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State Capture in a Federation

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STATE CAPTURE IN A FEDERATION[*]

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Abstract:

The paper provides evidence that the welfare effect of decentralization in countries with weak democratic institutions depends on the multi-jurisdictional vs. single-jurisdictional span of interest group lobbies. Weak democracy leads to capture of local authorities. Captors who have multi-jurisdictional scope internalize inter-jurisdictional externalities of local policies to a larger extent than both the captors with interests in a single jurisdiction and not captured local politicians. Particularly, multi-jurisdictional captors lobby for lower inter-regional trade barriers than single-jurisdictional captors. Based on case study evidence and econometric analysis of a unique data set from Russia, we show that capture by multiregional interest groups leads to significantly better performance of firms with no political connections in the neighboring regions and worse performance of such firms in the captured region compared to capture by regional industrial interests with similar political power or situation of no capture. Our findings have implications for international trade as well: lobbying by multinationals leads to lower protectionism compared to lobbying by national corporations.

JEL classification: P26, P27, D71, D72

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I. Introduction

Classical writings on federalism point out both the benefits and the costs of decentralization (Hayek 1948; Tiebout 1956; Riker 1964; Musgrave 1969; Oates 1972; Brennan and Buchanan 1980). Modern literature is divided about their relative importance in developing countries. One of the two strands of the literature (see, for instance, Weingast 1995; Montinola, Qian, and Weingast 1996; Qian and Weingast 1997; Qian and Roland 1998) emphasizes classic arguments for the benefits of decentralization and argues that decentralization in developing countries leads to higher accountability and, as a result, improvement in efficiency of government and, ultimately, economic growth. The papers that belong to the other strand (e.g., Tanzi 1996; Rodden and Rose-Ackerman 1997; Blanchard and Shleifer 2001; Cai and Treisman 2004 and 2005), in contrast, argue that decentralization leads to inferior outcomes and emphasize such costs of decentralization as increased capture of the state by vested interests and lower internalization of inter-jurisdictional spillovers. Several papers–Bardhan and Mookherjee 2000; Bordignon, Colombo, and Galmarini 2003; and Redoano 2003–study the welfare effect of decentralization allowing for possibility of state capture at both levels of government. They explicitly specify conditions under which decentralization leads to larger subversion of the state by private interests.

This paper provides evidence that in the presence of inter-jurisdictional spillovers in a federation which is characterized by low accountability of the state and, therefore, generally high capture, the welfare effect of capture of local governments depends on whether the powerful interest groups have multi-jurisdictional or single-jurisdictional interests. Multi-jurisdictional captors internalize inter-jurisdictional externalities of local

policies to a larger extent than captors with interests in a single jurisdiction and local politicians that are not captured by industrial interests but are driven by political and fiscal objectives. In particular, regional restrictions on trade with other regions in the regions that are captured by multiregional groups are lower than in the regions that are not captured or captured by regional groups.

In a recent paper, Slinko, Yakovlev, and Zhuravskaya (2005) put together a unique data set on preferential treatments to large firms in Russian regional legislation to show that 1) regional legislature is subverted by vested interests in many regions; 2) political influence generates substantial gains to firms-captors; and 3) the extent of capture has an adverse effect on performance of firms with no political connections located in the captured regions. That paper analyzed effects of state capture without making a distinction among captors with different geographical scope of interests.

In this paper, we empirically test how the extent of lobbying and its effects depends on whether the lobbyist has business in many or just a single region. We use preferential treatment data from Slinko, Yakovlev, and Zhuravskaya (2005) to measure political power of individual firms and regional-level state capture and relate these measures to the data on the regional or multiregional scope of controlling owners of firms (i.e., information on whether firms belong to regional or multiregional industrial groups).

We obtain our main results by comparing performance of firms that do not receive preferential treatments ("firms with no political power") located 1) in regions where most preferential treatments are concentrated in hands of firms-members of regional vs. multiregional groups ("regions, captured by regional vs. multiregional interests") and 2)

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in non-captured regions that have neighbors captured by regional interests vs. multiregional interests vs. not captured.

First, we verify that the extent of political influence on regional authorities does not differ between regional and multiregional industrial groups; and, therefore, the differences in outcomes of capture by these groups should be attributed to the differences in their preferences. Then, we show that capture by multiregional industrial groups is significantly more benign towards the neighboring regions compared to capture by regional industrial groups or situation of no capture. Particularly, performance of firms in non-captured regions is significantly better when the neighboring regions are captured by multiregional industrial groups compared to the situation when neighboring regions are captured by regional industrial groups or not captured by private industrial interests at all. We conclude that multiregional groups to a larger extent internalize externalities of local policies on the neighboring regions. At the same time, multiregional groups are found to be less benign towards other firms in the regions where they have political influence compared to regional captors or non-captured politicians. We also provide anecdotal evidence on the nature of spillovers: regional industrial groups often lobby for erecting inter-regional trade barriers, while multiregional industrial groups lobby for free trade among regions.

Russia provides an ideal case for studying the effects of local capture by single-jurisdictional vs. multi-jurisdictional vested interests because, first, during 1996-2000–the period under study–Russia was a highly decentralized state with very weak democratic traditions and, second, privatization of the early 1990s gave rise to relatively high wealth concentration. These two conditions lead to the situation in which private agents, who

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accumulated control over a large share of resources in one or many regions, could easily lobby, bribe and intimidate regional authorities in order to influence legal, political and regulatory institutions of their regions (theoretical framework for this argument is provided by Grossman and Helpman 1994 and 1995; Glaeser, Scheinkman, and Shleifer 2003; Sonin 2003 and 2004).

Our findings also have implications for international trade. Despite all the disparities across Russian regions (which have been growing throughout the transition), they are much more homogenous compared to a cross section of countries. Thus, we consider this exercise to be a laboratory experiment for analysis of the effects of lobbying of national governments by multinationals and domestic corporations. Our findings support an argument that the latter leads to higher barriers to international trade.

The paper proceeds as follows. Section II formulates the hypotheses and provides anecdotal evidence. Section III presents the data. Section IV verifies that regional and multiregional industrial groups, on average, have comparable influence on regional authorities. In section V we study spillovers from preferential treatments on performance of non-politically connected firms. Section VI concludes.

II. Hypotheses and anecdotal evidence

a. Spillover effects

Our central hypothesis is that in a large federation, such as Russia, capture of local governments by powerful industrial interest groups results in vastly different local public policies depending on whether these interest groups have regional or multiregional scope (i.e., do business in many or just a single region). Particularly, multiregional industrial groups when lobby for regional policies internalize inter-jurisdictional

spillovers to a larger extent than regional lobbies or local politicians not captured by industrial interest groups of any kind. We test this hypothesis by looking at the differences in performance of firms located in the regions with neighbors captured by regional and multiregional groups and not captured neighbors.

The main example of a policy that creates inter-regional spillovers on which multiregional and regional lobbies have very different preferences is inter-regional trade barriers. Such barriers serve interests of regional firms because they are protected from competition from producers outside the region but may be against interests of multiregional groups because firms-members of these groups located in other regions may want to sell in the regional market. Inter-regional trade barriers are a pervasive phenomenon for many large developing and transition countries. For example, Young (2001) and Poncet (2005) provide many anecdotes as well as systematic evidence of inter-provincial barriers in the transitional China. In Russia, numerous colorful stories are given by vodka-producing regions that institute barriers to trade in regional alcohol markets. For example, in the late 1990s, republic of Udmurtia, Riazan oblast, Astrahan oblast, and Yakutia republic passed regional laws that obliged alcohol retailers to have at least a certain percent of their sales be from products produced by local alcohol producers (e.g., 80% in Yakutia republic); while Vladimir oblast, Saratov oblast, and Penza oblast instituted sizable tariffs on vodka produced outside each of these regions.[1] Interregional trade barriers arise in developed countries as well; see, for instance, Craig and Sailors (1987) on trade restrictions among the US states and a report of the Canadian Chamber of Commerce (2004) on inter-provincial trade barriers in Canada.

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[1] The comprehensive source of regional laws and regulations in Russia is the "Consultant Plus" data base (www.consultant.ru/Software/Systems/RegLaw).

Case study 1: Uralelektromed and trade restrictions in Sverdlovsk region

A recent history of trade barriers in Russia's Sverdlovsk oblast provides a good example of how multiregional and regional industrial groups lobby, respectively, for and against inter-regional trade barriers. Uralelectromed is the largest cupper refinery in Russia and the only in Sverdlovsk oblast (a region in the Urals in Russia) and the fourth largest company in the region. Uralelectromed was politically very powerful in Sverdlovsk oblast throughout the 1990s. In the spring of 1996, it successfully lobbied for introduction of a regional export tariff on products containing precious metals (which are the main input for Uralelectromed). This tariff significantly affected the neighboring Cheliabinsk oblast, where the Kyshtymsky cupper-electrolytic plant refined cupper produced by Sredneuralsky cupper melting plant located in Sverdlovsk oblast. After the introduction of the tariff, Uralelectromed became the only profitable refinery of the products produced by Sredneuralsky cupper melting plant. At the time, Iskander Mahmudov, the controlling owner of Uralelectromed, did not have control over any other companies. Later on (in the second half of 1996), Iskander Mahmudov started building the vertically-integrated cupper empire with famous holding called Urals Gorno-Metalurgic company at the head. Once the Mahmudov's group grew beyond Sverdlovsk oblast, the export tariff on products containing precious metals was abolished.[2]

Case study 2: Tatneft and trade restrictions in Tatarstan

The most politically powerful industrial group in Tatarstan republic (a Russia's region along the Volga) is the oil holding Tatneft with the core company being the fourth largest oil company in Russia. Tatneft is a regional holding without assets outside Tatarstan. In the 1998, a "lobbing war" started between Tatneft, on the one hand, and

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[2] For the account of this story, see, for instance, *Segodnia* (October 4, 1996).

other owners of gas stations located in Tatarstan, who produced and refined oil outside the region, on the other hand. (The largest of these companies was Luckoil – one of the two largest oil holdings in Russia – which owns extraction plants and refineries in many Russia's regions.) In July 1998, Tatneft lobbied for introduction of restrictions on import of gasoline to Tatarstan. The government of the region prepared a draft of a decree that severely restricted imports of gasoline to Tatarstan. Luckoil responded by forming an association of all groups located outside Tatarstan that owned gas stations in the region. The association threatened Mintimer Shaimiev (the governor of Tatarstan) with stoping refining Tatneft's oil (Tatneft did not have its own oil refinery at that time.) As a result, the decree was not passed. The war was renewed in 2002, when Tatarstan again wanted to institute the gasoline import restrictions for oil produced by companies other than Tatneft. This time, the association came directly to Sergei Kirienko, the plenipotentiary of the Russia's president in the Russia's Volga regions, and complained about the illegal under the federal law inter-regional trade restrictions. Only the interference of the federal government prevented the gasoline import duties to be instituted in Tatarstan. This is because Tatneft built its own oil refinery in 2000 and could not have been credibly threatened by the association with the interference of the federal government as it was the case in 1998.[3]

b. Own region effects

Another important difference between regional capture by firms that belong to regional vs. firms that belong to multiregional groups is that it may have different effect on firms with no political power in the captured regions. There are two possible reasons

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[3] For the account of this war, see, for instance, *Russky Telegraph* (July 28, 1998) and *Vecherniaya Kazan* (October 4, 2002).

for that. First, multiregional and regional captors may have different bargaining power vis-à-vis regional authorities. The multiregional groups could be more successful lobbyists compared to regional groups because they are better able to move resources (i.e., taxable balance-sheet profits) between regions (Khanna and Ghemawat 1998) and, thus, they can more credibly threaten regional authorities to withdraw from the region, other things held constant. This could be an important bargaining chip because regional authorities should be interested in attracting large corporate taxpayers to their region.[4]

Second, it is possible that public goods provided in the captured region will differ depending on the regional or multiregional scope of the captor even if large regional firms have the same bargaining power vis-à-vis the regional authorities as members of multiregional groups. This is because regional lobbies are more likely to value general public goods provision in the region. For example, they may have direct ties (i.e., family ties) to regional authorities and therefore, have political preferences over regional public goods. For example, the wife of Yury Luzhkov, the Moscow mayor–Elena Baturina–controls a large share of Moscow's thriving construction business; while the son of Murtaza Rahimov, the president of Bashkortostan republic–Ural Rahimov–controls most of the oil sector in the republic. The groups owned by Mrs. Baturina and Mr. Rahimov get sizable shares of preferential treatments in their regions. Unlike the cases of the Moscow mayor or Bashkortostan president, such ties often are not easily observable and we are unable to systematically account for them. Thus, they may have an important effect on our results.

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[4] This argument is related to the literature on the presence of internal capital markets in diversified groups created to circumvent external capital market imperfections. See, for instance, Hoshi, Kashyap and Scharfstein (1991) on evidence for Japanese keiretsu.

It is also more likely that owners of the regional firms (unlike owners of multiregional firms) are residents of the region where they do business, and thus, have direct preference over the regional public goods. There is a sizable body of anecdotal evidence that owners of large businesses located in one region live in their regions rather than in Moscow, London, or French Riviera–places where most owners of Russia's big business reside–and privately provide a large share of regional public goods.[5]

Both differences in preferences and differences in bargaining power are consistent with having capture by multiregional firms being more harmful for other firms in the same region. We test whether this prediction is supported by the data by comparing performance for firms that have no political power located in the captured regions, when the captors are regional and multiregional groups. In addition, we attempt to separate the stories of the differences in bargaining power from the differences in preferences.

III. Data

The analysis presented here is based on the data from the intersection of the following three data sets: 1) the data on preferential treatment of large firms by regional legislation constructed and described by Slinko, Yakovlev, and Zhuravskaya (2005); 2) the data on controlling owners of firms in 2003 from the World Bank data set *"Who owns Russia"* collected for the Russia Country Economic Memorandum (World Bank, 2004) and described by Guriev and Rachinsky (2005); and 3) the data on major ownership changes for companies between 1995 and 2003 from the *"Labyrinth"* data set that contains detailed histories of large Russian companies. The detailed description of each data set is relegated to the appendix.

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[5] See, for instance, Julia Latynina's book "Hunt for Red Deer" (1999).

To measure regional-level state capture and firm-level political power, we use the database of regional laws and regulations in Russia that treat preferentially selected large firms located in these regions (Slinko, Yakovlev, and Zhuravskaya 2005). The data base contains the numbers of preferential treatments (i.e., tax breaks, subsidies, investment credits, etc.) for a list of the largest firms in each Russian region. Regional capture each year is measured by the concentration (Herfindahl-Hirschman Index) of preferential treatments for the five firms with the largest number of preferential treatments. Similarly, political power of each firm each year is measured by the share of this firm's preferential treatments in the total number of preferential treatments given to the five firms with the largest number of preferential treatments in the region. The focus is on the concentration rather than on the number of preferential treatments because the number of preferential treatments may reflect the level of paternalism of the regional governments rather than state capture.[6] This measure of regional state capture is highly positively correlated with Transparency International capture ratings and other indices of administrative corruption available for a limited number of Russian regions.

We merge the preferential treatment data with the data base on ownership structure of largest Russian firms from Guriev and Rachinsky (2005). 97% of firms in our sample are closely-held. For each of these firms, we identified the ultimate controlling owner (traced back from the pyramidal ownership structures) who has above 50% of control rights over the firm. We distinguish between the two types of firms according to their controlling owners: 1) members of multiregional groups, defined as firms-members of industrial groups that include large firms in more than two regions, and 2) closely-held

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[6] If a regional government gives preferential treatments to all firms, none is treated preferentially (we control for the number of preferential treatments in all regressions that look at the effect of state capture).

stand-alone firms and members of regional groups, defined as groups that include firms in two or fewer regions.[7] The remaining 3 percent of firms have no owner who has above 50% of control rights; we refer to these firms as having dispersed ownership.

The data on preferential treatments cover period between 1992 and 2000 while ownership data are for 2003. To correct the apparent discrepancy in the time span of the data, we used the "*Labyrinth*" data set. These data allowed us to get information about the date of the last major ownership change in the companies from the intersection of the ownership data set and the preferential treatments data set before 2003. Unfortunately, these data cannot be used to get information about the real owners of firms because most of the official records are for the nominal holders of stock and we do not know their real identity. We use these data to find out when the ownership structure (recorded in Guriev and Rachinsky 2005) emerged.[8]

As a result, we have an unbalanced panel data on 257 joint stock companies in 62 (out of 89) regions for which we know both the preferential treatment data and the ownership structure for at least one year between 1996 and 2000.[9] This sample is an intersection of the list of the largest Russian firms (from the ownership data set) and the list of the largest industrial firms in each Russian region (from the preferential treatment

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[7] Two comments are due here. 1) For the rest of the paper we refer to stand-alone closely-held companies as "members of regional groups" because we focus on the single-region vs. multiregional dimension of the interests of lobbyists and stand-alone companies just as regional groups have a regional scope. 2) We characterize firms controlled by a group that is present in two regions as a regional group even though the motivation is about single-region groups because many regional groups have some sort of representation in the capital city – Moscow – just for the purposes of reducing costs of lobbying.

[8] Guriev and Rachinsky (2005) have information about the real rather than nominal holders of the Russian companies.

[9] All firms in our sample are joint stock companies; some of them have significant government ownership stakes. All of our results go through if we eliminate the companies with a government ownership stake from the sample altogether or explicitly control for it. We do not do that in the baseline specifications because there is evidence (e.g., Frye 2003) that in Russia companies with a significant government ownership stake de-facto behave as private firms and, particularly, engage in state capture as much as firms that are 100% private.

data set).[10] Table 1 summarizes the data according to the type of firms' controlling owners: Panel A presents the number of firm-year observations; Panel B reports summary statistics for the numbers and shares of preferential treatments. Figure A1 in appendix presents industrial composition of the sample.

To supplement these data, we use firm-level statistical data between 1995 and 2000 from the Russian Enterprise Registry Longitudinal Dataset (RERLD). It covers the basic financial statistics for large and medium-size firms in Russia.

IV. Are multiregional or regional lobbies more powerful?

We will test our main hypotheses in the next section which deals with the effects of capture by regional and multiregional lobbies on firms without political power. In this section, we show that multiregional and regional groups do not differ significantly in the likelihood of getting treated preferentially by regional authorities and in benefits they derive for themselves from preferential treatment.

First, we compare the probability to get treated preferentially as well as the shares and numbers of preferential treatments received by firms in our sample depending on whether they have regional or multiregional owners and find no significant differences. This is robust to the choice of specification–OLS with firm-level random effects and time fixed effects, OLS between effects, probit, logit, etc.–and to the choice of controls–firm size, regional and industry fixed effects, past performance, or nothing at all. The first four columns of Table 2 present results of some of these regressions. The shares of preferential treatments and the probability to get preferential treatments are remarkably

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[10] Both of these data sets cover more than 950 biggest firms. Yet, the intersection of the data has a much smaller number of firms. The reasons for that are: 1) the biggest firms in the biggest industries (Guriev and Rachinsky sample) are located in a few regions only; 2) ownership data set covers services sector, while preferential treatments data only cover industry.

similar for firms that belong to multiregional and regional groups: about one out of six firms gets preferential treatments and the average share of preferential treatments is about 0.13.

Now we turn to investigation of how the benefits of lobbying to politically powerful firms depend on their regional or multiregional scope.[11] We regress firm performance indicators on firms' share of preferential treatments (our measure of firms' political power), the type of the firm (regional vs. multiregional), and–in our focus–the interaction between the share of preferential treatments and the dummy indicating a regional firm. As controls we include the scale of regional state capture measured by the average preferential treatment concentration[12], and 3-digit industry dummies. We exclude firms that have no controlling owner and firms and years such that firms did not get any preferential treatments from the sample to make sure that we have a well-identified comparison group. The coefficient at the interaction term shows the difference in the effects on performance of an increase in the share of preferential treatments between firms-captors that belong to multiregional and regional groups.

The following performance indicators are considered: log values of productivity (sales to employment ratio), profitability (profits to employment ratio)[13], sales, employment, and fixed assets controlling for the initial 1995 levels of these variables. Each of these performance indicators is de-trended by subtracting industry mean each year.

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[11] Slinko, Yakovlev, and Zhuravskaya (2005) show that on average firms which receive preferential treatments by regional authorities exhibit faster growth in profitability, sales, employment, and fixed capital compared to similar firms which do not get preferential treatments.

[12] The effect of lobbying on firms may differ in high and low capture environments (Hellman, Jones, and Kaufmann, 2004).

[13] Whenever profits are below zero, log profitability is defined as -log(-profitability).

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Here and throughout the paper, we run OLS between-effects regressions on averages over the period 1996-2000 because ownership data do not vary over time. Since only the data on performance and preferential treatments vary over time, their averages are taken; while the rest of explanatory variables are constant. We correct standard errors for clustering of the error term at the regional level.

The results are presented in last five columns of Table 2. Again, we find that there is no significant difference between multiregional and regional firms; these two types of firms derive the same benefits from preferential treatments by regional authorities. The coefficient of the cross-term between preferential treatment share and multiregional firm dummy is insignificant and has unrobust sign.

One, however, should be careful interpreting these results for two reasons. First, we do not have appropriate instruments for the share of preferential treatments which likely depends on firm performance. To the extent that this dependence is differential for firms-members of multiregional and regional groups, the results are biased. For example, it is possible that regional authorities give preferential treatment to regional groups in order to bail them out when members of these groups have negative performance shocks; while regional authorities do not bail out multiregional groups. This kind of reverse causality would bias the coefficient at the cross-term upwards. We, however, do not find any evidence of that. We have checked whether preferential treatments correlate with past performance and found no correlation for either regional or multiregional firms. The main predictor of getting preferential treatments is size while past performance has no effect as shown in Table 2.

Second, it is conceivable that benefits from preferential treatment of a particular group member can in some way be shared by other members of the group; if this is the case, we underestimate the benefits from getting preferential treatments since we look only at their recipients. Then, one could argue that this underestimation is larger for multiregional groups than for regional groups because benefits from preferential treatments are split among larger number of group members. Therefore, the coefficient at the cross-term would be biased downwards. Unfortunately, we cannot measure aggregate benefits of preferential treatments for the entire groups because many members of the groups that we study are in financial and services sectors (while we have data only for industrial firms). Since information on the number of firms in the groups is available, we verified that results are robust to controlling for the number of firms in the group: benefits from preferential treatments to firms in the same-size multiregional and regional groups are the same.[14]

Thus, we conclude that there is no difference in the extent of political influence of regional and multiregional industrial groups on regional authorities and, therefore, we attribute differences in the effects of capture by these lobbyists to differences in their preferences.

V. Effects of capture on performance of firms that have no political influence

To test our hypotheses, we need to define what it means for a region to be captured by a multiregional or a regional interest group. We define a region in a particular year to be captured by a particular type of interest groups if 1) the region is

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[14] Moreover, if multiregional and regional lobbies had different bargaining power vis-à-vis the regional authorities, we would have observed not only that the benefits of preferential treatments differ between these two types of lobbies, but also the incidence of preferential treatments to them. Yet, as we have shown above, there is no difference in the likelihood or shares of preferential treatments between members of regional and multiregional groups.

captured (i.e., preferential treatments are not zero and are not uniformly distributed across firms) and 2) at least 50% of all preferential treatments go to firms controlled by groups of this particular type.[15] A region in a particular year is said to be not captured if there were no preferential treatments that year in that region. If we do not know the type of firms-recipients of the majority of preferential treatments or preferential treatments are uniformly distributed across firms (irrespective of their type), we deem this region-year observation missing. Table A1 in the appendix presents the lists of regions by type of their captor and year.

We split the task of this section in two. First, we estimate the differences in the effects of capture by regional and multiregional firms on firms with no political connections in the captured regions, and then, the differences in the effects of capture by types of controlling owner on firms with no political power in the neighboring regions.

V.1. Effects in own jurisdiction

To compare the effect of lobbying by multiregional and regional groups on firms with no political connections that are located in the captured regions, we regress performance of these firms on the dummy that indicates the type of the captor. We use the following OLS between effects specification:

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\overline{y}_f = \alpha_0 + \alpha_1 \textit{(Dummy "the captor of this region is a member of a regional group")}_f
$$
$$
+ \alpha_2 \textit{(Average regional preferential treatment concentration)}_f
$$
$$
+ \alpha_3 \textit{(Average regional number of preferential treatments)}_f
$$
$$
+ \alpha_4 \textit{(Initial y)}_f + \alpha_5 \textit{(Dummy "disperse ownership")}_f
$$
$$
+ \textit{3-digit industry fixed effects}_f + \varepsilon_f \tag{3}
$$

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[15] Note that it always is the case in the data that if a region is captured by a multiregional (regional) interest group according to our definition, the firm-recipient of the largest share of preferential treatments in this region belongs to the group of this type.

where *y* stands for the same performance indicators as in the previous section. As above, we de-trend firm performance indicators (*y*) by subtracting industry trend. The main explanatory variable is the dummy for the type of capture in the region: the dummy equals one if the region where firm is located is captured by a regional group). We control for industry-specific effects, disperse ownership dummy, and the initial level of the dependent variable. Following the methodology of Slinko, Yakovlev, and Zhuravskaya (2005), we control for the level of capture in the region with preferential treatment concentration and for the paternalism of the regional government with the number of preferential treatments. Standard errors are corrected for clustering of the error term at the regional-level.

We restrict the sample to firms that do not receive any preferential treatments (firms with no political power). In addition, we run this regression on the subsample of regions and years such that there is some inequality in preferential treatments present in the region. This ensures that we have only captured regions in the sample, and therefore, our control group is well defined: we compare effects of capture by multiregional and regional firms rather than comparing the effects of capture by a certain type of owner to the situation of no capture.

In addition to using the sample for which we have detailed ownership data (described in section III), we run the same regressions on a much larger sample of all large and medium size firms (from RERLD) located in the captured regions that have the same 3-digit industry as the captor firms. Slinko, Yakovlev, and Zhuravskaya (2005) argued that these firms most likely have no political influence because only the largest firms receive preferential treatments and the largest first are covered by the preferential

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treatments data. (As above, we exclude recipients of preferential treatments according to preferential treatments data set.) Since some of these firms are 100% state-owned, we control for state enterprise dummy in these regressions.

Table 3 reports regression results. We find that lobbing by regional groups is significantly less predatory towards the other firms in the same region compared to lobbying by the multiregional groups. The results are consistent across performance measures and between the two samples. Productivity, sales, fixed assets and employment growth are significantly slower in firms with no political connections when a region is captured by firms that belong to multiregional groups.[16] For a given level of regional concentration and numbers of preferential treatments, growth in productivity, sales and fixed capital in firms with no political connections is 25, 46, and 46 percent higher (respectively) when majority of preferential treatments go to regional groups compared to when they go to multiregional groups.[17]

This result is consistent with the two alternative stories (discussed in the hypothesis section). The first story is the difference in preferences: Regional private firms may have stronger ties to the regional authorities who care about overall regional performance for political reasons or are themselves interested in overall regional prosperity, e.g., local public goods. The second story is the difference in bargaining power: Multiregional firms could have higher bargaining power vis-à-vis the regional authorities compared to the regional firms. The bargaining power explanation, however, is inconsistent with results shown in the previous section. Therefore, we conclude that the

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[16] Slinko, Yakovlev, and Zhuravskaya (2005) show that firms with no political power perform significantly worse in captured regions compared to non-captured regions. We verified that this is true for regions captured by multiregional and by regional groups.

[17] Henceforth, we report the magnitude of the effects based on the estimates from the larger sample.

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regional private lobbies have preferences for better public goods provision in the region where they operate compared to multiregional lobbies. This, however, can be explained by the possible political objectives from their (unobserved) ties to regional authorities.

V.2. Inter-regional spillovers

Finally, to estimate the difference in effect of lobbying by multiregional vs. regional interest groups on the inter-jurisdictional spillovers, we regress performance of firms in the non-captured regions on the dummy that equals one if at least one of the neighboring regions is captured by a multiregional group. We look at the capture in the neighboring regions because we assume that spillovers are higher between neighbors than between regions that are far away from each other. For example, if we consider inter-regional trade barriers to be the source of spillovers, we rely on gravity model of trade (Linnemann 1966) to motivate looking at the immediate geographical neighbors.

Let us summarize our main variable of interest here – the dummy for presence of a neighbor captured by a multiregional group. Two out of five non-captured regions had at least one neighbor captured by a multiregional group, while only one out of five has a neighbor captured by a regional group. (The number of regions that were non-captured at least once during the time period is 51; out of them, 25 had no neighbors captured by multiregional group throughout the whole period; 12 always had them, and 11 had them for at least half of the time period.) There are only 6 observations (region-year combinations) such that non-captured regions had both neighbors captured by regional and by multiregional groups. Figure 1 shows the geographical distribution of regions by the type of capture in 2000. It is worth noting that the type of regional capture is a very persistent variable as shown in Table A1.

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The motivation for looking at the dummy for presence of a neighbor captured by a multiregional group rather than, say, the share of "multiregionally-captured" neighbors is as follows. If one considers inter-regional trade barriers as a source of spillovers, an impact of having one border with an open-to-trade region compared to being absolutely landlocked (i.e., having no open-to-trade borders) should be much bigger than the impact of having an additional open-to-trade border compared to the situation when the region already has a few. Nonetheless, we test robustness of our results to using the share of "multiregionally-captured" neighbors instead of the dummy for their presence.

We use the following OLS between effects specification:

$$
\begin{aligned}
\overline{y_f} = {} & \alpha_0 + \alpha_1 \textit{(Dummy "at least one neighboring region is captured by multiregional} \\
& \textit{group")}_f \\
& + \alpha_2 \textit{(Dummy "none of the neighboring regions is captured")}_f \\
& + \alpha_3 \textit{(Average preferential treatment concentration in neighboring regions)}_f \\
& + \alpha_4 \textit{(Average number of preferential treatments in neighboring regions)}_f \\
& + \alpha_5 \textit{(Dummy "multiregional groups - captors of the neighboring} \\
& \quad\quad \textit{regions own firms in this region")}_f \\
& + \alpha_6 \textit{(Initial y)}_f + \alpha_7 \textit{(Dummy "disperse ownership")}_f \\
& + \textit{3-digit industry fixed effects}_f + \varepsilon_f \quad\quad\quad\quad\quad\quad\quad (4)
\end{aligned}
$$

We control for the average capture and paternalism of the neighboring regions with the average neighboring preferential treatment concentration and the average neighboring number of preferential treatments. To have a well-defined control group we include a dummy which equals one if none of the neighboring regions is captured as one of the regressors. Thus, coefficient α_1 estimates the difference between spillovers from regionally and multi-regionally captured regions; while α_2 estimates the difference between spillovers from regionally captured and non-captured regions.

As discussed above, firms-members of the multiregional groups, other members of which receive preferential treatment in the neighboring regions, may enjoy benefits of these preferential treatments. In order to rule this out as a possible driving force of the results, we exclude them from the sample. In addition, we control for a dummy that equals one if the region has firms-members of multiregional groups that capture neighboring regions. This is an important control because preferential treatment given to other members of the group may not only have a direct effect on other members of the group but also hurt their competitors. This is similar to the effect of capture on non-captors in the same region (shown in section V.1.). It is important to note that this estimation strategy is valid when it is politically infeasible for regions to restrict trade selectively with some specific regions and not with others. If that were possible, multi-regional captors would have lobbied for trade restrictions with regions where they do not operate. Yet, we have not found any evidence of selective trade barriers.

We restrict ourselves to the subsample of regions-years such that preferential treatments are not given out at all to any firms to make sure that we look at non-captured regions only. As usual, standard errors are corrected for clustering of the error term at the regional-level.

As in the previous section, in addition to our primary sample, we run the same regressions using data on all large and medium-size companies in Russia (RERLD). This allows us not only to increase the number of firms in the sample but also to significantly increase the number of regions: we include firms in all the regions that have no capture according to preferential treatments data set, and restrict our attention to firms in the same industries as captors in our sample.

The results are presented in Table 4. We find that spillovers from regions captured by multiregional groups are significantly more benign to firms in the neighboring regions compared to spillovers from regions captured by regional groups and to spillovers from non-captured regions. Again, the results are consistent across different performance measures and between the two samples. The coefficients of the dummy for presence of a neighbor captured by multiregional groups are positive and significant almost everywhere. These coefficients estimate the difference in spillovers from neighbors with at least one neighbor captured by multiregional groups and neighbors such that at least one of them is captured by a regional group and none are captured by multiregional groups. The results also allow us to compare spillovers from "multiregionally-captured" regions and not captured regions. The difference between coefficients of the dummy for mulitregionally-captured neighbor and dummy for no captured neighbors estimates this difference; we report its point estimates and standard errors in the last row of Table 4. It is always positive and in many cases significant. Thus, spillovers from regions captured by multiregional groups are more benign than spillovers both from regions captured by regional groups and from not captured regions. The latter result is consistent with evidence on China presented by Young (2000) and Poncet (2005). These papers argue that Chinese province-level politicians erect inter-province trade barriers to protect their own rents (as opposed to rents of industrial lobbies). Particularly, Poncet shows that regional protectionism is partly explained by political incentives of provincial governments to avoid social unrest from closing down inefficient local firms (a la Shleifer and Vishny 1994) and to maximize tax collection.

The economic significance of these results is as follows: Growth in productivity, profitability, sales, fixed capital, and employment in firms that are located in non-captured regions is 8, 25, 10, 5, and 2 percent higher (respectively) when at least one neighboring region is captured by multiregional groups compared to the situation when some neighboring regions are captured by regional groups and there is no neighboring region captured by multiregional groups. In addition, growth in productivity and sales of firms in non-captured regions is 5 and 7 percent higher (respectively) when at least one of the neighboring regions is captured by multiregional groups compared to having all neighboring regions not captured.[18]

VII. Conclusions

Our main finding is that in a federation, lobbies of local governments whose business interests span over many regions and lobbies whose interests concentrate in a single region have different preferences concerning inter-jurisdictional spillovers and public goods provision in their jurisdictions. Multi-jurisdictional lobbies internalize spillovers between jurisdictions to a larger extent than both the single-jurisdictional lobbies and politicians not influenced by industrial lobbies. At the same time, multi-jurisdictional lobbies do not value public goods and overall prosperity in the jurisdictions where they operate as much as regional lobbyists and not captured politicians.

The welfare implications of our analysis depend on the size of each of these effects, of course. The most interesting and the least trivial, however, is the "spillover

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[18] We checked robustness of these results to using a share of "multiregionally-captured" neighbors instead of the dummy for the presence of at least one such region. The results are generally robust; although significance drops in a few places. In addition, we check robustness of all results in the paper to using random effects rather than between effects model. The results are robust. The advantage of random effects specification is that we can explicitly control for time variation with year dummies, but the disadvantage of using random effects is that, in quite a few cases, the Hausman (1978) specification test indicates that random effects model yields inconsistent estimates. Thus, as a baseline, we report results from between effects model.

effect." Holding other things constant, the larger the size of potential inter-jurisdictional externalities of local policies, the more beneficial the role of multi-jurisdictional lobbies for overall welfare. For example, if local governments have means of restricting trade between regions (which, for instance, has been the case in Russia and China), politically powerful multi-jurisdictional companies serve as a unifying force that prevents market fragmentation. Having multi-jurisdictional lobbies capture the local policies can be welfare improving even compared to having local politicians not captured by industrial interests since accountable local politicians may generate large inter-regional externalities with objectives of protecting local employment and fiscal revenue.

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Table 1. Summary of the data

Panel A. Distribution of observations (firms*years) by type and year

	1996	1997	1998	1999	2000	96-00
Controlled by a multiregional group	78	95	102	117	170	562
Controlled by a regional group	65	67	68	70	69	339
No control - disperse ownership	8	8	9	9	9	43
Total number of observations	151	170	179	196	248	944
Total number of regions	59	60	61	61	62	62
Total number of firms	151	170	179	196	248	257

Panel B. Summary statistics: firm type and preferential treatments

	# of obs.	Share of preferential treatments				Number of preferential treatments per firm			
		Mean	SD	Min	Max	Mean	SD	Min	Max
Controlled by a multiregional group	562	0.133	0.196	0	1	0.214	0.528	0	3
Controlled by a regional group	339	0.137	0.220	0	1	0.236	0.584	0	4
No control - disperse ownership	43	0.147	0.172	0	1	0.145	0.438	0	2
Total	944	0.134	0.202	0	1	0.215	0.540	0	4

Table 2. Regional and multiregional groups derive similar benefits from their political power

	Determinants of preferential treatments				Effect of preferential treatments on captor's performance				
Specification:	OLS, between effects	Probit, report dP/dx	OLS, random effects	Probit, report dP/dx	OLS, between effects	OLS, between effects	OLS, between effects	OLS, between effects	OLS, between effects
Dependent variable:	Share of PTs	Dummy: get PTs	Share of PTs	Dummy: get PTs	Produc-tivity	Profita-bility	Sales	Fixed Assets	Employ-ment
Dummy-multiregional group	-0.003 [0.020]	-0.015 [0.039]	0.022 [0.028]	0.012 [0.041]	-0.388 [0.146]**	-0.208 [0.354]	-0.157 [0.157]	-0.055 [0.238]	0.28 [0.136]**
PT share * Dummy- multiregional group (difference in effects for multiregional and regional groups)					-0.326 [0.526]	1.468 [1.573]	-0.176 [0.670]	1.031 [0.837]	0.076 [0.457]
Initial employment level	0.021 [0.008]***	0.042 [0.021]**							
Past employment level			0.025 [0.010]**	0.039 [0.019]**					
Past profitability growth			0.005 [0.004]	0.002 [0.006]					
Preferential treatments share					0.556 [0.422]	0.834 [1.210]	1.054 [0.446]**	1.023 [0.679]	0.348 [0.457]
Concentration of preferential treatments					0.139 [0.252]	1.622 [0.720]**	0.499 [0.427]	0.254 [0.489]	0.247 [0.291]
Initial level of dependent variable					0.592 [0.103]***	0.24 [0.082]***	0.683 [0.061]***	0.643 [0.055]***	0.831 [0.049]***
Industry dummies (3-digit)	Yes		Yes		Yes	Yes	Yes	Yes	Yes
Year dummies		Yes	Yes	Yes					
Constant	-0.04 [0.071]		-0.105 [0.091]		2.302 [0.694]***	7.998 [1.210]***	4.076 [0.902]***	6.393 [0.805]***	1.007 [0.468]**
Observations	240	878	686	686	193	191	194	192	194
R-squared	0.11		0.06		0.59	0.41	0.71	0.81	0.86

Note: Robust standard errors clustered at the regional level are in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%.
All regressions exclude firms with no controlling owner. In the second set of regressions, across-firms average share of preferential treatments is subtracted from the firm's preferential treatment share before taking the cross-term to make interpretation of the coefficient at the multiregional group dummy easier. It is equal to the full direct effect of multiregional group dummy on performance evaluated at the mean value of preferential treatment share. Interpretation of other coefficients is unchanged.

Table 3. Effect of regional capture on performance of firms with no political influence located in the same region by type of the captor

	Our sample					All large and medium-size firms in the industries of the captors				
	Produc-tivity	Profita-bility	Sales	Fixed Assets	Employ-ment	Produc-tivity	Profita-bility	Sales	Fixed Assets	Employ-ment
Dummy - captured by regional groups	0.298 [0.156]*	0.549 [0.444]	0.398 [0.195]**	0.587 [0.167]***	0.199 [0.097]**	0.245 [0.040]***	0.113 [0.697]	0.463 [0.151]***	0.46 [0.086]***	0.05 [0.071]
Dummy - captured by firms with disperse ownership	0.58 [0.463]	-0.48 [0.774]	-0.086 [0.828]	-1.033 [0.683]	-0.691 [0.328]**	-0.065 [0.136]	3.3 [1.672]*	-0.986 [0.358]**	-0.439 [0.078]***	-0.122 [0.134]
Concentration of PTs in the region	1.311 [0.525]**	-0.249 [1.268]	0.586 [0.768]	-1.087 [0.585]*	-0.44 [0.340]	0.017 [0.227]	8.205 [3.588]**	-0.68 [0.700]	-0.072 [0.258]	0.101 [0.195]
Number of PTs in the region	0.209 [0.121]*	-0.319 [0.228]	0.122 [0.141]	-0.233 [0.127]*	-0.13 [0.075]*	-0.023 [0.053]	0.081 [0.758]	-0.279 [0.176]	-0.201 [0.051]***	0.023 [0.038]
Dummy - disperse ownership	0.001 [0.205]	0.865 [1.430]	-0.515 [0.358]	-0.429 [0.332]	-0.318 [0.208]					
Initial level of dependent variable	0.848 [0.159]***	0.155 [0.098]	0.753 [0.109]***	0.764 [0.093]***	0.812 [0.055]***	0.859 [0.027]***	0.606 [0.044]***	0.978 [0.015]***	0.857 [0.030]***	0.993 [0.013]***
Dummy – state firm						0.021 [0.052]	-0.738 [0.370]*	0.018 [0.083]	-0.035 [0.063]	0.033 [0.057]
Industry dummies (3-digit)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-6.228 [1.199]***	0.798 [1.498]	2.215 [1.845]	-0.454 [1.560]	-4.566 [0.701]***	-4.91 [0.337]***	-9.319 [4.524]*	-11.167 [0.820]***	-5.527 [0.376]***	-6.755 [0.228]***
Observations	102	104	105	101	102	500	463	580	497	502
R-squared	0.68	0.43	0.67	0.82	0.85	0.81	0.66	0.91	0.89	0.96

Note: Robust standard errors clustered at the regional level are in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4. The effect of capture on performance of firms located in neighboring non-captured regions by type of the captor

	Our sample					All large and medium-size firms in the industries of the captors				
	Produc-tivity	Profita-bility	Sales	Fixed Assets	Employ-ment	Produc-tivity	Profita-bility	Sales	Fixed Assets	Employ-ment
Dummy – one of the neighb. regions is captured by a multiregional group	0.621 [0.187]***	2.831 [0.717]***	0.104 [0.162]	0.426 [0.236]*	0.076 [0.114]	0.078 [0.031]**	0.245 [0.112]**	0.101 [0.038]**	0.052 [0.028]*	0.022 [0.008]**
Dummy – all neighb. regions are not captured	0.399 [0.159]**	0.958 [0.449]**	-0.115 [0.212]	-0.363 [0.237]	-0.313 [0.129]**	0.03 [0.034]	0.113 [0.119]	0.035 [0.034]	0.042 [0.031]	0.017 [0.008]**
Average concentration of PTs in the neighb. regions	0.047 [0.607]	-0.599 [1.950]	-0.826 [0.748]	-1.031 [0.643]	-0.523 [0.462]	-0.01 [0.083]	-0.141 [0.360]	0.073 [0.129]	0.059 [0.063]	0.024 [0.018]
Average number of PTs in the neighb. Regions	0.051 [0.087]	-0.13 [0.181]	-0.047 [0.085]	-0.183 [0.084]**	-0.088 [0.081]	0.001 [0.010]	-0.008 [0.043]	0.005 [0.012]	0.008 [0.008]	-0.001 [0.003]
Dummy – disperse ownership	-0.776 [0.448]*	1.386 [0.516]**	-0.553 [0.645]	-0.166 [0.257]	-0.399 [0.322]					
Dummy – member of group-captor is present in the region	-0.309 [0.227]	-2.225 [0.822]**	0.042 [0.284]	-0.824 [0.346]**	0.072 [0.247]	-0.076 [0.038]*	0.059 [0.082]	-0.15 [0.037]***	-0.073 [0.040]*	-0.009 [0.011]
Initial level of dependent variable	0.572 [0.145]***	0.084 [0.085]	0.799 [0.091]***	0.645 [0.055]***	0.834 [0.065]***	-0.017 [0.007]**	-0.104 [0.032]***	-0.014 [0.005]***	-0.007 [0.005]	-0.001 [0.001]
Dummy – state firm						0.016 [0.020]	-0.1 [0.075]	0.016 [0.020]	-0.037 [0.015]**	0.008 [0.006]
Industry dummies (3-digit)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-3.56 [0.904]***	-0.349 [1.463]	3.329 [1.400]**	1.299 [0.945]	-4.585 [0.700]***	0.024 [0.070]	-0.035 [0.276]	-0.025 [0.105]	-0.003 [0.061]	-0.016 [0.018]
Observations	118	119	121	117	121	1547	1436	1661	1511	1635
R-squared	0.66	0.62	0.78	0.8	0.87	0.13	0.26	0.12	0.18	0.07
Difference b/w neighb. - captured by multireg. gr. and non-captured at all	0.222 [0.196]	1.873 [0.772]**	0.22 [0.233]	0.789 [0.336]**	0.389 [0.170]**	0.047 [0.028]*	0.131 [0.081]	0.066 [0.035]*	0.01 [0.019]	0.005 [0.008]

Note: Robust standard errors clustered at the regional level are in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%
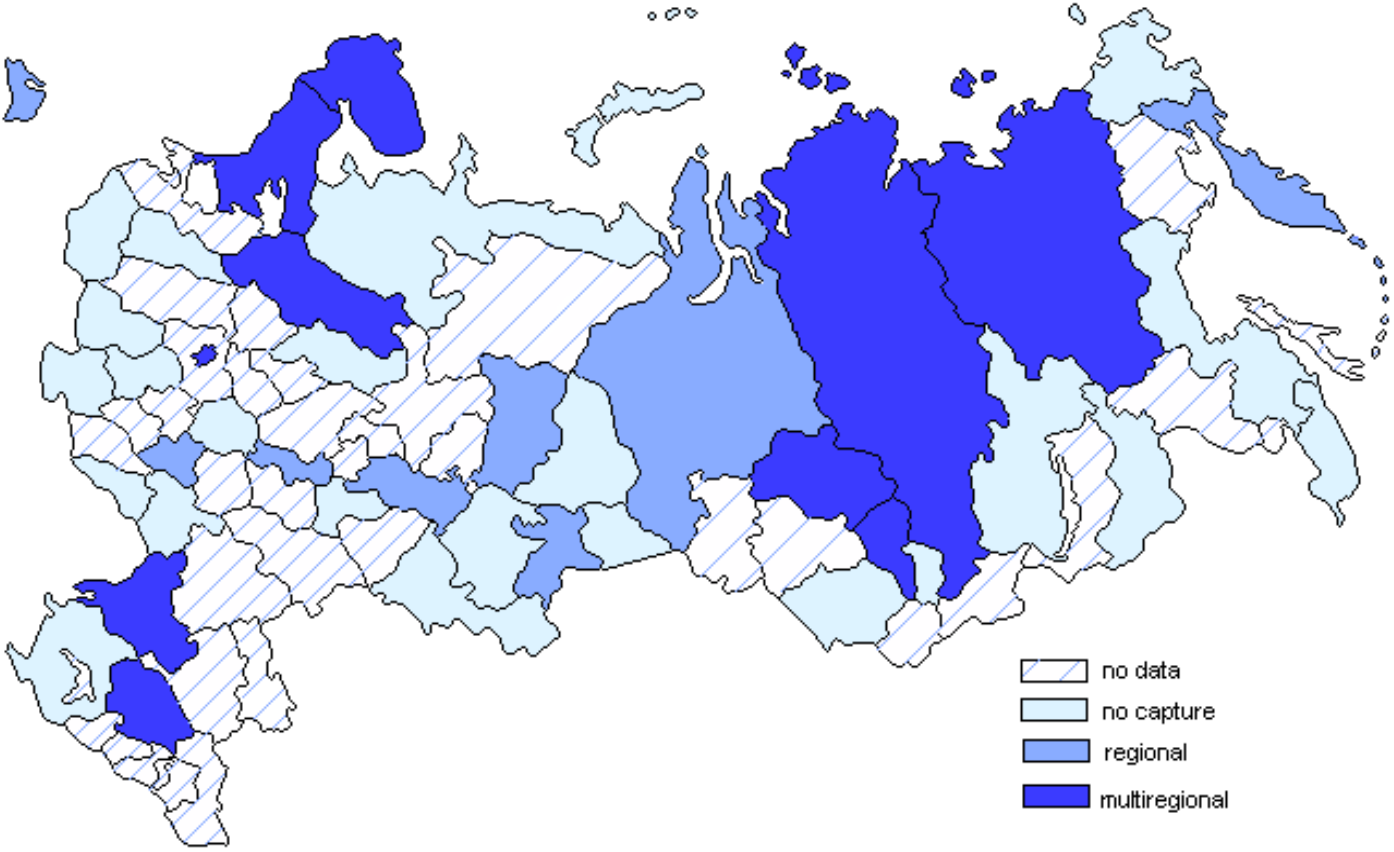
Figure 1. Russian regions by the type of capture in 2000.

no data

no capture

regional

multiregional

DATA APPENDIX

The preferential treatments data set from Slinko, Yakovlev, and Zhuravskaya 2005

The database contains all preferential treatments between 1992 and 2000 given by regional legislators and regulators to 978 firms in Russia. Firms were chosen on the basis of being among the five largest firms at least once during 1992 – 2000 in any Russian region. An enterprise was said to be treated preferentially if it received any of the following benefits: tax breaks, investment credits, subsidies, subsidized loans and loans with a regional budget guarantee, official delays in tax payments, subsidized licensing, free grants of state property, or a special "open economic zone" status for their territory. The number of regional laws and regulations that grant distinct preferential treatments to each firm in the sample each year is collected. The source of the information about preferential treatments is the comprehensive database of Russia's regional legislation "Consultant Plus" (www.consultant.ru/Software/Systems/RegLaw).

It is worth noting that preferential treatment data have a couple of significant drawbacks: First, the importance of different preferential treatments cannot by quantified (i.e., we cannot compare the benefits firms get from a tax break or a transfer of a large piece of land to them); thus, the data are just a count of the number of legislative acts with distinct preferential treatments. Second, authors identify preferential treatment only when texts of the law contain direct reference to a firm. Despite these drawbacks, the measures of regional-level capture and firms' political influence survive a number of reality checks.

Looking at the five largest recipients of preferential treatments per region in any particular year seems to be sufficient to construct reliable measures of political power for firms and state capture for regions because for the vast majority of years and regions (well above 90%), fewer than six firms receive preferential treatments. For a more detailed description of the data see Slinko, Yakovlev and Zhuravskaya (2005).

The ownership data set from Guriev and Rachinsky 2005

Ownership data that we start with are described by Guriev and Rachivsky (2005) (G&R) as follows: "The [] project identified the structure of control for about 1,700 large firms in 45 sectors of Russian economy…[] The sectors were selected based on their size in order for the survey to cover as large a portion of the economy as possible…[] The next stage was to target the largest establishments and firms within the sectors. In industry, for example, our firms represented 35 percent of employment and 85 percent of sales of the selected sectors. Finally, economists and business journalists interviewed investment banks, consultancies, business advisors, information agencies and other institutions. They identified the main controlling owners of each firm and the portion of the firm they owned and also any subsidiaries owned by the firms. This in turn generated new sets of firms to be investigated – subsidiaries and corporate owners. A chain would stop downward when a firm owned no subsidiaries and would stop upward when an "ultimate owner" or "controlling party" was identified. The data were checked and supplemented with publicly accessible information." (p. 132).

The Labyrinth data set

The data set contains informal but very detailed account of the histories of most Russian companies. The histories include records of all the major ownership changes. The data set can be found at http://www.panorama.ru/info/labir.html.

Table A1. Types of regional capture

Region	1996	1997	1998	1999	2000	Region	1996	1997	1998	1999	2000
Omsk oblast	MR	MR	MR	MR	.	Chukotka AO	No	No	No	No	No
Sakha (Yakutia) republic	MR	MR	.	MR	MR	Irkutsk oblast	No	No	No	No	No
Kurgan oblast	No	MR	MR	MR	No	Chuvash republic	No	No	No	.	.
Tomsk oblast	.	.	MR	MR	MR	Evrei autonomous oblast	No	No	No	.	.
Vologda oblast	.	No	MR	MR	MR	Kalmyk republic	No	No	No	.	.
Belgorod oblast	MR	No	No	MR	No	Khakasia republic	.	.	No	No	No
Karelia republic	No	MR	.	No	MR	Mari-El Republic	No	.	No	No	.
Kemerovo oblast	No	No	MR	.	MR	Primorskii krai	.	No	No	.	No
Krasnoyarsk krai	No	No	No	MR	MR	Pskov oblast	.	No	No	.	No
Nizhny Novgorod oblast	MR	MR	No	.	No	Ryazan oblast	.	.	No	No	No
Samara oblast	MR	.	MR	.	.	Magadan oblast	No	No	.	.	.
Stavropol krai	.	.	.	MR	MR	Tver oblast	No	No	.	.	.
Astrakhan oblast	.	.	MR	.	.	St. Petersburg city	No	No	.	.	.
Krasnodar krai	MR	No	.	.	No	Bryansk oblast	No	.	.	.	No
Khabarovsk krai	.	.	.	MR	No	Ulyanovsk oblast	No	.	.	.	No
Murmansk oblast	.	No	No	.	MR	Chita oblast	.	.	.	.	No
Tyumen oblast	.	MR	No	.	No	Kostroma oblast	.	.	.	.	No
Volgograd oblast	MR	.	.	.	.	Altai krai	.	.	.	.	No
Chelyabinsk oblast	R	R	R	R	R	Kaluga oblast	.	.	.	.	No
Tatarstan republic	R	R	R	R	R	Smolensk oblast	.	.	.	.	No
Bashkortostan republic	R	R	No	R	No	Sverdlovsk oblast	.	.	.	.	No
Perm oblast	No	No	R	R	R	Orenburg oblast	.	.	.	.	No
Kaliningrad oblast	R	R	No	No	R, disperse	Voronezh oblast	.	.	.	.	No
Mordovia republic	.	.	.	R	R	Vladimir oblast	.	.	No	.	.
Moskow oblast	No	R	disperse	R	.	Novosibirsk oblast	.	.	No	.	.
Moscow city	.	.	R	R	MR	Tambov oblast	.	No	.	.	.
Rostov oblast	.	R	.	R	MR	Tula oblast	No	.	.	.	.
Adygeya republic	.	R	.	.	.	Udmurtia Republic	No	.	.	.	.
Kamchatka oblast	No	No	No	No	R	Altai republic	No	.	.	.	.
Lipetsk oblast	.	.	No	No	R	Dagestan republic	No	.	.	.	.
Novgorod oblast	No	No	.	R	No	Saratov oblast	No	.	.	.	.
Arkhangelsk oblast	No	No	No	No	No	Kabardino-Balkar republic	No	.	.	.	.

Note: "MR", "R", "disperse" indicate regions that are captured by multiregional groups, regional groups and firms with no controlling owner respectively; "No" indicates non-captured regions; "." indicates that there is not enough data about ownership of captors in that region that year; in Kaliningrad oblast in 2000 exactly half of preferential treatments were given to regional firms and another half to firms with disperse ownership.

Figure A1. Industry distribution of firms in the sample

Distribution of firms by industries

Industry	Count
Energy	44
Oil	33
Ferrous metals	18
Automotive	17
Fish	14
Pulp and paper	12
Fertilizers	11
Coal	11
Machinery	11
Aluminium	11
Nonferrous metals (except al-m)	9
Tyre	8
Pharmaceutical	8
Rubber	7
Ore	7
Confectionary	7
Natural gas	6
Pipes	4
Milk	4
Meat	4
Mill	3
Jewerly	3
Tobacco	2
Timber	2
Furniture	2
Cable	2
Vodka	2
Trade Energy	2
Poligraphy	1