such transfers. The PSTs distribution (or concentration) obviously counts on the changing state of affairs. In fact, if transfers are really politically sensitive, they do not have to be annually distributed in the same way.

In the end, we have to mention the two problems in the regression analysis that could make our coefficients inconsistent with some models. The first one is multicollinearity between the variables measuring governors' efficiency and influence, and between voting for the regime and the geopolitical vulnerability index, given a high level of loyal voting of Russia's ethnic peripheries. This situation is controlled through the variance inflation test (VIF). The VIF values for all the variables in each model do not exceed 2.1 (scholars tend to use the threshold of 4).

The second problem is endogeneity that could have emerged between GRP and PSTs. On the one hand, the federal government aims to promote economic growth and allocate more PSTs to underdeveloped regions. On the other hand, political and economic actors in these regions may have no stimuli for modernization as they capitalize on PSTs as a form of rent. It mathematically means that GRP, the explanatory variable, may be correlated with the errors. Indeed, it is true for the PSTs share in budget revenues, which is high in poor regions. For instance, the correlation between them and errors is $r = -.366$ (Appendix A6, Model 1), but there is no endogeneity for the other types of PSTs, that is for concentration in a region ($r = .067$ in Model 3, Appendix A6) as well as for PSTs per capita ($r = -.167$ in Model 5, Appendix A6). To assess the influence of economic development on PSTs, we use two-stage least squares for panel regression – 2SLS (Appendix A10, Model 4). The foreign investments per capita in USD were the instrumental variable. The variable is highly correlated with GRP ($r = .600$), but fails to correlate with the share of PSTs in budget revenues ($r = .170$). The results of Model 4 (Appendix A10) show that the correlation between GRP and errors is not critical. It means that our GRP coefficients are consistent.

Conclusion

Our analysis proves that some federal transfers are politically motivated. Despite the fact that both PSTs and equalization payments help poorer regions, they are not identical. We identified a group of factors affecting the regional distribution of those transfers which can be conventionally referred to as politically sensitive. The vital component is geopolitical vulnerability which is often (but not necessarily) combined with the prevalence of ethnic minorities. The central government tries to ensure the loyalty of potential breakaway regions and draw the local elites' support by allocating more transfers. Ethnic and geopolitical factors are supplemented by political influence of regional governors and their lobbying efficiency, which owe much to the volatility of transfers (due to governors' rotation, for example).

Electoral politics is a more complex matter. Besides, it cannot directly affect financial decision-making. We discovered that the period of the 2011–2012 federal elections saw the distribution of transfers fitting into the 'pork barrel' logic, which implies supporting

previously loyal areas and especially rewarding the regions, which performed well at the elections. At the same time, the federal government neither buys off nor punishes the regions which are most antagonistic to the regime. Moreover, the electoral cycle of 2007–2008 did not give such evident examples of politically biased financial decisions. In addition, the federal government does not follow any steady path considering subnational elections and regional gubernatorial appointments. It is slightly biased in favor of the newly appointed governors, but this policy has been losing its relevance amid the severe financial shortages. In addition, we can see that the federal government has to change its financial policy in the times of crises. For instance, in 2009, PSTs reached their peak, while in 2015 the center rejected this practice. Nowadays the PSTs distribution is in decline.

Notes

1. Wald and Hausman tests.
2. In this article we use more common definition such as 'grants' to identify those transfers which are called 'dotations' in Russian. The analysis does not include 'other transfers' which are small and too versatile addition to the transfers considered in this article.
3. All the models have been tested on multicollinearity with the variance inflation test (VIF) and obtained values not exceeding 2 for all the variables. It is widely known that there is much controversy about the threshold, but scholars tend to admit that the VIF-value should be below 4.
4. Furthermore, economic development is irrelevant for the other measures of the dependent variable (concentration and per capita).
5. Where 'other grants' are given as per capita (App. 5, Models 4-5).
6. The main beneficiary was Primorsky Krai, which received 25.3 bln. roubles more in comparison with the previous year.
7. Major international events perform an essential role in boosting transfers. Two Russian regions benefited as a result. They are Krasnodar Krai in the context of the 2014 Sochi Olympics and Primorsky Krai in light of the 2012 APEC summit in Vladivostok. However, Krasnodar Krai had been an important recipient of PSTs even before the decision on the Olympic Games venue. Moreover, the region can even be considered another Russian capital because Sochi is the second residence of the Russian President. Although Primorsky Krai is of less political importance, it was brought to the fore as Russia's gates to the Pacific Ocean and the host of the APEC summit. In the midst of the construction boom, the two entities received the largest transfers for a couple of years prior to the remarkable international events. After a while, the amount of transfers started to decrease. As the events after the 2013 flood in the Far East showed, natural calamities can also cause a surge in transfers.

Disclosure statement

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Appendix

Appendix A1. Panel regression, 2006–2014 (fixed effects).

	Equalizing grants (log)			'Other grants' (log)			Subsidies			Subventions		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
GRP in 2006 prices (L1)	**−.007*** **	**−.004*** **	**−.005*** **	−.003	−.002	.001	.000	.000	−.001	.000	.000	.001
	(.001)	(.001)	(.002)	(.003)	(.003)	(.003)	(.003)	(.001)	(.002.)	(.001)	(.000)	(.002)
RegElect.	−.012	.012	−.003	0.94	.036	.109	.533	.069	.380	.055	.017	.023
	(.041)	(0.35)	(.043)	(.083)	(.080)	(.083)	(.355)	(.075)	(.238)	(.155)	(.029)	(.052)
Populaton	.412	−.009	.000	**.002** **	**.002** **	**.002** **	−.003	**−.002** **	−1.90	.001	.000	−.528
	(.595)	(.513)	(.001)	(.001)	(.001)	(.001)	(.003)	(.001)	(1.37)	(.001)	(.000)	(.554)
Constant	**2.47** **	.344	**8.80*** **	**−4.04*** **	**−4.13** **	**2.70* **	**13.3** **	**5.83*** **	**7.3*** **	2.83	.492	**3.32*** **
	(.906)	(.791)	(.964)	(1.61)	(1.55)	(1.63)	(6.23)	(1.32)	(2.44)	(2.78)	(.516)	(.937)
Year dummies (2007–14)	yes	yes	yes	Yes	yes	yes	yes	yes	yes	yes	yes	yes
R^2	0.183	.721	.078	.249	.477	.350	.253	.324	.107	.445	.364	.455

Notes: a) dependent variables: (1) transfers' share in the regional budget revenues, %; (2) transfers' concentration in a region, %; (3) – per capita transfer to a region (at 2006 prices); b) 'yes'– some of the year dummies are significant in the model; c) standard errors in parentheses.
*- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01.

Appendix A2. Regression analysis (OLS) – equalization grants.

	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta
GRP (L1)	**−.006*** **	−.561	**− .006*** **	−.620	**− .006*** **	−.583	**−.005** **	−.248	**−.004** **	−.233	**−.008*** **	−.431	**−.008*** **	−.470
	(.001)		(.001)		(.001)		(.002)		(.002)		(.001)		(.001)	
Infl (I1)	−.151	−.119	−.084	−.084	−.140	−.122								
	(.114)		(.104)		(.096)									
UR%							**.020** **	.223	.003	.037	.013	.156		
							(.010)		(.012)		(.009)			
Medv%													.011	.075
													(.015)	
RegElect.	.147	.065	−.008	−.004	.037	.018	−.200	−.043	−.020	−.004	−.142	−.033	−.108	−.025
	(.177)		(.164)		(.147)		(.436)		(.425)		(.383)		(.388)	
GeoVul.	**.202*** **	.295	**.137** **	.248	**.205*** **	.322			**.323** **	.304				
	(.059)		(.062)		(.015)				(.129)					
Population	**−.197** **	−.192	**.280*** **	.344	**−.177** **	−.188	**−.654*** **	−.446	**−.615*** **	−.419	**−.520*** **	−.379	**−.525*** **	−.383
	(.091)		(.087)		(.077)		(.141)		(.136)		(.124)		(.126)	
Cons.	**4.38*** **		**.941** **		**10.1*** **		8.76		**8.99*** **		**3.64*** **		**3.75*** **	
	(.482)		(446)		(.409)		(.831)		(.805)		(.732)		(1.20)	
R^2(adj.)	.634		.538		.689		.374		.421		.444		.429	

Notes: Dependent variables – (1) EQ grants' share in the regional budget revenues in 2015, %; (2) EQ grants' concentration in a region in 2015, %; (3) per capita EQ grants in a region in 2015; (4 and 5) per capita EQ grants in a region in 2012 (post-electoral models); (6 and 7) EQ grants' share in the regional budget revenues in 2008, % (post-electoral models).
*- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01.

Appendix A3. Regression analysis (OLS) – subventions.

	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta
GRP(L1)	.001	.086	**−.002*** **	−.417	**−.002*** **	−.417	**.004*** **	.379	**.004*** **	.395	**−.021*** **	−.642	**−.011*** **	−.587
	(.001)		(.000)		(.000)		(.001)		(.001)		(.003)		(.002)	
UR%			−.004	−.040			−.004	−.083			−.034	−.142		
			(.013)				(.007)				(.027)			
Put%													−.017	−.086
													(.023)	
Medv%					−.011	−.062			−.003	−.004				
					(.023)				(.008)					
RegElect	2.22	.001	.282	.052	.272	.050	.078	.059	.068	.051	.005	.001	.018	.003
	(232.6)		(.546)		(.541)		(.135)		(.135)		(.446)		(.438)	
GeoVul.	**.176** **	.262	**−.400** **	−.330	**−.382** **	−.316	**.111** **	.296	**.094* **	.249	**−.722*** **	−.406	**−.504*** **	−.453
	(.078)		(.160)		(.161)		(.050)		(.048)		(.195)		(.127)	
Population	**−.324*** **	−.414	**−.319** **	−.234	**−.314** **	−.230	**−.193*** **	−.448	**−.194*** **	−.449	**−.322* **	−.161	.151	−.120
	(.103)		(.137)		(.138)		(.045)		(.046)		(.168)		(.118)	
Infl (l1)	.153	.144												
	(.145)													
Constant	**1.96*** **		**7.61*** **		**8.09*** **		**1.31** **		**1.07* **		**15.5*** **		**10.6*** **	
	(.572)		(.672)		(1.40)		(.474)		(.604)		(1.88)		(1.70)	
R^2(adj.)	.152		.228		.280		.298		.287		.491		.419	

Notes: Dependent variables – (1) per capita subventions in a region in 2015; (2 and 3) subventions' share in the regional budget revenues in 2012, % (post-electoral models); (4 and 5) per capita subventions in a region in 2008 (post-electoral models); subventions' share in the regional budget revenues in 2011 (6) and 2012 (7), % (pre-electoral models).
*- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01.

Appendix A4. Regression analysis (OLS) – subsidies.

	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)	
	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta
GRP(L1)	**−.001****	−.163	**−.001****	−.232	**−.005****	−.287	−.002	−.130	.001	.033	.000	.010	**−.033*****	−.369	**−.024*****	−.296
	(.000)		(.000)		(.002)		(.002)		(.003)		(.003)		(.008)		(.008)	
UR%									**.059****	.292			.065	.098		
									(.025)				(.080)			
Putin%											**.081***	.235				
											(.042)					
Medv%															**.182***	.206
															(.101)	
Infl (l1)	**.319****	.292			**.651****	.326										
	(.120)				(.270)											
Eff (L1)			**.014***	.190			**.036****	.281								
			(.008)				(.016)									
Regelect.	.272	.121	.218	.102	.457	.108	.298	.086	**1.95****	.189	**2.16****	.209	1.42	.097	**5.89*****	.274
	(.192)		(.211)		(.433)		(.394)		(.953)		(.959)		(1.30)		(1.87)	
GeoVul.	**.132****	.190			**.337****	.244			**.738****	.316	**.806*****	.345	1.92***	.394	**1.30****	.268
	(.064)				(.152)				(.279)		(.285)		(.569)		(.542)	
Rus.			−.004	−.108			**−.017****	−.248								
			(.004)				(.007)									
Population	**.130***	.474	**.249*****	.438	−.520	−.348	**−.325****	−.267	**−.667*****	−.253	**−.701*****	−.265	−.450	−.081	**−.439***	−.157
	(.077)		(.058)		(.194)		(.143)		(.246)		(.251)		(.492)		(.268)	
Constant	−.720		.094		**2.02*****		**2.80****		1.65		−.542		12.0**		4.74	
	(.473)		(.640)		(1.05)		(1.20)		(1.53)		(2.78)		(5.49)		(7.27)	
R^2(adj.)	.491		.312		.491		.317		.413		.398		.465		.489	

Notes: Dependent variables – (1 and 2) subsidies' share in the regional budget revenues in 2015, %;(3) per capita subsidies in a region in 2015; (4) subsidies' concentration in a region in 2015, %; (5 and 6) subsidies' share in regional budget revenues in 2012, % (post-electoral models); subsidies' share in regional budget revenues in 2011 (7) and 2012 (8), % (pre-electoral models).
*- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01.

Appendix A5. Regression analysis (OLS) –'other grants'.

	(1)		(2)		(3)		(4)		(5)	
	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta	Coef. (SE)	Beta
GRP(L1)	**−.003****	−.213	.001	.073	.002	.116	.001	.056	.001	.053
	(.001)		(.001)		(.002)		(.002)		(.002)	
UR%	**.033****	.332	**.035****	.310	**.039****	.381	.006	.050		
	(.015)		(.017)		(.015)		(.018)			
Medv%									.006	.035
									(.022)	
RegElect.	.343	.153	.306	.122	.316	.139	**.621***	.184	**.641***	.190
	(.249)		(.277)		(.254)		(.368)		(.367)	
GeoVul.	−.119	−.158	−.107	−.127	−.043	−.057	.119	.127	.128	.136
	(.249)		(.121)		(.111)		(.135)		(.130)	
Population	−.099	−.117	**.313*****	.330	**−.183***	−.213	**−.535*****	−.508	**−.539*****	−.512
	(.094)		(.105)		(.096)		(.119)		(.122)	
Constant	−.901		**−3.78****		**3.78*****		**5.72*****		**5.72*****	
	(.1.05)		(1.17)		(1.07)		(1.24)		(1.61)	
R^2(adj.)	.171		.178		.161		.327		.328	

Notes: Dependent variables – (1) other grants' share in the regional budget revenues in 2011, %; (2) other grants' concentration in a region in 2011, %; (3) per capita subsidies in a region in 2011; (4 and 5) per capita other grants' in a region in 2008. Models 1–3 are pre-electoral. Models 4 and 5 are post-electoral.
*- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01.

Appendix A6. Regression analysis (OLS) – Geopolitical vulnerability, governors' political influence and efficiency.

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
GRP (L1)	−.005***	.001	−.005***	.001	**− .001****	.000	**− .001*****	.000	−.001**	.000	−.001***	.000
RegElect.	−.094	1.63	.878	1.52	.140	.204	.159	.197	.065	.132	.083	.141
Influence (L1)	1.78*	1.01			.412***	.126			.120	.081		
Effic. (L1)			.038	.058			.015*	.007			.006	.005
Rus.			−.124***	.029			−.007*	.003			−.007***	.002
GeoVulner.	**2.20*****	.533			**.183*****	.066			**.163*****	.043		
Population	**−1.76*****	.590	**−.822***	.420	.099	.073	**.234*****	.054	**−.923*****	.293	**−.596*****	.218
Constant	4.92	4.02	**20.3*****	4.62	**−1.04****	.503	.302	.599	**8.02*****	.325	**8.78*****	.429
R^2 (adj.)	.383		.360		.383		.360		.433		.372	

Note: Dependent variables – PST to the budget revenues in 2015 (Models 1 and 2); PST concentration in a region in 2015 (Models 3 and 4); PST per capita log in 2015 (Models 5 and 6). *- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01.

Appendix A7. Regression analysis (OLS) – Pork Barrel Politics in 2012, post-electoral logic.

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
GRP			**−.005*** **	.001			.000	.000			.001	.001
GRP (L1)	**−.005*** **	.001			.000	.000			.001	.001		
RegElect.	**5.49** **	2.19	**6.34*** **	2.26	**.660** **	.287	.718**	.284	2.18*	1.24	2.53**	1.24
UR2011	**.243*** **	.055			**.015** **	.007			.091***	.031		
Putin%			**.322*** **	.091			.028**	.011			.139***	.050
GeoVul.	**1.42** **	.639	**1.80*** **	.641	**.153* **	.083	**.146* **	.080	**1.04*** **	.360	**1.12*** **	.351
Population	**−1.10** **	.423	**−.145** **	.062	**.481*** **	.086	**.186*** **	.055	**−.522** **	.244	**−.126* **	.074
Constant	3.43	2.66	−5.87	5.68	**−.663* **	.349	**−1.74** **	.712	.838	1.51	−3.86	3.11
R^2 (adj.)	.512		.480		.511			.521	.382		.377	

Notes: Dependent variables – PST to the budget revenues in 2012 (Models 1 and 2); PST concentration in a region in 2012(Models 3 and 4); PST per capita log in 2012 (Models 5 and 6). * - coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01. Chukotka was excluded from models 5 and 6.

Appendix A8. Regression analysis (OLS) – Pork Barrel politics in 2008, post-electoral logic.

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
GRP			−.008**	.003			.000	.000			.000	.002
GRP (L1)	−.008**	.003			.000	.000			−.001	.002		
RegElect.	3.15	2.20	3.70	2.22	.305	.244	.333	.245	1.91*	1.10	**1.96* **	1.10
UR2007	.194*	.105			.305	.244			.018	.053		
Medv%			.204	.131			.002	.014			−.002	.066
GeoVul.	2.11***	.792	2.30***	.773	.154*	.087	.200**	.085	1.20***	.396	**1.29*** **	.384
Population	**−.136*** **	.032	**−.245*** **	.056	**.145*** **	.032	**.165*** **	.043	**−.104** **	.041	**−.117** **	.049
Constant	4.12	6.54	2.72	8.70	−.463	.726	.093	.965	2.57	3.29	3.78	4.37
R^2 (adj.)	.411		.402		.314		.304		.260		.257	

Notes: Dependent variables – PST to the budget revenues in 2008 (Models 1 and 2); PST concentration in a region in 2008 (Models 3 and 4); PST per capita in 2008 (Models 5 and 6). *- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01. Chukotka was excluded from models 5 and 6.

Appendix A9. Regression analysis (fixed effects) – Pork Barrel politics in 2011–2012, pre-electoral logic.

Variable	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
GRP (L1)	−.004**	.002	−.005***	.001	.000	.001	.000	.000	.000	.000	.000	.000
RegElect.	1.28	1.72	6.52***	2.32	−.087	.277	.334	.245	.857	1.03	2.53**	1.24
UR2007	.316***	.100			.024*	.014			.083**	.037		
Medv%			.345***	.113			.002	.014			.138***	.050
GeoVulner.	**2.01*** **	.745	**2.00*** **	.651	.172	.111	**.201** **	.085	**1.10** **	.428	**1.13*** **	.350
Population	**−.166** **	.074	**−.178** **	.078	**.121*** **	.036	**.136*** **	.040	**−.580* **	.296	**−.163** **	.066
Constant	−8.17	6.28	−9.34	7.55	−1.28	.915	.101	.966	.712	1.98	−3.84	3.12
R^2 (adj.)	.458		.488		.252		.304		.260		.376	

Notes: Dependent variables – PST to the budget revenues in 2011 (Model 1) and 2012 (Model 2); PST concentration in a region in 2011 (Model 3) and 2012 (Model 4); PST per capita in 2011 (Model 5) and 2012 (Model 6). *- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01. Chukotka was excluded from models 5 and 6.

Appendix A10. Panel Regression, 2006–2014 (fixed effects, 2SLS).

Variable	Model 1 (FE)		Model 2 (FE)		Model 3 (FE)		Model 4 (2SLS)	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
GRP	−.003**	.001					−.005*	.003
GRP (L1)			−1.76e−7	1.82e−7				
GRP in 2006 prices					**−.009*** **	.003		
RegElect.	.361	.442	.022	.051	−.030	.410	.228	.462
Population	.000	.000	**−.001*** **	.000	−.000	.002	−.002***	.000
2007	**4.85*** **	.796	−.005	.106	**2.26*** **	.739	**4.94*** **	.789
2008	**4.90*** **	.801	.032	.103	**2.09*** **	.741	**5.41*** **	.804
2009	**9.57*** **	.804	.044	.101	**3.14*** **	.741	**10.1*** **	.802
2010	**2.70*** **	.815	.046	.100	.626	.745	**3.01*** **	.834
2011	**4.63*** **	.844	.048	.098	**2.06*** **	.766	**5.16*** **	.915
2012	**4.22*** **	.853	.069	.096	**1.69** **	.766	**4.94*** **	.956
2013	**6.07*** **	.869	.076	.095	**2.02*** **	.769	**6.71*** **	1.01
2014	**2.83*** **	.899	−.086	.094	**.808**	.774	**–**	
Constant	**11.4*** **	4.09	**3.18*** **	.544	**5.03**	3.84	**14.7*** **	1.37
R^2	.213		.032		.053		.263	

Note: Dependent variables – PST to the budget revenues in % (Model 1 and 4); PST concentration in a region in % (Model 2); PST per capita at 2006 prices (Model 3).In Model 4 'GRP' is instrumental variable –'Foreign Investments Per Capita (in USD). *- coefficient significant at the level of 0.1; ** - at the level of 0.05; *** - at the level of 0.01.