INSTITUTIONAL DETERMINANTS OF NEW FIRM ENTRY IN RUSSIA: A CROSS-REGIONAL ANALYSIS

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Abstract—We investigate how the regional institutional environment—in particular, the political environment—affects Russian new firm entry across regions, industries, firm size classes, and time. We find that entry rates in Russia are explained by natural entry rates and the institutional environment. Industries that are characterized by low entry barriers in developed market economies are found to have lower entry rates in regions subject to greater political fluidity, as in the case of gubernatorial change. We also find that higher levels of political fluidity and democracy increase relative entry rates for small-sized firms but reduce them for medium-sized or large ones.

I. Introduction

THE entry of new firms is an important process for market economies (Caves, 1998; Bartelsman, Haltiwanger, & Scarpetta, 2004), transferring resources from low- to high-productivity activities and dissipating monopoly rents (Bartelsman, Scarpetta, & Schivardi, 2005). Entry, however, is constrained by industry-specific barriers (Bain, 1968; Lofstrom, Bates, & Parker, 2011), and these may be compounded in developing economies by the weakness of political and economic institutions, which may also contribute to the market power of incumbents (Djankov et al., 2002). This paper investigates the effects of such institutions on new firm entry. Its main contribution is to move beyond standard cross-country modeling to analyze cross-regional and cross-sector entry rates within a single economy, Russia. Previous studies of institutions and entry across countries have faced problems of unobserved heterogeneity (Djankov et al., 2002). Thus, Klapper, Laeven, and Rajan (2006), who considered cross-industry, cross-country variation in entry rates, could only partially control for differences in macroeconomic policy, trading regimes, and other country-specific factors. In concentrating on regional differences, we build on Berkowitz and DeJong (2005), who show that Russian regional entrepreneurial activity is significantly associated with subsequent growth.

Russia is a federation of states and subunits and, while much of the formal regulatory and institutional framework remains common, control over significant aspects is decentralized to the regional level. The constitution gives exclusive authority to the central government in the regulation of foreign trade—the legal framework of a single market as well as over financial, currency, and customs regulations (OECD, 2002). However, in most other aspects of the institutional and political environment, there remains great diversity among Russian regions, and this allows us to explore the impact of institutional heterogeneity on entry rates in a novel way. This institutional heterogeneity partly arises because Russia followed a regionally differentiated process of transition to a market economy after the demise of the Soviet Union in 1991. In some regions, market-oriented reforms were introduced and implemented rapidly, in others more slowly, and in some hardly at all. As a result, the Russian context provides a natural quasi-experimental setting to investigate how institutions influence new firm entry. To exploit this, we build on ideas of Acemoglu and Johnson (2005), who link the security of property rights to democracy, in order to construct a data set that charts political and institutional change in Russia over time. On this basis, we relate the patterns of firm entry rates by industry and region to prior political changes associated with the timing and results of elections and to changes in measures of regional democracy.

Our empirical investigation draws on three data sources: a comprehensive longitudinal enterprise data set, Orbis (BvD Copyright) between 1996 and 2008, and new data concerning Russian political and economic institutions at the regional level. The first new data set measures political fluidity by documenting governor turnover in the regions and has been collected from primary sources in Russia for this study. The second, which we refer to as the Petrov data, provides information about regional political democracy and economic openness (McFaul, Petrov, & Ryabov, 2004). The Orbis data set, a more comprehensive version of the Amadeus data set used by Klapper et al., (2006), enables us to measure entry at the date of incorporation of the firm rather than using the more common but less satisfactory proxy of the date when the firm enters the data set (Dunne, Roberts, & Samuelson, 1989). It also includes the smallest firms, while most studies of entry focus on firms employing more than fifty workers, though entry often takes place by the smallest firms.

We also build on recent developments in the entry barriers literature by exploiting the concept of natural entry

rates in the context of difference-in-difference methods. We follow Klapper et al. (2006) in using the rate of entry by industry in developed countries as a proxy for the sector's natural entry propensity. These natural entry rates reflect, for example, technological barriers in the industry caused by economies of scale or organizational efficiencies gained by incumbents.

We find that heterogeneity in Russian regional institutions over time does affect entry rates relative to the levels that pertain to developed market economies. Political fluidity has a negative effect on entry rates in industries in which the barriers to entry are lower. Thus, industries characterized by higher entry rates in Western economies experience comparatively less entry in Russian regions that suffer from greater political fluidity, measured by the turnover of the regional governor. This pattern of results is also found using the Petrov data set: greater democracy (and therefore the increased possibility of political fluidity) reduces entry in industries with relatively low entry barriers. When firm size is taken into account, political fluidity and greater reliance on democratic institutions reduce entry rates for medium and large Russian firms but not for small ones.

The paper is organized as follows. In section II, we briefly review the literature on entry and institutions; in section III, we describe the data set; section IV is dedicated to our empirical strategy and section V to regression results. We draw our conclusions in section VI.

II. Literature

Barriers to entry represent a cost for a new entrant that is not borne by the incumbents. The main barriers to entry identified in the literature include economies of scale, learning curve advantages, product differentiation, and the incumbents' absolute cost advantages (Dixit, 1979; Aghion & Bolton, 1987).[1] Political and economic institutions can also affect the costs of setting up and running a business, as well as the likelihood that profits will be expropriated by others (Acemoglu & Johnson, 2005). Specific national or local regulations can raise the costs of entry, as enumerated exhaustively by Djankov et al. (2002). They find a positive relationship across 85 countries between the size of informal economy and the burden of entry regulations, measured by the number of procedures, time, and cost of starting a firm. Klapper et al. (2006) find that regulations hinder entry, notably for firms in naturally high-entry industries.[2] Turning to institutional entry barriers more generally, De Soto's (1990) analysis stresses the interrelationship between formal and informal entry barriers, with higher formal levels of regulation implying greater corruption and higher informal entry barriers. A common mechanism is that when institutions are

weak, incumbents can capture government processes of entry regulation using their control to limit entry.[3]

Heterogeneity in institutions has therefore already been used to explain differences in cross-country entry rates empirically. However, in these studies, the measures of institutional heterogeneity are limited because of the need for cross-country comparability. Moreover, these contain unobserved sources of heterogeneity: institutional variation may be correlated with a variety of other country-specific factors, for example, macroeconomic policies, exchange rate factors, and tariffs, associated with intersectoral rates of entry. We therefore undertake our study within one country, exploiting Russia's regional diversity in both formal and informal institutions.

Russia has a long national history and identity, a unified exchange rate, and a common macroeconomic policy regime. However, regional governors still have the authority to create formal and informal regional economic barriers, and this devolution of political power is the basis of heterogeneity in regional institutional factors (Berkowitz & DeJong, 2005; Remington, 2011).[4] Regional authorities hold sway over local commercial courts, inspectorates, and other state organs, and national legislation can always be interpreted in variety of ways, with specific laws being applied selectively as the authorities see fit (Popov, 2001; OECD, 2002). This allows the regional political and economic elites to provide preferential treatment to some firms and to block or harass others by exploiting a plethora of mechanisms—preferential tax rebates and leases, debt restructuring, withholding licenses, and the imposition of administrative hurdles, including especially harassment by the tax authorities and inspectorates, for example. Frye and Shleifer (1997) document that regional authorities also behave in a predatory manner, expropriating profits within their region (see also Centre for Economic and Financial Research, 2007). The extent of the governor's reliance on these mechanisms and their purpose in so doing varies from region to region.[5] In consequence, the institutional environment is very heterogeneous, with some regions having a favorable climate for new firms (Nizny Novgorod, Yaroslavl, and Moscow for example), while others (for example, Kursk and Magadan) do not (OECD, 2002).[6]

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[1] These ideas have been tested on developed economy data, including Dunne, Roberts, and Samuelson (1989) and Geroski (1991).

[2] Bertrand and Kramarz (2002) find that labor regulations reduce entry into labor-intensive sectors, but property rights protection increases entry into R&D-intensive sectors.

[3] For example, Tybout (2000) argues that the costs of entry vary with the prevalence of the shadow economy in a sector and that when institutions are weaker, large firms can more effectively lobby legislative bodies to restrict entry.

[4] The ability of regional authorities to form local policies independently of the central government waned somewhat after 2000, but local informal practices and networks have largely preserved the diversity of local institutions, as documented by Remington (2011).

[5] For example, an average small company in Kurgan oblast in 2001 was inspected 10 times compared to 2.5 times in Samara oblast over the same time period (Centre for Economic and Financial Research, 2007).

[6] For example, Chelyabinsk introduced additional procedures and higher fees than those stipulated by federal law for such activities as employment services, international tourism, passenger transportation, and the production and marketing of alcohol. Primorskiy krai decreed higher fees for licensing pharmaceuticals, while Nizhny Novgorod extended licensing requirements for engineering systems, building, and road maintenance. The republics of Udmurtia and Mordovia introduced regional certification of companies.

The case of IKEA in Russia illustrates the use of administrative hurdles to preclude new entry and the highly personalized nature of regional economic governance. IKEA was trying to open a chain of branches in Russian regions but met local obstacles in Samara and Ufa with delays in receiving permits and other administrative hassles. In Samara, the rumored reason behind these difficulties was the involvement of Governor Artyakov and his wife in the construction industry, while the mayor owned a competing retail furniture company ("Growing IKEA Russia Corruption Scandal," 2010; "Gosstroi utverdil proektnuju dokumentatsiju Samarskoi Ikei," 2011).

III. Measures of Entry and Regional Institutional Quality

Our entry data are drawn from the Orbis database, which contains balance sheet information from 1996 to 2008 for all registered firms in Russia, as well as their location and the year of incorporation. Orbis does not have any restrictions on firm size. We use two measures of entry into an industry, annual entry and entry spanning a two-year period, and we base our measure on the year in which the firm is registered as being incorporated rather than the more common, but less accurate, indicator of the year in which the firm enters the database. This improves the quality of the measure considerably in environments such as Russia where reporting standards by firm are not always uniformly applied. Thus, Entry 1-year is the number of companies in an industry and region with incorporation year $= T$ divided by the number of companies with the incorporation year $\leq T$.[7] Industries are denoted by the subscript i on Nace two-digit dummies (excluding agriculture, mining, utility, financial intermediation, public administration, education, and health); regions are denoted by r, (88 region dummies);[8] time is denoted by t for the years 1996 to 2008.[9] One of the advantages of Orbis is that it contains every registered firm rather than all firms above a certain size. This is potentially an advantage in the analysis of entry because entrants are usually smaller than incumbents (Geroski, 1995). However, the inclusion of smaller firms as a firm size category may also increase the noise in the regression, especially since entry may entail a process of entrepreneurs learning about future profitability (Jovanovic, 1982). We estimate our firm size models on a four-dimensional database (region, industry, year, and firm size), which increases the size of the

sample and captures the differential effect of institutions on entry-size categories. In this experiment, the dependent variable is defined in the following way: now Entry 1-year is the number of companies with incorporation year $= T$ of a specific size category divided by the number of companies with the incorporation year $\leq T$ of the same-size category. We adopt a standard-size taxonomy by employees: $s_1 < 50$, $s_2 = [51–250]$, $s_3 > 250$.[10]

To explore the links between entry and the political and institutional environment at the regional level, we use two data sets. The first is a new database, constructed for this study, on governors' turnover in the Russian regions between 1996 and 2008. The second, the Petrov data set, draws on the regional democratisation scores compiled by McFaul et al. (2004).

The first data set builds on the idea that regional politics shape local institutions both formally and informally, but can be subject to external shocks because of the electoral process. We explore the effects of the periodic uncertainty that affects regional businesses every four years as the gubernatorial term in the office expires and the political incumbent faces the risk of being replaced by another candidate. In principle, the impact of greater political fluidity on the costs of entry could go either way; the loss of office could create regulatory uncertainty or act to offset the entrenched power of incumbents if this is negative for business. Acemoglu and Robinson (2006) and Lizzeri and Persico (2005) suggest that intense political competition may be welfare reducing because political instability may induce incumbent politicians to focus on short-term rents rather than long-term growth-enhancing reforms. On the other hand, the turnover of politicians may have a disciplining effect on incumbent governors and offset the power of entrenched insiders, therefore promoting new entry. This would parallel Besley, Persson, and Sturm's (2010) finding that political competition in the southern United States led to probusiness policies and a subsequent improvement in economic performance. In the Russian context, we propose that fewer changes in governor—continuity of political rule—contribute to a more stable investment environment. With the same governor and political elite in office, firms can build more stable and durable links with local politicians. Since local networks and relationships are crucial, a new governor, whether from the same party or a different one, might introduce her or his own group of associates, disrupting existing informal relationships and creating potential institutional insecurity. To capture the level of uncertainty associated with the potential change of governor, we constructed a governor turnover data set by docu-

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[7] Entry 2-year is the number of companies in an industry and region with incorporation year $= T$ or $(T - 1)$ divided by the number of companies with the incorporation year $\leq T$. For brevity, all the reported results refer to the one-year entry rate, but the results hold with the two-year entry measure (available on request).

[8] The Chechen Republic is dropped from the data.

[9] Incorporation in the early years of transition could be caused by privatization rather than new entry, but since most Russian firms were privatized by 1997, such instances are rare in our database. We also cannot distinguish between new entry and a legal change of name, but the latter is often a result of change of ownership and may represent a new way of recombination of the firm's assets.

[10] The sample exploits all the firms declaring their date of incorporation. The database is built by splitting the overall firm sample into three parts according to size category. Entry rates are computed within separate categories, and the three parts are pooled back together. Some firms do report date of incorporation but not size and therefore are part of the database of the complete sample. Only firms reporting date of incorporation and size are included in the size-level data.

menting instances when the incumbent governor's term in the office expired (whether she or he stood for reelection or reappointment), instances of governor change (whether through elections or new appointment), and the character of these changes (whether there is a change in the local ruling elite). The indices therefore indicate the degree of uncertainty faced by a prospective new entrant firm as the political environment changes from the status quo characterized by no foreseeable change in governor and therefore by stable economic and political policies to:

1. A possible change in governor as the incumbent's term in office expires, even if the incumbent ultimately remains in office. Elections open up the possibility of a change in ties to business groups, envisioned economic policies, investment programs, and, importantly, new informal rules of the game because of their potential to disrupt elite networks.
2. A new governor coming to power who, being part of the same political group, is likely to provide some continuity with previous policies but also potential change in personal networks of power. Since so many decisions and practices are based on personal ties and loyalties, turnover in the higher echelons of the local administration may generate considerable uncertainty about future practices and policies.
3. The election of a new governor from an opposition party—someone who is probably even more likely to discontinue current policies and practices.

Thus, the variable "political fluidity" was measured on a 3 plus 1-point scale, [0,3], for each year during the period 1996 to 2008. Zero represents the status quo and was assigned to years when no election or governor appointment took place. Years when the current governor stood for reelection or reappointment and the incumbent remained in power were assigned a value of 1. Instances when the incumbent was replaced by a candidate from the same political elite were assigned a value of 2. Cases when the new governor came from the opposition were given the value of 3. In the regressions, we consider the impact of each political change on its own [0,1] dummy, as well as the cumulative [0,3] political fluidity index.

We also considered whether these new measures of turnover and overall political fluidity were in fact correlated with important social and economic changes in the regions (see table A1.2 in the online appendix). The political risk ratings and the criminal risk ratings provided by Russian research group Expert RA show a statistically significant correlation coefficient (around 0.3) with government change (positive) and elite change (negative), respectively. Moreover, political fluidity is positively correlated (above 0.20) with the election, pluralism, elites, and democratization variables from the Petrov database: the positive correlation between turnover of governors and institutional variables implies a correspondence between political fluidity and

"good institutions." Thus we observe some interesting differences between regions that experienced a turnover in power and regions that saw none. For example, over the period 2004 to 2006, regions that experienced no change in power on average saw an improvement in their risk ranking. In contrast, regions that saw an opposition candidate come to power saw their risk ranking fall. Moreover, the evaluation of a region's risk is more volatile for regions that experienced deeper political change; political as well as criminal risks in regions where opposition candidates came to power increased significantly in 2005 but fell in regions with no change.

Our second institutional data set measures democratic practices in Russian regions in terms of the extent of media freedom, the level of democracy, and the extent of openness of regional political life. We use indices from an important new data set, collected by McFaul et al. (2004), with ten subindicators to provide an overall assessment of political and economic openness in each region. In our estimations, we used both the summary variable for democratization (composed of all ten subindicators) and each of the ten subindicators separately; for brevity, we report the overall democracy indicator only (composed of nine subindicators, that is, excluding economic liberalization; see the appendix). The subindicators give an account of political factors (political openness, elections, pluralism, regional political structure), economic factors (economic liberalization, corruption), and civil society and social factors (media, civil society, elites, local self-government). Together, they capture the openness of regional political and economic processes and indicate how easy it is for a new entrant to gauge future profits from the venture and to estimate the likelihood of losing the investment. These Petrov indices provide a rich measure of democratic functioning in Russian regions, but more so than with our political fluidity indices, there is the possibility of endogeneity with some of these measures—for example, liberalization.[11] We therefore enter the Petrov data with lags and in our discussion place more emphasis on the result using the political fluidity index we constructed.

IV. Estimation Strategy

In order to test the relationship between entry and the institutional environment, we run a tobit estimation model for the dependent censored [0,1] entry variable—the proportion of new entrants on incumbents plus entrants calculated from the year of incorporation declared by the firm.[12] We follow the difference-in-difference approach of Klapper et al. (2006). The specification includes regional fixed effects, Nace two-digit industry fixed effects,[13] and time

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[11] The results for the separate subindicators are broadly consistent and are available on request.
[12] The date of incorporation is reported by 85% of firms.
[13] We exclude agriculture, mining, utility, financial intermediation, public administration, education, and health. These sectors have a lower entry rate.

fixed effects.[14] The industry-level natural entry rates are time invariant and so are captured in the industry fixed effects, but we include the interaction term *Entry EU* [1998–2003] × *INSTITUTION Region-Year* $(t-1)$ or *Entry EU* [1998–2003] × *INSTITUTION Region-Year* (-2). This specification is equivalent to testing whether institutions differentially affect entry rates given the natural entry rate,[15] the latter reflecting barriers to entry for the industry in a developed market economy. The institutional variables are loaded as either the governors' turnover indicators or the Petrov index. The natural entry rates are sourced from the European Union 1998–2003 average data.[16]

The following models are estimated, where the subscript i stands for industry, r stands for region, t stands for time, and s stands for the size category—$s1 < 50$, $s2 = [51$–$250]$, $s3 > 250$:[17]

$$Entry_{r,i,t} = \delta Entry^{EU}_{i,[1998-2003]} \times Inst_{r,(t-1)} + \sum_{r=1}^{R} \beta_r D_r$$
$$+ \sum_{i=1}^{l} \beta_i D_i + \sum_{t=1}^{T} \beta_t D_t + \in_{r,i,t} \quad (1)$$

$$Entry_{r,i,t,s} = \sum_{s=1}^{3} \delta_s \left(Entry^{EU}_{s,i,[1998-2003]} \times Inst_{r,(t-1)} \right)$$
$$+ \sum_{s=1}^{3}\sum_{r=1}^{R} \beta_{sr} D_{sr} + \sum_{s=1}^{3}\sum_{i=1}^{l} \beta_{si} D_{si}$$
$$+ \sum_{t=1}^{T} \beta_t D_t + \in_{r,i,t,s} \quad (2)$$

In equation (2), the interaction terms between institutions and the natural entry rate, as well as regional and sectoral dummies, are included for all three size categories $\sum_{s=1}^{3}(...)$; time dummies are unmodified (for a comparison, see Aghion, Fally, & Scarpetta, 2007).

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[14] Entry rates decrease between 1996 and 2008, which is captured by time dummies. The sample does not show the existence of a unit root. See online appendix 3 for a battery of tests on the unit root in our region-sector panel.

[15] For example, consider two sectors: one characterized by the natural entry rates of 0% and the other of 100%, respectively. The interaction term *Entry EU*$_{[1998-2003]}$ × *INSTITUTION*$_{Region-Year(-1)}$ will capture the impact of institutions on the 100% entry sector with respect to the no entry one.

[16] Aghion et al. (2004) analyze entry determinants using both structural variables and exogenous variation via instrumental variable estimation to tackle potential reverse causality—namely, that entry might improve institutions. This could in principle occur in our specification if an entry rate specific to a sector-region affects the institutional environment of the region. However, we think this is unlikely in our data because the dependent variable varies across regions, time, and industry, whereas the potentially endogenous regressor is at the regional-time level only.

[17] For robustness, the regressions are run with the two-year lag institutional variables: *Entry*$^{EU}_{i,[1998-2003]}$ × *Inst*$_{r,(t-2)}$. One-year and two-year lag results are both reported in tables.

V. Results

New firm entry rates in Russia as a whole do not appear to be particularly low by international standards (but see Aidis, Estrin, & Mickiewicz, 2008). Thus, we find that entry rate is registered in an interval between 11.9% and 2.4% throughout the 1996–2008 time span compared with 7.09% in Europe and 6.65% in the United States using the same NACE industries in 1998–1989 (Dun & Bradstreet, 2000). Entry rates for large firms, employing more than 250 workers, are on average 4.3% and decline over time (6.7% in 1996 and 0.4% in 2008), while those for the smallest firms register an average of 11.3%.

We report the estimation results for equations (1) and (2) and are particularly interested in the coefficients δ and $\delta_{s=1}$ $\delta_{s=2}$ $\delta_{s=3}$ stemming from the interacted terms by size $\sum_{s=1}^{3}\delta_s$. The dependent variable is the one-year entry rate at the level of the sector, region, and year in equation (1) and the one-year entry rate at the level of the sector, region, year, and size category in equation (2).[18] Thus, the former exploits the three-dimensional database (region, industry, and time), whereas the latter exploits the four-dimensional one (region, industry, time and size). The effects on entry of political fluidity are discussed in section VA and of the Petrov democratization index in section VB.

The governor's political fluidity indicator was constructed on a [0,3] scale. To facilitate the interpretation of the coefficients of the tobit regression model, we rescaled all of the institutional variables (democratization as well as governor turnovers) in the [0,1] interval and report the tobit marginal effects on truncated expected value at 0 (lower bound) and 1 (upper bound). These transformations allow us to interpret the magnitude of the σ and σ_s negative (positive) coefficients as the percentage decrease (increase) of the natural entry rate for an average region passing from the status quo to the most fluid (on a cumulative scale), or democratic political environment.

A. Governor Turnovers and the Entry Rates

Table 1 reports the impact of the three individual political fluidity variables (three 0-1 dummies—Election, Governor Change, and Elite Change—and the overall political fluidity [0,3] dummy, rescaled) each with one-year and two-year lag specifications. Columns 1 and 2 refer to the Election variable. We do not identify any significant effect, perhaps because the timing of elections in Russia is predetermined and cannot be strategically moved by governors. Hence, the timing of elections would probably not affect a firm's decision to enter a market unless there was also an expectation of political change (see the regression by size categories). Columns 3 and 4 refer to the Governor Change variable. Here we do identify a significant decreased likeli-

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[18] We also ran all regressions with the two-year entry rate as a dependent variable. The results are fully consistent with the one-year entry results (available on request).

TABLE 1.—INSTITUTIONAL DETERMINANTS OF ENTRY

	1	2	3	4	5	6	7	8
	Election		Governor Change		Elite Change		Political Fluidity	
	Y(-1)	Y(−2)	Y(−1)	Y(−2)	Y(−1)	Y(−2)	Y(−1)	Y(−2)
$Entry\ EU_{[1998–2003]} \times Elect_{Year(−1)}$	0.14 (0.84)							
$Entry\ EU_{[1998–2003]} \times Elect_{Year(−2)}$		−0.03 (0.15)						
$Entry\ EU_{[1998–2003]} \times Gov\ Change_{Year(−1)}$			−2.67*** (0.99)					
$Entry\ EU_{[1998–2003]} \times Gov\ Change_{Year(−2)}$				−0.46*** (0.17)				
$Entry\ EU_{[1998–2003]} \times Elite\ Change_{Year(−1)}$					−0.79 (1.87)			
$Entry\ EU_{[1998–2003]} \times Elite\ Change_{Year(−2)}$						−0.15 (0.35)		
$Entry\ EU_{[1998–2003]} \times Pol.\ Fluidity_{Year(−1)}$							−1.69 (1.52)	
$Entry\ EU_{[1998–2003]} \times Pol.\ Fluidity_{Year(−2)}$								−0.18^ (0.13)
Di: Two-digit NACE sector dummies	Y***	Y***	Y***	Y***	Y***	Y***	Y***	Y***
Dr: Region dummies	Y***	Y***	Y***	Y***	Y***	Y***	Y***	Y***
Dt: Year dummies	Y***	Y***	Y***	Y***	Y***	Y***	Y***	Y***
Observations	37,344	34,232	37,344	34,232	10,030	9,085	37,344	34,232

Tobit regression, coefficients, and clustered standard errors at the level of the region-sector in parentheses: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$, and ^$p < 0.2$. Authors' computations on Orbis Database (BvD August 2010 release) and Governors cumulative turnover data (see text and appendix 2 for details). Dependent variable defined as one-year entry rate in the region, sector, and year. Natural entry rate defined as one-year entry in the European Union as the 1998–2003 average within the relevant two-digit NACE rev. 1.1 sectors. Coefficients reported as marginal effect on truncated expected value at 0 (lower bound) and 1 (upper bound). All regressions include region, sector, and time dummies. The null hypothesis of joint zero coefficients for the Dr, Di, and Dt, respectively, is always rejected at the 1% level (Y***). Columns 5 and 6 restrict the sample to the instances where there is a governor's change or an election.

hood of entry in both columns, one and two years after the change of governor. The impact is quite large. For example, an industry with a natural entry rate of 5% (such as the sale of motor vehicles), which is located in a region experiencing a 0.1 increase in fluidity (on a cumulative scale of [0,1], this would be a 10% increase) due to the replacement of the governor, would experience a reduction of entry on the order of 26% of its natural entry rate, that is, a loss of 1.25 percentage points after one year. The effect is smaller, however, only 4.6% (0.23 percentage point loss), after two years. Columns 5 and 6 refer to the variable measuring a change of governor as well as a change of the political elite. Interestingly, the election of a governor belonging to an "opposition" political circle to the incumbent is found to have no statistically significant effect, though the sign is still negative.[19] Finally, columns 7 and 8 refer to the summary indicator of political fluidity variable (again normalized on the [0,1] interval). We find a very weakly significant negative effect from this overall index after two years.

In table 2, we consider the differential impact of institutions on each separate firm size category. As one might expect, we find that the impact of the political fluidity indices is more marked for large firms, and to some extent medium-sized ones, when there are elections or a change of governor (columns 1–4). However, perhaps because there is more noise, the effects are insignificant, or positive and significant in the case of elections, for small firms. We therefore find that discontinuity of the political environment

in a region exerts a significant negative effect on the deviation of the industry entry rates of medium and big firms from their natural levels. While the election process per se does not affect the overall deviation (though it does affect the size-specific entry rates for medium and large enterprises), a replacement or electoral defeat of an incumbent governor has a marked effect on the entry process, especially after one year. This finding is robust to alternative specifications that take account of the time lag and the two-years entry as dependent variable. The highly personalized and informal character of regional government is highlighted by the fact that this negative effect of gubernatorial change is independent of the political direction of that change.

B. Democratization and Entry Rates

The regressions reported in tables 3 and 4 test the same hypothesis using the second set of political indicators: Petrov's democratization index loaded contemporaneously to entry and with one- and two-year lags.[20] We find that the coefficient on the interactive term with the natural entry rate is always negative and significant, which implies that the deviation from natural entry rates is higher in regions in which levels of political competition and transparency are greater. Thus in Russia, greater regional democracy is found to reduce sectoral entry away from their natural rates. As noted, this is probably a consequence of the way in which the Russian regional institutional environment oper-

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[19] Opposition with respect to the incumbent, not with respect to any left or right political spectrum.

[20] Given that we estimate the regressions with regional fixed effects, the Petrov index measures changes in democracy over time.

TABLE 2.—INSTITUTIONAL DETERMINANTS OF ENTRY BY SIZE

	1	2	3	4	5	6	7	8
	Election		Governor Change		Elite Change		Political Fluidity	
	Y(−1)	Y(−2)	Y(−1)	Y(−2)	Y(−1)	Y(−2)	Y(−1)	Y(−2)
{Small} Entry EU [1998–2003] × Elect Year(−1)	1.37*** (0.45)							
{Medium} Entry EU [1998–2003] × Elect Year(−1)	−12.34*** (1.34)							
{Large} Entry EU [1998–2003] × Elect Year(−1)	−21.68*** (1.94)							
{Small} Entry EU [1998–2003] × Elect Year(−2)		0.25*** (0.08)						
{Medium} Entry EU [1998–2003] × Elect Year(−2)		−1.92*** (0.25)						
{Large} Entry EU [1998–2003] × Elect Year(−2)		−3.48*** (0.38)						
{Small} Entry EU [1998–2003] × Gov Change Year(−1)			0.52 (0.55)					
{Medium} Entry EU [1998–2003] × Gov Change Year(−1)			−15.77*** (2.06)					
{Large} Entry EU [1998–2003] × Gov Change Year(−1)			−23.77*** (3.30)					
{Small} Entry EU [1998–2003] × Gov Change Year(−2)				0.10 (0.09)				
{Medium} Entry EU [1998–2003] × Gov Change Year(−2)				−2.06*** (0.38)				
{Large} Entry EU [1998–2003] × Gov Change Year(−2)				−3.94*** (0.65)				
{Small} Entry EU [1998–2003] × Elite Change Year(−1)					1.91** (0.86)			
{Medium} Entry EU [1998–2003] × Elite Change Year(−1)					−22.78*** (4.16)			
{Large} Entry EU [1998–2003] × Elite Change Year(−1)					−31.73*** (6.86)			
{Small} Entry EU [1998–2003] × Elite Change Year(−2)						0.33** (0.16)		
{Medium} Entry EU [1998–2003] × Elite Change Year(−2)						−2.27** (0.90)		
{Large} Entry EU [1998–2003] × Elite Change Year(−2)						−2.99** (1.39)		
{Small} Entry EU [1998–2003] × Pol. Fluidity Year(−1)							2.17*** (0.80)	
{Medium} Entry EU [1998–2003] × Pol. Fluidity Year(−1)							−27.61*** (2.78)	
{Large} Entry EU [1998–2003] × Pol. Fluidity Year(−1)							−44.38*** (4.35)	
{Small} Entry EU [1998–2003] × Pol. Fluidity Year(−2)								0.20*** (0.07)
{Medium} Entry EU [1998–2003] × Pol. Fluidity Year(−2)								−1.95*** (0.25)
{Large} Entry EU [1998–2003] × Pol. Fluidity Year(−2)								−3.53*** (0.43)
Dr × [size]: Regions × Size Dummies	Y***	Y***	Y***	Y***	Y***	Y***	Y***	Y***
Di × [size]: 2 Digit NACE Sector × Size Dummies	Y***	Y***	Y***	Y***	Y***	Y***	Y***	Y***
Dt: Year dummies	Y***	Y***	Y***	Y***	Y***	Y***	Y***	Y***
Observations	79,764	73,117	79,764	73,117	21,473	19,383	79,764	73,117

Tobit regression, coefficients and clustered standard errors at the level of the region-sector-size in parentheses: ***$p < 0.01$, **$p < 0.05$, and *$p < 0.1$. Authors' computations on Orbis Database (BvD August 2010 release) and governors cumulative turnover data (see text and appendix 2 for details). Dependent variable defined as one-year entry rate in the region, sector, size and year. Natural entry rate defined as one-year entry in the European Union as 1998–2003 average within the relevant two-digit NACE rev. 1.1 sector and size category. Coefficients reported as marginal effect on truncated expected value at 0 (lower bound) and 1 (upper bound). All regressions include [Regions]×[size], [Sector] × [size], and Time dummies. The null hypothesis of joint zero coefficients for the Dr × [size]; Di × [size], Dt, respectively, is always rejected at 1% level (Y***). Columns 5 and 6 restrict the sample to the instances where there is a governor's change or an election.

ates, with informal political-business networks at the local level determining enterprise outcomes. It is usually thought that democracy would be conducive to securing property rights and providing incentives to create a fair ownership and legal system. However, turnover in the political elite has a detrimental effect on entry rates in Russia. This is probably because conventional indicators of democracy measure the extent of political contestation and not the fairness and strength of political institutions that frame regional policymaking. In an environment where institutions are weak and personal ties are important, change of political elites and greater contestation among local groups may not necessarily result in better political institutions but rather greater disruption of personal ties among the ruling elite.

TABLE 3.—DEMOCRATIZATION DETERMINANTS OF ENTRY

	1	2	3
	Democratization Year (t)	Democratization Year $(t-1)$	Democratization Year $(t-2)$
Entry EU [1998–2003] × Democratization	−0.64*** (0.22)		
Entry EU [1998–2003] × Democratization Year $(t-1)$		−0.56** (0.22)	
Entry EU [1998–2003] × Democratization Year $(t-2)$			−0.49** (0.15)
Di: 2 digit NACE sector dummies	Y***	Y***	Y***
Dr: Region dummies	Y***	Y***	Y***
Dt: Year dummies	Y***	Y***	Y***
Observations	40,456	37,344	34,232

Tobit regression, coefficients and clustered standard errors at the level of the region-sector in parentheses: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Authors' computations on Orbis Database (BvD August 2010 release) and Petrov democratization variable: dem1 is a 1991–2001 time-invariant variable; dem2 is a 2000–2004 time-invariant variable; dem3 is a 2001–2006 time-invariant variable. These are merged to create time-variant democratization variables on the 1996–2008 time span: contemporaneous (column 1), lag 1 (column 2) and lag 2 (column 3) (see the text and appendix 2 for further details). The dependent variable is defined as the one-year entry rate in the region, sector, and year. The natural entry rate is defined as one-year entry in the European Union as the 1998–2003 average within the relevant two-digit NACE rev. 1.1 sectors. Coefficients reported as marginal effect on truncated expected value at 0 (lower bound) and 1 (upper bound). All regressions include regions, sector, and time dummies. The null hypothesis of joint zero coefficients for the Dr, Di, and Dt, respectively, is always rejected at 1% level (Y***).

TABLE 4.—DEMOCRATIZATION DETERMINANTS OF ENTRY BY SIZE

	1	2	3
	Democratization Year (t)	Democratization Year $(t-1)$	Democratization Year $(t-2)$
{Small} Entry EU [1998–2003] × Democratization	0.27*** (0.05)		
{Medium} Entry EU [1998–2003] × Democratization	−1.03** (0.41)		
{Large} Entry EU [1998–2003] × Democratization	−2.09*** (0.69)		
{Small} Entry EU [1998–2003] × Democratization Year $(t-1)$		0.28*** (0.05)	
{Medium} Entry EU [1998–2003] × Democratization Year $(t-1)$		−1.48*** (0.43)	
{Large} Entry EU [1998–2003] × Democratization Year $(t-1)$		−1.62** (0.72)	
{Small} Entry EU [1998–2003] × Democratization Year $(t-2)$			0.25*** (0.04)
{Medium} Entry EU [1998–2003] × Democratization Year $(t-2)$			−1.02** (0.44)
{Large} Entry EU [1998–2003] × Democratization Year $(t-2)$			−1.26* (0.74)
Dr × [size]: Regions × Size Dummies	Y***	Y***	Y***
Di × [size]: 2 digit NACE Sector × Size Dummies	Y***	Y***	Y***
Dt: Year dummies	Y***	Y***	Y***
Observations	86,411	79,764	73,117

Tobit regression, coefficients, and clustered standard errors at the level of the region-sector-size in parentheses: ***$p < 0.01$, **$p < 0.05$, and *$p < 0.1$. Authors' computations on Orbis database (BvD August 2010 release) and Petrov democratization variable: dem1 is a 1991–2001 time-invariant variable; dem2 is a 2000–2004 time-invariant variable; dem3 is a 2001–2006 time-invariant variable. These are merged to create time-variant democratization variables on the 1996–2008 time span—contemporaneous (column 1), lag 1 (column 2), and lag 2 (column 3) (see the text and appendix 2 for further details). The dependent variable is defined as the-year entry rate in the region, sector, size, and year. The Natural entry rate is defined as the-year entry in the European Union as the 1998–2003 average within the relevant two-digit NACE rev. 1.1 sectors. Coefficients are reported as a marginal effect on truncated expected value at 0 (lower bound) and 1 (upper bound). All regressions include regions, sector, and time dummies. The null hypothesis of joint zero coefficients for the Dr*[size], D*[size]i, and Dt, respectively, is always rejected at the 1% level (Y***).

This perhaps explains the disproportionally large effect of political fluidity on entry rates of medium and large firms, as these firms tend to rely relatively more on networking with top regional politicians than small firms do.

Table 4 replicates the previous experiment with firm size categories and loading the Petrov data for political institutions. As before, we find that the direction of the impact of the degree of democratization on entry rates depends on the size of the entrant. Greater democracy acts to stimulate entry by small-sized firms, reducing the deviation of entry by sector from their natural rate, though the results may be biased because of greater measurement error. However, as for when all the size categories are combined, greater democratization reduces entry for medium and, especially, large firms. These findings apply to all three specifications of lags.

VI. Conclusion

This paper looks at the development of the existing literature on entry and the institutional environment. First, we circumvent the problem encountered in traditional cross-country studies of approximating institutions by country-specific dummies. Our approach also reduces the number of

alternative explanations by analyzing entry in the context of a single national entity. Furthermore, by the use of a new data set on political fluidity, we have been able to allay concerns about the endogeneity of institutional indicators. Finally, we extend the studies of institutional impact on entry, pioneered by Djankov et al. (2002). While these studies explored the impact of formal institutions on entry, they may fail to capture the impact of informal practices. Our work addresses this criticism by taking account of informal institutions and demonstrates that the political changes behind the institutional environment have a significant influence on entry rates.

We show that the negative deviation across regions of industrial entry rates from their natural levels is exacerbated by political fluidity shaped by both formal and informal institutions. This is in line with the findings of Besley et al. (2010), who also find that political discontinuities reduce the power of entrenched insiders and reduce entry costs. In Russia, political fluidity increases the entry of small firms and reduces it for larger ones. These results are robust to alternative specifications, for example controlling for one- or two-year entry, different lags, and large- and medium-firm-size categories. We conclude that in Russia, entry of medium and big firms is promoted by continuity in the regional political arena, whether in the form of reelection of an incumbent or the election of a candidate from the same political elite. While this finding runs counter to expectations about the effect of greater democracy in other contexts, it is consistent with the way that the regional institutional environment in Russia is believed to operate (Aidis et al. 2008; Remington, 2011), often being based on highly personalized informal networks. In contrast, small firms' entry appears to benefit from a more competitive political environment. We offer two related explanations: that they are too small to benefit from the elite relationships or to pose a threat to the incumbents by entry. Thus, the difference in the effect of business environment on the entry of small firms compared to larger ones may indicate predatory state behavior. Big firms are more likely to be targeted by unscrupulous politicians because they are more visible and generate higher rents. This "grabbing hand" view of the state (Frye & Shleifer, 1997) would predict that larger firms are disproportionally affected by a change of politicians at the very top of regional administration and therefore are more affected by uncertainty and political competition. A somewhat different explanation hinges on the need to forge close links with the top politicians in order to set up firms and prosper as a business in Russia. Large and medium firms are more likely to rely on personal networks with top politicians than small firms are. Therefore, disruption of such networks through a change of governor is more likely to have an impact on the entry of larger firms and leave smaller businesses relatively unaffected.

We also find that entry is most significantly affected with a one-year lag after a change of governor, the effect fading away after two years, as one might expect given that entry is a long-term project between the initial decision to enter and actual establishment of a firm. Although the legal registration of a firm may be completed in a year, creating a going concern may take longer. We also confirm the impact of institutions on entry using a data set characterizing regional political regimes with respect to democratic institutions. This measure has the advantage of indicating the direction of the political change, though our analysis is less robust in terms of reverse causality. Nonetheless, the findings are broadly supportive of the previous experiment.

REFERENCES

Acemoglu, D., and S. Johnson, "Institutions as a Fundamental Cause of Long-Run Growth," in P. Aghion, and S. Durlauf (eds.), *Handbook of Economic Growth*, vol. 1 (Amsterdam: Elsevier, 2005).

——— "Economic Backwardness in Political Perspective," *American Political Science Review* 100 (2006), 115–131.

Aghion, P., & P. Bolton "Contracts as a Barrier to Entry," *American Economic Review* 77 (1987), 388–401.

Aghion, P., R. Blundell, R. Griffith, P. Howitt, and S. Prantl "Entry and Productivity Growth: Evidence from Microlevel Panel Data," *Journal of the European Economic Association* (2004), 265–276.

Aghion, P., T. Fally, and S. Scarpetta, "Credit Constraints as Barrier to Entry and Post-Entry Growth of Firms," *Economic Policy* 22 (2007), 731–779.

Aidis, R., S. Estrin, and T. Mickiewicz, "Institutions and Entrepreneurship Development in Russia: A Comparative Perspective," *Journal of Business Venturing* 23 (2008), 656–672.

Bain, J., *Industrial Organization* (New York: Wiley, 1968).

Bartelsman, E., J. Haltiwanger, and S. Scarpetta, "Microeconomic Evidence of Creative Destruction in Industrial and Developing Countries," World Bank Policy Research Working Paper 3464 (2004).

Bartelsman, E., S. Scarpetta, and F. Schivardi, "Comparative Analysis of Firm Demographics and Survival: Micro-Level Evidence for the OECD Countries," *Industrial and Corporate Change* 14 (2005), 365–391.

Berkowitz, D., and D. DeJong, "Entrepreneurship and Post-Socialist Growth," *Oxford Bulletin of Economics and Statistics* 67 (2005), 25–46.

Bertrand, M., and F. Kramarz, "Does Entry Regulation Hinder Job Creation? Evidence from the French Retail Industry," *Quarterly Journal of Economics* 117 (2002), 1369–1413.

Besley, T., T. Persson, and D. Sturm, "Political Competition, Policy and Growth: Theory and Evidence from the US," *Review of Economic Studies* 77 (2010), 1329–1352.

Caves, R., "Industrial Organization and New Findings on the Turnover and Mobility of Firms," *Journal of Economic Literature* 36 (1998), 1947–1982.

Centre for Economic and Financial Research at New Economic School, *Monitoring the Administrative Barriers to Small Business Development in Russia, Round* 6 (2007), http://www.cefir.ru/index.php?l=eng\&id=260.

De Soto, H., *The Other Path: The Invisible Revolution in the Third World* (New York: Harper, 1990).

Dixit, A., "A Model of Duopoly Suggesting a Theory of Entry Barriers," *Bell Journal of Economics* 10 (1979) 20–32.

Djankov, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer, "The Regulation of Entry," *Quarterly Journal of Economics* 117 (2002), 1–37.

Dun and Bradstreet, *US Entry Rate, 1998–99, data* (2000), http://www.dnb.com/us.

Dunne, T., M. J. Roberts, and L. Samuelson, "The Growth and Failure of U.S. Manufacturing Plants," *Quarterly Journal of Economics* 104 (1989), 671–698.

Frye, T., and A. Shleifer, "The Invisible Hand and the Grabbing Hand," *American Economic Review* 87 (1997), 354–358.

Geroski, P. A., *Entry and Market Contestability: An International Comparison* (Oxford: Basil Blackwell, 1991).

——— "What Do We Know about Entry?" *International Journal of Industrial Organisation* 13 (1995), 421–440.

"Gosstroi utverdil proektnuju dokumentatsiju Samarskoi Ikei," *Volga News*, June 15, 2011.

"Growing IKEA Russia Corruption Scandal: Two Execs Fired," Russia Monitor (2010), http://therussiamonitor.com/2010/02/15/growing-ikea-russia-corruption-scandal-two-execs-fired/.

Jovanovic, B., "Selection and the Evolution of Industry," *Econometrica* 50 (1982), 649–670.

Klapper, L., L. Laeven, and R. Rajan, "Entry Regulation as a Barrier to Entrepreneurship," *Journal of Financial Economics* 82 (2006), 591–629.

Lizzeri, A., and N. Persico, "A Drawback of Electoral Competition," *Journal of the European Economic Association* 3 (2005), 1318–1348.

Lofstrom, M., T. Bates, and S. Parker, "Transitions to Entrepreneurship and Industry-Specific Barriers," IZA discussion paper 6103 (2011).

McFaul, M. A., N. Petrov, and A. Ryabov, *Between Dictatorship and Democracy: Russian Post-Communist Political Reform* (Washington, DC: Carnegie Endowment for International Peace, 2004).

OECD, *Trade Politics in Russia: The Role of Local and Regional Governments* (Paris: OECD, 2002).

Popov, V., "Reform Strategies and Economic Performance of Russia's Regions," *World Development* 29 (2001), 865–886.

Remington, T. F., *The Politics of Inequality in Russia* (Cambridge: Cambridge University Press, 2011).

Tybout, J. R., "Manufacturing Firms in Developing Countries: How Well Do They Do, and Why," *Journal of Economic Literature* 38 (2000), 11–44.

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