



NATIONAL RESEARCH UNIVERSITY
HIGHER SCHOOL OF ECONOMICS

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DOMINANCE: POLITICAL
DETERMINATIONS OF FEDERAL
TRANSFERS IN THE RUSSIAN
FEDERATION**

BASIC RESEARCH PROGRAM

WORKING PAPERS

SERIES: ECONOMICS
WP BRP 12/EC/2011

This Working Paper is an output of a research project implemented as part of the Basic Research Program at the National Research University Higher School of Economics (HSE). Any opinions or claims contained in this Working Paper do not necessarily reflect the views of HSE.

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FROM COMPETITION TO DOMINANCE: POLITICAL DETERMINANTS OF FEDERAL TRANSFERS IN THE RUSSIAN FEDERATION⁴

How do the strategies used by autocrats shift over time to accommodate new threats? Because competition in autocracies is endogenous to the policies designed to curtail it, we argue that the perceptions of autocrats as to which group threaten their hold on power shift over time, along with the strategies designed to co-opt or pre-empt these threats. We argue that the nature of transfers and how they are targeted – whether to mass groups or to elites – varies over time with the degree of competition in autocratic regimes. Using high quality budgetary data from Russia, we test this argument on one specific mechanism of authoritarian regime maintenance, federal transfers, during a period of consolidating competitive authoritarianism, 2000-2008. In this preliminary draft, we conduct a series of year by year cross-sectional analyses of the period 2000-2008 focusing attention on the role of electoral variables, such as margins of victory for the ruling party, United Russia, in transfer allocation its changing role over time. We find that during the early years of the regime, allocated transfers grow faster in regions where voters supported parties associated with powerful regional elites, while core supporters amongst the voting population received little. Over time, however, the party shifted strategy slightly and began rewarding areas that supported the ruling party, albeit by narrow margins. In all cases, the timing of transfers seems to have been connected to key moments in the centralization of Russia or to upcoming elections.

Key words: competitive autocracy, dominant party systems, regional elites, elite cooptation, federal transfers, Russia.

JEL codes: D72, H77, R50.

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⁴ This paper is based on results of a research project carried out in HSE International Center for Studies of Institutions and Development (ICSID) with support of HSE Basic Research Program. The authors are grateful to Natalia Zubarevich, Natalia Golovanova, Vladimir Gimpelson, Vladimir Nazarov, Scott Gehlbach, and John Reuter for valuable comments, as well as to Sergei Rozhkov for his support in data collection.

1. Introduction

Recent uprisings in Tunisia, Egypt, and other seeming stable autocracies across the world have done much to reveal the relative tensions normally hidden in these dominant party, or competitive authoritarian, states. Even in places where authorities have successfully retained power, such as Russia, it is unclear whether analysts and scholars properly understand who can threaten regimes, when, and to what extent autocrats can mitigate these threats with proper policies. The task is complicated, because autocrats must solve two related dilemmas in order to consolidate and retain power, both of which complicate analytical and theoretical work. On the one hand, there is a tricky incentive problem: autocrats must choose whether to use scarce resources in order to generate better economic outcomes, potentially increasing their own rents, or using resources to insure stability, insuring that they remain in power to collect those rents (Olsen 2000; North, Wallis, Weingast, 2009).⁵ On the other hand, there is a difficult strategic problem: even where autocrats spend resources to generate stability, it is difficult to know precisely which groups pose the deepest threats. Fear of reprisal means all actors have incentives to hide their dissatisfaction with the regime, making it hard to know which groups are co-opted and which still dissatisfied (Wintrobe 1990, 1998). Should one fear insiders (core supporters) or outsiders (swing groups)? The populace or elites? In this paper, we explore the nature of threats to autocratic stability, how authorities perceive these threats, and how they change over time in order to better understand autocratic regime consolidation and maintenance. We focus on monetary transfers and deploy a strategy that assumes that authoritarian regimes put their money where their mouths are: collecting rents for themselves when they feel safe and making transfers to threatening groups when they do not.

Unfortunately, recent work on authoritarian regimes has been unclear on how autocracies navigate the economics-stability tradeoff, as well as on how they target transfers in order to anticipate threats. Most work has departed from basic principles, assuming that either the masses or elites are the primary threat to regimes and doing little to explore these assumptions further. Gandhi (2008) for instance derives conditions under which social actors are more likely to receive co-optative benefits from her model, although she largely ignores the potential problem of defection from the political elites to the opposition. Lust-Okar (2004, 2006) focuses on opposition elites and their ability to mobilize society, but largely ignores the relative role of internal regime elites. Geddes (1999), Smith (2005), Brownlee (2007) and Gehlbach and Keefer

⁵ We recognize, of course, that this tradeoff is not absolute. As with democratic politicians, autocrats can often insure continued support for themselves and their regimes through the provision of good economic outcomes. As long as the regime is growing, the populace is likely to take this as a signal that the authoritarian is competent and worth supporting. As conditions deteriorate, however, autocrats must begin to think about the trade-off between increased spending to insure stability and increased spending to insure restore good economic outcomes (Di Palma 1991; Magaloni 2006)

(2011), by contrast, primarily focus on the party itself, noting that while society matters, it does so only in so far as the party is unable to police defections.

In addition, the literature on autocracies has also been slow to acknowledge that not only is the nature of threats to the regime potentially varied across regimes, but also may vary with the age of regimes. Indeed, most of the existing literature on autocracy has remained focused on specific temporal moments in the life cycle of regimes, setting aside how threats evolve and change over time and how this relates to the strategies employed by the regimes themselves. Instead, most work has focused on the moment of initial regime formation and consolidation (Smith 2005; Brownlee 2007) or on long-standing, older regimes intent on maintaining power (Blaydes 2010; Gandhi and Przeworski 2006), without considering variation between these two periods in a unified context.

In this paper we tackle a small aspect of these problems, by exploring whether central transfers to regional governments are used by central governments to counter political threats and how the logic of these transfers shift over time to accommodate new perceptions.⁶ Using high quality budgetary data from a consolidating authoritarian regime, the Russian federation, during the period from 2000-2008, we provide an empirical test of our argument and show how transfers respond to shifts in the the balance of power between the central regime, the populace, and key regional elites.

We choose Russia for several reasons. First, because this paper is among the first to explore how authoritarian regimes vary in their strategies for dealing with threats over time, we feel that it is important to control for country and regime specific factors. By focusing on variation within a single authoritarian regime, we lose some external validity, but are able to draw cleaner inferences about the dynamic relationship between regime strategy, threat perceptions, and regime maintenance. Secondly, Russia is a representative example of a particular category of electoral, competitive, or dominant party authoritarianism (depending on the study consulted) that is increasingly common worldwide and is one of the frontiers of the study of authoritarianism (Magaloni 2008; Cheibub et al. 2009; Levitsky and Way 2010). Because this category is so common, yet less well studied than traditional categories of authoritarian regimes such as military dictatorships, monarchies, or legislature-less single party systems, we argue that it an especially important category for study. Finally, we choose Russia because its federal structure forms a natural laboratory that makes it easier to understand how different types of elites and voters influence the allocation decisions of central authorities.

⁶ Although we acknowledge that repression may be an important dimension by which authoritarians maintain control and deal with threats, we ignore it for the purposes of this paper.

In the next section, we briefly outline our theory of transfers under consolidating authoritarian regimes. In the third section, we briefly discuss the recent political history of Russia in order to illustrate our hypotheses and show how they map onto a concrete example. In this section, we also take advantage of the Russian case to illustrate the consequences of centralization for the evolution of threat perception and transfer targeting. The fourth section describes our data on center-regional fiscal transfers, operationalizes our hypotheses, and briefly outline our empirical methodology. Section four presents the results of our analysis and discusses their implications. Section five concludes. We state at the outset of this working paper, that although our research design incorporates elements designed to properly test our central question and to overcome methodological concerns, at present we are unable to fully implement all aspects of our design due to ongoing data collection. We anticipate being able to fully implement our planned analysis in Spring of 2012 when data is fully prepared.

2. Towards a Theory of Authoritarian Transfers and Threat Perceptions

In this paper, we argue that the nature of transfers shifts over time as authoritarian regimes consolidate power. Previous studies of authoritarian transfers have tended to focus on one of two vectors for these transfers. Several theories show how the logic of transfers under autocracy is specifically targeted towards purchasing the quiescence of the population at large through the use of subsidies, poverty reduction assistance, and other social spending (Magaloni 2006; Gandhi 2008; Blaydes 2010). In these models, the provision of transfers to the masses is a function of different factors. For Magaloni (2006), for example, transfers are made to poor populations who support the regime by narrow margins, since these groups are poor enough to be bought but are willing to vote for the opposition in the absence of material inducements. For Gandhi and Przeworski (2006), on the other hand, transfers are a function of the degree to which autocrats perceive the populace as a threat, as well as the degree to which the populace is required to cooperate to generate a strong economy.

Another group of theorists have focused on the need by the authoritarian to insure elite cooperation. These elites are generally conceptualized as either outsiders who can threaten to mobilize the population against the regime (Lust-Okar 2005; Robertson 2011) or insider elites whose defection can paralyze the regime and degrade its coercive and co-optative capacity (Skocpol 1979; Smith 2005; Brownlee 2007) or who are indispensable to good economic performance (Haber et al. 2003). Regardless of whether elites are insiders or outsiders, they tend to receive transfers and favors to the extent to which they can credibly threaten to remove the autocrat from power – via coups, in the case of insiders, and massive mobilization of supporters

amongst key social groups, in the case of outsiders. The null hypotheses in the literature are therefore:

H1: Political elites receive transfers when they are able to credibly threaten the autocrat with economic sanctions or revolution.

H2: The masses receive transfers when they are able to credibly threaten the autocrat with economic sanctions or revolution.

In their naïve views, however, both of these perspectives assume, however, the nature of threats to the regime remain static over time – regimes that face threats from their populations do not subsequently become threatened by elites and vice-versa. These perspectives also ignore the extent to which authoritarian regime maintenance strategies based on transfers are endogenous to other strategies, such as repression, which may vary over time. In other words, the vary strategies that autocrats use to maintain control might either strengthen or diminish the threat posed to them by the very groups being targeted. As these threats shift, the rational autocrat should alter her strategy accordingly, deploying resources to meet new and emerging threats. Consequently, one would expect variation over time in both the specifics of transfers – the identities of who gets what – and in the general categories to which these recipients belong – transfers to insiders could become transfers to outsiders, elite transfers might give way to mass programs, etc.

In this paper, we develop an argument in which the use of transfers by the federal center crucially depends on the degree of competition within the regime, which varies over time as regimes consolidate (or fail to do so). Our base assumption is that the default policy for autocrats is to make transfers to all potential opponents, since they can be unseated by both elites and popular actors. With this theoretical framework, the empirical puzzle is therefore to identify situations in which groups that were previously threatening are made less so, whether because their demands are met through alternative, non-transfer, channels or political competition is decreased.

Since young, unconsolidated autocracies are usually high competition environments, we argue that autocrats in them must retain power by appeasing both the populace and critical elite groups simultaneously. In these early periods, supporters tend to receive less than those who are critical of the regime or those who can be easily purchased. Although transfers are initially an important way of retaining control, over time autocratic regimes can replace them with other technologies for winning (or compelling) support: party institutions, centralization reforms, or economic growth. Depending on the success of these programs, this frees up money for more economically oriented transfer programs, if autocrats have incentives to grow the size of the economic pie, or the direct collection of rents by the autocrat and her supporters.⁷ Consequently,

⁷ Although we acknowledge that autocrats with long time horizons may choose to take rents by simply increasing the size of the economic pie, we do not explore when autocrats choose to undertake this strategy versus direct collection of rents here (Olson

over time we predict that the targeting of transfers will shift from key opposition groups among elites and masses to either supporters or the promotion of economic growth.

We argue that two types of technologies are critical to decreasing the need for transfers to elites and that the ability of the authorities to deploy them can alter the relative threat posed by elites. The first are technologies that directly disrupt the political foundations of regional elite power, thus decreasing the capability of these elites to pose a threat to the regime and thus competition with the federal center. Although we discuss this mechanism in more detail below using examples from the Russia case, this is generally accomplished by implementing policies that alienate regional elites from economic resources (centralization of tax collection or nationalization) or from their regional supporters (national level transfers or economic growth connected to federal policies). A second type of technology employed by autocrats is to alter the incentives of elites through the use of cooptation. The most common technique for accomplishing this is the use of single party regimes, which can create longer time horizons for elites by insuring their continued monopoly on regional political power and/or securing their property rights.⁸ Once transfers no longer need to be used to promote loyalty, the bulk of transfers can instead be used to generate rents for loyalists or used to incentivize other desirable behaviors, such as growth promotion or ability to garner votes, *ex post*, as opposed to purchasing compliance *ex ante*. This implies:

H3: As competition is decreased in authoritarian regimes, transfers to politically powerful elites should cease and transfers should be awarded according to performance criteria or loyalty.

Corollary 2: Young regimes (by chronological age) should give relatively more transfers to politically powerful elites. Consolidated autocratic regimes (by chronological age) should give relatively more transfers to elites based on performance criteria.

Turning to popular threats, the autocrat's strategic is somewhat different than that which she faces when dealing with elites. In general, the masses face important collective action problems to mobilization, which makes it difficult and costly for mass movements to coalesce spontaneously without a focal point amongst the elites.⁹ Because of this, rulers should regard the population as a potential threat in two key circumstances. First, the populace is an immediate threat when there are regional or outsider elites who are sufficiently well-connected to the populace and able to mobilize significant portions of the population against the autocrat (Lust-

1993, 2000). For our purposes, economic growth allows the autocrat and her supporters to take rents, because they are likely to disproportionately benefit from this growth due to the ability to allocate relative gains.

⁸ For more on the co-optative capabilities of parties and their formation, *see* Gehlbach and Keefer 2009; Reuter 2010; Svobik 2009; Svobik and Boix 2010.

⁹ This is not to say that spontaneous collective action is unlikely. It most commonly occurs in the wake of critical events, such as elections or protests in nearby countries (Tucker 2007; Bunce and Wolchik 2011). In this paper, we do not make arguments about how rulers anticipate these situations, since they are difficult to predict even in information rich environments and may be fundamentally unpredictable (Kuran 1991). Nevertheless, to the extent that autocrats target transfers to the population when their support is weak (*see below*), they should be able to minimize this threat.

Okar 2006; Robertson 2011). While autocrats can deal with this threat by co-opting regional elites directly, it is unclear that this is an effective long-term strategy, since elites can use the resources transferred to them to entrench their positions and generate stronger links to their mass base. In these circumstances, authorities may find it useful to skip over elites and make transfers to sectors of the population that could oppose them directly, thus co-opting the segments of the populace that can be mobilized by elites. Being strategic, however, it is unlikely that autocrats simply give transfers to all sectors of the population that have shown willingness to oppose them. Rather, the elites should be targeting spending at voters whose political loyalty is flexible and therefore easily bought (Dixit and Londregan 1996). Such “swing voters” are often identifiable by the fact that they support either the autocrat or opponents by small margins. Mobilization is dependent on the presence of regional or outsider elites in this scenario, which suggests:

H4: Autocrats make more transfers to swing voters (those political preferences are historically flexible) and opponents amongst the voting population when competition is high.

Corollary 3: Young regimes should give relatively more transfers to swing voters.

Second, in the absence of immediate competition, authorities should worry that the populace can overcome its collective action problems when circumstances are perceived to be sufficiently bad that the potential gains of collective action outweigh the costs. We argue that this is most likely to occur either because of relative or absolute contractions or slow-downs in economic circumstances. We argue that where incumbents are able to provide strong economic growth and where voters are wealthy, transfers are less important, as the masses will tend to support incumbents who are perceived to be providing good economic performance and increasing overall welfare (Di Palma 1991; Magaloni 2006; Treisman 2011). By contrast, if voters are poor or economic growth declines, then autocrats are more likely to need to use transfers in order to insure that the cost of collective action to the populace outweighs potential gains. This implies:

H5: Autocratic regimes make fewer transfers to voters when economic growth is high or where regions are wealthy.

In the next section, we attempt to map the hypotheses proposed to the concrete case of Russia in order to illustrate the strategic logic behind them more clearly. We also illustrate how specific centralization and consolidation strategies developed in Russia, as well as their consequences for transfers.

3. Transfers, Threat Perceptions, and Elite-Center Relations in Russia

The young Russian democracy born in 1991 faced a deep economic crisis given massive inflation and a GNP decline brought on by its transition to a market economy. Declines in the

population's living standards reduced public support for Boris Eltsin's government and led to the opportunity for competition between central and regional elites. Given the relative power imbalance that quickly developed between the power of regions and the central government, this competition in turn led to intensive bargaining between the central government and regions (Fillipov et al. 2004). The former bargained to keep the latter formally within the federation and retain some degree of cross-regional uniformity in federal laws and services, whereas the latter sought to extract rents and benefits. The system of federal transfers to the regions was an important element of this bargaining – especially during elections, when federal authorities required the cooperation of regional political machines to stay in power via their ability to deliver votes (Popov 2004; Robertson 2010). Facing separatist trends in Chechnya and other regions Eltsin granted broad autonomy to regions (national republics first of all), which in practice extended both to areas of the law and to fiscal matters. Regions with politically strong local elites were able to set their own effective tax rates and were granted relatively generous transfers from the federal center (Treisman 1996, 1998). Generally speaking, in the period of 1990s, the central government in Russia remained extremely weak and it tried to keep the Federation together by providing transfers and broader autonomy to strong regional elites.

This situation changed significantly after the August 1998 financial crisis. Strong devaluation of ruble as well as the pragmatic economic policy of the new left-wing government appointed after the crisis provided conditions for a quick economic recovery in 1999-2000. This growth, combined with deft handling of major domestic political events meant that the new President, Vladimir Putin, elected in 2000, could rely on broad popular support in his interactions with regional elites. Indeed his popularity climbed quickly above international averages for chief executives and remained incredibly high for his entire period in office as Russian president (Treisman 2011). These high levels of popularity gave Putin an important instrument that Eltsin had lacked in his disputes with regional elites – the ability to field a loyal party that could leverage his popularity to win elections against local political machines. Indeed, Putin's Edinstvo (Unity) party, created shortly before the Duma elections in 1999, was able to win resounding victories against OVR, a coalition party constructed by many of the most popular and powerful regional governors.

In line with the logics of H3, we would expect that Putin would have continued to make transfers to the politically powerful regional elites during this period, following Yeltsin's policy and co-opting these opponents. However, this strategy would not have been sustainable in the long term if Putin's goal was to consolidate power, as transfers would simply entrench the regional elite further. Thus we would expect that Putin would begin following the logic of H4,

attempting to purchase the support base of regional elites out from under them through more direct transfers.

If we look at the structure of transfers, this is indeed what happened. On the one hand, while transfers continued to be disproportionately targeted at those regions with politically strong governors (Jarocińska 2010), the structure of transfers began to shift. Table 1, which shows the total amount of FFSR (a federal equalization grant) in total transfers, illustrates one of the consequences of this. Unlike grants, subsidies, and subventions, which can be used for any purpose and assigned discretionally, FFSR grants are earmarked for specific social expenditures and are given out according to need. Those regions which are relatively poorer, controlling for tax capacity and local price differences, should receive more transfers according to official formula. Consequently, we argue that by offering a large share of FFSR in total transfers, Putin pursued a long-term strategy of limiting the discretion of regional elites to spend monies in ways that provided them with rents or shored up their support (see also Figure 1). In doing so, he further consolidated the regime and hastened the disruption of the regional elites independent power. On the other hand, as we show below in our regression results, other forms of spending were oriented not only towards powerful elites, but also towards those regions where the population had showed swing voter proclivities. In these regions, support for elites was more contingent, so transfers could effectively purchase support out from under them.

In addition, to attacking the fiscal autonomy of strong regional elites, the federal government also moved to decrease competition by eroding the power of another group with which it faced strong conflicts: businesses (the so called ‘oligarchs’). Putin specifically tried to gain control of natural resource rents, which would not only eliminate a key potential resource pool for regional elites and other opposition figures looking to challenge the regime, but would also provide the federal center with much needed funds to maintain social stability in fast growing economy and with the resources to continue the consolidation of power (Yakovlev, 2006). In 2003-2004, this struggle culminated in the Yukos affair, where a clear “selective application” of the law was applied to Yukos’ owner, Mikhail Khodorkovsky, depriving him of his business and subordinating Yukos directly to the central government. The direct consequences of the Yukos Affair were to wrest control of resource rents away from private hands, providing the center with much needed revenue. It’s indirect consequence, however, was to firmly establish the limits of political participation and meddling on the part of businesses in Russia, thus subordinating the business community to Putin’s federal center. In doing so, not only did Putin eliminate a key source of opposition, but also eliminated an important potential ally to regional elites in their struggles with the center.

Perhaps just as importantly, however, the center's solution to the Yukos Conflict also helped cement the strong popular support that Putin and his allies already enjoyed, insuring a particularly strong showing in the subsequent parliamentary elections of December 2003 and the presidential elections in March 2004.¹⁰ Combined with strong economic growth, the Yukos affair, further complicated opposition strategies, particularly regional, elites' primary means of resisting the federal Center: the mobilization of the masses. Not only did the Center's newfound ability to intervene between regional elites and their popular bases give the federal government more leverage in negotiations, but it played a key role in helping to convince regional elites of the futility of opposing the federal center (Robertson 2011). As a result of this and the resources and support gained from his subordination of business, Putin was able to establish a new delineation of responsibilities between the federal center and the regions. This reform, carried out by the Kozak commission, resulted in withdrawal of residual rights to a substantial fraction of revenues from regional and local authorities, along with imposition of the majority of previous liabilities on them.

Although Putin severely damaged regional authorities, it would be a mistake to think that centralization proceeded only through the use of sticks and transfers. On the one hand, a pure repression strategy against regional elites would have been costly. On the other hand, a strategy of pure transfer oriented co-optation would not have been credible, since centralization would have alienated elites from their power bases and left them vulnerable. What was needed was a way to co-opt elites into the political system and expand their time horizons. Putin's decision to develop an encompassing single party, which could help to overcome the center's commitment problems, was therefore a key element to the removal of regional elites as a direct threat to the regime and to further centralization of power. Formed by co-opting the OVR party, a vehicle used by powerful regional officials in the 1999 election to oppose Putin, and incorporating it into Putin's Unity party, United Russia allowed the regime to co-opt regional elites and remove them as threats through two mechanisms. First, it allowed Putin to credibly commit that regional elites would continue to reap benefits and transfers from allegiance to the federal center, even if the system became more centralized. Second, in combination with elements of the Kozak reforms which thoroughly subordinated municipal officials to regional ones, it allowed Putin to credibly commit to respecting and abetting regional monopolies of power held by regional elites (Reuter 2010).¹¹

¹⁰ This public support for repressions against Khodorkovsky and populist anti-oligarch rhetoric can be explained by broad dissatisfaction with the results of privatization, which were considered by most in Russian society to be unfair.

¹¹ For more on the specific mechanisms by which dominant parties are able to co-opt and unify elites, as well as on how they establish credible commitment, see Gehlbach and Keefer 2008 and Magaloni 2006, 2008

Regardless of methods, if we can consider 2000-2004 as a time of strong competition between elites – federal, regional and business – then it is clear that by the end of this period the federal elite (represented by "siloviki" and liberal technocrats) had won a clear-cut victory over business "oligarchs" and regional elites. Starting from 2005, a different system of interactions between the federal center and regional elites in Russia came into being; one characterized by the federal government's dominance over regional elites, instead of competition between these two groups. This was made possible by the gains of the federal center and the reforms instituted in the previous period.

This newfound predominance freed the government to pursue slightly different goals with transfers, since the elimination of regional elites as a threat meant that transfers no longer had to be paid to independently powerful regional elites. Under these new conditions, the federal government declared a "modernization leap" policy and began building a developmental state in Russia (mostly drawing upon South Korea experience of the 1960s and 1980s).¹² This process was exemplified by the establishment of a Development bank, special economic zones, state corporations and other development institutions, along with the drafting and adoption of development strategies for several key industries and the launching of infrastructure development projects using the Federal Investment Fund (including preparation for APEC Summit in Vladivostok in 2012 and 2014 Winter Olympic Games in Sochi).

The implementation of all of these measures was strongly affected by the nature of the ruling coalition's interaction with different elite groups – including regional elites, however. First, the federal center started to use its newfound powers to appoint new governors loyal to the Kremlin. Some strong governors remained, but they agreed to further losses of power by having their offices converted into appointed positions. Powerful regional officials consented to the changes, because of the Kremlin's success in curtailing their power and in disrupting their roles as traditional intermediaries to the masses in their regions. At the same time, the change was attractive it allowed them to get around term limits and, in conjunction with the party mechanism discussed above, guaranteed that they could retain regional power (Reuter and Robertson 2011). Second, a governor performance measurement system based on a longer list of formal indicators was introduced by the Kremlin in order to govern the appointment process. Since providing growth is a cheaper way to insure that the population continues to support the authorities than attempting to provide targeted transfers to voters, elites were rewarded for generating good economic outcomes, which in turn reinforced the Center's support amongst voters (Magaloni 2006; Treisman 2011). Third, the renewal of the gubernatorial corps was accompanied by a

¹² David Lane described this process as a turn from the "chaotic" capitalism of 1990s to the "state-led" capitalism of the 2000's (Lane, 2008).

marked increase in federal transfers to regions and especially in the non-formalized part of these transfers. We can assume that originally, authorities developed FFSR in order to deprive regional officials of discretion over the use of funds and a potential source of rents. Once control over these elites had been established, however, authorities realized that incentives were needed to insure elites would continue to work to provide good economic outcomes. Since discretionary transfers were an excellent means by which regional elites could generate rents (and therefore be encouraged to work hard to accomplish the regime's agenda), federal authorities began decreasing the relative share of FFSR in regional transfer over time, allowing for more discretionary transfers. Figure 1 shows that the relative relationship between total transfers and share of FFSR grants¹³, in nominal prices vs. 2000 prices (deflated by CPI) is negative. The relative share of total transfers began climbing relative to FFSR after 2004. Table 1 also illustrates this dynamic, showing that the share of FFSR in total transfers decreased during the 2004-2008 period.

Federal transfers (as well as appointments) can be considered important incentives provided by the federal Center to regional elites to illicit "good performance". Below, we try to find confirmations for this logic in our empirical analysis. Nevertheless, we argue that one cannot apply the logic above to the entire Putin era. We argue that the situation changed again after global financial crisis 2008-2009, since the federal government started to lose broad public support in the face of crisis induced economic decline. Our hypotheses suggest that this should induce shifts in the nature of threat perceptions, making the voters suddenly more threatening to the center. Unfortunately, we do not have full data to test this proposition, since the crisis is relatively recent.¹⁴ We will test these relationships as soon as we have data for 2010.

4. Data and methodology

Data description

Our dependent variable is a measure of year-on-year change in transfers for a sample of Russian regions (see below) between 2001 and 2008, which we collected from the Russian Federal Treasury (the Roskazna website) and data published by the Center for Fiscal Policy in partnership with the UIS RUSSIA MSU database.¹⁵ For the purposes of our analysis, we group categories in roughly following our discussion above and take as alternative dependent variables total transfers, FFSR transfers, and transfers minus FFSR. Unfortunately, there are some

¹³ 75 regions, sample construction is discussed in the next section.

¹⁴ At the moment only data on federal transfers to regions for 2009 is available to us.

¹⁵ While we have data on 2009 and 2010, we refrain from analyzing these years in this version of the paper for two reasons. First, we argue that the dynamics of the crisis likely altered the political calculus for the federal center, thus making it difficult to compare these years to previous years. Secondly, socio-economic data for 2010 was not available at the time of publication of this working paper, so we lacked necessary controls for conducting statistical analysis.

irregularities throughout the period which make it questionable to what extent our decision to split FFSR from total transfers is valid.¹⁶ Nonetheless, there is rough comparability throughout the entire period. The important thing to note about the dependent variable, however, is that our total transfers minus FFSR transfers category is mostly non-transparent: no formal criteria governs the use of the various grants and subsidies that compose this category. In this paper we argue that it is this component of transfers which is typically used in order to make transfers to political elites and the masses when the situation warrants. We refer to this variable as discretionary transfers throughout the remainder of the paper.

Our initial sample size was 92 regions (89 regions according to the previous classification plus 3 regions which were created in the late 2000-s, i.e., Perm Krai, Kamchatka Krai, and Zabaikal Krai). While constructing the final sample, however, we had to exclude the Chechen Republic because of a lack of data. Regions which do not exist anymore were also excluded as we do not observe them during the entire period of interest and it is not possible to accurately construct analogs for missing years.¹⁷

Independent variables

Our database also contains region-level political and socio-economic indicators from Rosstat or the Joint Economic and Sociological Data Archive (HSE), data on the individual characteristics of governors, which was collected by the International Center for Studies of Institutions and Development, and elections data gathered from the Irina database. We take all of these as independent and control variables in our analysis. Below we represent our major independent variables, although in this version of the paper, we are only able to test some of these. Nonetheless, we present the full range of variables we intend to test in this version of the paper in order to give the reader a better sense of the research design. We divide our independent variables into four groupings:

- I) Threats from regional elites (bargaining power): We roughly estimate the bargaining power of regional elites using data collected by our Center on regional governors and their administrations (these data are now being coded and will be used in the next version of the paper). We argue that the bargaining power of regional elites is likely to be strongest where elites are well-connected to their regions and there is relative political stability in regions. We proxy connections using the number of years governors worked within the region, with more years in the region indicating stronger solidarity between the governor and regional elites.

¹⁶ For example, in 2000–2001 the category of "FFSR grants" was not reported. Instead we found a roughly comparable category, "transferty", which nevertheless does not seem to correspond 1:1 to FFSR. In general, comparability problems diminish sharply after 2003.

¹⁷ The assumptions are made that Chita Oblast is equivalent to Zabaikalskiy Krai, Perm Oblast – to Perm Krai, and Kamchatka Oblast to Kamchatka Krai. We also consider Irkutsk Oblast and Krasnoyarsk Krai being the same region before and after they merged with their AOs. We drop Agin-Buryat, Ust-Ordyn, Taimyr, Evenki, Komi-Perm, and Koryak entirely.

We also proxy for the bargaining power of regional elites by looking at the rate of turnover for governors and vice-governors and whether or not governors and vice-governors have past work experience in firms in key sectors (by contribution to GRP). We also include a measure of the share of public employees (in the healthcare and education sectors), with the share of these employees should be a good proxy for total public sector employment in regions. We argue that regions with more public employees are likely to have more bargaining power versus the center, both because these groups represent captive voters, potential campaign workers, and potential protestors at the disposal of regional elites. Regions with more bureaucrats are also likely to be more effective at producing reports and petitions used by regions when they lobby. Finally, we also include a measure of conflicts between governors and mayors produced by expert assessments (see Appendix 2 for details).

II) Threats from the masses: Following previous research, in this version of the paper, we rely on margins of victory by United Russia and its precursors, Unity and OVR, in order to estimate the relative support of voters for the center (Popov 2004; Jarocińska 2010). We include both margins of victory over runner-up parties (given victory for United Russia) and, because many analysts doubt the independence of most Russian parties from the Kremlin's control, margins of victory over the Communist Party (also given victory), sometimes regarded as the only true opposition to United Russia. In order to understand the relative strength of the opposition, we also include a measure of OVR's vote share prior to the 2003 Duma elections. We argue that this measure is somewhat problematic, since in some regions it is actually a reflection of the regional elites' ability to mobilize voters and is also subject to falsification. Consequently, the interpretation is not as straightforward as previous work would suggest. In future versions of the paper, we supplement these measures with a less ambiguous measure, such as the number of regional protests (currently being collected by ICSID).

III) Level of economic development: To measure the level of economic development in a region we use GRP per capita (in fixed 2000 prices).

IV) Control variables: Our controls include the percentage of people employed in the public sector (labor structure), the percentage of people with higher education (to account for heterogeneity in human capital), the share of dependent population out of total population in a region. We also use the share of urban population in total population or the share of population living in cities with more than 250 tnds people with the main hypothesis being that in highly urbanized regions it is more difficult to manipulate the results of federal elections.

We include a full description of all variables (including those which will appear in future versions of the paper) in Appendix 2 Table 2.1. Descriptive statistics are included in Table 2.2 of Appendix 2.

Methodology

It is possible to use different approaches to model the dynamics of transfers in the period 2000–2008. We start the regression analysis by looking at cross-section models for every year to better understand how the relationship between transfers and political variables changed over time. We acknowledge, however, that any modeling framework we employ is faced with at least two substantive issues. The first one is regional heterogeneity, which cannot be mitigated by simply including control variables or individual specific effects into our models. Regional clustering into subsamples based on socio-economic characteristics, which controls both for the structure of groups and for time dynamics, may be needed. Modeling the dynamics of regions across homogenous clusters could give a better sense of how transfers change over time and what factors influence the dynamics. We do not take this approach, because clusters sizes are generally too small to allow for sophisticated statistical analysis, nor do diagnostics suggest that regions are so heterogeneous as to pose inference problems. We remain attentive to this problem and will explore it further in future versions of this paper.

The second problem is the serious endogeneity issue presented by simultaneity between transfers and some of our key independent and control variables. We anticipate that the approach first introduced by Arellano & Bond (1991), and developed in Arellano & Bover (1995), Blundell & Bond (1998) may be particularly helpful in this case, as it allows us to find internal instruments. This is desirable due to the difficulty of finding good instruments using traditional two-stage approaches. We acknowledge, however, that this approach is more suitable for larger panels, leading to additional problems if used with our sample. When the number of internal instruments becomes high relative to sample size (of a cross-section), an “instrument proliferation” problem occurs. This results, first, in singularity of the estimate for the variance-covariance matrix, and, second, in “overfit” of instruments to the endogenous variables at the first stage. The latter problem is particularly worrisome, as it could lead to biased results in the second stage (Rodman 2006).

Our aim is to understand how the factors which determine the transfer allocations shifted over time, especially after key events such as the Kozak centralization reforms of 2004 and the cancellation of gubernatorial elections in 2005. If our argument is above and the nature of transfers shifted as we expect, then it is necessary to construct any panel that includes both periods carefully in order to isolate the effects of interest. In future versions of the paper, we test

for these effects using interaction terms and separate analysis of the different groups of years that we expect to differ from each other. In this version of the paper, we eschew these panel techniques in order to examine cross-sections for each year of our analysis, helping us to better understand the yearly variation in the determinants of federal transfers.

The ideal model we estimate for each time period t would be the following:

$$\Delta y_{it} = z'_{it-1} \alpha_t + \Delta x'_{it-1} \beta_t + c_t + \varepsilon_{it}, \quad t = 2002, \dots, 2008 \quad (1)$$

where the dependent variable is Δy_{it} is a first-differenced dependent variable:

- total transfers per capita in thnds. Rub. deflated by CPI and adjusted to reflect 2000 prices (transfpercapita)
- total transfers minus the FFSR transfers per capita in thnds. Rub. deflated by CPI and adjusted to reflect 2000 prices (restpercapita)
- the FFSR transfers per capita in thnds. Rub. deflated by CPI and adjusted to reflect 2000 prices (ffsrpercapita)

ε_{it} is an idiosyncratic (possibly heteroskedastic) disturbance for region i at time t , c is the intercept at time t , z'_{it} is the set of political variables (discussed above) representing the threats posed by elites and the masses, and x'_{it} represents socio-economic and control variables (see above).

We choose to take the first difference of the dependent variable, because our assumption (born out by the data) is that transfers are strictly determined by using the previous year's transfer as a base level and then determining some increase to that base level. Consequently, understanding how transfers are used to achieve both political and economic goals requires one to look not at absolute levels of transfers per capita, but of relative growth achieved by different regions.¹⁸ We also add a cross-term to equation 1, which represents the interaction between the level of economic development and the political variable (elections results in this version of the paper). We introduce this term in order to control for the fact that the willingness of the center to target transfers may depend critically on the level of economic development in particular regions (Akmedov and Zhuravskaya 2004; Magaloni 2006).

5. Results and Discussions

Our central hypotheses suggest that the effect and magnitude of political variables should vary across years. To capture this we begin by presenting simple OLS regressions for each year, using robust standard errors to control for heteroskedasticity. We recognize that this method is

¹⁸ This assumption is based on feedback from the experts at the Center for Fiscal policy, a seminar held at the International Center for the Study of Institutions and Democracy in September 2011, and personal contacts between the authors and Ministries of Finance and Economic Development.

limited, especially since many of the variables of interest in our regressions are endogenous. As of the current version of the paper, we are still gathering data to construct valid and relevant instruments for some of our socio-economic and political variables. Subsequent versions of this paper will include such instruments. We will also introduce specifications that use Arellano-Bond models to allow us to test out hypotheses in a panel setting, while still accounting for endogeneity (Arellano and Bond 1991; Blundell and Bond 1998).

We estimated regressions for aggregate categories of transfers: total transfers per capita, FFSR transfers per capita, and Non-FFSR transfers per capita. Our results, reported in Tables 2 - 9, suggest that the electoral results of Duma level elections had a significant relationship to subsequent transfers in 2001, 2007, and 2008, although some political variables were significant for 2002 and 2003. In this version of the paper, we include GRP per capita (in fixed prices) to account for levels of economic development, as well the cross-term between lagged GRP per capita and one of the political variables (also lagged once). Our controls include the level of urbanization, shares of the population below 18 and of pensionable age, the size of the regional bureaucracy, and for regional conflicts between mayor and governor.

Beginning with our results for transfers in 2001, the margin of victory for the future United Russia party (OVR+Unity) was a negative and significant predictor of growth in total transfers and FFSR transfers in 2001 (Table 2), as was the margin between the future United Russia party and the Communist opposition. Since these variables were not significant in specifications that used discretionary transfers as the dependent variables, we argue that their effect on FFSR growth is likely what drives on total transfer growth. Models 6-9 in table 2 show that the relationship between the vote share of one of United Russia's precursors, OVR, has similar dynamics to the margins of victory for the OVR and Unity together. The cross-term interacting these variables with levels of economic development was insignificant, thus suggesting that regions where Unity and OVR's combined margin of victory (given that they won) was smaller received more transfers than regions where these parties were dominant.

Interestingly, however, it is also a significant predictor (at the 90% level) of growth in discretionary transfers. Interpreting the overall effect of OVR vote share is more complex than the two margin variables previously mentioned, however, because the cross terms between economic and political variables is also significant and positive in all specifications. Taking into account the cross term, it appears that the center rewarded those regions who voted for the OVR in the 1999 elections, since the positive co-efficient of the cross-term has a larger magnitude than the negative effect on the OVR vote share variable. Figures 2 and 3 illustrates the marginal effect of a percentage point increase in the log of OVR vote share for growth in transfers in 2001-2002, which clearly serves to increase transfers. These figures also show that a unit increase in any of

the political variables leads to generally higher growth in transfers. One must bear in mind, however, that the cross term between GRP per capita and the simple margin of victory for the future United Russia party and the margin between it and the Communists is not a significant predictor of growth in transfers (of any type). For this reason, one can observe that the confidence interval around the marginal effect is not above zero in these figures.

Results for 2002 and 2003 (Tables 3 and 4) in terms of the voteshare of OVR in the regions was roughly similar to the 2001 results, although in the case of 2002 the results only held for growth in total transfers and were only weakly significant (at the 90% significance level). In 2002, the interaction with GRP per capita is significant, although it is not in 2003. Based on this, our interpretations of the results for 2002 are roughly similar to those offered for 2001, regions with strong vote shares for the OVR were actually penalized in 2003.

Between 2004 and 2006, our political variables were not significant for any of the specifications, implying that authorities did not consider electoral results when assigning transfers in this period. Results for 2007 (Table 8), however, indicate that the authorities seem to have again begun using electoral results (from the 2003 Duma elections) as a determinant of transfers. Simple vote shares for United Russia, United Russia's margin of victory over the first runner up, and United Russia's victory over the only true opposition party, the Communists, were all significant and positive predictors of total transfers and discretionary transfers in 2007. Since the interaction term was significant in the same specifications as the political variables, however, it must be taken into account in understanding the net effect of the political variables. Because the magnitude of the cross-term is much higher than that of the co-efficient on the political variables, it appears that the authorities tended to favor areas where they won by low margins with higher growth in transfers. This is confirmed by the marginal effects illustrated in figure 4. Figure 4 also indicates that regions with lower levels of economic development were rewarded with higher delta in total transfers.¹⁹

These results generally support our theory. Recall that above we argued that the vote shares for the OVR may be correlated with the ability of regional governors to mobilize resources and get out the vote in the face of the Kremlin's attempts to sway regional voters. According to our theory, the central authorities, having not yet consolidated their control of the regions or set up a party of power to co-opt regional elites, should have made transfers to co-opt regional elites and prevent them from opposing the center's interests. Once the center

¹⁹ It is important to note with this result, that according to our model, regions where the opposition won would see higher increase in transfers than those where United Russia won, since these regions would have a margin of 0 and not suffer any diminished growth in transfers. This is likely caused by the fact that United Russia won in almost all regions in 2003, thus leaving very few observations where the margin of victory was 0 (indicating that the opposition lost). Results for 2008 largely conform to those of 2007, although in this case, they only hold true for total transfers. The cross-term is also significant for growth in FFSR, but it is not clear why this would be the case and the political variables are not significant.

successfully began the process of establishing the Kozak reforms and was able to co-opt OVR into merging with Unity as occurred in 2001, however, further transfers became irrelevant. Consequently in 2002, it was unnecessary to increase transfers further in order to continue co-opting the former members of the OVR and they could, in fact, be safely decreased. Similarly, if we unproblematically take the view advanced in the literature that vote shares are a measure of latent support (or lack thereof) for federal authorities, we continue to find support for our theory, since the center is transferring to segments of the population that potentially pose a threat and swing voters. These interpretations are somewhat unsatisfying, though, as the difficulties in interpreting results based on vote shares in Russia makes it difficult to separate out whether regimes are responding to electoral results or to the power of regional elites, who can illicit desired voting results using their connections to the populace. We will explore this difficulty further in subsequent versions of the paper, which incorporate more straightforward measures of elite and mass strength.

The results for 2007 and 2008 also conform to our theoretical expectations, albeit less cleanly. After the passage of the centralization reforms of the early 2000's, the regional elite was effectively stripped of much of its power or co-opted, thus decreasing the degree of threat posed by it to the regime. As a consequence, one can interpret the 2007 and 2008 results, and lack thereof from 2004-2006, as signaling a new strategy, whereby the regime began targeting spending where it envisioned potential problems during subsequent federal elections (Duma and presidential respectively). No longer faced with the need to co-opt regional elites with transfers, the center was able to adopt a more forward looking strategic logic, where areas that supported United Russia, but were relatively competitive, got more transfers in preparation for future contests.

As with the OVR vote share variable, it is difficult to definitively say whether this variable is an indicator of elite strength or of the degree of threats posed by the masses, however. We suspect that in 2007 and 2008, vote shares have less to do with regional elite manipulation and more to do with actual levels of support for the central government in regions for two reasons. First, by 2007 almost all regional governors had been co-opted into the United Russia party, so low margins of victory for United Russia did not indicate independence but political weakness. If we imagine that vote shares were an indicator of elite strength in this period, then we would be left with the counterintuitive result that weak elites received transfers. Second, by this period the success of United Russia and centralization reforms had already disrupted many

of the key connections between regional elites and voters, thus decreasing the number of regions where elites were critical to electoral mobilization (Robertson 2011).²⁰

Moving on to some of the other variables of interest, we also observe that the indicator for the size of the regional bureaucracy had a positive and significant co-efficient in 2002 and 2007 in models of total transfers and non-FFSR transfers. As noted above, the size of the regional bureaucracy might be a good indicator of the relative strength of elites, because these groups represent a deep pool that can be used for effective lobbying, as well as a pool of (ostensibly) loyal supporters. The fact that bureaucrats are a significant and positive predictor of precisely the types of transfers which are discretionary is telling in this context, since it suggests that some payoffs may have been made. Given that these transfers occur in 2002, there is a good chance that they represent payoffs to strong governors for agreeing to the merger of OVR and Unity, as well as possibly being part of a side payment to smooth the path of the Kozak reform. While this interpretation is somewhat at odds with our findings that those regions that voted for the OVR were punished for doing so, we believe that both logics could hold. Regions that favored the OVR but which were not in strong bargaining positions otherwise could well have been punished, while powerful elites reaped benefits from the threat they posed. The next version of the paper, which will explicitly model the strength of regional elites using our database on governors and vice governors should help resolve this paradox.

Looking at the relationship between levels of development and transfers, we find some interesting relationships. Unexpectedly GRP per capita only had a significant relationship with growth in transfers in a few years. The relationship was negative for growth in discretionary transfers in 2004, positive for growth in discretionary transfers and growth in total transfers in 2007, and positive again in growth in FFSR and total transfers in 2008. Only in 2007 and 2008 was the cross term significant and in both cases it is negative, although the net relationship is still positive (see Figures 4 and 5). This result is somewhat intriguing, since it suggests that richer regions actually saw their transfers grow at a faster rate than poorer ones, which is unexpected. We are unsure why this is the case, although it may be related to the fact that wealthier regions are more likely to pose a threat to the regime at the mass level. Since the elites were dealt with earlier, this means that the regime may have been worried and increased transfers in these regions to compensate.

6. Summary

In this paper, we elaborated a theory of how autocratic regimes target transfers in response to changing perceptions of political threats arising from elites and the mass population.

²⁰ Important exceptions include the Caucasus and some of the ethnic republics. We excluded the former from our sample, but did not control for the later in this version of the paper. We will introduce this variable in future drafts.

We provided an initial, limited test of the theory by using data on federal transfers to Russia's regions between 2000-2008. Our preliminary findings show that in the early 2000's, faced with high levels of competition from regional elites, the federal center adopted a strategy of co-optation vis-à-vis opponents. Although we were unable to distinguish between the case where transfers were being aimed at restive regional elites or restive voters, we nonetheless were able to provide some evidence that larger increases in transfers were awarded to regions which had shown a willingness to vote for the OVR in the 1999 Duma elections. We also show that after 2003, the importance of electoral variables for transfers is tied to election cycles. While electoral variables were insignificant from 2004 to 2006, in 2007 and 2008 federal authorities made transfers based on the perception of threats, although, the strategy behind transfers had shifted. Rather than key oppositions groups, regions where United Russia won by slim margins in the 2003 election became more likely to experience faster rates of transfer growth in 2007, whereas regions where United Russia won by slim margins in 2007 were more likely to experience faster rates of transfer growth in 2008.²¹

A major limitation of our current study is that we obtained these results using cross-sectional year-by-year regressions. This approach was an important first stage of our analysis, since we argue that the nature of the political system shifts over time, thus altering our priors about the relationship between transfers and politics. This approach is clearly insufficient to provide convincing evidence for our argument, however, because of the serious endogeneity problems inherent in our specifications. Both economic variables – such as GRP per capita – and political variables are both shaped and shaped by the overall level of transfers. Because this relationship is endogenous and dynamic, however, better analytical tools are required at the next stage. We intend to replicate our cross-section results using instruments for our economic and political variables. Moreover, we specifically make use of Arellano-Bond models when transitioning to the panel data approach in order to control for potential endogeneity problems.

A second limitation of our analysis is connected with strong upward economic trends during the period under consideration. We argue earlier in the paper that governments will feel more pressure to transfer to the populace when economic conditions are bad and it begins effecting support for the regime. Generally high economic growth and vast improvements in living standards for the majority of Russian in the 2000's means that there were few opportunities for regional elites to use economic dissatisfaction to threaten the central government. Consequently it is hard to test how the Russian government reacts to bad economic times. Only in 2009, during the global financial downturn, would it be possible to understand

²¹ We acknowledge that interpretation of these results is somewhat problematic, because it is difficult to tease out whether the results are due to elite manipulation, and thus reflect elite bargaining power, or whether vote shares accurately reflect voter preferences.

how decreased economic performance influences the center's strategies. Unfortunately the global financial crisis of 2008-2009 is too recent for much of the data required to gauge the effects of the crisis to have been released. Given the need to insure a long enough post-crisis time-series to be able to conduct serious analysis, we defer study of these years to a later version of this paper.

Finally, in this paper we primarily tested hypotheses based on electoral variables, leaving aside a host of additional variables that may yield better insights into the strategic targeting of transfers. In addition, as mentioned above, it was difficult to interpret results based on electoral variables, since they may have been correlated with the bargaining power and strength of regional elites, especially during the early period until 2003. Future drafts of this paper will build upon this foundation by incorporating less noisy measures of the degree of threat posed by the general public, such as number of strikes and protests in a region. It will also tackle the elite strength hypothesis directly and less ambiguously, through the use of ICSID's unique dataset on regional governors and vice-governors.

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Table 1: Descriptive statistics for the dynamics of the FFSR grants in total transfers

Share of the FFSR grants in total transfers	2000-2004	2005-2008	2009
Mean	0.489	0.346	0.262
Min	0	0	0
Max	0.993	0.817	0.760
Std. dev. Overall	0.285	0.230	0.203
Std. dev. Between	0.257	0.219	0.203
Std. dev. Within	0.126	0.0731	0

Table 2: Cross-section models for the year 2001

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita
L.grpfixprpercapita	-0.470 (15.42)	-1.167 (10.05)	0.696 (6.857)	-13.56 (14.70)	-9.962 (12.27)	-3.600 (5.414)	-12.25 (8.423)	-10.05 (6.317)	-2.204 (4.118)
L.urbaniz	0.0787 (0.662)	0.514 (0.529)	-0.435 (0.383)	-0.000815 (0.596)	0.423 (0.450)	-0.424 (0.362)	-0.345 (0.519)	0.0430 (0.325)	-0.388 (0.333)
L.reg_empbudgsect	0.143** (0.0654)	0.0429 (0.0374)	0.100*** (0.0337)	0.131** (0.0612)	0.0327 (0.0360)	0.0982*** (0.0324)	0.0983 (0.0601)	0.0181 (0.0402)	0.0801*** (0.0299)
L.reg_sharebef18	0.0953 (0.0868)	0.0765 (0.0734)	0.0188 (0.0333)	0.105 (0.0861)	0.0799 (0.0725)	0.0247 (0.0325)	0.0356 (0.0862)	0.00783 (0.0672)	0.0277 (0.0304)
L.reg_sharepens	0.0530 (0.0756)	0.0532 (0.0649)	-0.000237 (0.0299)	0.0560 (0.0756)	0.0518 (0.0640)	0.00417 (0.0286)	-0.000223 (0.0787)	-0.00589 (0.0629)	0.00567 (0.0272)
L.reg_heductoempd	-0.0142 (0.0461)	0.00855 (0.0267)	-0.0228 (0.0243)	-0.0108 (0.0431)	0.00987 (0.0250)	-0.0207 (0.0238)	-0.00216 (0.0372)	0.00394 (0.0226)	-0.00609 (0.0202)
L.bureaucrats	46.71 (35.23)	17.17 (23.00)	29.54* (16.70)	45.49 (33.31)	18.84 (22.85)	26.65* (15.47)	52.68 (34.22)	30.85 (26.46)	21.82* (12.85)
L.reg_conflict	0.167 (0.120)	0.0780 (0.0744)	0.0895 (0.0863)	0.183 (0.128)	0.0953 (0.0806)	0.0877 (0.0877)	0.115 (0.146)	0.0931 (0.0759)	0.0224 (0.107)
L.cross_term	1.238 (1.153)	1.098 (0.989)	0.141 (0.420)	1.633* (0.849)	1.241 (0.855)	0.392 (0.249)	4.222*** (0.973)	3.533*** (1.074)	0.689 (0.440)
L.margind	-0.0320* (0.0164)	-0.0152 (0.0117)	-0.0167** (0.00792)						
L.opdom_duma				-0.0377** (0.0162)	-0.0194 (0.0120)	-0.0183** (0.00833)			
L.reg_ovr							-0.0355*** (0.0116)	-0.0182* (0.00921)	-0.0172*** (0.00570)
Constant	-5.307 (3.933)	-3.607 (3.357)	-1.700 (1.483)	-5.111 (3.865)	-3.351 (3.237)	-1.760 (1.420)	-2.212 (3.946)	-0.472 (3.161)	-1.740 (1.301)
Observations	73	73	73	73	73	73	71	71	71
R-squared	0.322	0.187	0.457	0.366	0.247	0.450	0.437	0.425	0.439

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Table 3: Cross section models for the year 2002.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita
L.grpfixprpercapita	-12.44* (6.594)	-8.589 (9.163)	-3.852 (11.34)	-6.207 (8.884)	-6.450 (11.16)	0.243 (9.983)	-2.189 (5.861)	5.772 (6.179)	-7.961 (11.53)
L.urbaniz	-1.513*** (0.553)	-1.680*** (0.573)	0.167 (0.252)	-1.551*** (0.527)	-1.749*** (0.581)	0.198 (0.298)	-1.459*** (0.420)	-1.641*** (0.484)	0.182 (0.331)
L.reg_empbudgsect	0.00362 (0.0253)	-0.0453 (0.0425)	0.0490 (0.0468)	0.0111 (0.0282)	-0.0404 (0.0437)	0.0515 (0.0448)	0.0216 (0.0326)	-0.0205 (0.0437)	0.0421 (0.0559)
L.reg_sharebef18	-0.0386 (0.0501)	-0.0873 (0.0547)	0.0486 (0.0307)	-0.0495 (0.0466)	-0.0953* (0.0557)	0.0458 (0.0361)	-0.0187 (0.0295)	-0.0832* (0.0472)	0.0645* (0.0372)
L.reg_sharepens	-0.0486 (0.0440)	-0.108** (0.0483)	0.0589* (0.0321)	-0.0554 (0.0403)	-0.112** (0.0487)	0.0566 (0.0351)	-0.0184 (0.0273)	-0.0827* (0.0428)	0.0643 (0.0389)
L.reg_heductoempd	0.0339* (0.0172)	0.0289 (0.0239)	0.00498 (0.0185)	0.0269 (0.0180)	0.0253 (0.0238)	0.00158 (0.0161)	0.0366** (0.0147)	0.0309 (0.0203)	0.00570 (0.0175)
L.bureaucrats	47.49** (19.26)	69.40*** (24.04)	-21.91 (13.62)	51.60** (20.24)	71.88*** (25.68)	-20.28 (13.37)	43.43** (18.57)	57.10** (25.12)	-13.67 (16.89)
L.reg_conflict	-0.159* (0.0866)	-0.102 (0.0930)	-0.0578 (0.0613)	-0.182* (0.0912)	-0.117 (0.101)	-0.0649 (0.0675)	-0.207** (0.0779)	-0.162 (0.103)	-0.0448 (0.0894)
L.cross_term	0.0695 (0.730)	0.412 (1.031)	-0.342 (0.596)	-0.393 (0.636)	0.102 (0.839)	-0.495 (0.309)	-14.48*** (2.633)	-16.47*** (2.798)	1.991 (4.752)
L.margind	-0.00112 (0.00963)	-0.0119 (0.0154)	0.0108 (0.00913)						
L.opdom_duma				0.00310 (0.0103)	-0.00961 (0.0150)	0.0127 (0.00781)			
L.reg_ovr							0.0162* (0.00827)	0.0186 (0.0115)	-0.00239 (0.0133)
Constant	1.851 (2.232)	4.393* (2.439)	-2.542 (1.861)	2.128 (2.010)	4.653* (2.456)	-2.525 (2.138)	0.384 (1.498)	3.259 (2.137)	-2.874 (2.330)
Observations	73	73	73	73	73	73	72	72	72
R-squared	0.580	0.554	0.362	0.599	0.554	0.376	0.745	0.703	0.354

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Table 4: Cross-section models for the year 2003

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita
L.grpfixprpercapita	-2.038 (1.515)	-4.140 (3.851)	2.103 (4.005)	-2.315 (2.310)	-3.037 (4.844)	0.722 (4.817)	-2.332 (1.683)	-0.620 (2.011)	-1.712 (2.689)
L.urbaniz	0.275 (0.380)	0.495 (0.380)	-0.220 (0.204)	0.268 (0.392)	0.420 (0.398)	-0.152 (0.218)	0.239 (0.369)	0.345 (0.390)	-0.106 (0.237)
L.reg_empbudgsect	0.0327 (0.0237)	0.00983 (0.0338)	0.0228 (0.0247)	0.0337 (0.0248)	0.0121 (0.0377)	0.0216 (0.0299)	0.0176 (0.0201)	-0.00701 (0.0332)	0.0246 (0.0313)
L.reg_sharebef18	-0.0717** (0.0304)	-0.0333 (0.0365)	-0.0384 (0.0382)	-0.0743** (0.0288)	-0.0448 (0.0363)	-0.0295 (0.0386)	-0.0596* (0.0318)	-0.0246 (0.0376)	-0.0350 (0.0436)
L.reg_sharepens	-0.0567** (0.0277)	-0.0189 (0.0363)	-0.0378 (0.0423)	-0.0571** (0.0283)	-0.0260 (0.0379)	-0.0311 (0.0436)	-0.0493* (0.0292)	-0.0160 (0.0374)	-0.0333 (0.0473)
L.reg_heductoempd	-0.0164 (0.0119)	-0.00304 (0.0121)	-0.0133 (0.0103)	-0.0155 (0.0114)	-0.00702 (0.0116)	-0.00853 (0.00904)	-0.00876 (0.0118)	-0.00147 (0.0120)	-0.00729 (0.0104)
L.bureaucrats	-7.157 (17.12)	-1.652 (20.59)	-5.505 (14.45)	-9.684 (15.28)	-1.857 (21.66)	-7.827 (17.27)	-8.182 (14.39)	4.935 (22.47)	-13.12 (18.69)
L.reg_conflict	0.0624 (0.0694)	-0.0289 (0.0826)	0.0913 (0.0801)	0.0564 (0.0735)	-0.0448 (0.0869)	0.101 (0.0878)	0.0126 (0.0857)	-0.127 (0.101)	0.140 (0.111)
L.cross_term	0.0749 (0.152)	0.585 (0.427)	-0.511 (0.388)	0.0666 (0.167)	0.266 (0.326)	-0.200 (0.272)	1.786 (1.673)	3.303 (2.117)	-1.517 (1.516)
L.margind	-0.00951 (0.00898)	-0.0138 (0.0104)	0.00424 (0.00629)						
L.opdom_duma				-0.00755 (0.00873)	-0.00969 (0.0104)	0.00214 (0.00609)			
L.reg_ovr							-0.00935** (0.00463)	-0.0130** (0.00511)	0.00362 (0.00401)
Constant	2.318* (1.351)	0.845 (1.749)	1.473 (1.949)	2.405* (1.322)	1.301 (1.839)	1.104 (2.059)	2.156 (1.303)	0.963 (1.800)	1.193 (2.244)
Observations	73	73	73	73	73	73	72	72	72
R-squared	0.270	0.243	0.228	0.257	0.201	0.136	0.280	0.269	0.130

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Table 5: Cross-section models for the year 2004

VARIABLES	(1) D.transfpercapita	(2) D.restpercapita	(3) D.ffsrpercapita	(4) D.transfpercapita	(5) D.restpercapita	(6) D.ffsrpercapita	(7) D.transfpercapita	(8) D.restpercapita	(9) D.ffsrpercapita
L.grpfixprpercapita	-16.42 (10.18)	-18.31** (7.119)	1.887 (4.346)	-9.680* (5.633)	-10.27** (3.962)	0.594 (2.568)	-10.55 (6.352)	-12.54*** (4.608)	1.986 (2.766)
L.urvote	-0.0128 (0.00992)	-0.0148** (0.00722)	0.00202 (0.00382)						
L.urbaniz	0.318 (0.257)	0.185 (0.261)	0.133 (0.103)	0.326 (0.262)	0.201 (0.266)	0.126 (0.105)	0.330 (0.256)	0.198 (0.261)	0.131 (0.103)
L.reg_empbudgsect	4.50e-06 (0.0292)	0.00843 (0.0216)	-0.00843 (0.0171)	0.00442 (0.0303)	0.0132 (0.0227)	-0.00877 (0.0169)	-0.00106 (0.0293)	0.00756 (0.0215)	-0.00862 (0.0170)
L.reg_sharebef18	-0.0100 (0.0172)	-0.0252 (0.0170)	0.0152* (0.00883)	-0.0111 (0.0170)	-0.0257 (0.0174)	0.0147 (0.00887)	-0.00741 (0.0167)	-0.0228 (0.0167)	0.0154* (0.00845)
L.reg_sharepens	-0.0214 (0.0181)	-0.0356** (0.0157)	0.0141 (0.00855)	-0.0204 (0.0175)	-0.0338** (0.0156)	0.0134 (0.00855)	-0.0191 (0.0179)	-0.0334** (0.0158)	0.0144* (0.00828)
L.reg_heductoempd	0.0164 (0.0135)	0.0221** (0.0104)	-0.00566 (0.00669)	0.0178 (0.0130)	0.0235** (0.00997)	-0.00564 (0.00657)	0.0162 (0.0131)	0.0219** (0.00976)	-0.00573 (0.00643)
L.bureaucrats	-6.128 (10.65)	-1.415 (11.35)	-4.713 (5.210)	-7.443 (10.74)	-2.867 (11.70)	-4.576 (5.180)	-4.759 (10.59)	0.462 (11.33)	-5.221 (4.950)
L.reg_conflict	-0.141** (0.0612)	-0.106** (0.0520)	-0.0357 (0.0320)	-0.141** (0.0578)	-0.105** (0.0492)	-0.0354 (0.0307)	-0.145** (0.0626)	-0.109** (0.0525)	-0.0353 (0.0321)
L.cross_term	0.300 (0.209)	0.333** (0.152)	-0.0326 (0.0830)	0.225 (0.156)	0.234** (0.116)	-0.00813 (0.0627)	0.229 (0.167)	0.275** (0.124)	-0.0462 (0.0671)
L.margind				-0.0114 (0.00744)	-0.0127** (0.00533)	0.00125 (0.00315)			
L.opdom_duma							-0.0102 (0.00797)	-0.0126** (0.00565)	0.00241 (0.00323)
Constant	0.726 (1.023)	1.176 (0.803)	-0.450 (0.488)	0.384 (1.018)	0.744 (0.821)	-0.360 (0.466)	0.395 (0.983)	0.832 (0.793)	-0.437 (0.450)
Observations	73	73	73	73	73	73	73	73	73
R-squared	0.189	0.249	0.211	0.192	0.250	0.211	0.181	0.245	0.216

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Table 6: Cross-section models for the year 2005

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita
L.grpfixprpercapita	12.77 (14.27)	9.303 (16.92)	3.468 (23.28)	10.18 (8.712)	6.698 (11.64)	3.477 (16.27)	8.339 (9.113)	6.851 (11.74)	1.488 (15.52)
L.urvote	0.0103 (0.00977)	0.0143 (0.0131)	-0.00400 (0.0156)						
L.urbaniz	-0.431 (0.289)	0.197 (0.548)	-0.628 (0.646)	-0.427 (0.293)	0.138 (0.529)	-0.565 (0.628)	-0.437 (0.290)	0.193 (0.561)	-0.630 (0.662)
L.reg_empbudgsect	0.0144 (0.0391)	0.0165 (0.0328)	-0.00208 (0.0583)	0.0137 (0.0396)	0.0125 (0.0321)	0.00118 (0.0578)	0.0153 (0.0397)	0.0164 (0.0307)	-0.00108 (0.0568)
L.reg_sharebef18	0.00622 (0.0307)	0.129* (0.0660)	-0.123 (0.0839)	0.0113 (0.0291)	0.130** (0.0629)	-0.119 (0.0793)	0.00399 (0.0304)	0.128* (0.0649)	-0.124 (0.0827)
L.reg_sharepens	0.0120 (0.0291)	0.123** (0.0590)	-0.111 (0.0756)	0.0161 (0.0278)	0.123** (0.0563)	-0.107 (0.0713)	0.0103 (0.0283)	0.122** (0.0575)	-0.112 (0.0737)
L.reg_heductoempd	-0.00299 (0.0138)	-0.0114 (0.0137)	0.00842 (0.0190)	-0.00220 (0.0137)	-0.0108 (0.0134)	0.00857 (0.0185)	-0.00310 (0.0139)	-0.0110 (0.0139)	0.00793 (0.0191)
L.bureaucrats	9.462 (13.85)	-32.37 (31.71)	41.83 (37.99)	9.278 (13.09)	-32.85 (31.14)	42.13 (37.04)	8.612 (13.68)	-34.99 (31.64)	43.60 (37.53)
L.reg_conflict	0.0201 (0.0664)	0.0262 (0.0711)	-0.00611 (0.0840)	0.0114 (0.0684)	0.0240 (0.0692)	-0.0126 (0.0837)	0.0256 (0.0683)	0.0317 (0.0697)	-0.00610 (0.0863)
L.cross_term	-0.222 (0.300)	-0.154 (0.345)	-0.0688 (0.465)	-0.236 (0.254)	-0.146 (0.328)	-0.0895 (0.448)	-0.166 (0.248)	-0.138 (0.299)	-0.0283 (0.391)
L.margind				0.00997 (0.00820)	0.0140 (0.0112)	-0.00408 (0.0144)			
L.opdom_duma							0.00832 (0.00861)	0.0131 (0.0109)	-0.00480 (0.0132)
Constant	-0.607 (1.676)	-4.722* (2.495)	4.115 (3.416)	-0.624 (1.585)	-4.438* (2.359)	3.814 (3.213)	-0.346 (1.574)	-4.461* (2.427)	4.115 (3.303)
Observations	73	73	73	73	73	73	73	73	73
R-squared	0.122	0.288	0.258	0.130	0.296	0.262	0.118	0.292	0.259

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Table 7: Cross-section models for the year 2006

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita
L.grpfixprpercapita	5.268 (13.92)	6.212 (7.259)	-0.943 (10.61)	3.489 (9.127)	7.158** (3.517)	-3.669 (8.134)	2.031 (9.712)	3.068 (4.899)	-1.037 (7.362)
L.urvote	-0.00751 (0.0136)	-0.00193 (0.00778)	-0.00558 (0.0110)						
L.urbaniz	-0.0639 (0.440)	0.422 (0.361)	-0.486* (0.255)	0.00417 (0.422)	0.465 (0.347)	-0.461* (0.237)	-0.0241 (0.442)	0.405 (0.362)	-0.429 (0.257)
L.reg_empbudgsect	0.0174 (0.0315)	-0.0512** (0.0208)	0.0686** (0.0317)	0.0234 (0.0310)	-0.0439** (0.0203)	0.0673** (0.0324)	0.0168 (0.0303)	-0.0479** (0.0200)	0.0648** (0.0305)
L.reg_sharebef18	-0.0535 (0.0422)	-0.107*** (0.0321)	0.0536 (0.0385)	-0.0503 (0.0432)	-0.0966*** (0.0299)	0.0463 (0.0369)	-0.0598 (0.0423)	-0.110*** (0.0315)	0.0506 (0.0377)
L.reg_sharepens	-0.0511 (0.0414)	-0.104*** (0.0279)	0.0524 (0.0344)	-0.0481 (0.0427)	-0.0935*** (0.0272)	0.0454 (0.0331)	-0.0567 (0.0419)	-0.106*** (0.0279)	0.0488 (0.0334)
L.reg_heductoempd	0.0119 (0.0147)	-0.0115 (0.0146)	0.0235** (0.0111)	0.0142 (0.0142)	-0.00804 (0.0133)	0.0222** (0.0105)	0.00887 (0.0141)	-0.0119 (0.0138)	0.0208* (0.0106)
L.bureaucrats	10.78 (13.38)	14.70 (9.099)	-3.923 (15.00)	9.411 (13.08)	12.72 (8.775)	-3.313 (14.61)	12.24 (13.56)	14.97* (8.949)	-2.724 (15.06)
L.reg_conflict	-0.0313 (0.0847)	-0.184** (0.0735)	0.153* (0.0826)	-0.0273 (0.0805)	-0.194*** (0.0687)	0.167** (0.0806)	-0.0210 (0.0853)	-0.187** (0.0726)	0.166* (0.0855)
L.cross_term	-0.140 (0.287)	-0.181 (0.156)	0.0410 (0.216)	-0.135 (0.255)	-0.274*** (0.103)	0.138 (0.223)	-0.0885 (0.250)	-0.140 (0.132)	0.0519 (0.188)
L.margind				-0.00811 (0.0115)	-0.00104 (0.00510)	-0.00707 (0.0102)			
L.opdom_duma							-0.00630 (0.0111)	-0.00300 (0.00573)	-0.00330 (0.00879)
Constant	1.650 (1.860)	4.845*** (1.280)	-3.195** (1.486)	1.262 (1.924)	4.185*** (1.237)	-2.923** (1.459)	1.761 (1.881)	4.888*** (1.278)	-3.127** (1.454)
Observations	73	73	73	73	73	73	73	73	73
R-squared	0.230	0.497	0.386	0.255	0.546	0.392	0.218	0.502	0.382

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Table 8: Cross-section models for the year 2007

VARIABLES	(1) D.transfpercapita	(2) D.restpercapita	(3) D.ffsrpercapita	(4) D.transfpercapita	(5) D.restpercapita	(6) D.ffsrpercapita	(7) D.transfpercapita	(8) D.restpercapita	(9) D.ffsrpercapita
L.grpfixprpercapita	28.21** (10.90)	30.02*** (11.05)	-1.810 (2.966)	14.38** (7.136)	15.66** (7.410)	-1.287 (1.708)	15.49* (8.280)	17.14** (8.387)	-1.645 (1.950)
L.urvote	0.0469*** (0.0106)	0.0449*** (0.0102)	0.00195 (0.00336)						
L.dgov3	-0.141 (0.111)	-0.120 (0.113)	-0.0205 (0.0361)	-0.155 (0.107)	-0.129 (0.107)	-0.0259 (0.0341)	-0.127 (0.114)	-0.110 (0.116)	-0.0171 (0.0381)
L.urbaniz	0.106 (0.583)	0.0269 (0.584)	0.0796 (0.132)	0.0648 (0.564)	-0.00495 (0.570)	0.0698 (0.128)	-0.0259 (0.588)	-0.0952 (0.592)	0.0693 (0.129)
L.reg_empbudgsect	-0.0813* (0.0477)	-0.0756 (0.0465)	-0.00569 (0.0143)	-0.0807* (0.0472)	-0.0719 (0.0476)	-0.00878 (0.0134)	-0.0749 (0.0479)	-0.0707 (0.0468)	-0.00420 (0.0143)
L.reg_sharebef18	-0.104 (0.0689)	-0.110 (0.0727)	0.00624 (0.0107)	-0.0913 (0.0709)	-0.0974 (0.0751)	0.00603 (0.0104)	-0.110 (0.0672)	-0.117 (0.0705)	0.00703 (0.0109)
L.reg_sharepens	-0.126* (0.0641)	-0.133** (0.0662)	0.00718 (0.00913)	-0.116* (0.0650)	-0.123* (0.0675)	0.00686 (0.00888)	-0.131** (0.0632)	-0.139** (0.0650)	0.00789 (0.00923)
L.reg_heductoempd	-0.0433* (0.0234)	-0.0394 (0.0249)	-0.00393 (0.00609)	-0.0386* (0.0228)	-0.0339 (0.0247)	-0.00471 (0.00569)	-0.0437* (0.0233)	-0.0405 (0.0247)	-0.00320 (0.00622)
L.bureaucrats	46.75** (19.66)	42.25** (19.92)	4.498 (4.098)	46.65** (19.56)	41.43** (20.18)	5.217 (3.819)	42.07** (19.34)	38.17* (19.49)	3.897 (4.040)
L.reg_conflict	0.115 (0.0990)	0.148 (0.101)	-0.0330 (0.0294)	0.0994 (0.0991)	0.131 (0.102)	-0.0315 (0.0293)	0.119 (0.101)	0.153 (0.104)	-0.0348 (0.0301)
L.cross_term	-0.736*** (0.214)	-0.759*** (0.212)	0.0233 (0.0617)	-0.621*** (0.182)	-0.635*** (0.181)	0.0143 (0.0488)	-0.612*** (0.201)	-0.637*** (0.197)	0.0250 (0.0533)
L.margind				0.0387*** (0.00789)	0.0358*** (0.00777)	0.00290 (0.00265)			
L.opdom_duma							0.0386*** (0.0102)	0.0377*** (0.00973)	0.000914 (0.00303)
Constant	4.158 (2.891)	4.353 (2.973)	-0.195 (0.489)	4.583 (2.993)	4.703 (3.093)	-0.120 (0.461)	5.274* (2.869)	5.462* (2.929)	-0.188 (0.473)
Observations	73	73	73	73	73	73	73	73	73
R-squared	0.458	0.453	0.130	0.462	0.451	0.154	0.446	0.445	0.121

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Table 9: Cross-section models for the year 2008

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita	D.transfpercapita	D.restpercapita	D.ffsrpercapita
L.grpfixprpercapita	95.66*** (31.86)	47.58 (31.29)	48.08** (22.03)	68.31*** (20.20)	34.18 (22.49)	34.14** (15.31)	65.49*** (16.51)	37.53* (20.17)	27.96** (12.99)
L.urvote	0.0408** (0.0197)	0.0266 (0.0181)	0.0142 (0.0129)						
L.dgov3	-0.000405 (0.246)	0.0346 (0.176)	-0.0350 (0.166)	0.0176 (0.245)	0.0409 (0.177)	-0.0233 (0.164)	0.0328 (0.248)	0.0685 (0.179)	-0.0357 (0.169)
L.urbaniz	-0.714 (0.704)	-0.683 (0.435)	-0.0313 (0.482)	-0.778 (0.680)	-0.695 (0.434)	-0.0831 (0.464)	-0.800 (0.668)	-0.744* (0.440)	-0.0567 (0.461)
L.reg_empbudgsect	-0.0148 (0.0535)	-0.0424 (0.0344)	0.0276 (0.0567)	-0.00644 (0.0508)	-0.0399 (0.0326)	0.0334 (0.0553)	-0.00236 (0.0514)	-0.0363 (0.0314)	0.0339 (0.0563)
L.reg_sharebef18	-0.129 (0.0843)	-0.0314 (0.0594)	-0.0976 (0.0819)	-0.134 (0.0832)	-0.0340 (0.0588)	-0.0995 (0.0816)	-0.135 (0.0828)	-0.0310 (0.0585)	-0.104 (0.0831)
L.reg_sharepens	-0.0882 (0.0640)	-0.0117 (0.0493)	-0.0765 (0.0630)	-0.0912 (0.0635)	-0.0136 (0.0487)	-0.0776 (0.0629)	-0.0950 (0.0639)	-0.0120 (0.0485)	-0.0830 (0.0642)
L.reg_heductoempd	0.00913 (0.0363)	0.0397 (0.0300)	-0.0305 (0.0279)	0.00909 (0.0356)	0.0392 (0.0302)	-0.0301 (0.0270)	0.0119 (0.0353)	0.0409 (0.0297)	-0.0290 (0.0272)
L.bureaucrats	35.33 (24.50)	6.577 (14.40)	28.76 (31.93)	31.89 (24.20)	5.016 (14.07)	26.87 (31.66)	32.78 (24.91)	4.123 (14.05)	28.65 (32.66)
L.reg_conflict	-0.124 (0.139)	-0.0566 (0.0869)	-0.0670 (0.136)	-0.130 (0.136)	-0.0572 (0.0867)	-0.0725 (0.136)	-0.122 (0.135)	-0.0568 (0.0858)	-0.0653 (0.135)
L.cross_term	-1.273*** (0.450)	-0.634 (0.415)	-0.639** (0.304)	-1.052*** (0.338)	-0.528 (0.344)	-0.523** (0.241)	-0.968*** (0.263)	-0.564* (0.294)	-0.403** (0.195)
L.margind				0.0317** (0.0138)	0.0215 (0.0140)	0.0102 (0.00946)			
L.opdom_duma							0.0280** (0.0119)	0.0216* (0.0123)	0.00638 (0.00885)
Constant	0.708 (2.988)	-0.882 (2.403)	1.590 (2.881)	1.814 (2.888)	-0.184 (2.207)	1.998 (2.949)	1.904 (2.911)	-0.402 (2.204)	2.306 (3.033)
Observations	73	73	73	73	73	73	73	73	73
R-squared	0.522	0.280	0.376	0.538	0.290	0.385	0.545	0.322	0.370

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. D denotes the first difference, L denotes the first lag. 73 = without Chukotka AO and Zabaikal Krai.

Figure 1 FFSR as a share of Total Transfers Per Capita in 2000–2009 (current prices vs. fixed 2000 prices, CPI deflated). Source: Roskazna, Rosstat.

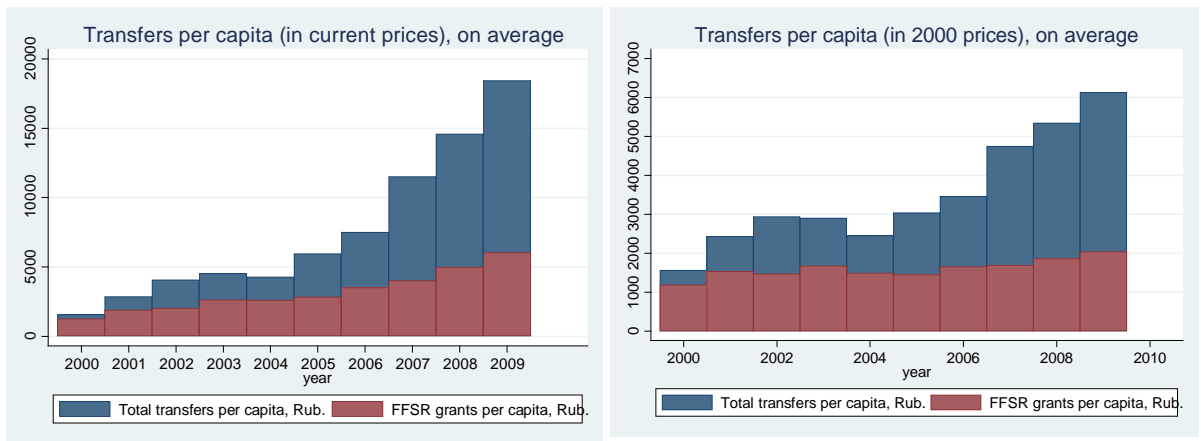


Figure 2 Marginal effects (conditional on GRP) for the 1 percentage point change in a Duma “elections” variable (reg_ovr – votes for the OVR party, margind – margin of votes, opdom_duma – opposition dominances), 2001. 95 per cent confidence intervals.

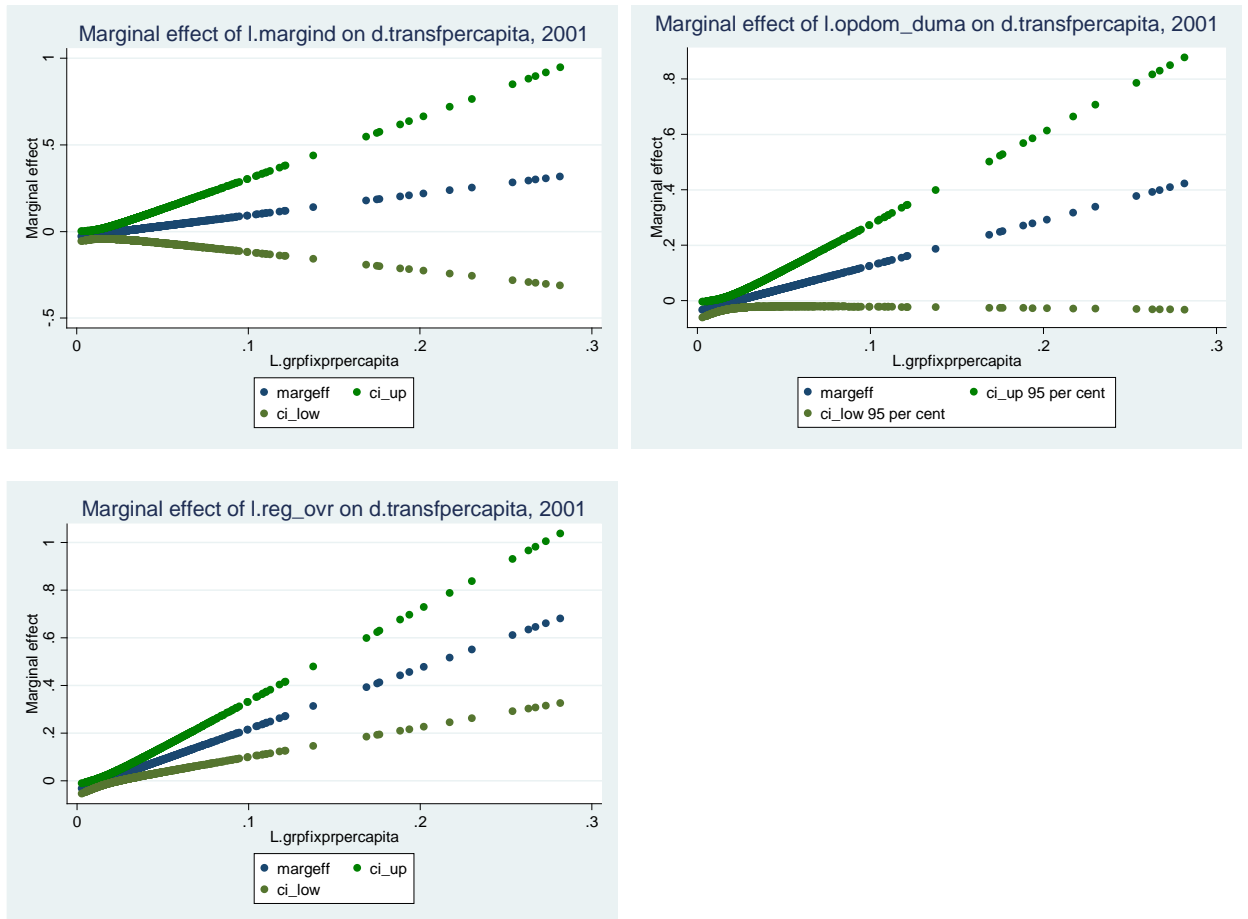


Figure 3 Marginal effects (conditional on GRP) for the 1 percentage point change in a Duma “elections” variable (reg_ovr – votes for the OVR party), 2002, 95 per cent confidence interval.

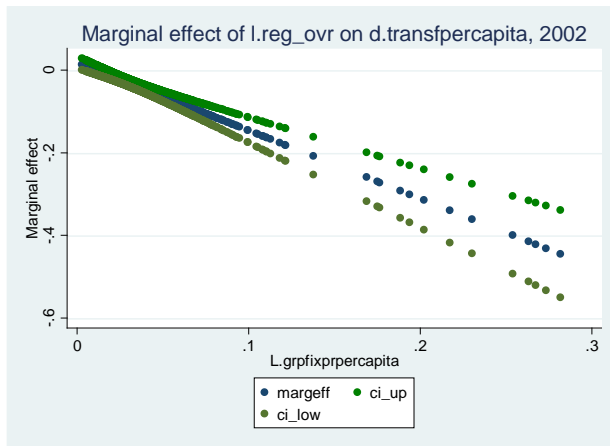


Figure 4 Marginal effects (conditional on GRP) for the 1 percentage point change in a Duma “elections” variable (urvote – votes for United Russia, margind – margin of votes, opdom_duma – opposition dominances), 2007. 95 per cent confidence interval.

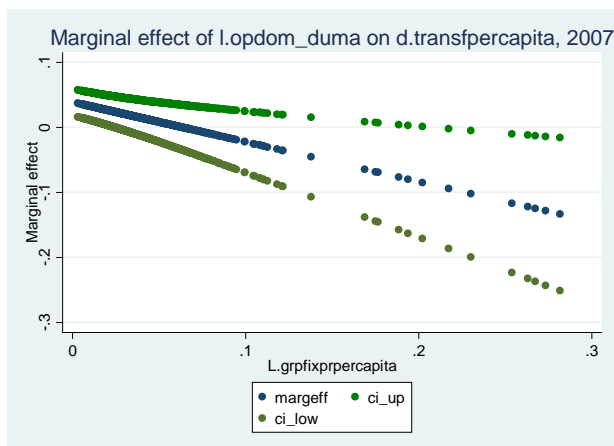
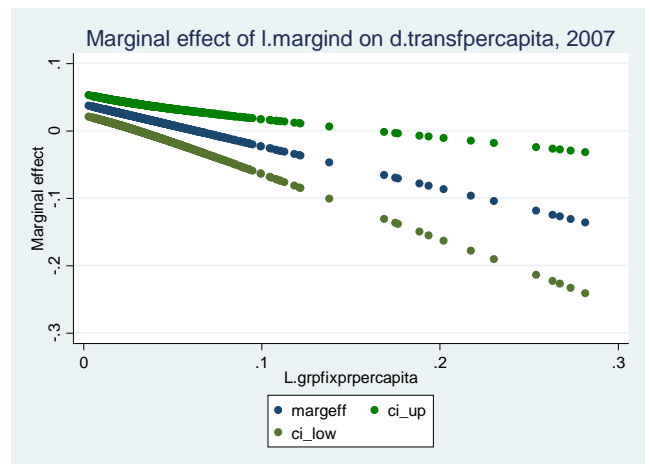
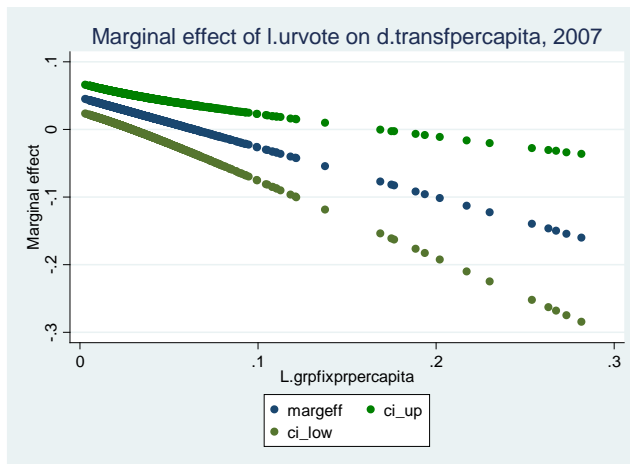
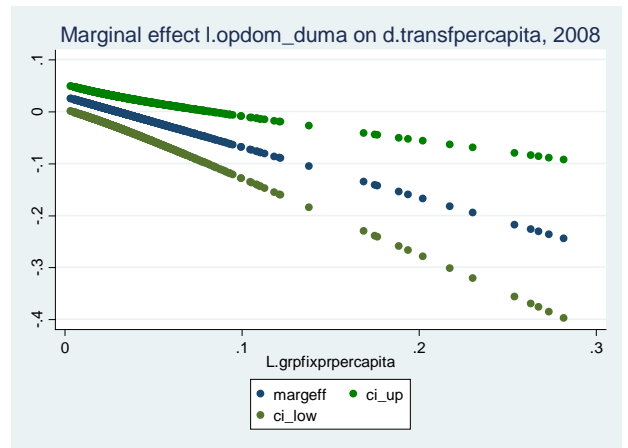
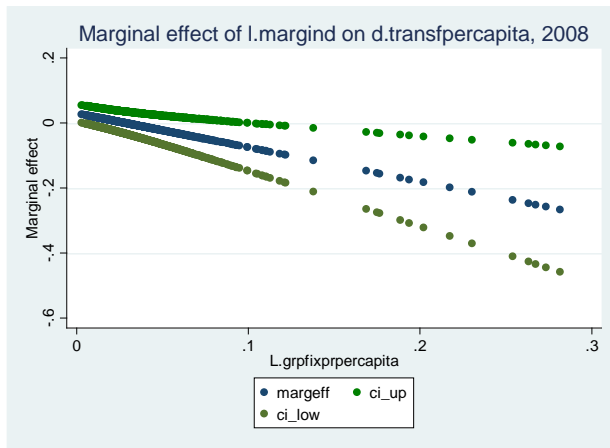


Figure 5 Marginal effects for the 1 percentage point change in a Duma “elections” variable (marginind – margin of votes, opdom_duma – opposition dominances), 2008. 95 per cent confidence intervals.



Appendix 1: Sample construction

The regions where the dynamics of total transfers differs substantially, i.e. we observe negative total transfers, are Moscow city (2001–2004, 2007), St. Petersburg city (2004), and Khanty-Mansi AO (2004–2006), where around 2005 were observed redistributions between regions and the Federal center, which resulted in outflows instead of inflows of transfers for these regions reflected (Figure 2.1). Negative total transfers for Moscow City and Khanty-Mansi AO were the consequences of the "Yukos" case: regional authorities were charged additional profit tax which they had to pay to the federal budget (the most severe "outlier" is, therefore, the year of 2005). Also Moscow City received negative transfers in 2007 when returns on profit tax were too high (Figure 2.2 below). Moscow City is usually excluded by researchers when assembling the panel dataset, as this region has totally different dynamics for most of the socio-economic indicators. An interesting exception from the overall trend in the dynamics of total transfers (see Figure 2.1) is Nenets AO where transfers per capita (in 2000 prices) according to the official data of Roskazna increased by almost 5 times during 2000–2009). No unified trend was observed for Republic of Bashkortostan and Republic of Tatarstan (see Figure 2.3), where the inflows of total transfers reflected both upward and downward tendencies during 2000–2009. The rapid rise of transfers per capita in the yearly 2000-s corresponds to the period of instability when regional elites in strategically important Republics were overpaid to support the Federal center.

Most socio-economic indicators published by Rosstat for Khanty-Mansi AO and Yamalo-Nenets AO, and for Nenets AO are included into larger regions: Tyumen Oblast, and Arkhangelsk Oblast. Rosstat has gaps in data for AOs in the early 2000-s. Transfers for AOs which are included into Oblasts are distributed by Minfin first to these regions, and only then they are distributed further to AOs, therefore, the distribution of transfers to AOs is a separate process guided by interested parties.

Figure 2.1 The Dynamics of Total Transfers Per Capita in 2000–2010 (fixed 2000 prices). Source: Roskazna, Rosstat, UIS RUSSIA.



Figure 2.2 The Share of Profit Tax in Total Budgetary Income in 2000–2010 (fixed 2000 prices). Source: Roskazna, UIS RUSSIA.

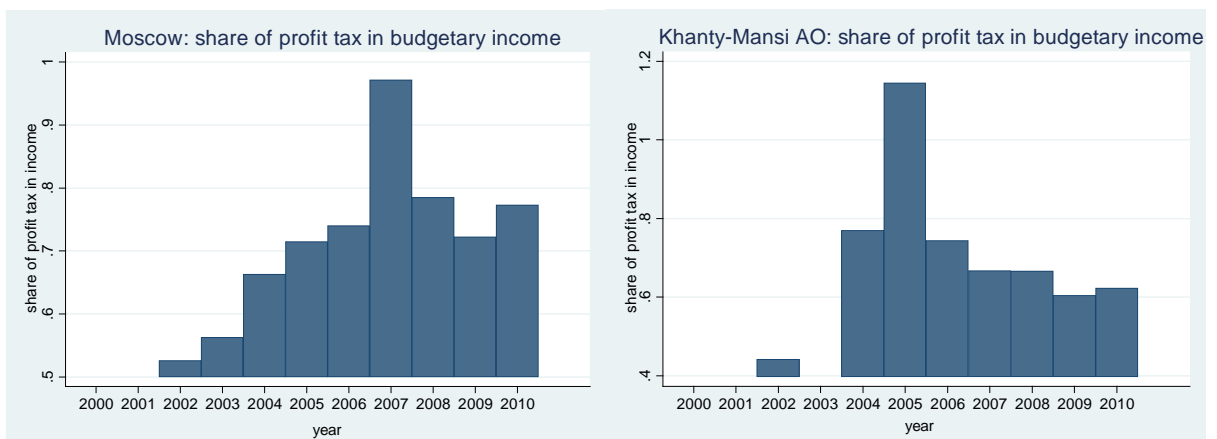
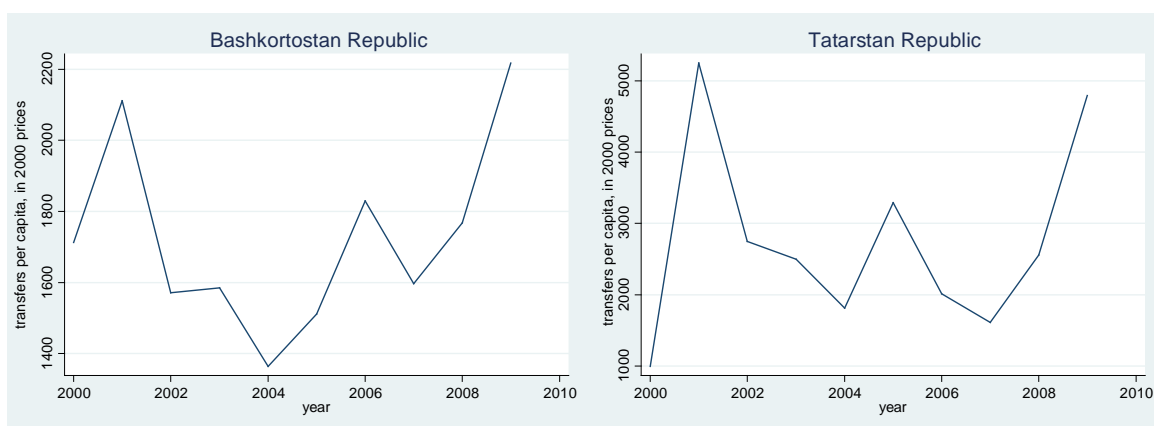


Figure 2.3. The Dynamics of Total Transfers Per Capita in 2000–2010 (fixed 2000 prices). Source: Roskazna, Rosstat, UIS RUSSIA.



Appendix 2: List of indicators, definitions, and hypotheses, data description

Table 2.1 Variable Descriptions

Variable: status coded	Indicator	Definition and hypothesis
Dependent variables		
transpercapita	Total transfers per capita, thds rub	In 2000 prices, CPI used as a deflator
ffsrpercapita	The FFSR grants per capita, thds rub	In 2000 prices, CPI used as a deflator
restpercapita	The (Total – FFSR) transfers per capita, thds rub	In 2000 prices, CPI used as a deflator
H2: Outsider political elite strength		
share_good	Share of people which consider regional administration working well ("хорошо")	Higher percentage of "good" votes implies more popularity and more bargaining power.
share_bad	Share of people which consider regional administration working not well ("плохо")	
reg_conflict	Mayor–Governor conflict (Kynev's expert estimate)	Categorical variable built from expert assessments constructed by Alexander Kynev, which takes values from 0 to 2 (= 0 for the situation of no conflict, = 1 for a moderate conflict, and = 2 for an acute conflict). For Khabarovsk Krai in 2007 and Vladimir Oblast in 2011 we the expert value of conflict was 1.5, we replaced it with the value of 2. More conflict implies less regional bargaining power.
dgov1	Dummies for types of governors (as of January 1 st)	= 1 if a new governor appointed after 2005.
dgov2		= 1 if the previous governor was elected before 2005 and reappointed after 2005
dgov3		= 1 if the previous governor was elected before 2005 and not reappointed after 2005
H3-5: Core and Swing voters		
urvote	Votes for United Russia, per cent	Votes for UR in Federal 1999, 2003, 2007 Duma elections (for 1999 the total share of Unity and Motherland Russia is considered being a proxy for UR vote share)
ur_regional	Votes for United Russia, per cent	Votes for UR in Regional Legislative elections
margind	Margin of Victory – Federal Duma elections, per cent	Dummy variable = 1 if United Russia (Unity in 1999) wins times the difference between the vote share for United Russia and vote share of the runner-up party. We expect that swing dynamics are at play in areas where the margin of victory is small, but in favor of the party of power, United Russia. We expect that if the logic of transfers to core voters holds, then areas with large margins of victory in favor of United Russia will receive large transfers.
opdom_duma	Opposition dominance, per cent	Opposition dominance in Federal Duma elections measured as the difference between votes for the United Russia (Unity for 1999) and votes for KPRF. KPRF is explicitly assumed to be the opposition party.
marginr	Margin of Victory – Regional Legislative elections, per cent	Dummy variable = 1 if United Russia wins times the difference between the vote share for United Russia in the regional legislative elections minus the vote share of the runner-up party. We expect that swing dynamics are at play in areas where the margin of victory is small, but in favor of the party of power, United Russia. We expect that if the logic of transfers to core voters holds, then areas with large margins of victory in favor of United Russia will receive large transfers.
opdom_reg	Opposition dominance, per cent	Opposition dominance in Regional Legislative elections measured as the difference between votes for the United Russia and votes for KPRF.
kdshare	Votes for KPRF, per cent	Votes for KPRF in Federal Duma elections (2003 and 2007)
krshare	Votes for KPRF, per cent	Votes for KPRF in Regional Legislative elections
wpshare	Votes for the winner in Presidential elections, per cent	Votes for the winner in Presidential Elections (2000, 2004 – Putin, 2008 – Medvedev)

Variable: status coded	Indicator	Definition and hypothesis
runnerupp	Votes for the runner-up candidate in Presidential elections, per cent	The runner-up candidate in Presidential elections in most regions is KPRF
Control variables		
bureaucrats	Size of regional bureaucracy	The share of people working in regional bureaucratic structures to the total number of employed people. We view this indicator as a proxy for lobbying power of a region: the larger the size of bureaucracy is the higher the ability to lobby regional interests is.
reg_urbanshare urbaniz	Urbanization measures	Share of urban population in total population: we assume that in highly urbanized regions it is more difficult to manipulate the results of federal elections. Share of population in cities with more than 250 th. people in total population.
reg_tempjan	Average temperature in January (Celsius)	Needed to control for Northern regions which receive more transfers from the Federal center.
reg_embudgsect	Public sector employees	Measured as the share of employed in healthcare and education in employed total: regions with higher share of employed in public sector should receive more transfers; there also may be disproportions between public sector.
reg_autoroadden	Road length per 1000 sq. km.	A proxy for regional infrastructure.
reg_heductoempd	Percentage of workers with higher education	Measures human capital in a region, the hypothesis is similar to urbanization: it's more difficult to manipulate voters with higher human capital.
reg_sharebef18 reg_sharepens	Percentage of young per 1000 people of working age and Percentage of retired per 1000 people of working age (in some models we use the sum of these indicators)	Measure the share of dependent population, regions with higher shares receive more transfers.
reg_unemplevel	The unemployment level (MOT methodology)	A proxy for within region inequality, the higher the degree of inequality in a region the tougher is the social tension situation.
grpfixrpercapita mincpercapita reg_avwagedefl	GRP per capita, in 2000 prices Money income per capita, in 2000 prices (CPI deflated) Average wage per capita, in 2000 prices (CPI deflated)	(GRP deflator is constructed using the data on index of GRP physical volume and nominal GRP dynamics). We need a measure for regional welfare, GRP is one of possible variants, other variants include wages or income deflated by the index of cost of fixed basket of goods and services (or CPI).
taxincinbudg	Tax income in budgetary income	(tax income after 2005 constructed as the sum of tax income main components, namely, profit tax, property tax, tax on goods and services traded in RF, tax on total income, gosposhlina, and tax adjustments) measures the share of budgetary income regions may raise additional to receiving transfers from the Federal center.
d_republic	Dummy variable for the status of Republic	=1 if a region has the status of Republic. The hypothesis is that such regions have more bargaining power.
d_musreg	Dummy variable for the Muslim regions (Dagestan, Tatarstan, Bashkiriya, Chechen, Ingush, Kabardino-Balkariya, Karachaevo-Cherkes, Adygeya)	=1 if a region has the status of Republic. The hypothesis is that such regions have more bargaining power.
Cluster	Ordered variable: results of K-means clustering based on population size	=1...4 (1 for regions with small population size, ... , 4 for regions with large population size)
cross_term	Political variable (one of the elections variables) * Economic variable (one of the regional income measures)	Our hypothesis is that political variables start to matter for those regions only which achieved a certain level of economic development (in terms of economic variables)

Table 2.2 Descriptive Statistics for all Variables

Variable	Number of observations	Mean	Standard error: Overall Between Within	Min value	Max value
transpercapita	N = 750 n = 75 T = 10	3.4979	6.2964 5.7198 2.7059	1.4035	85.3377
ffsrpercapita	N = 750 n = 75 T = 10	1.6006	2.7856 2.5952 1.0515	0	27.9749
restpercapita	N = 750 n = 75 T = 10	1.8973	4.4347 3.3496 2.9293	3.1463	69.9311
share_good	N = 750 n = 75 T = 10	0.4037	0.1650 0.1217 0.1119	0.0594	0.89
share_bad	N = 750 n = 75 T = 10	0.3247	0.1491 0.0935 0.1158	0.02	0.84
reg_conflict	N = 750 n = 75 T = 10	0.8556	0.6894 0.4419 0.5314	0	2
dgov1	N = 750 n = 75 T = 10	0.1333	0.3402 0.1773 0.2909	0	1
dgov2	N = 750 n = 75 T = 10	0.752	0.4321 0.2435 0.3580	0	1
dgov3	N = 750 n = 75 T = 10	0.1	0.3002 0.1443 0.2637	0	1
urvote	N = 750 n = 75 T = 10	46.2068	16.2529 9.6315 13.1711	24.84	98
ur_regional	N = 330 n = 73 T = 4.5	43.8048	16.2595 15.1879 7.3465	17.66	90.4
marginr	N = 750 n = 75 T = 10	28.1109	23.1359 11.7771 20.2407	0	98.37
opdom_duma	N = 750 n = 75 T = 10	31.0931	21.864 12.7529 18.1832	0	97.86
marginr	N = 750 n = 75 T = 10	29.2546	18.3511 16.8344 8.6755	0	84.88
opdom_reg	N = 750 n = 75 T = 10	29.0833	23.3623 12.2486 20.2603	0	98.58
kdshare	N = 750 n = 75 T = 10	16.1245	8.1990 4.6202 6.8273	0.14	42.13
krshare	N = 336 n = 75 T = 4.5	13.95881	5.2338 4.8672 1.64207	0	27.75
wpshare	N = 750 n = 75 T = 10	64.1556	11.9974 8.0889 8.9048	39.9	98.18
runnerupp	N = 750 n = 75 T = 10	21.8378	9.8865 5.84224 8.0013	0.73	44.51
reg_urbanshare	N = 750 n = 75 T = 10	68.17533	11.9242 11.9643 0.8725	25.9	95.6
urbaniz	N = 740 n = 74 T = 10	0.2921	0.1759 0.1767 0.00869	0	0.6175

Variable	Number of observations	Mean	Standard error: Overall Between Within	Min value	Max value
reg_tempjan	N = 750 n = 75 T = 10	-11.1637	8.3259 7.6837 3.3152	-36.8	4.9
reg_empbudgsect	N = 750 n = 75 T = 10	17.2991	3.0794 3.0229 0.6742	12.2	34.9
bureaucrats	N = 740 n = 74 T = 10	0.0210	.01162 .00732 .00905	0.0075	0.0703
reg_autoroadden	N = 750 n = 75 T = 10	115.3555	87.4983 85.2943 21.6390	.8	444
reg_heductoempd	N = 750 n = 75 T = 10	21.9764	4.4410 3.2906 3.0041	11.9	51.2
reg_sharebef18	N = 750 n = 75 T = 10	18.2453	4.1250 3.9130 1.3739	13.1	36.2
reg_sharepens	N = 750 n = 75 T = 10	19.5067	4.6938 4.6811 0.6180	6.5	27.4
reg_unemplevel	N = 750 n = 75 T = 10	9.739467	6.1434 5.6843 2.4121	2.4	64.9
grpfixprpercapita	N = 750 n = 75 T = 10	0.0433	0.0346 0.0330 0.0108	0.0053	0.2817
mincpercapita	N = 750 n = 75 T = 10	0.00575	0.0203 0.0198 0.00517	0.000305	0.2248
reg_avwagedefl	N = 750 n = 75 T = 10	3835.774	2022.909 1636.702 1202.313	878.7	13320.1
taxincinbudg	N = 825 n = 75 T = 11	0.5734	0.1803 0.1636 0.0778	0.0803	1.4024
d_republic	N = 825 n = 75 T = 11	0.2516	0.4341 0.4433 0	0	1
d_musreg	N = 825 n = 75 T = 11	0.0893	0.2853 0.2911 0	0	1

n – the number of regions, T – the number of time periods, N – the number of observations in the pooled sample.

Appendix 3

Table 3.1. Pairwise correlations between different types of transfers and political variables ("f1" and "f2" denote a variable led by 1 and 2 periods), 75 regions, 2000-2004 (pooled sample).

Indicator	f1. transfpercapita	f2. transfpercapita	f1. restpercapita	f2. restpercapita	f1. ffsrpercapita	f2. ffsrpercapita
reg_conflict	-0.1903***	-0.1919***	-0.1680***	-0.1922***	-0.1751***	-0.1528***
dgov1	0.0755	0.0675	0.0598	0.0579	0.0744	0.0639
dgov2	-0.0741	-0.0671	-0.0519	-0.0532	-0.0781	-0.0680
dgov3						
urvote	0.3026	0.2754	0.2244	0.2041	0.3031	0.3094
kdshare	-0.1749***	-0.1961***	-0.1769***	-0.2026***	-0.1351***	-0.1440***
margind	0.2749***	0.2765***	0.2173***	0.2359***	0.2640***	0.2693***
opdom_duma	0.3062***	0.2996***	0.2514***	0.2523***	0.2861***	0.2960***
ur_regional	0.2616	0.1752	0.1932	0.0653	0.1997	0.194
krshare	-0.2788	-0.1896	-0.2769	-0.2049	-0.1521	-0.1179
marginr	0.2484	0.1610	0.2121	0.1014	0.1651	0.1501
opdom_reg	0.2892***	0.2944***	0.2352***	0.2555***	0.2721***	0.2811***
wpshare	0.1011*	0.1167**	0.1748***	0.1493***	0.0302	0.0591
runnerupp	-0.0753	-0.0913	-0.1677	-0.1460	0.0049	-0.0159
share_good	-0.0351	-0.0556	0.0356	0.0207	-0.0763	-0.1079
share_bad	-0.0309	-0.0146	-0.0753	-0.0750	0.0044	0.0393

*, **, and *** denotes correlation coefficient being significant at 1, 5, and 10 per cent level correspondingly.

Table 3.2. Pairwise correlations between different types of transfers and political variables ("f1" and "f2" denote a variable led by 1 and 2 periods), 75 regions, 2005-2008 (pooled sample).

Indicator	f1. transfpercapita	f2. transfpercapita	f1. restpercapita	f2. restpercapita	f1. ffsrpercapita	f2. ffsrpercapita
reg_conflict	-0.1605***	-0.1492**	-0.1630***	-0.1681**	-0.1038*	-0.0537
dgov1						
dgov2	-0.0095	0.0340	0.0113	0.0392	-0.0550	0.0100
dgov3	0.0107	-0.0338	-0.0082	-0.0361	0.0514	-0.0171
urvote	0.2033***	0.1756***	0.1798***	0.1481**	0.1939***	0.1850***
kdshare	-0.3193***	-0.3109***	-0.2841***	-0.2819***	-0.3001***	-0.2792***
margind	0.2088***	0.1814***	0.1874***	0.1574***	0.1927***	0.1801***
opdom_duma	0.2431***	0.2197***	0.2154***	0.1894***	0.2309***	0.2213***
ur_regional	0.2322***	0.2669***	0.2417***	0.2798***	0.1394***	0.1515***
krshare	-0.3690***	-0.3890***	-0.3539***	-0.3770***	-0.2985***	-0.3094***
marginr	0.1947***	0.2231***	0.2130***	0.2459***	0.0907	0.0921
opdom_reg	0.2384***	0.2154***	0.2141***	0.1887***	0.2197***	0.2096***
wpshare	0.2349***	0.2571***	0.1934***	0.2211***	0.2573***	0.2605***
runnerupp	-0.2513***	-0.3104***	-0.2221***	-0.2805***	-0.2399***	-0.2810***
share_good	-0.1159*	-0.1028	-0.0530	-0.0073	-0.1483**	-0.1565**
share_bad	0.0730	0.1201	-0.0205	0.0136	0.1451**	0.1786**

*, **, and *** denotes correlation coefficient being significant at 1, 5, and 10 per cent level correspondingly.

Table 3.3. Pairwise correlations between different types of transfers and socio-economic variables ("f1" and "f2" denote a variable led by 1 and 2 periods), 75 regions, 2000-2004.

Indicator	f1. transfpercapita	f2. transfpercapita	f1. restpercapita	f2. restpercapita	f1. ffsrpercapita	f2. ffsrpercapita
reg_urbanshare	-0.1460***	-0.1494***	-0.0234	-0.0171	-0.2115***	-0.2568***
urbaniz	-0.4110***	-0.4089***	-0.3195***	-0.3014***	-0.4107***	-0.4391***
bureaucrats	0.8624***	0.8569***	0.7156***	0.7338***	0.8265***	0.8111***
reg_tempjan	-0.4019***	-0.3907***	-0.3206***	-0.2998***	-0.3946***	-0.4059***
reg_embudgsect	0.3257***	0.3194***	0.1707***	0.1390***	0.3852***	0.4422***
reg_autoroadden	-0.2806***	-0.2812***	-0.2233***	-0.2257***	-0.2758***	-0.2819***
reg_heductoempd	0.1097**	0.1132**	0.1132**	0.1119**	0.0888*	0.0916*
reg_sharebef18	0.2762***	0.2700***	0.1840***	0.1630***	0.2979***	0.3265***
reg_sharepens	-0.5010***	-0.4979***	-0.4189***	-0.4083***	-0.4777***	-0.4901***
reg_unemplevel	0.0738	0.0781	-0.0171	-0.0227	0.1281***	0.1671***
Grpfixrpercapita	0.2913***	0.3032***	0.3355***	0.3760***	0.2104***	0.1660***
mincpercapita	0.8914***	0.8947***	0.8032***	0.8295***	0.8077***	0.7812***
reg_avwagedefl	0.4677***	0.4710***	0.4669***	0.4698***	0.3904***	0.3767***
taxincinbudg	-0.4127***	-0.3794***	-0.2182***	-0.1739***	-0.4866***	-0.5161***
d_republic	0.1179**	0.1106**	0.0878*	0.0390	0.1204**	0.1628*
d_musreg	0.0291	0.0187	0.0563	0.0160	0.0044	0.0176

*, **, and *** denotes correlation coefficient being significant at 1, 5, and 10 per cent level correspondingly.

Table 3.4. Pairwise correlations between different types of transfers and socio-economic variables ("f1" and "f2" denote a variable led by 1 and 2 periods), 75 regions, 2005-2008.

Indicator	f1. transfpercapita	f2. transfpercapita	f1. restpercapita	f2. restpercapita	f1. ffsrpercapita	f2. ffsrpercapita
reg_urbanshare	-0.0899	-0.0833	-0.0058	-0.0075	-0.2579***	-0.2415***
urbaniz	-0.3655***	-0.3696***	-0.2584***	-0.2667***	-0.5005***	-0.5001***
bureaucrats	0.6534***	0.6558***	0.5183***	0.5269***	0.7618***	0.7552***
reg_tempjan	-0.3312***	-0.3151***	-0.2497***	-0.2368***	-0.4167***	-0.4030***
reg_embudgsect	0.1804***	0.1796***	0.0163	0.0194	0.5062***	0.5127***
reg_autoroadden	-0.2505***	-0.2599***	-0.1968***	-0.2083***	-0.2966***	-0.3003***
reg_heductoempd	0.1147**	0.0943	0.0683	0.0439	0.1866***	0.1864***
reg_sharebef18	0.2740***	0.2710***	0.1723***	0.1758***	0.4248***	0.4147***
reg_sharepens	-0.4440***	-0.4620***	-0.3534***	-0.3768***	-0.5149***	-0.5183***
reg_unemplevel	0.0225	0.0130	-0.0587	-0.0613	0.2049**	0.1906***
grpfixrpercapita	0.3296***	0.3086***	0.3807***	0.3538***	0.1059*	0.0961
mincpercapita	0.9394***	0.9439***	0.9579***	0.9668***	0.5987***	0.5766***
reg_avwagedefl	0.5188***	0.5228***	0.5022***	0.5009***	0.3931***	0.4040***
taxincinbudg	-0.3564***	-0.3055***	-0.2150***	-0.1673***	-0.5736***	-0.5431***
d_republic	0.0493	0.0445	-0.0410	-0.0422	0.2445***	0.2422***
d_musreg	-0.0211	-0.0255	-0.0434	-0.0470	0.0375	0.0354

*, **, and *** denotes correlation coefficient being significant at 1, 5, and 10 per cent level correspondingly.

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