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Regional competition, business politicians, and subnational fiscal policy

Abstract: What explains subnational policy choices over tax cut after decentralization? We test two different explanations in the context of the 2002 tax reform in Russia. A popular strand of literature suggests that decentralization induces more regional competition over investment, motivating subnational tax cuts. A second body of literature suggests that personal business interests of regional governors can account for their different policy choices. Governors with personal business ties refrain from tax cuts because they increase market competition. We find no support for the regional competition hypothesis, but strong statistical evidence for the business connection hypothesis. Our findings have important implications for research on fiscal decentralization and on the connections between business interests of leaders and their policy choices.

Keywords: fiscal policy, decentralization, business and politics, Russia

Introduction

In 2002, the Russian Tax Code reform reduced the corporate profit tax (CPT) rate from 35 percent to 24 percent uniformly across regions and in addition, most notably for the first time, granted all regional governments the discretion to

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further cut their CPT rates up to another four percentage points.[1] Facing this newly granted tax-cut autonomy and the prospect of different corporate tax rates across regions, different subnational governments chose different policy paths. Ten regions further cut taxes on corporate income from direct investment, effectively reducing their total tax rates from 24 to 20 percent; thirty-four other regions further cut profit taxes for government-approved investment projects that aimed at promoting regional economic development, with their total rates going down from 24 percent to somewhere between 20 and 23.5 percent. In contrast, thirty-six regions maintained the 24 percent rate. Such variegated policy choices beg for an explanation: Why did different regions respond to the newly granted tax-cut autonomy differently? Why did some regions choose to further cut their corporate profit tax rates and others did not?

Two bodies of literature might shed light on this puzzle. On the one hand, the economics literature on fiscal decentralization and tax competition suggests that upon decentralization, subnational governments tend to engage in tax competition with each other to woo mobile capital, though with variations driven by their exposures to regional competition. On the other hand, the literature on the political connections between firms and politicians suggests that personal business interests of regional governors could account for their different policy choices. The governors with personal business ties are less likely to enact further tax cuts that would increase market competition for their most favored firms.

We apply these two explanations to the policy choices of the Russian regions in 2003, right after the 2002 policy shock. Our focus is on the choice of a region to further cut the CPT rate or not in 2003. We test two expectations. First, regions anticipating more competitive pressures from their neighbors or peers are more likely to further cut their own corporate tax rates. Yet, for reasons detailed later, Russia presents a hard case for testing this type of decentralization-induced tax competition. Second, regions whose governors have local business ties are less likely to enact a further tax cut. As discussed later, Russia presents an excellent opportunity to investigate the behaviors of business politicians. The key explanatory variables include regional competition pressure and governors' local business ties, both of which are measured in various ways. Our empirical analysis provides no support for the anticipatory regional competition hypothesis, but substantiates the business connection hypothesis. When we implement a battery of robustness checks, our results still hold.

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1 The profit tax is a tax on the taxable income of legal corporate entities and is the primary tax on corporate income in Russia.

The findings have important implications for the literature on fiscal decentralization and tax competition. According to many scholars,[2] fiscal decentralization leads subnational governments to converge on cutting corporate tax rates. A logical implication of this argument is that forward-looking leaders anticipate future competitive pressures from neighbors and peers and respond with pre-emptive tax cuts. Yet, many other scholars suggest that tax competition may not be universal and often varies across regions.[3] Our results are consistent with the more refined view on the impact of fiscal decentralization. Tests based on various measures of competition sources do not indicate any significant effect of anticipated competition from neighbors or peers. In large countries like Russia, characterized by heterogeneous endowment and human capital conditions, low factor mobility, and limited subnational authority, fiscal decentralization appears unlikely to induce aggressive inter-regional tax competition and convergence.

This research also has implications for a growing body of literature on the connections between business and politics. Numerous studies[4] have found that the personal connections between business and politicians help firms to obtain preferential treatments in financing and borrowing, corporate bailouts, taxation, government procurement, and regulatory oversight, or help to boost their corporate value. Our research complements that strand of research by turning the spotlight to the policymakers instead of the firms. While the literature has accumulated extensive evidence on the impact of the political connections of *firms*, we demonstrate the role of personal business connections of *incumbent politicians* instead. We show that incumbent politicians with personal business connections behave in a predictably different manner from those who do not have such connections. When public officials directly benefit from the target of policy regulation, government policies tend to be biased.

Finally, our paper speaks to a growing body of literature on the relationship between the characteristics of incumbent political leaders and their policy positions.[5] In particular, Neumeier (2015) shows that politicians with a business background tend to outperform those without any business background in terms of achieving higher economic growth and lower unemployment. Our results indicate that businessmen sometimes may have little incentive to implement market-

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2 Breton (1991); Brennan and Buchanan (1980); Weingast (1995); Kenyon (1997); Rauscher (1998); Oates (2001).

3 Wilson (1991); Treisman (1998); Gilardi and Wasserfallen (2016).

4 De Soto (1989); Fisman (2001); Faccio (2006); Faccio, Masulis, and McConnell (2006); Goldman, Rocholl and So (2009); Khwaja and Mian (2005); Stigler (1971).

5 Baturo and Mikhaylov (2016); Besley and Reynal-Querol (2011); Besley, Montalvo, and Reynal-Querol (2011); Dreher et al. (2009); Hayo and Voigt (2013); Hayo and Neumeier (2014); Horowitz and Stam (2014).

promoting, business-friendly policies when personal interest is at stake; rather, crony capitalism and rent-seeking could be expected in those situations. Our findings are particularly important and timely, because a growing number of businessmen are running for or have won office in both developed and developing countries.

Fiscal decentralization reform in Russia

Chapter 25 of the Tax Code, which came into effect on 1 January 2002, granted the regions more autonomy in taxation. Prior to 2002, the CPT rate was comprised of federal, regional, and local components, all of which were set by the federal government. The new Tax Code chapter reduced the total CPT rate from 35 percent to 24 percent for all regions. At the same time, for the first time the regions obtained the discretion to further reduce their portion of the CPT rate by up to another four percentage points.[6] The implication is that different regions could, for the first time, start to levy different CPT rates.

Upon the federally imposed policy change, the regions reacted differently to their newly granted autonomy from fiscal decentralization. Thirty-six regions chose not to exercise their new autonomy and left their CPT rate unchanged at 24 percent. More market-oriented policies were implemented in ten regions, which adopted an additional universal tax cut (i.e., applicable to all enterprises required to pay the CPT in the region) between 0.5 and 4 percentage points.[7] Thirty-four other regions chose to further cut their CPT rates only for investment projects deemed important for regional development, such as, for example, the reconstruction of agricultural companies in Leningrad Oblast, the modernization of a cement factory in the Mordovia Republic, and the expansion of the wood industry in the Karelia Republic. We will refer to these as project-based tax cuts from now on.

It is important to stress that the universal tax cuts benefited by definition every firm in a region; the same was true, though to a lesser extent, for the project-based cuts that aimed to promote regional economic development. A large number of firms received project-based tax cuts. In half of these regions, more than thirty

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6 It has been well established that, prior to 2002, the regions relied on selective fiscal laws, offering firm-specific tax breaks. See Slinko, Yakovlev, and Zhuravskaya (2005), and Baccini, Li, and Mirkina (2014).

7 Various other types of tax concessions were implemented almost universally in all regions as means of social policy (e.g., for religious and charitable organizations). We focus exclusively on tax cuts on income from direct investment, for this is the main type of fiscal concessions that highlights both different regional responses and the links between business and politics.

firms were granted project-based tax cuts, and on average, more than ten firms received tax cuts in each of these regions.[8]

For our purposes, the Tax Code reform has several notable characteristics: 1) it was not announced before its implementation in 2002; 2) it was determined entirely at the federal level without any input from the regions; 3) it went into effect in all regions simultaneously. In short, every region was forced to choose a response to their newly granted tax-cut authority: further cut tax rates or do nothing. Their simultaneous but varying responses present us with an intriguing puzzle to study.

Table A1 in the appendix shows the distribution of Russia's regions by the type of tax policy they chose and the year the change was implemented. Figure 1 presents them visually. As shown, thirty-six regions did not change their tax rates; seven regions adopted universal tax cuts in 2003 and implemented them in 2004, and then three more regions followed suit later; twenty-six regions passed laws on project-based tax cuts in 2003 and implemented them in 2004, and eight more regions did so later.

In our analysis, we focus on the policy choices of different subnational governments in 2003 only, including forty-seven regions that did not further cut taxes and others that did. We code the late-movers as belonging to the status-quo group for several reasons. First, as explained above, the large majority of tax cuts were implemented in 2003, providing us with the relevant variation in the outcome variable. Second, and more importantly, since December 2004, regional governors were appointed directly by the president instead of being popularly elected, which fundamentally altered the nature of political institutions and the governors' incentive structure.[9] Third, for the late-movers, learning from other regions could come into play, whereas learning was not likely for the first movers.

Before we move on, we note that regional governments possessed the power to grant firm-specific preferential policies since the early 1990s. These firm-specific preferential treatments could include any of the following benefits: tax breaks, investment credits, subsidies, subsidized loans, official delays in tax payments, subsidizing licensing, free grants of state property, and "open economic zone"

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8 The fact that the project-based tax cuts benefitted a large number of firms is particularly remarkable, given how concentrated regional economies are in Russia. On average, five of the largest firms together could produce 50 percent of the total regional output (Slinko, Yakovlev, and Zhuravskaya (2005), 291).

9 The plan to change the legislation was officially announced in September 2004, so the timing could not have affected political or business aspirations of the governors elected prior to 2004. The law was signed by President Vladimir Putin on 11 December 2004 (http://english.garant.ru/mon/archive/2004/12/15/ Accessed on 4 July 2016). The law did require appointments to be confirmed by the regional legislature, though the procedure in most cases seemed largely a formality. We know of no regions where an appointment has been rejected.
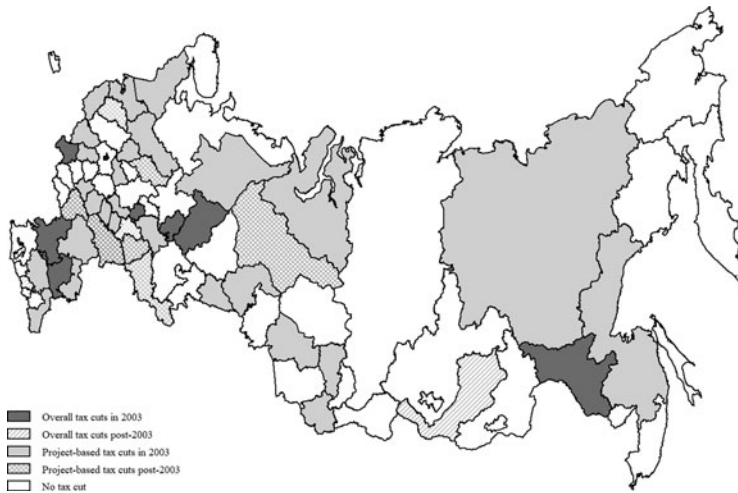
	Overall tax cuts in 2003
	Overall tax cuts post-2003
	Project-based tax cuts in 2003
	Project-based tax cuts post-2003
	No tax cut

Figure 1: Map of fiscal policy changes in Russian regions

status for its territory.[10] For our purposes, the difference between these firm-specific preferential treatments and the 2003 project-based tax cuts is crucial. The firm-specific benefits were targeted to benefit particular recipients and were not linked to any particular region-wide developmental goals. In contrast, regional tax policies from 2003 were created specifically for the purpose of increasing direct investment and advancing regional development, thus allowing more firms to be involved in approved development projects and to benefit from tax cuts.

Theoretical argument

In this section, we develop two explanations for why many Russian regions chose to cut their corporate tax rates in 2003 while many others did not. Our argument draws on two relevant but distinct bodies of literature: one concerning fiscal decentralization and tax competition, and the other on the political connections between firms and politicians. The former explains why some subnational governments, when granted authority, chose to cut tax rates; the latter accounts for why other regions, with newly granted policy authority, chose to maintain the status quo instead.

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10 For an analysis of preferential treatments in Russia, see Slinko, Yakovlev, and Zhuravskaya (2005), 290–91.

Effect of decentralization-induced competition on tax policy

To explain why subnational governments are motivated to cut corporate tax rates, we draw on a large body of literature about the relationship between fiscal decentralization and interregional tax competition. One popular, though debated view, is that the decentralization of taxation authority from the central to subnational governments results in competitive tax cuts at the regional level, and yet a total race to the bottom or policy convergence may not occur.

Underlying this expectation are two lines of reasoning. First, since mobile investors prefer to move to places with lower tax rates, regional governments tend to avoid over-taxing capital when they are granted taxation authority.[11] Many scholars further argue that subnational governments have to compete with other regions for investment and revenues, using tax concessions as an instrument.[12] This type of tax competition leads to convergence toward inefficiently low tax rates.[13]

Other scholars, however, offer some caveat regarding this argument.[14] According to them, decentralization-induced tax competition does occur and can lead to inefficiently low taxes in rather general settings. But inter-regional competition can unfold in an uneven manner across regions because of their disparities in size, factor and resource endowments, availability of tax policy instruments, product and factor mobility, budget constraints, institutional authority, and socialization among policymakers, an issue we return to below.[15]

Second, scholars also find that politicians are often politically motivated to cut corporate tax rates. Jensen et al. (2014) found in an internet survey experiment that American voters often reward incumbent U.S. governors who offer tax incentives to attract investment and promote local economic growth, and these voters tend to

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11 Brennan and Buchanan (1980); Weingast (1995).

12 Breton (1991); Kenyon (1997); Rauscher (1998); Oates (2001).

13 A second-generation theory of fiscal federalism looks more closely at the conditions under which decentralization and tax competition can be optimal or suboptimal—see Oates (2005); Weingast (2014).

14 Wilson (1991); Wilson (1999); Konings and Torfs (2011); Gilardi and Wasserfallen (2016); Cai and Treisman (2005); Treisman (2007); Weingast (2009).

15 In a large body of literature on capital mobility and tax competition, Basinger and Hallerberg (2004); Cai and Treisman (2005); Hays (2003); Plümper, Troeger, and Winner (2009) have similarly argued that whether the competition for capital due to rising capital mobility leads to a race to the bottom in tax policy often depends on domestic political factors such as the number of veto players and ideological opposition of pivotal actors to tax cut, initial endowments in resources and human capital, national institutional features (majoritarian vs. corporatist), country size, budget rigidities, and fairness norms.

penalize those who do not. In addition, politicians also tend to reward political supporters and themselves with tax incentives.[16]

Based on these arguments, one might anticipate that upon the 2002 Tax Code reform, the subnational governments in Russia would seek to cut corporate profit tax rates to promote investment growth in their respective regions. This expectation appears to be consistent with the choices of some Russian regions during 2003–2004. Many governors, who implemented tax cuts, used them to support a wide range of investment activities—from innovation-driven projects in Rostov Oblast to small and medium enterprises in Kurgan Oblast.[17] Moreover, local businesses were not the only ones benefitting from market-oriented fiscal policies, as some governors also targeted outside sources of capital. Sergey Katanandov of Karelia Republic, for instance, went to present regional investment policy in another region, St. Petersburg, in order to compete for investors from Karelia's more prosperous neighbor.[18] Nikolai Fyodorov of Chuvash Republic followed the same logic, referring to the corporate tax cut for investment as "one of the most effective means of supporting regional economic development."[19]

The caveat noted earlier, however, suggests caution regarding the decentralization-induced tax competition in the Russian context. First, the decentralization-induced tax competition could be weak in the Russian case. For one, industrial distribution in Russia could potentially reduce the extent of such cross-regional competition. Industries are highly clustered in Russia, and many neighboring regions have complementary rather than competing economies.[20] The heterogeneous endowment and human capital conditions across the regions may further complicate the competition-inducing effect of decentralization, causing better endowed regions to compete aggressively and poorly endowed regions to regress in policy reforms.[21] Furthermore, Russian regions have low factor mobility

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16 Easter (2008); James (2013).

17 *Financial Director*, 25 December 2003, "Rostov Oblast. Investor's view," D. Novoselov (http://fd.ru/articles/6197-rostovskaya-oblast-vzglyad-so-storony-investora Accessed on 17 August 2016). *Nedvizhimost I Investicii. Pravovoe Regulirovanie*, 2 (43), 2010, "Successful experience of attracting investment to Kurgan Oblast in difficult economic conditions," O. Bogomolov. (http://dpr.ru/journal/journal_41_20.htm Accessed on 17 August 2016).

18 *Nevskoe Vremya*, 8 February 2005, "The Onega Call," 21, B. Nikonov (http://www.nvspb.ru/stories/onezhskij_prizuev Accessed on 17 August 2016).

19 Excerpt from the president's address to the parliament and the people of Chuvash Republic on 18 December 2008, transcribed on the website of the government of Chuvash Republic (http://gov.cap.ru/info.aspx?gov_id=15&id=763844 Accessed on 17 August 2016).

20 This system was deliberately created in the Soviet era to support full employment across the whole country, facilitate the movement of goods and raw materials among regions, and decrease the risk of simultaneous damage to all industries in the event of warfare.

21 Cai and Treisman (2005).

and limited institutional authority to generate subnational revenue, even after the 2002 reform.[22] In sum, these factors make Russia a hard case for testing the decentralization-induced tax competition.

Because of these competing forces (decentralization-induced interregional competition vs. obstructing barriers), one might ask which regions would tend to engage in the decentralization-induced tax competition in 2003. We focus on a specific, yet most likely type of cross-regional competition, ignoring learning and *ex-post* competition. As noted in many studies,[23] competition and learning are often revealed via spatial dependence among units. Our cross-sectional analysis, however, does not test either the learning mechanism or the *ex-post* competition.[24] Since all the changes happened in one year and entered into force on January 1st of the following year (2003), the regions did not have the opportunity to learn about the outcomes of new policies beforehand or observe the impact of competition between regions. However, if regions were forward-looking and anticipated competition from neighboring or peer regions, we could still observe the spatial effects of expected regional competition. For example, if a region expected tax cuts by its regional competitors in the neighborhood, it might have had a strong incentive to change its fiscal policy, too, lest the local investors and producers would move to its competitors. The following hypothesis reflects this specific type of decentralization-induced tax competition.

Hypothesis 1: Upon the 2002 Russian Tax Code reform, governors would be more likely to cut the corporate tax rates because of anticipated competition from neighboring or peer regions.

Effect of business-connections of politicians on tax policy

A growing body of literature on the political connections between firms and politicians[25] suggests that firms that have personal connections to politicians in office are more likely to achieve regulatory capture.[26] While that literature focuses on the

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22 Weingast (2009).

23 Elkins, Guzman, and Simmons (2006); Franzese and Hays (2008); Neumayer and Plümper (2012); Jensen and Lindstädt (2012).

24 See Baturo and Gray (2009) for empirical evidence of rational learning in relation to fiscal policy.

25 See, e.g., De Soto (1989); Stigler (1971); Fisman (2001); Faccio (2006); Faccio, Masulis, and McConnell (2006); Goldman, Rocholl, and So (2009); Khwaja and Mian (2005); Sharafutdinova and Kisunko (2014); Frye and Iwasaki (2011); Yakovlev (2011); Zubarevich (2010).

26 De Soto (1989); Stigler (1971).

political connections of firms, we may extend the argument and turn to the business connections of politicians. Our extension leads to another explanation for the different policy choices of regional governors in Russia. When a governor had personal business connections, the region was less likely to offer tax cuts. The intuition behind the argument is that the choice for each region was not the one between two new policies, but rather the one between a new policy and the status quo. If a governor benefited more from the status quo, the region was unlikely to abandon it in favor of a new market-oriented policy. Where governors or their family members maintained a business relationship with some firms, their financial and political fortunes were both tied to the wealth of those firms. The status quo allowed the governors to secure exclusionary preferential policies for their own businesses. A region-wide tax cut, by contrast, would produce less favorable outcomes for the previously privileged firms and, by extension, for the governors as well.

Some conditions help to strengthen the argument. First, governors in Russia had extensive power in setting the regional policy agenda, particularly firm-specific preferential policies. This point is uncontroversial since regional governments were ultimately responsible both for initiating any sub-national policy reforms and for their implementation into laws. Moreover, Russian democratic institutions at the time were underdeveloped and political parties were weak, leaving enormous discretionary power to governors.[27]

Second, all firms preferred to secure targeted preferential policies rather than region-wide tax cuts. Yet preferential treatments were highly concentrated among a handful of firms in Russian regions and hard to obtain. For instance, in exploring the sample of up to twenty of the largest firms in each of seventy-three regions, Slinko, Yakovlev, and Zhuravskaya (2005) found that in each year, on average, only 17 percent of them obtained preferential treatments and that preferences were never given to the firms that did not belong to the largest sellers group. Moreover, a firm receiving preferential treatments in any given year was 60 percent more likely to continue to receive the same treatments in subsequent years than other firms that had never received those benefits before.[28] Simply put, preferential treatments were much more discretionary and discriminatory than the 2003 universal or development project-based tax cuts.

Third, personal business connections can influence both the political and financial incentives of Russian governors. Some governors were initially business leaders and then were motivated and supported by local firms to enter politics and win office. Such connections to the political support base were important to the governors who still needed both votes and campaign financing to win and stay

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27 Gehlbach, Sonin, and Zhuravskaya (2010), 726.
28 Slinko, Yakovlev, and Zhuravskaya (2005), 290.

in office at the time. Financially, some governors or their family members were directly involved in businesses as CEOs and directors or owners even during the governors' tenure.[29] Therefore, many governors' own political and financial fortunes were directly tied to select local firms.[30]

These conditions help to link governors' business connections with their policy choices in 2003. A governor who had assumed office to protect financial interests of a particular firm often responded with policies that restricted competition. For instance, in an interview in 2003, Krasnodar Krai's governor Alexander Tkachyov argued for the importance of protectionism, particularly for agribusiness, concluding "We don't need assistance from foreign firms; we need protection against them."[31] Notably, Tkachyov was an owner and CEO of Agrocomplex, a large food-producing corporation, before going into politics. When he moved on to become a governor and then the Russian Minister of agriculture, his family continued to own the firm.[32]

A firm that benefits from its connections with a governor would have a strong interest in limiting competition, especially if its market position would be threatened by the entry of rivals. A region-wide tax cut would lower the production costs and the barrier to entry for new market players and thus, increase competition for the beneficiaries of the status quo. Moreover, we argue that the benefits from region-wide tax cuts are too small to compensate for the loss of market share generated by the entry of new firms, especially more productive foreign ones. In sum, governors with personal business connections would have little incentive to support tax cuts that would level the playing field and increase competition. Our theoretical discussions lead to the following testable hypothesis:

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29 There is also a revolving-door connection, e.g., politicians assuming firm leadership positions after leaving office. This connection could be relevant to our study because of a potential quid-pro-quo arrangement, but it could not be tested in a convincing manner because it occurs after governors leave office. Not controlling for this possibility makes our analysis a more difficult test.

30 We recognize the possibility that a business leader may run for office for personal reasons, such as the desire for a career change or to serve the public, and not as a strategy to advance the interests of a particular firm. However, the idea that business leaders assume political office as a strategy for political capture is supported by a large literature (see Gehlbach, Sonin, and Zhuravskaya (2010) for review).

31 Excerpt from TV show *Basic Instinct* on 4 April 2003, transcribed on the website of the government of Krasnodar Krai (http://admkrai.krasnodar.ru/content/14/show/4239/ Accessed on 17 August 2016).

32 *Vedomosti*, 4133, 8 August 2016, "How the agro corporation of Minister Tkachyov became a market leader," R. Sagdiev and E. Vinogradova. (https://www.vedomosti.ru/business/articles/2016/08/08/652058-kak-agroholding-ministra-selskogo-hozyaistva-aleksandra-tkacheva-vibil-sya-lideri-rinka Accessed on 17 August 2016).

Hypothesis 2: Upon the 2002 Russian Tax Code reform, governors with personal business ties would be less likely to implement tax cuts in 2003 than those without such ties.

Some caveats regarding this theoretical expectation are worth noting. First, the effect is likely most pronounced with respect to those regions where the governor-connected businesses focus on selling goods or services within the region and yet, do not have to rely on local suppliers in the same region. For these types of firms, new entrants in their direct business line could increase competition and chip away at the former's market share. In contrast, the hypothesis may be less applicable to governors whose connected businesses primarily sell outside the region, in the larger all-Russian market, or export abroad. For these types of businesses, lowering corporate income tax in their regions would be less of a threat. Moreover, for businesses that use local suppliers of goods and services, lowering corporate income tax for other firms could reduce their input costs and actually improve their own profit margins because of subnational agglomeration.[33] Second, the mechanism may be less relevant if these politically connected firms cluster in certain industries where taxes are not the most important concern. For example, politically connected firms in oil and gas are likely most concerned about access to new wells, state financing, and other factors that influence the expansion of their operations. The key point is that these theoretical possibilities all tend to undermine Hypothesis 2, making it more difficult to find supporting statistical evidence.

Data

Dependent variable

Our dependent variable is binary, coded one if a region implemented a tax cut, either universal or project-based, and zero otherwise. As discussed in section 2, twenty-six regions enacted a project-based tax cut and seven regions offered a universal tax cut in 2003. Roughly 40 percent of our observations score one for the dependent variable. We label our outcome variable *Tax Cut*.

Two considerations are important. First, as table A2 in the appendix shows, all regions had the same level of taxes *before* the fiscal reform; therefore, it would be unnecessary to control for their previous levels of taxation. Second, table A2 also shows that those regions that cut taxes adopted similar levels of taxation after the

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33 Krugman (1991); Porter (1998).

fiscal reform. Therefore, the relevant variation is between regions that cut taxes and those that do not, which is why we can use a dummy rather than the difference of tax levels pre- and post-2003 as the outcome variable.

Independent variables

Inter-regional competition

We examine the possibility that the decision to cut tax rates in one region might depend on the expected tax cuts in neighboring or peer regions because of decentralization-induced inter-regional tax competition. To account for this possibility, we construct spatial weights based on regions' geographic proximity or economic similarity in terms of direct investment, government spending, or infrastructure. Geographic proximity allows us to capture competition among nearest neighbors.[34]

Regions with similar economic conditions generally belong to the same economic cluster or peer group, which may also make them potential peer competitors and motivate them to cut taxes to attract investment.[35] To account for this type of competition, we replace geographic proximity with the similarities in f domestic direct investment in manufacturing (tertiary sector), federal programs (government spending), and transportation (infrastructure).[36] Spatial parameters in our model represent a cumulative effect of cross-regional competition from neighboring or peer competitors if they are to cut their CPT rates. The technical details on how we build spatial weights are provided in the next section.

Business connected governors

Our main independent variable is a dichotomous indicator of a governor's personal business connections. Specifically, *Business Connection* scores one if a governor

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34 For example, Krasnodar Krai in this model is assumed to have four potential competitors (Stavropol Krai, Rostov Oblast, and the Republics of Adygea and Karachay-Cherkessia), all of which have an equal chance to lure businesses away from Krasnodar if they cut taxes while Krasnodar Krai does not.

35 Cai and Treisman (2005).

36 Krasnodar Krai, as an example, is then assumed to compete with different regions for different types of investors: Businesses choosing to reallocate their investment in manufacturing would look towards Astrakhan Oblast (spatial weight $w = 0.27$) or Voronezh Oblast ($w = 0.09$), investment from federal budget is likely to flow into the Republic of Tatarstan ($w = 0.54$) or Rostov Oblast ($w = 0.13$), and infrastructure investment may go towards the Republic of Buryatia ($w = 0.09$), Amur Oblast ($w = 0.08$), or Yamalo-Nenets Okrug ($w = 0.06$).

owned a company prior to or during his appointment as governor in 2003, and zero otherwise. Note that while the Chapter 25 of the Tax Code came into effect on 1 January 2002, governors were allowed to implement tax cuts only since 2003, i.e., no region in our sample cut taxes in 2002. To mitigate concerns of endogeneity, we show that our results hold if we drop business connected governors who were elected after 2000.

In our data collection, we employed the following procedure. To code whether an incumbent governor in each region was linked to a specific firm(s) by ownership or leadership, we first consulted numerous sources describing each governor's biography, which include major newspapers such as *Lentapedia*, *Kommersant Factbook*, Gubernatory.ru, and a few others.[37] We then searched each governor's name among the "director" and "owner" fields in SPARK, a proprietary database of Russian firms, either to confirm or supplement our coding.[38] On several occasions, SPARK was the only source that had historical corporate information. Next, in the cases where we could not confirm our coding with certainty (e.g., when a governor's name was very common), we implemented a targeted Google search for final confirmation.[39]

According to our data collection, governors in forty-one regions had business connections in 2003. As a point of reference, Gehlbach, Sonin, and Zhuravskaya (2010) report business connected governors only in eight regions in 2003, based on a more stringent definition of business connection. We later check the robustness of our results using their coding, as well.[40] Table A3 in the appendix provides more details on business connected governors by region.

Control variables

In our baseline models, we control for a region's level of development using gross regional product per capita (*GRP p.c.*). We also control for the ability to

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37 The first source is available at https://lenta.ru/lib/ (Accessed on 12 January 2015). The second source is available at http://www.kommersant.ru/factbook (Accessed on 12 January 2015). The third source is available at http://governors.ru/ (Accessed on 12 January 2015).

38 Available at http://www.spark-interfax.ru/promo/en/ (Accessed on 12 January 2015).

39 While cross-referencing between the Russian sources and SPARK captures the directorships and shareholding stakes (and occasionally board membership), it does not cover less senior positions. Unless this information was provided in the above sources, it was not recorded.

40 It may be that our coding misses some governors that are informally connected with specific companies not through family members, but through friends or old classmates. The recent scandal of the Panama Papers elucidates this possibility. While we cannot rule out this possibility, missing to code some business connected governors biased results against our second hypothesis. Indeed, it may be that some regions in which we do not observe tax cuts are governed by politicians with informal business connections.

attract investment using two variables: growth of foreign direct investment (*FDI Growth*) and growth of domestic investment (*Domestic Investment Growth*), over the period between 2000 and 2002. In an augmented version of the baseline model, we add the share of social protection in total budget expenditure (*Social Share*) as a proxy of the welfare system size. The rationale is that regions placing emphasis on the welfare system may be reluctant to cut taxes, which would reduce the government budget. Moreover, we include transfers from the federal government (*Federal Transfer*) as a proxy of financial help from the central government.[41] The more financial support a region receives from the federal government, the larger its regional budget is, the more likely it will implement tax cuts. We also include the logged amount of oil production (*Oil*) to account for natural resources endowments. The effect of natural resources on fiscal incentives cuts two ways. On the one hand, natural resources endowments may increase the regional budget, which makes it easier to implement tax cuts. On the other hand, oil-rich regions may have fewer incentives to cut taxes, since firms are interested in investing in oil-rich areas regardless of the presence of fiscal benefits.

The data for all these variables are from the Federal Statistical Service of Russia.[42] Furthermore, we include a dummy capturing governors' membership in the United Russia party (*United Russia*) as a further proxy of ties with the federal government (collected by the authors).[43] For all the covariates except *United Russia*, we use the average value over the previous three years, i.e., between 2000 and 2002, to mitigate the volatility of economic variables.[44]

Empirical strategy

We start with the simplest form of the spatial autoregressive probit model (SAR) that includes both inter-regional competition and business connection:[45]

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[41] Treisman (1998).

[42] Rosstat (2012); Mirkina (2014).

[43] There is no evidence that business connected governors belong to pro-market parties. Thus, left-right ideology on the economic dimension cannot be a confounding variable in our analysis.

[44] Our results are not sensitive to this choice, i.e., we get similar results with smaller or larger windows (the results are available upon request). Table A4 in the appendix reports the descriptive statistics of these control variables.

[45] For arguments in favor of SAR and estimation details, see Beck et al. (2006), LeSage (2014), and Qu and Lee (2015).

(1) $$Y_i^* = \rho W_k Y_{ik}^* + \beta \; Business \; Connection_i + \gamma X_i + \varepsilon_i$$

$$Y_i = \begin{cases} 1, & Y_i^* > 0, \\ 0, & otherwise \end{cases}$$

$$\varepsilon \sim \mathcal{N}(0; \; I_n)$$

where Y_i is the observed binary variable, which scores one if region i implemented either a universal tax cut or a development project-based tax cut in 2003. Y_i^* is a latent continuous variable, $W_k Y_{ik}^*$ is a spatial lag term, representing a combination of values of the latent dependent variable from potential competitors k of region i, and X is a vector of control variables. The coefficients of interest are the spatial autoregressive coefficient ρ, which we expect to be positive, and β, which we expect to be negative. Finally, ε is the error term.

Depending on specification, we construct W as an $n \times n$ non-negative spatial weights matrix based on one of the following proximity indicators:

–   Adjusted geographic contiguity (contiguous neighbors);
–   Regional similarity in attracting domestic direct investment in manufacturing sector;
–   Regional similarity in attracting domestic direct investment financed by the federal government;
–   Regional similarity in attracting domestic direct investment in roads and transportation industry.

Matrix W is row-standardized and its main diagonal elements are zero, so that no observation is defined as a neighbor to itself.[46]

In these measurements, we assume to know the type of proximity or similarity that motivates regional competition. However, the type of proximity may be unobserved. Another way to test such regional competition driven by an unobserved type of proximity is to test for spatial dependence in the disturbance term. Hence, we employ the spatial error probit model (SEM):

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46 Our findings are insensitive to the form of the contiguity matrix. We report the results estimated with the row-standardized weights matrix W_k, such that the individual weight of competitor j for region i depends on the total number of competitors k of region i ($w_{ij} = 1/k_i$). If region i has only one competitor, policy changes there should arguably have a higher importance for region i than policy changes in one of the many competitors. The results remain virtually the same if we use a symmetric weights matrix, where all competitors have the same weights for each other regardless of their number ($w_{ij} = w_{ji} = 1$). We also note that the use of distance-based proximity or high-order neighbors for spatial weights is inappropriate in our case, due to the vast differences of Russian regions in geographic area.

(2)
$$Y_i^* = \beta \text{ Business Connection}_i + \gamma X_i + u$$
$$u = \lambda W u + \varepsilon$$

SEM allows for the global diffusion of shocks via the model disturbance, which enables us to account for spatial correlation in the errors that could be present, for example, due to a spatially auto-correlated omitted variable.

Results

Tables 1 and 2 show the main results of our analysis. The coefficients of the spatial parameters are never statistically significant in either SAR or SEM models, with their signs being consistently negative against expectation.[47] We do not find evidence, therefore, that competition among the Russian regions can explain different regional decisions over a tax cut.

The coefficient of *Business Connection* is negative and statistically significant across all the models, as expected. The magnitude of its effect is remarkable. Models 1-8 predict that a governor with business connections is approximately 20 percent less likely to cut taxes than a governor without business connections. To sum up, we find strong support for our second explanation: When fiscal decentralization gave Russian regions the autonomy to cut taxes, governors with personal business ties were significantly less likely to cut the corporate profit tax rates than governors without personal business connections.

Importantly, these models also do a good job in predicting regions that cut taxes. Our best model specifications (models 5–6 that have the lowest AIC) correctly classify nineteen out of thirty-three regions that cut taxes (see table A5 in the appendix).[48] Moreover, the false positive cases are only 12 percent. All in all, our models correctly classify 70 percent of the observations.

We also run a series of robustness checks to ensure that our findings hold even with some alternative indicators of business connection. Specifically, we examine whether our results are sensitive to our measure of business connection. In particular, we re-estimate our model using the dummy of business connection, labeled *GSZ Business Connection*, built by Gehlbach, Sonin, and Zhuravskaya (2010). This variable scores one only if a governor has owned more than 50 percent of a company, and zero otherwise.

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47 Based on Moran's *I* statistics, we fail to reject the null hypothesis of no spatial autocorrelation for any type of regional proximity.

48 Table A5 shows the list of regions correctly predicted and marks those with business-connected governors.

Table 1: Spatial autoregressive models

	Spatial weights: Nearest neighbors Pr(Tax Cut = 1) Probit SAR (1)	Spatial weights: Investment in tertiary sector Pr(Tax Cut = 1) Probit SAR (2)	Spatial weights: Investment from federal budget Pr(Tax Cut = 1) Probit SAR (3)	Spatial weights: Investment in transport Pr(Tax Cut = 1) Probit SAR (4)
Business Connection	**−0.804**	**−0.798**	**−0.802**	**−0.814**
	(−2.501)**	**(−2.466)****	**(−2.486)****	**(−2.485)****
Spatial parameter	**−0.087**	**−0.047**	**−0.135**	**−0.141**
	(−0.151)	**(−0.039)**	**(−0.294)**	**(−0.261)**
United Russia	0.59	0.601	0.583	0.606
	(1.781)*	(1.815)*	(1.76)*	(1.842)*
GRP p.c.	0.158	0.16	0.134	0.151
	(−0.36)	(−0.377)	(−0.313)	(−0.362)
FDI Growth	−0.24	−0.23	−0.233	−0.235
	(−1.047)	(−1.016)	(−1.018)	(−1.043)
Domestic Investment Growth	2.895	2.958	2.896	2.876
	(2.219)**	(2.244)**	(2.217)**	(2.193)**
Social Share	0.042	0.042	0.04	0.041
	(−1.256)	(−1.279)	(−1.208)	(−1.285)
Federal Transfers	−1.536	−1.669	−1.775	−1.569
	(−0.848)	(−0.898)	(−0.95)	(−0.871)
Oil	0.053	0.051	0.048	0.055
	(−1.159)	(−1.153)	(−1.086)	(−1.257)
Constant	−3.884	−3.916	−3.62	−3.846
	(−0.877)	(−0.907)	(−0.829)	(−0.904)
Effect of Business Connection	**−23.70%**	**−24.40%**	**−22.60%**	**−22.90%**
Regions correctly predicted	19/33	19/33	21/33	18/33
Observations	81	81	81	81
AIC	−73.279	−73.391	−73.136	−73.169
Moran's *I*	−0.01	−0.007	−0.039	−0.012
p(Moran's *I*)	0.976	0.929	0.708	0.996

Note: Z-values in parentheses. Levels of significance *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 2: Spatial error models

	Spatial weights: Nearest neighbors Pr(Tax Cut = 1) Probit SEM (5)	Spatial weights: Investment in tertiary sector Pr(Tax Cut = 1) Probit SEM (6)	Spatial weights: Investment from federal budget Pr(Tax Cut = 1) Probit SEM (7)	Spatial weights: Investment in transport Pr(Tax Cut = 1) Probit SEM (8)
Business Connection	**−0.796**	**−0.796**	**−0.78**	**−0.907**
	(−2.469)**	**(−2.447)****	**(−2.429)****	**(−2.716)*****
Spatial parameter	**−0.041**	**0.041**	**−0.213**	**−0.542**
	(−0.025)	**(−0.021)**	**(−0.496)**	**(−1.067)**
United Russia	0.592	0.592	0.621	0.688
	(1.789)*	(1.79)*	(1.87)*	(2.132)**
GRP p.c.	0.144	0.15	0.137	0.172
	(−0.333)	(−0.354)	(−0.32)	(−0.415)
FDI Growth	−0.237	−0.239	−0.257	−0.269
	(−1.04)	(−1.046)	(−1.113)	(−1.213)
Domestic Investment Growth	2.923	2.922	2.929	3.37
	(2.232)**	(2.227)**	(2.281)**	(2.471)**
Social Share	0.042	0.041	0.041	0.035
	(−1.269)	(−1.242)	(−1.232)	(−1.136)
Federal Transfers	−1.597	−1.596	−1.631	−1.457
	(−0.882)	(−0.895)	(−0.905)	(−0.83)
Oil	0.051	0.051	0.057	0.032
	(−1.142)	(−1.159)	(−1.28)	(−0.788)
Constant	−3.778	−3.777	−3.711	−3.643
	(−0.865)	(−0.875)	(−0.849)	(−0.872)
Effect of Business Connection	**−25.60%**	**−25.50%**	**−24.90%**	**−28.30%**
Regions correctly predicted	19/33	19/33	18/33	19/33
Observations	81	81	81	81
AIC	−73.405	−73.409	−72.934	−72.364
Moran's *I*	−0.01	−0.007	−0.039	−0.012
p(Moran's *I*)	0.976	0.929	0.708	0.996

Note: Z-values in parentheses. Levels of significance *** p < 0.01, ** p < 0.05, * p < 0.1

Furthermore, we add yet another measure of business-connected governors, created by the International Center for the Study of Institutions and Development.[49] The dataset includes details about governors' previous professional experience and business ownership, the type of company, membership on the board of directors, etc. We label this second measure *HSE Business Connection.*

Those two measures, unlike our indicator, do not include information on the business connections of a governor's family, which appears to be an important omission in the case of Russia. As a result, there are fewer regions with business-connected governors according to those measures than according to our measure. Re-running the main models with those two alternative measures of business-connected governors, we obtain very similar results, though not surprisingly, the significance is somewhat weaker (models 1–4 in table A6 in the appendix).

The statistically and substantive significant effect of business connection requires some additional robustness checks. Since there is no evidence of spatial correlation, we switch to the standard probit framework in further robustness checks. We first test whether the effect of business connections is different for the two types of tax cut, i.e., project-based and non-discriminatory. Our theoretical argument does not distinguish between the two types of tax cuts, so we lump them together in the main specification. However, to address the possibility of their having two different data generation processes, we run a multinomial probit in which we compare the effect of *Business Connection* on the probability of project-based tax cuts and non-discriminatory tax cuts. The baseline outcome is no tax cuts. Models 9 and 10 in table 3 show two important results: the coefficients are negative and significant in both equations (i.e., project-based tax cuts vs. no tax cut; non-discriminatory tax cuts vs. no tax cut); the coefficients of *Business Connection* are not statistically different between the two equations (i.e., between project-based tax cuts and non-discriminatory tax cuts) $(p(>\chi^2) =$ 0.42). These results confirm that relative to other governors, business-connected governors are less likely to engage in either project-based or non-discriminatory tax cuts, but there is no significant difference in the effects of business connection

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49 The database on economic and political indicators for the Russian regions in 1998–2014 has been created by the International Center for the Study of Institutions and Development as part of the research project "Institutions and Economic Development: the Role of Bureaucracy and Experiments as a Method of Analysis and Evaluation of Reforms" (supported by the Basic Research Program of the Higher School of Economics, 2011–13), https://iims.hse.ru/en/csid/data-bases Accessed on 15 January 2017.

Table 3: Non-spatial robustness checks

VARIABLES	Multinomial Probit		Probit Pr(Tax Cut = 1) (11)	Probit Pr(Tax Cut = 1) (12)	Probit Pr(Tax Cut = 1) (13)
	Pr(Project-Specific = 1) (9)	Pr(Non-discriminatory = 1) (10)			
Business Connection	−1.07**	−1.69**	−0.94***	−1.00**	−0.78**
	(0.48)	(0.83)	(0.33)	(0.41)	(0.34)
Constant	−4.99	−11.99	0.35	−10.21*	−7.47
	(6.26)	(12.58)	(0.25)	(5.76)	(4.93)
Effect of Business Connection	**−25%**	**−7%**	**−33%**	**−38%**	**−24%**
Regions correctly predicted	9/26	0/7	21/33	21/33	22/33
Controls		Yes	Yes	Yes	Yes
Entropy balancing		No	Yes	No	No
Dropping pre-2000 governors		No	No	Yes	No
Dropping outliers		No	No	No	Yes
Test Business Connection[1] = Business Connection[2]	$\chi2 = 0.58$; $p(>\chi2) = 0.45$				
Observations		81	81	67	80
Pseudo R-squared			0.10	0.25	0.20
LR $\chi2$		18.54	8.16	23.08	21.25
$p(\chi2)$		0.000	0.004	0.003	0.007

Note: Standard errors in parentheses. Levels of significance *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

on these two types of tax cuts. Hence, our results in the baseline model are not driven by our choice of lumping together the two types of tax cuts.

Second, we address two concerns related to the identification strategy. Since there is a great deal of heterogeneity among Russian regions, our main results may be vulnerable to the omitted variable bias. Unfortunately, we are unable to include a large number of controls due to the low number of observations. To overcome this problem, we employ the entropy balancing technique developed by Hainmueller (2012). We use this weighting method to balance out a large set of covariates with respect to *Business Connection*. With entropy balancing, observations are reweighted with respect to *Business Connection* so that the mean values of all the relevant covariates are equal between regions where *Business Connection* = 1 and regions where *Business Connection* = 0.[50] This allows us to control for a large number of regional characteristics without reducing the degrees of freedom in our small sample regressions. Specifically, we include a battery of economic, political, and geographical variables as covariates.[51] As table A7 in the appendix shows, after entropy balancing, regions with and without business connected governors become perfectly balanced. We run a simple probit with entropy balancing (model 11 in table 3). *Business Connection* is still negative and significant as expected. Moreover, the magnitude of its effect and the number of correctly predicted regions are in line with SAR and SEM.

Furthermore, we address a potential concern of selection problem related to our *Business Connection* covariate. One might argue that because the selection of businessmen into gubernatorial positions was often non-random,[52] firms could have chosen to support governors in anticipation of the fiscal decentralization reform in order to prevent tax cut. If so, then the anticipated tax reform would influence both the probability of business politicians being in office and their lack of tax cuts. This would pose a threat to our identification strategy. To rule out this possibility, we create a conservative sub-sample and drop the regions where governors were elected between 2000 and 2003. In doing so, we lose fourteen observations. The rationale is that it does not seem plausible that governors elected before 2000 could have anticipated the fiscal decentralization reform that took place (at least)

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50 In econometric terms, entropy balancing reweights the observations to statistically generate a region of common support where regions with and without business connected governors become comparable with respect to all observable structural covariates.

51 We balance out all the covariates with respect to *Business Connection* for the period between 1990 and 2002, for which the data are available. In line with our approach for control variables, we then take the average value (by region) of the weights between 2000 and 2002. Our results are not sensitive to this choice, i.e., we get similar results with smaller or larger windows (the results are available upon request).

52 Gehlbach, Sonin, and Zhuravskaya (2010).

three years after their elections. Based on this conservative sub-sample, we re-run a probit model. Model 12 in table 3 shows that the results remain largely unchanged. If anything, the magnitude of the substantive effect is slightly larger.

Finally, because of our small sample size, we have to make sure that our results are not driven by outliers. Based on standardized Pearson residuals and on the Pregibon (1981) influence statistic, the only region with an abnormal value of influence is Chukotka Autonomous Okrug. If we drop this region from the analysis, our main results hold, as shown in model 13 in table 3.[53]

Conclusion

In this paper, we study the puzzle of why a significant number of Russian regions chose to maintain status quo in 2003 when they were granted autonomy to further cut the corporate profit tax rates following the 2002 Tax Code reform, whereas others did not. We test two explanations for this puzzle. On the one hand, a stream of research, which builds on the economics literature on fiscal decentralization and tax competition, leads one to expect the positive impact of anticipated spatial competition among neighboring or peer regions in our context. On the other hand, another strand of research, which builds on the literature on the political connections of businesses, leads us to expect that those governors with personal business ties are less likely to adopt region-wide tax cuts that would benefit new entrants and increase market competition. Our extensive empirical analysis shows that the regional competition hypothesis is not supported, but that the business connection hypothesis receives strong and robust empirical support.

Our findings provide evidence that is consistent with a growing body of literature noted earlier, showing that there are large subnational variations in the effect of decentralization-induced regional competition. Given our design, we should note that we provide a more restrictive test of regional competition, that is, regions cut taxes when anticipating their nearest neighbors or economic peers will also do so; our analysis does not test the role of ex-post learning and thus, should be interpreted accordingly.

Our research speaks to the literature on the virtues and limitations of fiscal decentralization. A large body of scholarship purports that fiscal decentralization

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53 We run our main models using OLS regressions rather than probit models. While the dichotomous nature of our outcome variable requires the use of GLM models, we want to double-check that our results hold with linear models, given the low number of observations, which challenge the asymptotic validity of MLE estimates. Our results are indeed unchanged as showed in table A8.

brings about less extractive, more efficient governments, which in turn become disciplined in spending and provide better public services.[54] Opponents of this illustrious position argue that fiscal decentralization often leads to unsustainable subnational deficits, the need for financial bailouts, higher national inflation rates, and no less political corruption.[55] Our research demonstrates that to the extent that there is no clear separation between political appointments and personal business interests, and that formal institutions are weak, subnational politicians often do not choose policies in ways the benign view of fiscal federalism suggests. Instead, they choose policies that benefit their political supporters in order to further their own fortunes.

While fiscal decentralization could generate powerful forces pushing toward regional competition, the impact of such competition appears limited. Instead, private incentives of subnational leaders play an important role. Not surprisingly, leaders often put the interests of their own business constituencies first, sometimes adopting policies that benefit their supporters and themselves, whereas other times, avoiding policies that harm the economic self-interests of their supporters and themselves. Hence, the outcome of fiscal decentralization could be suboptimal for general social welfare.

The take-home message of our research is that the cozy relationship between economic and political actors is an obstacle to the implementation of business-friendly policies in Russia, a country with relatively weak regional institutions. Our study complements a growing body of research on how businesses profit from their relationships with politicians. We identify complementary evidence showing that the policy choices of leaders are consistent with the ways that body of literature leads us to expect. The cumulative evidence suggests that to ensure that government policies are unbiased and driven by the public rather than personal welfare, the connections between politicians and businesses ought to be monitored, scrutinized, and regulated. Otherwise, one might expect an inevitable deterioration in the quality of both market and democratic governance.

Finally, our analysis suggests caution over the claim that politicians with business experiences tend to perform better in generating economic outcomes than those without such a background. This claim is unlikely to hold in the absence of accountability and a system of checks and balances. In fact, personal business connections of those politicians may very well motivate them to adopt rent-seeking policies. The combination of business acumen and personal interest can lead to biased policies that would reduce, rather than improve, the general welfare of a society.

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54 Breton (1991); Brennan and Buchanan (1980); Kenyon (1997); Li (2016); Oates (2001); Qian and Roland (1998); Rauscher (1998); Weingast (1995).

55 Rodden (2002); Wibbels (2000); Treisman (1999), Treisman (2009).

Supplementary material

To view supplementary material for this article, please visit https://doi.org/10.1017/bap.2018.3

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