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Depositor discipline in Russian regions: Flight to familiarity or trust in local authorities?

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Abstract

We analyze whether a depositor's familiarity with a bank affects depositor behavior during a financial crisis. Familiarity is measured by the presence of regional or local cues in the bank's name, while depositor behavior is considered in terms of depositor sensitivity to observable bank risk (market discipline exerted by depositors). Using the 2001–2010 bank-level and region-level data for Russia, we show the evidence that depositors use quantity-based discipline on all banks in the sample. The evidence of a price-based discipline mechanism, however, is virtually absent. We find that depositors of familiar banks were less sensitive to bank risk after a financial crisis than depositors at unfamiliar banks. To assure the results are driven by familiarity bias and not implicit support of regional governments to banks with regional cues in their names, we interact the variables with measures of trust in local governments and regional affinity. We find a "flight to familiarity" effect strongly present in regions with strong regional affinity, while the effect is rejected in regions with greater trust in regional and local governments. This suggests that the results are driven by familiarity rather than implicit protection from trusted regional or local governments.

Keywords: market discipline, personal deposit, region, Russia, flight to familiarity, implicit guarantee.
JEL: G21, G01, P2.

Koen Schoors, orcid.org/0000-0002-4159-8083, is a professor at Ghent University and a visiting research fellow at the Center for Institutional Studies at the National Research University Higher School of Economics. Email: koen.schoors@ugent.be. Address: Universiteit Gent Tweekerkenstraat 2 9000 Gent Belgium.

Maria Semenova (corresponding author), orcid.org/0000-0002-1360-583X, is a senior research fellow at the Center for Institutional Studies and an associate professor at the Department of Finance, National Research University Higher School of Economics. Email: msemenova@hse.ru. Address: 402, 24-3 Myasnitskaya str., 101000, Moscow, Russia.

Andrey Zubanov, orcid.org/0000-0003-0163-4470, is a PhD student at the Department of Economics, University of Wisconsin-Madison. Email: zubanov@wisc.edu.Address: 6413 Sewell Social Sciences, 1180 Observatory Drive, Madison, WI 53706.

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1 Introduction

Consumer preference for familiar, locally produced goods has recently been shown for many products and services, ranging from food items (Carroll et al., 2013; Meas et al., 2015) to equity investments in pension plans (Brown, Pollet, and Weisbenner, 2015). In proposing the *familiarity hypothesis*, Huberman (2001) uses as illustration the tendency of shareholders of a Regional Bell Operating Company (RBOC) to live in the area served and the tendency of RBOC customers prefer shares over other forms of RBOC equity. He then suggests that agents naturally have more favorable and charitable feelings toward institutions with which they are comfortable or familiar, with the caveat that disentangling familiarity from information asymmetries is difficult.

Ackert et al. (2005) attempt to tease out information asymmetries and familiarity in the case of an investor's predisposition to invest close to home (home bias). In a series of experiments in the US and Canada, they find that merely providing information about a firm's home base, while holding other information asymmetries constant, is insufficient to alter investment behavior. Agents gain no incentive to invest in a company simply because of geographic proximity. Rather, participants need to know the firm's name and home base before they become more inclined to invest. Participants, it turns out, have a higher perceived familiarity with those firms whose name and home base they know. Thus, perceived knowledge (familiarity) appears to be a key determinant of investment behavior in the explanation of home bias.

Baltzer, Stolper, and Walter (2011), who study individual investor portfolio investments, find strong and consistent overinvestment in nearby companies. Their results explicitly reject the hypothesis of an information home-field advantage of local over non-local investors, and instead find household preference for local equity to be familiarity-driven.

Bailey, Kumar and Ng (2012), who study a host of behavioral biases of mutual fund investors, find that familiarity is only positively correlated bias with stock portfolio performance. They note that familiarity bias may be the only bias among several studied that is not necessarily detrimental.

Boyle et al. (2011) theoretically predict and empirically support the flight of individual investors to local familiarity, especially during periods of financial crisis. They suggest the effect of familiarity investment behavior could depend on conditions in the broader environment.

Our purpose here is to test for familiarity bias and the hypothesis of flight to familiarity using individual depositor behavior. If familiarity is critical to other investment behavior, we expect to observe it in perhaps the commonest of investment behaviors, depositing money in a bank. Because individuals usually deposit funds in very limited number of banks (maybe just one), and because information about banks is more asymmetric than for firms in general, our

challenge is to assess the familiarity bias in a banking context. The overwhelming bulk of depositors for practical reasons entrust their money to a nearby bank. As most local banks have well-established names in the community, classic measures of familiarity, proximity, and name recognition are meaningless. Thus, we define familiarity here in terms of comforting cues in the bank's name.

Given the inclination depositors to place their deposits just a few banks, the challenge becomes measuring differences in investment behavior. A good starting point is the approach of Hunter and Walker (1996), who test their hypothesis that white loan officers, because of a lack of familiarity with minority applicants, tend rely more heavily on borrower characteristics that can be observed at low cost (e.g. objective loan application measures) in evaluating the creditworthiness of minority applicants relative to white applicants. Not surprisingly, they find that marginal black and Hispanic applicants are held to higher quantitative standards on objective factors such as credit history and debt obligations than similar marginal white applicants. In other words, bank officers impose greater discipline on unfamiliar applicants.

This approach translates seamlessly to the study of bank depositor behavior toward banks. We can verify whether depositors exert higher discipline on unfamiliar banks than familiar banks, and even if this discipline is applied sporadically such as during a financial crisis. The approach also ties in with the literature on market discipline in banking and depositor discipline specifically.

Market discipline requires that depositors have access to both information on bank risk and anticipate bearing a cost in the event of bank insolvency. The US is clearly the most-studied area in this regard. For example, Park and Peristiani (1998) demonstrate a negative relationship between the predicted probability of failure of a thrift and subsequent growth of large uninsured deposits in the thrift. They also demonstrate that the predicted probability of failure has an adverse effect on the growth and pricing of insured deposits (although less than for larger and partially uninsured deposits). Others established empirical relations between cost of funds and lagged measures of depositor risk involving US institutions include capital-to-assets ratios, the variability and the magnitude of return on assets, and loan quality exposure to junk bonds (Brewer and Mondschean, 1994; Hannan and Hanweck, 1988; Park and Peristiani, 1998).

Rather than focus on the US, we consider familiarity bias in depositor behavior in Russia's regional deposit markets. Although the Russian banking market has an integrated set of core institutions providing regulation, bank supervision, bank taxation, deposit insurance and central bank policy, as well as many common risks such as exchange rate risk and interbank market

instability, Russia's regional retail banking markets are strongly segmented, with the retail deposit market the most segmented of all. Moreover, outside Moscow, banking competition is largely regional, not federal. We can exploit this strong regional segmentation of Russia's retail deposit markets, because, with all other relevant factors set constant, it entails familiarity of household individuals with banks that are visibly related to the locality or the region. In addition, Russia provides a number of natural experiments in the form of deposit insurance and financial crises that can help in identifying a potential flight to familiarity effect.

The above overview of market discipline in the US market suggests that the two ways of studying market discipline of household depositors can be combined. For the mechanism of *price-based discipline*, researchers seek to establish the link between a bank's deposit interest rates and its riskiness. For the mechanism of *quantity-based discipline*, they try to show that less risky banks attract more deposits, resulting in higher deposit growth rates and larger market shares.

We also find strong empirical evidence of market discipline in the retail deposit markets of developing and transition economies, including Russia. For example, Semenova (2007) and Karas, Pyle, and Schoors (2010, 2013) show that household depositors in Russia exert quantity-based discipline and price-based (albeit weak) discipline on banks. Peresetsky (2008) provides additional support for the presence of price-based discipline exerted by Russian household depositors.

Market discipline, which is crucial for efficient distribution of funds in the deposit market, is typically fragile and easily undermined. This is because household depositors face high monitoring costs, lack sophistication on financial matters, and are sensitive to non-risk-related information. Financial crisis may reduce market discipline (Berger and Turk-Ariss, 2015; Cubillas, Fonseca, and González, 2012) because of crisis-related government intervention. Depositors may even abandon altogether their efforts to monitor the reliability of their own banks aand simply follow the information signals from the macroeconomic situation, other depositor behavior, or rumors (Hasan et al., 2013). As shown by Karas, Pyle, and Schoors (2010) for the Russian default in 1998, a crisis can also serve as wake-up call for household depositors in the absence of government bailouts of individual banks.

Another factor undermining market discipline is the set of explicit guaranties provided by deposit insurance schemes. Peresetsky (2008) and Karas et al. (2013) show that the introduction of deposit insurance in 2004–2005 substantially reduced the sensitivity of household depositors sensitivity to bank risk. Most depositors were fully protected under Russia's recently introduced deposit insurance scheme. This passivity was further reinforced with the increase in

explicit full coverage of individual depositor accounts to 1.4 million rubles in November 2015 (approximately €20,000 at the time).

Implicit guarantees can also erode market discipline. In the Russian context, there are two groups of banks enjoying implicit guarantees: state banks controlled by the state,[1] and foreign banks that can provide external support to their Russian subsidiaries during periods of financial stress. Retail depositors, aware of such implicit protection from the state or foreign financial institutions, feel no need to monitor the financial condition of their banks (Semenova, 2007). We therefore exclude such banks from our sample.

Our central hypothesis is that depositors feel less compelled to exert discipline on familiar banks, measured as banks with local or regional references in their names, especially in times of crisis. We also expect depositors to exhibit a flight to familiarity in times of crisis, thereby reducing market discipline exerted on familiar banks in the post-crisis period relative to the change in discipline exerted on non-familiar banks. Our competing hypothesis is that banks with clear regional references in their name have strong ties with the regional government, rather than familiarity with depositors, and therefore enjoy a form of implicit protection from the local government, making retail depositors less sensitive to the risk of these banks when deciding to withdraw in response to the bank's deteriorated financial position.

To disentangle these two hypotheses, we interact our variables with measures of trust in local government and regional affinity. We find that the flight to familiarity effect is strongly present in regions with strong regional affinity, while the effect is rejected in regions with more trust in regional and local governments. This indicates our results are driven by familiarity, not implicit protection from trusted regional or local governments.

This paper extends the literature on familiarity bias in that it identifies a flight to familiarity effect in the case of Russian household depositors in times of crisis. It also contributes to the market discipline discussion by adding flight to familiarity as a determinant of changes in market discipline during financial crisis. It adds to the deposit insurance literature by showing how the impact of deposit insurance on household depositor behavior is mediated by familiarity with a specific bank.

The rest of the paper is organized as follows. Section 2 provides an overview of Russia's regional deposit markets. Section 3 lays out our hypotheses and methods for testing. Section 4 presents the results. Section 5 concludes.

[1] Vernikov (2012) points out that banks controlled by the state are not just those in which the government holds the majority stake. If a representative of the government sits on the bank's board of directors or in any executive body, the government is implicitly involved in the bank's decision-making.

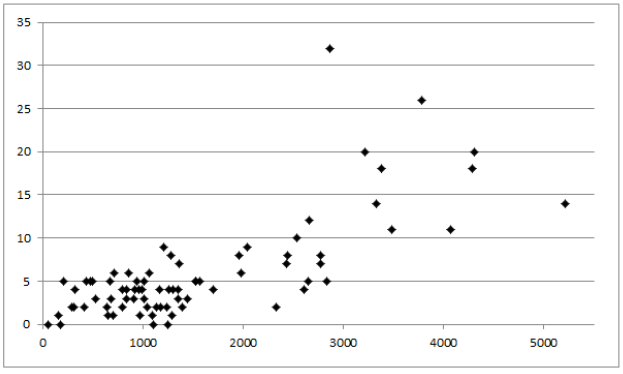
2 Regional deposit markets in Russia

Russia's 85 or so formal federal subjects (*oblast*, *krai*, autonomous republic, etc.) span eleven time zones. These regions are not only wide-ranging geographically, but in terms of income, urbanization rates, spending habits, saving behavior patterns, ethnicity, and language. Accordingly, there exists great cross-regional variation in the size of deposit markets and the number and types of the banks and branches functioning in Russian regions. This creates considerable space for region-specific competition.

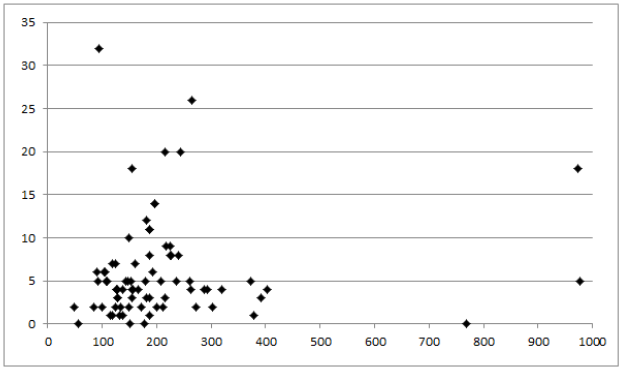
During 2001–2010, deposit markets varied extensively from region to region in terms of market participants. Figure A1 in Appendix I shows the numerosity of banks registered in Russian regions in 2010. Over the period, many banks operated and were registered in Russia's two largest cities, Moscow and Saint Petersburg. Other notable patterns emerge if the two main cities and the surrounding Moscow region are excluded. First, regions with larger populations and higher GDP per capita tended to have more credit organizations per capita based on domicile registration (see Figure 1). Second, highly-specialized regions such as oil-producing regions and agricultural regions in southwestern Russia tended to attract more banks per capita.

Figure 1 Cross-regional bank number diversification

a) Population (in thousands) to number of banks in region



b) GDP per capita (in RUB thousands) to number of banks in region



Source: CBR regional data

As Figure A2 and Figure A3 in Appendix I suggest, there is a great diversity in the number of bank branches operating in different regions. A bank can also be registered in one region and have a vast branch network covering many other regions. Regions nearer to Moscow in both the geographical and cultural sense have fewer branches of different credit organizations registered their home Moscow region, but more branches outside the region. This can be explained by the fact that Moscow banks are comfortable operating in these regions. Distant regions, such as those in the Far East Federal District, have far fewer outsider banks, so the business of taking deposits

is left to local banks. Moreover, in Asian part of Russia, where distances between cities are large, many local enterprises have simply set up their own banks. Regions that are ethnically different from Moscow and central part of Russia, such as autonomous republics with a substantial percentage of titular nationality, also tend to have their own local banks and branches registered and operating in the region.

The largest regional network belongs to state-dominated giant, Sberbank, which controlled about half of the personal deposit market during our 2001–2010 observation period. To a significant degree, the cross-regional diversity in deposit market competition is determined by the differences in the Sberbank participation, which varies strongly across regions (see Figure A4 in Appendix I). Sberbank, once the main Soviet household retail bank, most maintains branches in the wealthy regions of central and northern Russia. It has far fewer branches in eastern regions.

The size of the regional market also matters. Most deposits are concentrated in the European half of Russia. As Figure A5 in Appendix I suggests, more than a half of Russian territory belongs to the regions with very narrow deposit markets. The large markets are in rich and populous regions. For these regions, we also observe the highest deposits per capita (see Figure A6 in Appendix I).

3 Methodology and data

We introduce a simple proxy for a depositor's regional familiarity with a bank. If the bank's name contains words related to its regional location, we assume the household depositor perceives more familiarity with the bank. We introduce two degrees of regional familiarity. A bank is considered familiar to household depositors of the region (*R*) if the bank name contains the name of the region (e.g. Altay Bank), the name of a major city in the region (e.g. Bank of Moscow), or a familiar city landmark (e.g. Okhotny Ryad).[2]

To check the robustness of our results, we introduce a broader definition of regional familiarity (*Rb*). Here, a bank is also considered to be familiar to household depositors if it includes regional characteristics or the titles of regional features (e.g. Volga Bank), geographic area signals (e.g. South-Eastern Bank), or the word "region" in the name (e.g. InvestRegion

[2] Okhotny Ryad is a station on the Sokolnicheskaya Line of the Moscow Metro. It is situated in central Moscow near the Kremlin, Manezhnaya Square, and the State Duma.

Bank). Our operational definition of bank familiarity could alternatively be interpreted as perceived strength of ties with the regional government. We address this problem in the results section.

We evaluate the complete list Russian banks operational from 2000 to 2010 to check for regional signals that would indicate familiarity for depositors. Some banks changed their names during that period. For example, Petrovsky Bank (which would be treated as familiar under our broad definition) was initially named Petrovsky Narodny Bank. It changed its name in 2002 to MDM Bank Leningradskaya Oblast (familiar under our basic definition), then Vefk Bank (putting it in the unfamiliar category) in June 2006, and finally in August 2009 to Petrovsky Bank. We thus track all name changes on a quarterly basis using two databases of Russian bank profiles: Allbanks.ru and BanksBD.spb.ru.

Table 1 State banks: basic (*R*) and broad (*Rb*) familiarity

		State banks (more than 50% government owned)	
		0	**1**
R	**0**	65,972	1,817
	%	97.32	2.68
	1	14,101	613
	%	95.83	4.17
Rb	**0**	58,250	1,560
	%	97.39	2.61
	1	21,823	870
	%	96.17	3.83

Note that government ownership hardly affects familiarity. Table 1 shows that the distribution of state-owned bank observations and private bank observations is virtually the same among familiar and unfamiliar banks. In other words, the effects we seek do not derive directly from state ownership.

We test the following hypotheses related to market discipline in Russian regions:

H1: Depositors of familiar banks exert less market discipline.

H2: During and after 2008–2009 financial crisis, depositors of familiar banks lowered their level of market discipline even more than depositors of unfamiliar banks (flight to familiarity hypothesis).

H3.1: Depositors reduced their level of market discipline on familiar banks more in regions with a high level of regional affinity (flight to familiarity hypothesis).

H3.2: Depositors reduced their level of market discipline on familiar banks more in regions with high levels of trust in regional government (hypothesis that regional refer ence in bank name implies protection of regional government and implicit guarantees).

To test H1, we estimate for 2001–2007, i.e. a period lacking crisis quarters, the following regressions for all banks (except for Moscow banks):[3]

$$MD_{r,i,t} = \alpha + \beta_0 MD_{r,i,t-1} + \beta_1 BF_{r,i,t} + \beta_2 * R_{r,i,t} + \beta_3 * R_{r,i,t} * BF_{r,i,t} + \\ + \beta_4 * DIS_{r,i,t} + \beta_5 * Time_t + \beta_6 * Region_r + \varepsilon_{r,i,t}$$

MD stands for the measure of market discipline at bank *i* in region *r* in quarter *t*. Our measures of *MD* are the personal deposit interest rate (*IR*) for price discipline and the personal deposit growth rate (*DG*) for quantity discipline. *R* is a binary proxy for bank's regional ties. In the robustness check section, we replace it with *Rb*, which represents the regionally-tied banks under our broader definition of regional affinity. *BF* stands for a vector of bank fundamentals that measures bank riskiness. These include capital adequacy, measured by the capital-to-assets ratio (*CA*); liquidity, measured by the liquid assets-to-total assets ratio (*LA*); asset quality, measured by the share of non-performing loans (*NPL*); and bank size, measured by the natural logarithm of bank total assets (*lnA*). As bank exposure to deposits may influence pricing policy and growth opportunities, we also include the deposits-to-assets ratio (*DA*). We control for the timing of the bank's entry into the deposit insurance system (DIS) by introducing a binary variable equal to 1 if bank *i* was accepted into the DIS in quarter *t*, and 0 otherwise (*DIS*). We also introduce quarter-year fixed effects and regional fixed effects.

To test H2 we modify the initial regression and estimate it on the data for 2001–2010, which includes crisis quarters:

$$MD_{r,i,t} = \alpha + \beta_0 MD_{r,i,t-1} + \beta_1 BF_{r,i,t-1} + \beta_2 * R_{r,i,t} + \beta_3 * R_{r,i,t} * BF_{r,i,t-1} + \\ + \mu_1 * Crisis_t + \mu_2 * Crisis_t * BF_{r,i,t-1} + \mu_3 * R_{r,i,t} * Crisis_t + \\ + \mu_4 * R_{r,i,t} * Crisis_t * BF_{r,i,t-1} \\ + \beta_4 * DIS_{r,i,t} + \beta_5 * Time_t + \beta_6 * Region_{r,t} + \varepsilon_{r,i,t}$$

[3] Moscow banks often operate numerous branches in other regions, so changes in deposit growth or changes in the market share cannot be treated as purely regional.

Crisis is a binary variable equal to one if quarter *t* is within the period 2008–2009, and zero otherwise. This controls for the effects of the financial crisis in Russia. Table 2 shows the expected effects on deposit growth and the deposit rate.

Table 2 Expected signs of coefficients

Effect	**Hypothesis/Comment**	**Expected sign for price/quantity discipline[4]**
$\beta_0 MD_{r,i,t-1}$	Interest rates persistent over time. Deposit growth fall over time as the amount of deposits increase.	+/-
$\beta_1 BF_{r,i,t-1}$	Measures market discipline. Safer (well capitalized) banks enjoy lower interest rates and higher deposit growth than risky (poorly capitalized) banks.	-/+
$\beta_2 * R_{r,i,t}$	Familiar banks enjoy lower interest rates and higher deposit growth than unfamiliar banks.	-/+
$\beta_3 * R_{r,i,t} * BF_{r,i,t-1}$	**H1**: Depositors exert relatively less intense market discipline on familiar banks.	+/-
$\mu_1 * Crisis_t$	Financial crisis slows deposit growth and makes it more expensive for banks to attract deposits.	+/-
$\mu_2 * Crisis_t * BF_{r,i,t-1}$	Crisis undermines opportunities and incentives for bank monitoring as other macroeconomic factors come to the fore.	+/-
$\mu_3 * R_{r,i,t} * Crisis_t$	Familiar banks enjoy lower interest rates and higher deposit growth in crisis times than unfamiliar banks.	-/+
$\mu_4 * R_{r,i,t} * Crisis_t * BF_{r,i,t-1}$	**H2**: In response to the crisis, depositors decrease their market discipline more for familiar banks. Crisis period sees flight to familiarity.	+/-

For bank fundamentals, we use the data from bank financial statements published by the Central Bank of Russia (CBR).[5] For the deposit insurance participation, we check the dates of bank admittance from the Deposit Insurance Agency website.[6]

To test hypotheses H3.1 and H3.2, we introduce the proxy for trust in regional authorities and the regionalism index. We measure depositor trust in regional and local authorities by the share of the region's population that supports the actions and policy of the regional government (*GovTrust*). This share is based on results from the Courier surveys,[7] which are conducted regularly and nationwide by the Russia's largest Russian social policy polling firms, WCIOM and the Levada Center (urban multi-stage stratified random sampling). As the Courier data are not provided in a panel dataset, we manually gather them from the monthly data. A question on

[4] For BF variables, the signs are expected for CA, LA, and LnA. For NPL, the expected signs are opposite, i.e. a higher NPL value is associated with increased riskiness.
[5] http://www.cbr.ru
[6] http://www.asv.org.ru
[7] For details, see https://translate.yandex.com/translate?lang=ru-en&url=http://sophist.hse.ru/db/

attitude toward local authorities is included every presented fourth survey round, so each quarter in our sample includes a month in which the following question was asked:

> *Do you generally support or not support the actions of your regional governor (head of republic or mayor in the case of Moscow)?*[8]

To construct a regionalism index, we use the data provided by Berkowitz, Hoekstra, and Schoors (2014), selecting components that might explain the current level of regionalism based on the region's experience during the transition era (or even Soviet era). The population is considered stable and homogenous if it had low ethno-linguistic fractionalization in 1989 (*ELF89*), and low in-migration (measured as migration inflows per 10,000 inhabitants, 1986–1990, *Migration86-90*). Less urbanized regions with lower shares of middle-class inhabitants also tend to show higher regional affinity. We measure the former by the share of urban population in 1996 (*Urban96*) and the latter by the share of white-collar workers in the workforce in 1989 (*MidClass89*). The data come from Goskomstat regional statistics almanacs.

Indications of political and economic conservatism also boost the regionalism measure. We proxy this by the share of votes for Yeltsin received in the first round of the 1996 presidential elections (*Vote4Yelt96*), because Yeltsin stood for economic and political reforms in that period. Thus, a higher regional vote for Yeltsin in 1996 indicates higher regional pro-market sentiment that translates to greater openness and a lower regional focus today.

Higher past government involvement in the economic processes of the region is also assumed to result in a lower degree of regionalism as the population became habituated to government assistance and control, and thereby give up on the notion of independent economic agency of the region. To measure this, we introduce the shares of production subsidies (*ProdSub95*) and agriculture subsidies (*AgriSub95*) in the region budgets in 1995 and the share of enterprises in commerce, public catering and public services owned as a state or municipal property (as of June 1997, *State&MunFirms97*). The data on these three measures are taken from Remington (2011). Table 3 shows the correlations between different measures of the regionalism. Most correlations are statistically significant and some quite high. Thus, we are unable to include them directly in our regionalism index.

[8] In Russian: ВЫ В ЦЕЛОМ ОДОБРЯЕТЕ ИЛИ НЕ ОДОБРЯЕТЕ ДЕЯТЕЛЬНОСТЬ ГУБЕРНАТОРА ВАШЕЙ ОБЛАСТИ? (ПРЕЗИДЕНТА РЕСПУБЛИКИ, В МОСКВЕ – МЭРА МОСКВЫ)

Table 3 Correlation matrix: measures of regionalism

	ProdSub 95	AgriSub 95	State& MunFirms 97	Vote4Yelt 96	ELF 89	Migration 86-90	Urban 96	MidClass 89
ProdSub95	1							
AgriSub95	0.3318*	1						
State&MunFirms97	0.1629*	0.4033*	1					
Vote4Yelt96	-0.1527*	0.0416*	0.1362*	1				
ELF89	-0.1644*	0.0251*	0.2419*	-0.1032*	1			
Migration86-90	0.1601*	0.0557*	0.0976*	0.1413*	-0.3586*	1		
Urban96	0.0867*	-0.0074	-0.0982*	0.4841*	-0.5209*	0.4044*	1	
MidClass89	0.0447*	-0.0976*	-0.1920*	0.4400*	-0.3928*	0.3866*	0.7245*	1

* - significant at 5%-level

To construct the regionalism index (*RIndex*), we perform a principal component analysis on above-mentioned nine factors. The first three components explain 69.46% of the variation. Using the eigenvalues, we sum them into the index. Table 4 shows the results of the PCA analysis. The correlations suggest that a higher score on the index corresponds to a lower degree of regionalism as the index is associated with higher state economic dependence, higher mobility, higher propensity to economic reforms, etc. The index, therefore, is decreasing in regionalism.

Table 4 Regionalism index

Eigenvalues:	*2.67946*	*1.66119*	*1.21617*	Kaiser-Meyer-Olkin measure of sampling adequacy	Correlation with RIndex
Variable	PC1(Eigenvector)	PC2(Eigenvector)	PC3(Eigenvector)		
ProdSub1995	0.0714	0.4827	-0.4930	0.5377	0.2203*
AgriSub1995	-0.0287	0.6236	0.0347	0.5865	0.3094*
State&MunFirms1997	-0.1021	0.5711	0.3760	0.4906	0.2764*
Vote4Yelt1996	0.3341	0.0408	0.6400	0.6354	0.6832*
ELF1990	-0.4118	0.0316	0.4102	0.7109	-0.4470*
Migration1986-90	0.3670	0.2063	-0.1533	0.7578	0.5882*
UrbanPop1996	0.5461	0.0138	0.0758	0.6985	0.8043*
MidClass1989	0.5192	-0.0811	0.0857	0.7176	0.7172*

* - significant at 5%-level

To test hypotheses H3.1 and H3.2, we separate the sample by the median values of the regionalism index (for H3.1) and our proxy for trust in regional authorities (for H3.2). Table 5 shows the shares of familiar banks are slightly lower in regions with low levels of trust in regional authorities and in regions with low levels of regionalism.

Table 5 Share of banks with regional ties in sub-samples

Factor		*Mean*	*Obs*
GovTrust	<Median: low trust regions	0.2474	7057
	>Median: high trust regions	0.2583	7131
	Difference	-0.0109*	
Rindex	>Median: low regionalism	0.2399	11690
	<Median: high regionalism	0.3019	12124
	Difference	-0.0620***	

Differences are significant at *** - 1% level, * - 10% level

We run our previous regressions separately for the subsamples provided in Table 5 to identify the mechanism underlying regional references related to lower market discipline. Where we observe deterioration of market discipline for familiar banks only in the regions with a high degree of trust in local authorities, we cannot reject the alternative hypothesis of implicit support by trusted regional authorities (H3.2). Conversely, where we observe deterioration of market discipline for familiar banks only in regions with high levels of regionalism, we cannot reject that we have identified the flight to familiarity hypothesis (H3.1).

Table 6 Descriptive statistics

Var	**Description**	**2001–2007 sample**					**2001-2010 sample**				
		Obs	Mean	Std. dev.	Min	Max	Obs	Mean	Std. dev.	Min	Max
IR	Implicit deposit interest rate (Interest expenses on personal deposits / Average personal deposits)	16096	0.027	0.037	0.000	0.486	20580	0.026	0.033	0.000	0.486
DG	Personal deposit growth rate	16242	0.216	0.772	-0.906	7.922	20279	0.186	0.731	-0.906	7.922
R	1 if bank has a regionally tied name, 0 otherwise	17575	0.279	0.449	0.000	1.000	23894	0.272	0.445	0.000	1.000
Rg	1 if bank has a regionally tied name (broad definition), 0 otherwise	17575	0.458	0.498	0.000	1.000	23894	0.450	0.497	0.000	1.000
CA	Capital-to-total assets ratio	17128	0.251	0.178	0.003	0.965	21837	0.243	0.174	0.003	0.965
LA	Liquid assets-to-total assets ratio	17083	0.305	0.178	0.000	0.932	21757	0.306	0.177	0.000	0.932
NPL	Share of non-performing loans in total loans	17088	0.020	0.053	0.000	0.621	21793	0.021	0.049	0.000	0.621
DA	Ratio of personal deposits to total assets	17128	0.231	0.180	0.000	0.978	21837	0.246	0.185	0.000	0.978
LNA	Ln(Total assets)	17128	5.798	1.889	-0.074	11.343	21837	6.131	1.947	-0.074	11.343
DIS	1 if bank is admitted to the deposit insurance scheme, 0 otherwise	17603	0.545	0.498	0.000	1.000	23934	0.666	0.472	0.000	1.000
Crisis	1 for 2008–2009, 0 otherwise						23934	0.135	0.341	0.000	1.000
GovTrust	Share of regional population supporting actions of regional authorities	8788	0.609	0.193	0.045	1.000	12905	0.610	0.187	0.040	1.000
RIndex	Regionalism Index	19755	0.115	5.055	-12.195	8.276	23854	0.108	5.066	-12.195	8.276
ProdSub95	Share of subsidies for production in regional budget (1995)	17547	13.622	6.577	3.973	101.928	23854	13.706	7.079	3.973	101.928
AgriSub95	Share of subsidies for argiculture in the region's budget (1995)	17547	9.032	5.703	0.000	28.840	23854	8.987	5.719	0.000	28.840
State&MunFirms97	Share of enterprises owned by the state or municipalities (1997)	17547	18.694	17.602	0.000	79.680	23854	18.686	17.663	0.000	79.680
Vote4Yelt96	Share of votes for Yeltsin in the region (first round of 1996 presidential election)	17547	34.800	9.832	19.280	59.930	23854	34.779	9.824	19.280	59.930
ELF89	Ethno-linguistic fractionalization (1990)	17547	0.347	0.220	0.051	0.854	23854	0.347	0.221	0.051	0.854
Migration86-90	Net inflow migration per 10,000 inhabitants (average 1986–1990)	17547	13.489	48.987	-117.000	162.000	23854	13.281	48.509	-117.000	162.000
Urban96	Share of urban population (1996)	17547	71.763	14.185	24.100	100.000	23854	71.800	14.272	24.100	100.000
MidClass89	Share of white-collar workers (1989)	17547	0.310	0.055	0.237	0.463	23854	0.310	0.056	0.237	0.463

To eliminate the influence of outliers, we winsorize the sample by 1% from each tail. We exclude the observations with negative capital adequacy and liquidity ratios as those with mistakes. We exclude Moscow banks from the sample as many operate outside Moscow, making it impossible to ascribe regional characteristics to them. As mentioned, state banks and foreign banks are also excluded. There are between 688 and 696 banks in our sample, depending on the model specification. Table 6 includes the descriptive statistics for the variables used.

4 Results

Market discipline and bank familiarity

We start by looking separately to the group of the familiar banks and checking if they are different in terms of deposit growth and interest rates as well as overall riskiness. Table 7 compares the banks with and without regional references and shows the t-test results for the equality of means. Two types of banks do not differ in terms of bank size or liquidity. However, familiar banks show lower capital adequacy, while unfamiliar ones have higher credit risks. Interestingly, the familiar banks pay lower interest rates than those without regional cues in their name, but the latter gain higher average deposit growth rates.

Table 7 Familiar versus unfamiliar banks

BF	**Familiar banks**			**Unfamiliar banks**			**Difference in means**
	Obs	*N of banks*	*Mean*	*Obs*	*N of banks*	*Mean*	
IR	5695	212	0.0251	14848	520	0.0262	-0.0011***
DG	5595	208	0.1696	14648	512	0.1916	-0.0220**
CA	5954	213	0.2210	15846	540	0.2513	-0.0303***
LA	5947	213	0.3054	15773	540	0.3064	-0.0010
NPL	5946	213	0.0186	15810	539	0.0213	-0.0027***
LNA	5954	213	6.1162	15846	540	6.1279	-0.0117

*** p<0.01, ** p<0.05, * p<0.1

To check whether our baseline results are in line with the existing literature, we separately estimate the basic regressions for market discipline for 2001–2007 without considering regional references (specification I). To test H1, we introduce the group of familiar banks and estimate the model with the binary variable included, separately, and multiplied by bank fundamentals to check the changes in sensitivity (II). We then switch to the complete dataset for 2001–2010 and run the basic crisis regressions again to check if the results for crisis influence coincide with the predictions of the literature (III). Finally, we test H2 by introducing the interception variables

capturing the changes in sensitivity to riskiness of the familiar banks during the crisis quarters (IV). As suggested by the Hausman test, all regressions include fixed effects.

Table 8 lays out the results. They suggest quantity-based discipline in the Russian market for household deposits, i.e. banks with higher capital adequacy and lower shares of non-performing loans demonstrate higher deposit growth rates, which consistent with the existence of quantity-based discipline. The price-based mechanism is much less pronounced, which is line with Karas et al. (2010). Higher credit risks are compensated for with hikes in deposit interest rates, an effect that appears solely in specification IV.

Contrary to our predictions for H1, regional cues in a bank's name do not alleviate market discipline exerted by depositors in stable times. Indeed, depositors of familiar banks were *more sensitive* to important, easily observable bank fundamentals of bank capitalization before the financial crisis of 2008. This is shown by the strongly significant and positive coefficients in specification II and IV of the deposit growth panel. In fact, it appears that familiar banks faced more intense quantity disciplining in stable times. This is not necessarily bad news, of course, as these banks tended to be more risky than unfamiliar banks (as seen in the summary statistiscs). There was no such difference between familiar and unfamiliar banks for price-based discipline.

The financial crisis of 2008 can be described as a pure exogenous shock to the Russian banking system. During the financial crisis, price-based and quantitative market discipline weakened for all Russian banks, a finding in line with a cross-country study of Cubillas et al. (2012). Indeed, the very weak mechanism of price-based discipline with respect to loan quality that existed before the 2008 crisis is undone during the post-crisis period. As for the quantity-based discipline, depositors lose their sensitivity to capital adequacy and liquidity. As we hypothesized in H2, this moral hazard effect with respect to capital sensitivity is especially pronounced for familiar banks. Indeed, while familiar banks have a greater sensitivity to capital adequacy than unfamiliar banks in the pre-crisis period, this order reverses in the post-crisis period, with the capital sensitivity of familiar banks essentially falling to zero. Unfamiliar banks, in contrast, retain the same level of market discipline as before the crisis. The deposit growth sensitivity to loan quality is unaffected by bank familiarity or the occurrence of a crisis and remains at a constant level throughout Table 8.

Table 8 Market discipline and regional references

	MD=Interest Rate				**MD=Deposit Growth**			
	2001-2007		*2001-2010*		*2001-2007*		*2001-2010*	
Variables	I	II	III	IV	I	II	III	IV
MD(t-1)	0.264***	0.264***	0.277***	0.276***	-0.031	-0.032	-0.016	-0.017
	(0.044)	(0.044)	(0.045)	(0.045)	(0.020)	(0.020)	(0.017)	(0.017)
CA	0.003	0.003	0.004	0.005	**0.417*** **	**0.186**	**0.405*** **	**0.256***
	(0.006)	(0.007)	(0.005)	(0.005)	(0.158)	(0.167)	(0.141)	(0.152)
*Crisis*CA*			-0.003	-0.004			-0.506**	-0.336
			(0.004)	(0.005)			(0.204)	(0.241)
*R*CA*		-0.002		-0.003		**1.009** **		**0.697***
		(0.014)		(0.011)		(0.402)		(0.362)
*Crisis*R*CA*				0.006				**-0.942*** **
				(0.009)				(0.336)
NPL	0.020	0.017	0.024	**0.023***	**-1.223*** **	**-1.100*** **	**-1.219*** **	**-1.172*** **
	(0.018)	(0.015)	(0.016)	(0.013)	(0.260)	(0.325)	(0.254)	(0.328)
*Crisis*NPL*			-0.028*	-0.031*			0.575	0.281
			(0.017)	(0.016)			(0.456)	(0.584)
*R*NPL*		0.010		0.004		-0.423		-0.174
		(0.049)		(0.045)		(0.440)		(0.435)
*Crisis*R*NPL*				0.013				1.009
				(0.046)				(0.917)
LA	-0.004	-0.005	-0.003	-0.004	-0.015	0.006	0.025	0.038
	(0.004)	(0.004)	(0.003)	(0.004)	(0.100)	(0.114)	(0.085)	(0.096)
*Crisis*LA*			-0.002	-0.004			**-0.284** **	**-0.241***
			(0.003)	(0.003)			(0.110)	(0.132)
*R*LA*		0.002		0.003		-0.134		-0.108
		(0.006)		(0.005)		(0.194)		(0.169)
*Crisis*R*LA*				0.010*				-0.226
				(0.005)				(0.196)
LnA	0.000	0.000	0.000	0.000	-0.005	-0.016	-0.023	-0.030
	(0.001)	(0.001)	(0.001)	(0.001)	(0.026)	(0.027)	(0.019)	(0.020)
*Crisis*LnA*			0.001***	0.001***			-0.024***	-0.031***
			(0.000)	(0.000)			(0.009)	(0.011)
*R*LnA*		-0.000		-0.000		0.073**		0.042*
		(0.001)		(0.001)		(0.030)		(0.025)
*Crisis*R*LnA*				-0.001				0.031*
				(0.001)				(0.018)
DA	-0.003	-0.003	-0.002	-0.002	-0.999***	-1.007***	-0.838***	-0.842***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.106)	(0.104)	(0.078)	(0.077)
DIS	0.000	0.000	-0.002	-0.003	0.018	0.012	0.439***	0.465***
	(0.003)	(0.003)	(0.004)	(0.004)	(0.060)	(0.060)	(0.111)	(0.136)
R		-0.001		-0.000		-0.416		-0.275
		(0.009)		(0.007)		(0.254)		(0.223)
Crisis			0.000	0.000			0.000	0.000
			(0.000)	(0.000)			(0.000)	(0.000)
*Crisis*R*				0.000				-0.076
				(0.006)				(0.181)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.013*	0.014*	0.011**	0.013**	0.427***	0.490***	0.267**	0.314**
	(0.007)	(0.008)	(0.006)	(0.006)	(0.159)	(0.168)	(0.126)	(0.134)
Observations	15,136	15,109	19,536	19,500	15,343	15,316	19,318	19,283
R^2_w	0.139	0.140	0.149	0.150	0.064	0.067	0.070	0.072
Number of banks	689	688	694	693	691	690	696	695

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

For the moment, at least, we can not reject the flight to familiarity hypothesis in H2. The must still attempt to disentangle the flight to familiarity effect from the alternative hypothesis of implicit support by trusted regional authorities to banks with regional cues in their names.

Implicit guaranties or flight to familiarity?

We offer two competing hypotheses for interpretation of the moral hazard effect during crisis periods for banks with local references in their names. Table 9 shows the estimates of our main regressions (specifications II and IV for the deposit growth) for two sets of subsamples. The first four columns deal with the first set of subsamples: regions with above-median and below-median shares of popular trust in local authorities. The remaining four columns show results for the second set of subsamples: regions with above-median and below-median reading in the regionalism index (decreasing in regionalism).

Our results clearly support the flight to familiarity hypothesis of H3.1. During the crisis, market discipline is undermined only in regions with above-median levels of regionalism. Depositors in regions that are strongly attached to their region become less sensitive to the observable risk of familiar banks relative to unfamiliar banks and to regions with less regional affinity. This effect is absent in the first four columns, where we split our sample in to above- and below-median levels of trust in local authorities. While we cannot reject a flight to familiarity of household depositors in times of crisis, we can reject the alternative hypothesis that our measure of familiarity captures ties with the regional government and implicit subsidies.

Table 9 Implicit guaranties versus flight to familiarity

	GovTrust				**Rindex**			
	>Median: high trust region		***<Median: low trust region***		***>Median: low regionalism***		***<Median: high regionalism***	
Variable	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*
$DG_{(t-1)}$	-0.032	-0.021	0.057	0.040	0.021	0.031	-0.070***	-0.049**
	(0.042)	(0.036)	(0.037)	(0.040)	(0.032)	(0.029)	(0.023)	(0.020)
CA	0.595	0.709*	0.161	0.377	0.134	0.215	0.265	0.311
	(0.455)	(0.397)	(0.257)	(0.249)	(0.200)	(0.176)	(0.263)	(0.239)
*Crisis*CA*		-1.245***		-0.214		-0.492**		-0.257
		(0.478)		(0.382)		(0.201)		(0.379)
*R*CA*	0.959	0.329	0.760	0.336	0.767	0.529	1.022**	0.712
	(0.585)	(0.547)	(0.919)	(0.824)	(0.672)	(0.588)	(0.480)	(0.446)
Crisis*R*CA		**0.899**		**-0.947**		**-0.023**		**-1.189*** **
		(0.660)		(0.654)		(0.464)		(0.456)
NPL	-1.359	-1.553	-1.863**	-2.392***	-1.674***	-1.638***	-0.758*	-0.869**
	(1.047)	(0.961)	(0.738)	(0.691)	(0.463)	(0.456)	(0.395)	(0.419)
*Crisis*NPL*		1.122		1.561*		1.169		-0.467
		(1.545)		(0.834)		(0.936)		(0.780)
*R*NPL*	-0.795	-0.388	0.694	1.474*	0.426	0.625	-0.807	-0.555
	(1.475)	(1.375)	(0.916)	(0.850)	(1.047)	(1.016)	(0.490)	(0.510)
Crisis*R*NPL		**-1.238**		**0.428**		**-1.298**		**2.413***
		(1.862)		(1.719)		(1.468)		(1.329)
LA	0.292	0.192	-0.231	-0.170	-0.042	0.004	0.071	0.062
	(0.281)	(0.230)	(0.198)	(0.190)	(0.102)	(0.091)	(0.215)	(0.179)
*Crisis*LA*		-0.484**		0.055		-0.188**		-0.254
		(0.233)		(0.225)		(0.087)		(0.254)
*R*LA*	-0.262	-0.389	-0.006	0.009	-0.277	-0.287	0.064	0.133
	(0.331)	(0.294)	(0.491)	(0.440)	(0.263)	(0.227)	(0.275)	(0.238)
*Crisis*R*LA*		0.333		-0.222		0.019		-0.339
		(0.296)		(0.432)		(0.220)		(0.308)
LnA	-0.055	-0.068	-0.086*	-0.052	-0.069**	-0.066***	0.034	0.004
	(0.070)	(0.049)	(0.048)	(0.038)	(0.031)	(0.023)	(0.041)	(0.031)
*Crisis*LnA*		-0.064***		0.005		-0.022*		-0.040*
		(0.019)		(0.022)		(0.011)		(0.021)
*R*LnA*	0.079	0.058	0.085	0.054	0.067	0.055	0.059	0.026
	(0.060)	(0.051)	(0.071)	(0.057)	(0.050)	(0.042)	(0.039)	(0.032)
*Crisis*R*LnA*		0.071***		0.004		0.025		0.035
		(0.026)		(0.047)		(0.020)		(0.030)
DA	-0.825***	-0.735***	-1.151***	-0.854***	-1.004***	-0.838***	-0.978***	-0.826***
	(0.222)	(0.154)	(0.205)	(0.158)	(0.137)	(0.102)	(0.153)	(0.115)
DIS	0.157	0.186*	0.273*	0.223*	0.218***	0.149**	-0.141	-0.098
	(0.125)	(0.095)	(0.139)	(0.117)	(0.076)	(0.063)	(0.090)	(0.080)
R	-0.555	-0.411	-0.326	-0.101	-0.246	-0.259	-0.527*	-0.284
	(0.472)	(0.435)	(0.423)	(0.368)	(0.448)	(0.382)	(0.300)	(0.264)
Crisis		0.000		-0.307		0.334***		0.541**
		(0.000)		(0.238)		(0.115)		(0.256)
*Crisis*R*		-0.851***		0.218		-0.223		-0.052
		(0.287)		(0.416)		(0.207)		(0.318)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.522	0.607*	0.558	0.401	0.812***	0.724***	0.239	0.340*
	(0.436)	(0.319)	(0.341)	(0.285)	(0.184)	(0.149)	(0.259)	(0.205)
Observations	3,853	5,150	3,860	5,045	7,563	9,506	7,699	9,707
R^2_w	0.064	0.079	0.059	0.064	0.059	0.075	0.045	0.049
Number of banks	447	462	433	452	349	352	343	346

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Robustness checks

To assure robustness, we divide the sample into a series of alternative sub-samples left and right from the median of the individual components of the regionalism index and re-estimate our main specifications. The results for capital adequacy are presented in panels A-C of Table 10, the full regression results can be found in Tables A1 to A4 in Appendix II. We observe that the sensitivity of the deposit growth to capital adequacy tends to disappear in regions that were characterized in the past by lower state involvement (higher share of subsidies in agriculture), less pro-market sentiment (lower share of votes for Yeltsin), stronger conservatism, higher stability and homogeneity (migration, urbanization, share of middle class, etc.).

Table 10 Components of the regionalism index

Panel A						
Variable	**ProdSub95**		**AgriSub95**		**State&MunFirms97**	
	>Median	*<Median*	*>Median*	*<Median*	*>Median*	*<Median*
*R*CA (2001-2007)*	1.785***	-0.005	0.805	1.172**	1.187**	0.732
	(0.505)	(0.435)	(0.534)	(0.575)	(0.533)	(0.585)
*R*CA (2001-2010)*	1.309***	-0.140	0.482	0.930*	0.930*	0.475
	(0.497)	(0.379)	(0.469)	(0.547)	(0.474)	(0.530)
*Crisis*R*CA (2001-2010)*	-1.816***	0.189	-0.294	-1.310***	-1.437**	-0.429
	(0.506)	(0.409)	(0.429)	(0.497)	(0.634)	(0.400)
Panel B						
Variable	**Vote4Yelt96**		**ELF89**		**Migration86-90**	
	>Median	*<Median*	*>Median*	*<Median*	*>Median*	*<Median*
*R*CA (2001-2007)*	0.349	1.346**	0.534	1.348***	1.044**	0.901
	(0.567)	(0.536)	(0.543)	(0.482)	(0.470)	(0.618)
*R*CA (2001-2010)*	0.085	1.025**	0.382	0.861*	0.635	0.732
	(0.493)	(0.501)	(0.486)	(0.467)	(0.439)	(0.563)
*Crisis*R*CA (2001-2010)*	0.562	-1.833***	-0.789	-1.071**	-0.963**	-1.238**
	(0.422)	(0.452)	(0.494)	(0.435)	(0.487)	(0.487)
Panel C						
Variable	**Urban96**		**MidClass89**			
	>Median	*<Median*	*>Median*	*<Median*		
*R*CA (2001-2007)*	0.970	0.886*	0.945*	0.884		
	(0.685)	(0.463)	(0.537)	(0.582)		
*R*CA (2001-2010)*	0.677	0.630	0.504	0.710		
	(0.612)	(0.422)	(0.494)	(0.530)		
*Crisis*R*CA (2001-2010)*	0.172	-1.435***	-0.023	-1.197**		
	(0.500)	(0.496)	(0.520)	(0.554)		

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

For further robustness checking, we repeat our main estimations for a broader definition of bank familiarity to now include banks with names refer to the city, a local landmark or some broader area (*Rb*). The results of the H1 and H2 estimations for this broader definition of familiarity are

presented in Table A5. Table A6 shows the results for H3.1 and H3.2 (both in Appendix II). The results are virtually the same as under the stricter definition of bank familiarity.

These findings suggest stronger quantity-based disciplining for familiar banks in stable times and an absence of sensitivity to capital adequacy during crisis episodes. The latter appears again only in regions with higher levels of regionalism.[9] The main qualitative difference is that the evidence for the overall deterioration of market discipline during the crisis is much weaker.

A final robustness check involves the exclusion of two additional large regions from the initial samples – the Moscow region (Moscow oblast) and the city of Saint Petersburg. Both regions contain multiregional banks (although far fewer that in the city of Moscow) with branches in multiple regions that could distort the regional component of our study. These results are presented in Tables A7 and A8 in Appendix II.[10] They generally support the results of the pre-crisis and the post-crisis period, as well as the regionalism hypothesis.

5 Conclusions

Our objective in this study was to analyze whether depositor familiarity with a bank affects their behavior during a financial crisis. Bank familiarity was measured by identifying regional or local cues in the bank's name. We measured depositor behavior by market discipline, i.e. the depositor's sensitivity to observable bank risk. Since we need an exogenous crisis and regional variation in bank familiarity, we use Russia as a testing ground.

Using 2001–2010 bank-level and region-level data for Russia, we show the evidence that depositors use quantity-based discipline on all banks in the sample. The evidence of a price-based discipline mechanism, however, is virtually absent. We find that depositors of familiar banks become less sensitive to bank risk after a financial crisis relative to depositors of unfamiliar banks. More specifically, depositors show heightened sensitivity to the capital adequacy of familiar banks compared to unfamiliar banks in the pre-crisis period. During the crisis period, however, capital sensitivity for familiar banks falls to zero, while depositor sensitivity to unfamiliar banks in terms of the level of market discipline exerted remains at the same level as before the crisis.

We make sure that our results are not driven by implicit support of regional governments to banks with regional ties, but actually by familiarity bias, by interacting our variables of interest

[9] Component analysis results available on request. They coincide with the results for the main sample.
[10] Component analysis results available on request. They coincide with the results for the main sample.

with measures of trust in local governments and regional affinity. We find that our flight to familiarity effect cannot be rejected in regions with strong regionalism, while the effect is rejected in regions where the population has greater trust in regional and local government. This reinforces the view that our results are driven by familiarity and not implicit protection from a trusted regional or local governments.

Thus, the decline in depositor discipline in the Russian banking sector in response to the financial crisis was not driven by implicit guarantees from regional governments, but rather by a "flight to familiarity," a behavioral bias well established for other forms of investments. Further research might consider whether this feature of market discipline extends beyond the Russian banking market and whether familiar banks can strategically exploit this familiarity bias by taking on more risk in the immediate post-crisis period and avoid a penalty for increased deposit funding costs.

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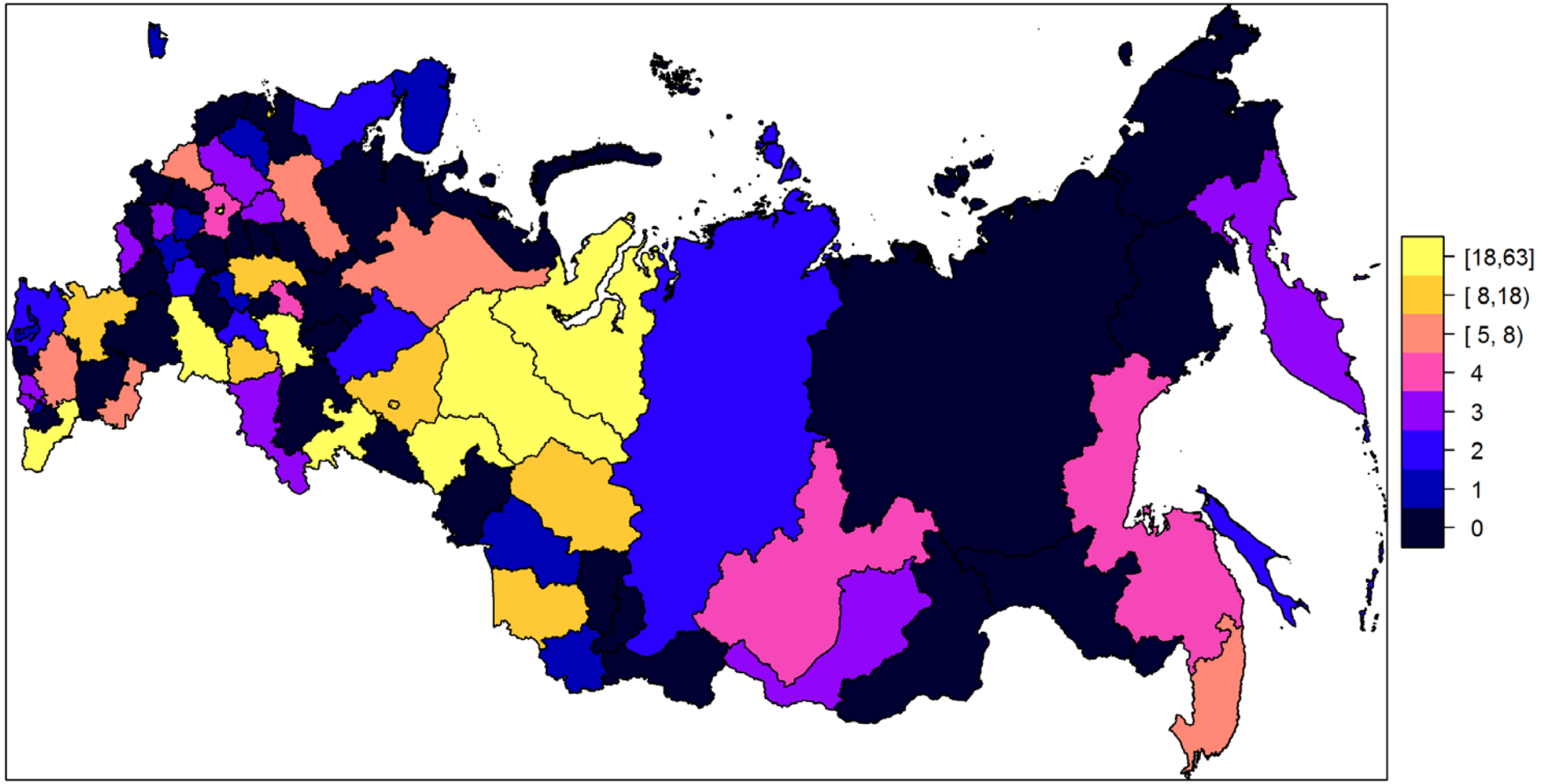
Appendix I Figures

Figure A1 Number of banks registered in the region, 2010

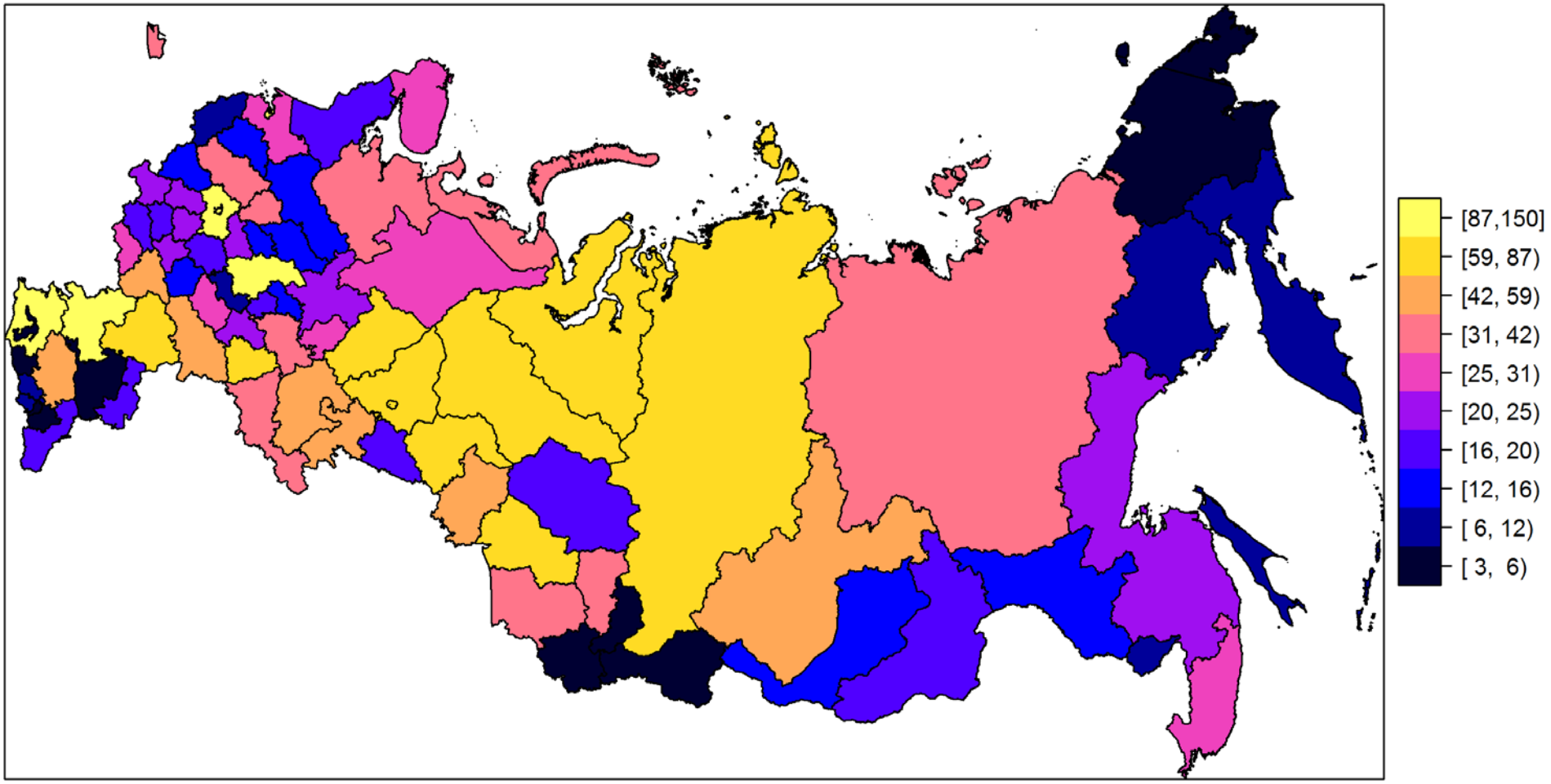
Source: CBR regional data

Figure A2 Number of bank branches in region with head office located in same region, 2010



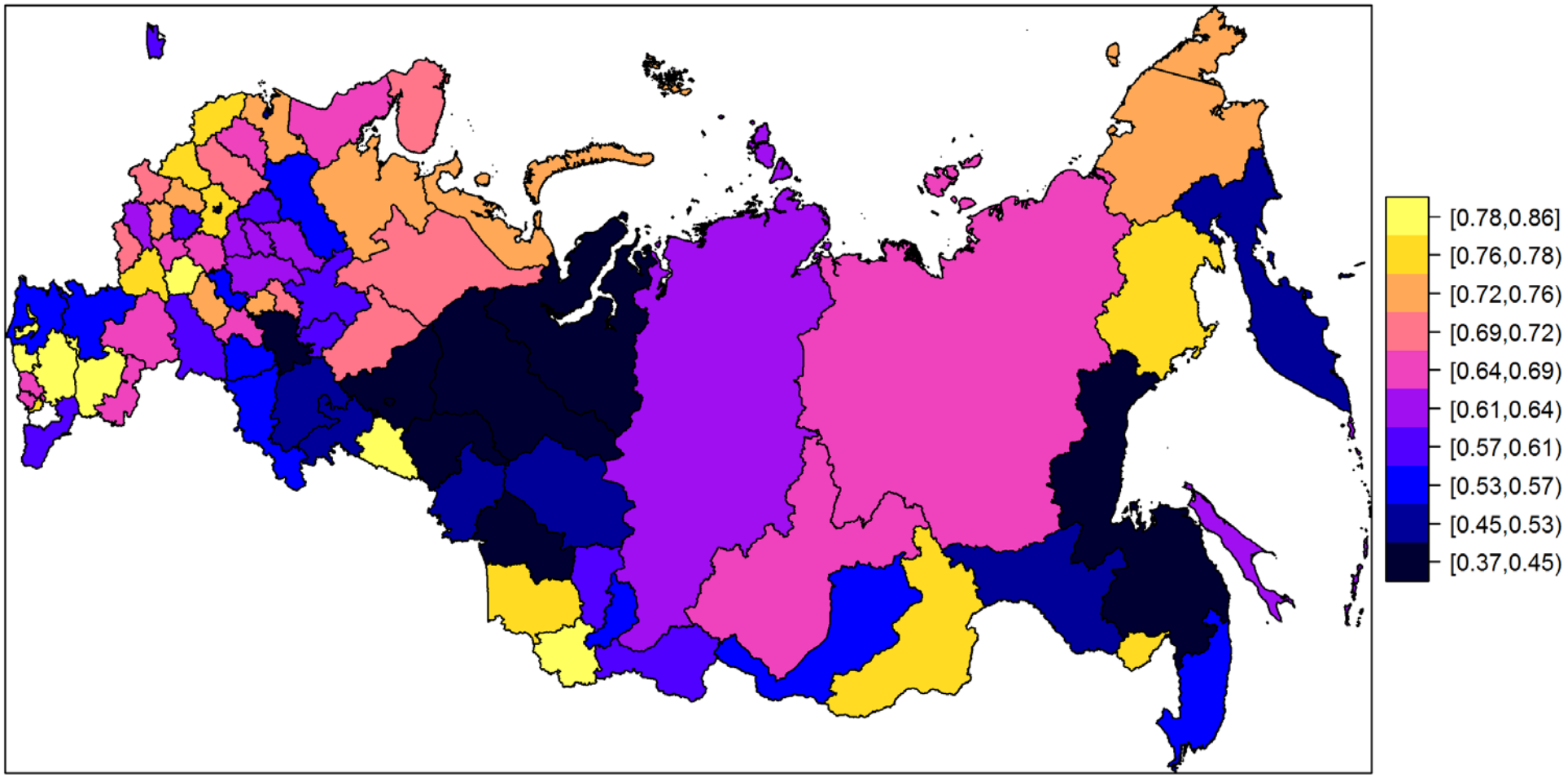
Source: CBR regional data

Figure A3 Number of bank branches in region with head office located in another region, 2010



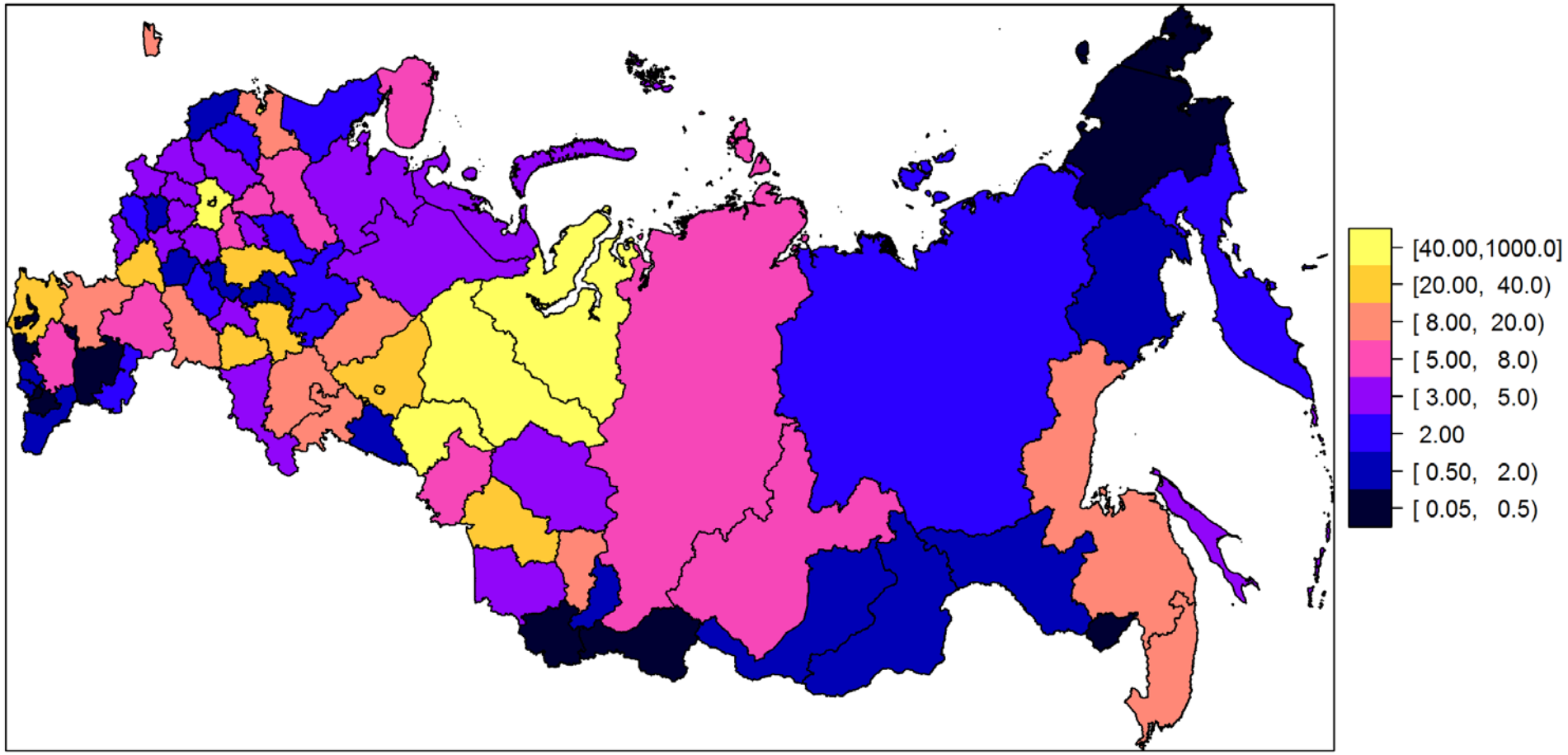
Source: CBR regional data

Figure A4 Sberbank's share of regional markets, 2010



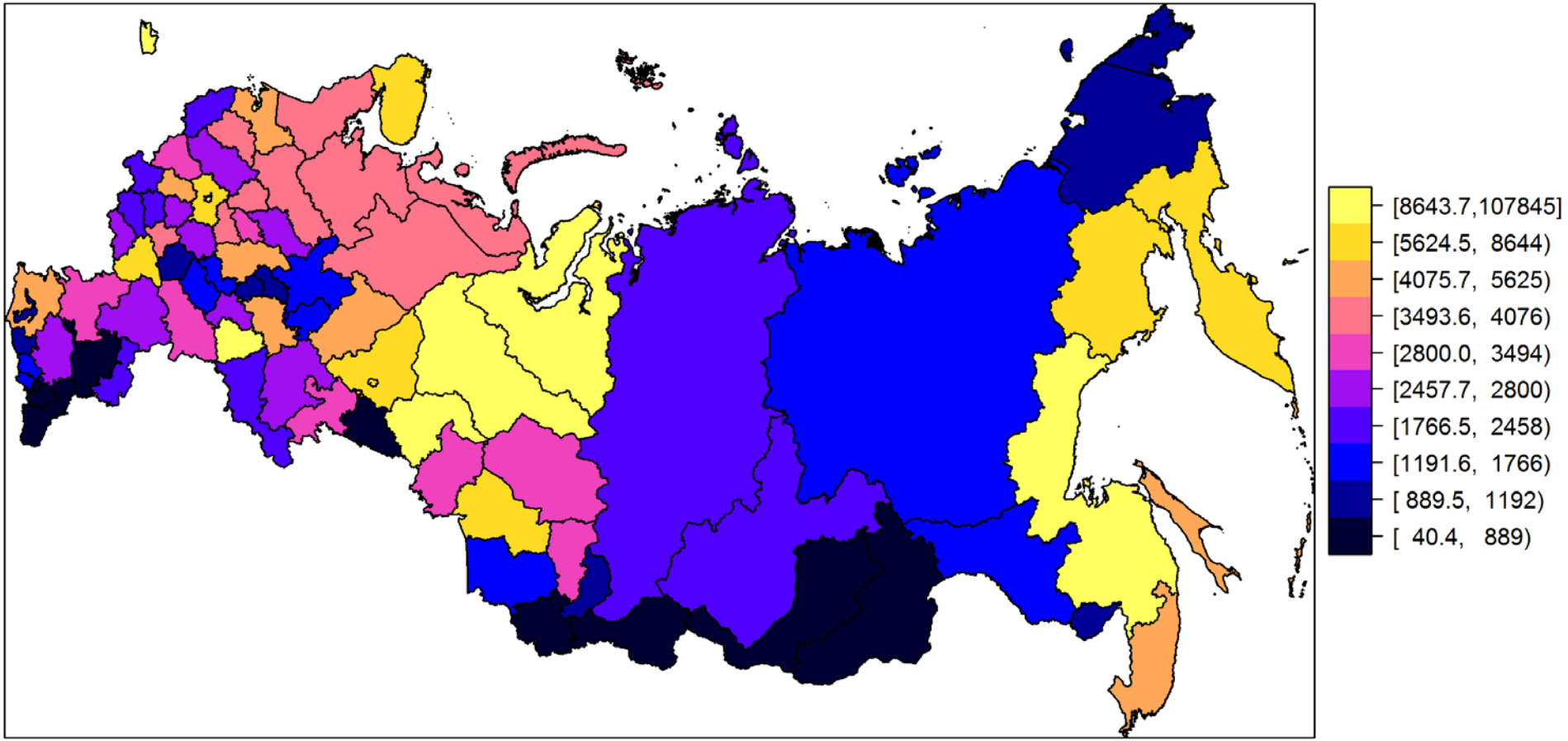
Source: Rosstat regional data

Figure A5 Personal deposits, 2010 (RUB trillion)



Source: CBR regional data

Figure A6 Personal deposits per capita, 2010 (RUB thousand)



Source: CBR regional data

Appendix II Tables

Table A1 Components of *RIndex*: shares of subsidies

	ProdSub95				**AgriSub95**			
	>Median		***<Median***		***>Median***		***<Median***	
Variable	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*
$MD_{(t-1)}$	-0.003	0.014	-0.052*	-0.043*	0.027	0.039	-0.063**	-0.046**
	(0.027)	(0.024)	(0.029)	(0.026)	(0.027)	(0.025)	(0.026)	(0.022)
CA	0.069	0.213	0.230	0.256	0.174	0.240	0.180	0.245
	(0.244)	(0.221)	(0.217)	(0.203)	(0.208)	(0.177)	(0.275)	(0.248)
Crisis*CA		0.084		-0.672***		-0.397**		-0.360
		(0.401)		(0.251)		(0.197)		(0.407)
R*CA	1.785***	1.309***	-0.005	-0.140	0.805	0.482	1.172**	0.930*
	(0.505)	(0.497)	(0.435)	(0.379)	(0.534)	(0.469)	(0.575)	(0.547)
Crisis*R*CA		-1.816***		0.189		-0.294		-1.310***
		(0.506)		(0.409)		(0.429)		(0.497)
LA	-0.128	-0.091	0.100	0.116	-0.060	-0.026	0.077	0.085
	(0.157)	(0.137)	(0.153)	(0.129)	(0.094)	(0.088)	(0.200)	(0.165)
Crisis*LA		0.219		-0.467***		-0.175		-0.327
		(0.273)		(0.148)		(0.131)		(0.204)
R*LA	0.087	0.086	-0.280	-0.243	-0.050	-0.097	-0.090	0.028
	(0.264)	(0.240)	(0.223)	(0.193)	(0.200)	(0.184)	(0.337)	(0.292)
Crisis*R*LA		-0.619*		0.034		0.058		-0.316
		(0.356)		(0.240)		(0.230)		(0.273)
NPL	-0.715	-0.846*	-1.504***	-1.507***	-0.813**	-0.938**	-1.371**	-1.338**
	(0.467)	(0.508)	(0.412)	(0.397)	(0.376)	(0.369)	(0.552)	(0.548)
Crisis*NPL		0.102		0.354		0.279		0.226
		(0.982)		(0.656)		(1.049)		(0.763)
R*NPL	-0.928	-0.551	0.107	0.122	-0.695	-0.293	-0.016	0.031
	(0.628)	(0.666)	(0.482)	(0.475)	(0.527)	(0.529)	(0.715)	(0.667)
Crisis*R*NPL		1.644		0.464		0.850		0.771
		(1.457)		(1.005)		(1.656)		(1.176)
LnA	0.010	-0.014	-0.052	-0.056**	0.016	0.002	-0.060	-0.070**
	(0.041)	(0.031)	(0.033)	(0.025)	(0.030)	(0.024)	(0.041)	(0.030)
Crisis*LnA		-0.013		-0.044***		-0.026**		-0.045**
		(0.015)		(0.014)		(0.012)		(0.018)
R*LnA	0.090**	0.052	0.044*	0.019	0.046	0.017	0.111**	0.080**
	(0.045)	(0.039)	(0.025)	(0.020)	(0.041)	(0.036)	(0.044)	(0.036)
Crisis*R*LnA		0.011		0.045**		0.032		0.031
		(0.031)		(0.020)		(0.020)		(0.026)
DA	-1.042***	-0.890***	-0.946***	-0.773***	-1.013***	-0.844***	-0.995***	-0.865***
	(0.156)	(0.117)	(0.129)	(0.099)	(0.122)	(0.090)	(0.165)	(0.126)
DIS	0.047	0.049	0.033	0.024	0.088	0.091	-0.011	0.004
	(0.093)	(0.100)	(0.075)	(0.063)	(0.075)	(0.063)	(0.090)	(0.080)
R	-0.683*	-0.505	-0.182	0.013	-0.132	-0.033	-0.920**	-0.750**
	(0.365)	(0.337)	(0.232)	(0.203)	(0.348)	(0.307)	(0.365)	(0.322)
Crisis		0.061		0.706***		0.319**		0.627***
		(0.219)		(0.158)		(0.126)		(0.215)
Crisis*R		0.327		-0.436*		-0.254		-0.009
		(0.302)		(0.227)		(0.206)		(0.278)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.352	0.399*	0.417**	0.572***	0.187	0.220	0.734***	1.051***
	(0.257)	(0.208)	(0.203)	(0.169)	(0.186)	(0.154)	(0.271)	(0.212)
Observations	7,319	9,242	7,943	9,971	7,782	9,715	7,480	9,498
R^2_w	0.057	0.062	0.047	0.059	0.056	0.067	0.048	0.056
Number of banks	320	324	373	377	351	354	344	350

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table A2 Components of *RIndex*: Share of state enterprises and votes for Yeltsin

	State&MunFirms97				**Vote4Yelt96**			
	>Median		***<Median***		***>Median***		***<Median***	
Variable	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*
$MD_{(t-1)}$	-0.021	-0.004	-0.035	-0.023	0.007	0.015	-0.066***	-0.044**
	(0.025)	(0.023)	(0.028)	(0.025)	(0.030)	(0.027)	(0.025)	(0.021)
CA	-0.064	-0.053	0.343	0.451*	0.090	0.212	0.274	0.307
	(0.154)	(0.142)	(0.268)	(0.241)	(0.184)	(0.171)	(0.313)	(0.275)
Crisis*CA		0.311		-1.029***		-0.872***		0.151
		(0.382)		(0.277)		(0.224)		(0.367)
R*CA	1.187**	0.930*	0.732	0.475	0.349	0.085	1.346**	1.025**
	(0.533)	(0.474)	(0.585)	(0.530)	(0.567)	(0.493)	(0.536)	(0.501)
Crisis*R*CA		-1.437**		-0.429		0.562		-1.833***
		(0.634)		(0.400)		(0.422)		(0.452)
LA	-0.075	-0.030	0.063	0.074	0.007	0.046	0.024	0.033
	(0.093)	(0.092)	(0.184)	(0.152)	(0.109)	(0.100)	(0.224)	(0.181)
Crisis*LA		-0.101		-0.222		-0.379***		-0.094
		(0.277)		(0.154)		(0.112)		(0.239)
R*LA	-0.333**	-0.278*	0.150	0.158	-0.369**	-0.392**	0.174	0.262
	(0.156)	(0.155)	(0.319)	(0.279)	(0.177)	(0.161)	(0.331)	(0.283)
Crisis*R*LA		0.225		-0.468**		0.273		-0.598*
		(0.348)		(0.229)		(0.208)		(0.307)
NPL	-0.659*	-0.694*	-1.779***	-1.906***	-1.512***	-1.567***	-0.574	-0.699
	(0.352)	(0.389)	(0.506)	(0.474)	(0.482)	(0.473)	(0.443)	(0.482)
Crisis*NPL		-0.290		1.319**		0.967		-0.675
		(0.907)		(0.663)		(0.783)		(0.872)
R*NPL	-0.276	0.038	-0.193	0.108	0.642	1.004	-1.156**	-0.889
	(0.792)	(0.790)	(0.596)	(0.552)	(0.942)	(1.006)	(0.539)	(0.566)
Crisis*R*NPL		1.358		0.004		-1.638		3.097**
		(1.470)		(1.095)		(1.323)		(1.292)
LnA	0.050*	0.012	-0.081**	-0.074**	-0.079***	-0.070***	0.046	0.009
	(0.030)	(0.025)	(0.040)	(0.030)	(0.030)	(0.023)	(0.042)	(0.032)
Crisis*LnA		-0.020		-0.041***		-0.046***		-0.011
		(0.015)		(0.015)		(0.011)		(0.020)
R*LnA	0.060	0.039	0.064	0.042	0.073	0.060	0.057	0.023
	(0.039)	(0.035)	(0.043)	(0.034)	(0.047)	(0.041)	(0.039)	(0.032)
Crisis*R*LnA		0.009		0.041		0.056***		-0.003
		(0.022)		(0.026)		(0.018)		(0.033)
DA	-0.978***	-0.839***	-1.056***	-0.862***	-0.965***	-0.812***	-1.031***	-0.875***
	(0.117)	(0.091)	(0.169)	(0.127)	(0.140)	(0.106)	(0.150)	(0.108)
DIS	0.054	0.110*	0.060	0.029	0.160**	0.130**	-0.084	-0.022
	(0.068)	(0.060)	(0.100)	(0.087)	(0.076)	(0.064)	(0.091)	(0.096)
R	-0.356	-0.273	-0.326	-0.259	-0.371	-0.310	-0.316	-0.195
	(0.317)	(0.297)	(0.426)	(0.326)	(0.375)	(0.343)	(0.343)	(0.289)
Crisis		0.076		0.667***		0.639***		
		(0.198)		(0.167)		(0.121)		
Crisis*R		0.010		-0.119		-0.666***		0.430
		(0.263)		(0.259)		(0.195)		(0.317)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	-0.117	0.046	0.586**	0.806***	0.952***	0.823***	0.051	0.210
	(0.178)	(0.152)	(0.264)	(0.206)	(0.201)	(0.161)	(0.261)	(0.212)
Observations	7,527	9,450	7,735	9,763	8,058	10,114	7,204	9,099
R^2_w	0.100	0.097	0.051	0.062	0.053	0.070	0.051	0.054
Number of banks	339	346	355	360	377	381	315	320

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table A3 Components of *RIndex*: ELF and in-migration

	ELF89				**Migration86-90**			
	>Median		***<Median***		***>Median***		***<Median***	
Variable	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*
$MD_{(t-1)}$	-0.039	-0.018	-0.019	-0.010	-0.035	-0.018	-0.020	-0.005
	(0.025)	(0.022)	(0.031)	(0.028)	(0.026)	(0.023)	(0.033)	(0.029)
CA	-0.021	-0.085	0.411**	0.602***	0.096	0.244	0.264	0.202
	(0.268)	(0.243)	(0.200)	(0.166)	(0.214)	(0.204)	(0.288)	(0.252)
Crisis*CA		-0.171		-0.540		-0.361		0.014
		(0.336)		(0.340)		(0.368)		(0.312)
R*CA	0.534	0.382	1.348***	0.861*	1.044**	0.635	0.901	0.732
	(0.543)	(0.486)	(0.482)	(0.467)	(0.470)	(0.439)	(0.618)	(0.563)
Crisis*R*CA		-0.789		-1.071**		-0.963**		-1.238**
		(0.494)		(0.435)		(0.487)		(0.487)
LA	0.161	0.159	-0.153	-0.117	-0.121	-0.037	0.191	0.155
	(0.199)	(0.164)	(0.105)	(0.095)	(0.139)	(0.117)	(0.170)	(0.147)
Crisis*LA		-0.318		-0.159		0.242		-0.625***
		(0.220)		(0.126)		(0.233)		(0.185)
R*LA	-0.410*	-0.398*	0.154	0.223	0.150	0.045	-0.337	-0.205
	(0.249)	(0.221)	(0.245)	(0.222)	(0.241)	(0.214)	(0.291)	(0.263)
Crisis*R*LA		-0.150		-0.189		-0.589*		0.056
		(0.281)		(0.241)		(0.325)		(0.280)
NPL	-1.094**	-1.152**	-1.121**	-1.178***	-1.134**	-1.196**	-0.688	-0.768*
	(0.482)	(0.487)	(0.439)	(0.434)	(0.455)	(0.464)	(0.444)	(0.392)
Crisis*NPL		-0.193		0.398		0.665		-0.893
		(0.936)		(0.739)		(0.645)		(0.914)
R*NPL	-0.183	0.028	-0.688	-0.327	-0.351	-0.023	-0.901	-0.732
	(0.852)	(0.811)	(0.578)	(0.566)	(0.621)	(0.626)	(0.620)	(0.547)
Crisis*R*NPL		0.491		1.966		1.703		1.372
		(1.513)		(1.251)		(1.588)		(1.165)
LnA	-0.006	-0.041	-0.030	-0.024	-0.078**	-0.070**	0.056	0.020
	(0.043)	(0.029)	(0.035)	(0.027)	(0.039)	(0.030)	(0.036)	(0.027)
Crisis*LnA		-0.036**		-0.028**		-0.016		-0.047***
		(0.018)		(0.014)		(0.013)		(0.018)
R*LnA	0.085*	0.065*	0.076*	0.032	0.048	0.027	0.077*	0.046
	(0.043)	(0.038)	(0.040)	(0.032)	(0.037)	(0.030)	(0.044)	(0.038)
Crisis*R*LnA		0.026		0.027		0.009		0.032
		(0.025)		(0.026)		(0.024)		(0.029)
DA	-0.932***	-0.889***	-1.028***	-0.758***	-0.902***	-0.724***	-1.062***	-0.967***
	(0.136)	(0.105)	(0.152)	(0.111)	(0.151)	(0.111)	(0.143)	(0.109)
DIS	-0.082	-0.028	0.150	0.120	0.148*	0.126*	-0.088	-0.037
	(0.079)	(0.066)	(0.092)	(0.079)	(0.084)	(0.072)	(0.087)	(0.077)
R	-0.291	-0.288	-0.600*	-0.309	-0.394	-0.185	-0.325	-0.338
	(0.375)	(0.348)	(0.327)	(0.275)	(0.294)	(0.238)	(0.393)	(0.358)
Crisis		0.503**		0.370**		0.160		
		(0.210)		(0.163)		(0.182)		
Crisis*R		-0.110		-0.030		0.243		-0.167
		(0.279)		(0.248)		(0.260)		(0.297)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.201	0.369*	0.802***	0.322*	0.663***	0.500**	-0.004	0.250
	(0.273)	(0.199)	(0.211)	(0.174)	(0.250)	(0.202)	(0.234)	(0.186)
Observations	7,333	9,249	7,929	9,964	7,601	9,550	7,043	8,874
R^2_w	0.074	0.076	0.069	0.078	0.053	0.059	0.046	0.056
Number of banks	334	339	357	359	353	360	314	316

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table A4 Components of *RIndex*: Urban population and size of middle class

	UrbanPop96				**MidClass89**			
	>Median		***<Median***		***>Median***		***<Median***	
Variable	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*
$MD_{(t-1)}$	0.014	0.019	-0.076***	-0.048**	0.005	0.021	-0.048**	-0.034*
	(0.030)	(0.028)	(0.023)	(0.021)	(0.033)	(0.030)	(0.023)	(0.020)
CA	0.195	0.299*	0.176	0.190	0.182	0.342**	0.194	0.169
	(0.203)	(0.177)	(0.285)	(0.264)	(0.192)	(0.164)	(0.280)	(0.258)
Crisis*CA		-0.681***		0.080		-0.613***		-0.123
		(0.239)		(0.429)		(0.174)		(0.440)
R*CA	0.970	0.677	0.886*	0.630	0.945*	0.504	0.884	0.710
	(0.685)	(0.612)	(0.463)	(0.422)	(0.537)	(0.494)	(0.582)	(0.530)
Crisis*R*CA		0.172		-1.435***		-0.023		-1.197**
		(0.500)		(0.496)		(0.520)		(0.554)
LA	-0.092	-0.067	0.137	0.148	-0.128	-0.096	0.147	0.153
	(0.104)	(0.098)	(0.223)	(0.176)	(0.095)	(0.084)	(0.225)	(0.185)
Crisis*LA		-0.246**		-0.165		-0.177		-0.268
		(0.116)		(0.253)		(0.119)		(0.245)
R*LA	0.027	0.029	-0.266	-0.200	0.186	0.157	-0.319	-0.254
	(0.275)	(0.241)	(0.268)	(0.231)	(0.242)	(0.212)	(0.278)	(0.247)
Crisis*R*LA		-0.083		-0.244		-0.184		-0.231
		(0.225)		(0.317)		(0.250)		(0.310)
NPL	-1.657***	-1.618***	-0.694*	-0.830**	-1.322***	-1.303***	-0.940**	-1.061**
	(0.483)	(0.466)	(0.379)	(0.413)	(0.399)	(0.385)	(0.478)	(0.504)
Crisis*NPL		1.358		-0.737		0.744		-0.338
		(0.832)		(0.867)		(0.642)		(1.088)
R*NPL	-0.056	0.032	-0.803	-0.508	-0.598	-0.344	0.097	0.327
	(0.753)	(0.706)	(0.503)	(0.532)	(0.508)	(0.482)	(0.807)	(0.793)
Crisis*R*NPL		-0.949		2.986**		3.384		0.639
		(1.133)		(1.387)		(2.764)		(1.462)
LnA	-0.064*	-0.065**	0.038	0.002	-0.054*	-0.043*	0.025	-0.020
	(0.037)	(0.028)	(0.038)	(0.028)	(0.029)	(0.023)	(0.047)	(0.034)
Crisis*LnA		-0.037***		-0.012		-0.033**		-0.030*
		(0.013)		(0.019)		(0.015)		(0.018)
R*LnA	0.082	0.068	0.046	0.014	0.027	0.001	0.096**	0.072**
	(0.052)	(0.045)	(0.035)	(0.028)	(0.041)	(0.032)	(0.043)	(0.036)
Crisis*R*LnA		0.043**		0.012		0.046*		0.013
		(0.019)		(0.033)		(0.024)		(0.026)
	-0.935***	-0.775***	-1.053***	-0.886***	-0.828***	-0.666***	-1.214***	-1.059***
	(0.147)	(0.111)	(0.143)	(0.104)	(0.131)	(0.098)	(0.157)	(0.118)
DIS	0.154*	0.137*	-0.043	-0.041	0.110	0.154**	-0.024	0.044
	(0.092)	(0.075)	(0.078)	(0.086)	(0.078)	(0.065)	(0.084)	(0.106)
R	-0.442	-0.423	-0.278	-0.119	-0.172	-0.002	-0.504	-0.460
	(0.460)	(0.398)	(0.302)	(0.256)	(0.337)	(0.267)	(0.362)	(0.334)
Crisis		0.485***		0.217		0.395**		0.374
		(0.138)		(0.254)		(0.158)		(0.239)
Crisis*R		-0.387*		0.158		-0.351		0.073
		(0.226)		(0.328)		(0.271)		(0.280)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.746***	0.733***	0.210	0.323*	0.624***	0.232	0.250	0.474**
	(0.236)	(0.183)	(0.230)	(0.182)	(0.187)	(0.156)	(0.292)	(0.227)
Observations	8,127	10,204	7,135	9,009	7,774	9,755	7,363	9,301
R^2_w	0.051	0.067	0.049	0.051	0.102	0.110	0.046	0.052
Number of banks	376	381	318	322	357	362	328	331

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table A5 Market discipline and regional ties (broad definition)

	Interest Rate				**Deposit Growth**			
	2001-2007		*2001-2010*		*2001-2007*		*2001-2010*	
Variables	I	II	III	IV	I	II	III	IV
MD(t-1)								
	(4)	(3)	(2)	(1)	(8)	(7)	(6)	(5)
CA	Wint_rate	Wint_rate	Wint_rate	Wint_rate	Wgr_rate	Wgr_rate	Wgr_rate	Wgr_rate
Crisis*CA	0.264***	0.264***	0.277***	0.277***	-0.031	-0.032	-0.016	-0.017
	(0.044)	(0.044)	(0.045)	(0.045)	(0.020)	(0.020)	(0.017)	(0.017)
R*CA	0.003	0.004	0.004	0.005	0.417***	0.246	0.405***	0.291
	(0.006)	(0.009)	(0.005)	(0.007)	(0.158)	(0.199)	(0.141)	(0.181)
Crisis*R*CA			-0.003	-0.005			-0.506**	-0.157
			(0.004)	(0.005)			(0.204)	(0.265)
LA		-0.002		-0.002		0.437		0.321
		(0.012)		(0.009)		(0.317)		(0.285)
Crisis*LA				0.005				-0.988***
				(0.009)				(0.341)
R*LA	-0.004	-0.003	-0.003	-0.002	-0.015	0.123	0.025	0.153
	(0.004)	(0.005)	(0.003)	(0.004)	(0.100)	(0.135)	(0.085)	(0.114)
Crisis*R*LA			-0.002	-0.007**			-0.284**	-0.272*
			(0.003)	(0.003)			(0.110)	(0.156)
NPL		-0.003		-0.003		-0.365**		-0.334**
		(0.006)		(0.005)		(0.167)		(0.144)
Crisis*NPL				0.014**				-0.063
				(0.005)				(0.196)
R*NPL	0.020	0.028	0.024	0.034**	-1.223***	-1.041**	-1.219***	-1.187***
	(0.018)	(0.020)	(0.016)	(0.017)	(0.260)	(0.449)	(0.254)	(0.458)
Crisis*R*NPL			-0.028*	-0.050***			0.575	0.076
			(0.017)	(0.018)			(0.456)	(0.763)
LnA		-0.012		-0.017		-0.314		-0.068
		(0.034)		(0.030)		(0.532)		(0.526)
Crisis*LnA				0.043				0.979
				(0.030)				(0.913)
R*LnA	0.000	0.000	0.000	0.000	-0.005	-0.017	-0.023	-0.032
	(0.001)	(0.001)	(0.001)	(0.001)	(0.026)	(0.028)	(0.019)	(0.022)
Crisis*R*LnA			0.001***	0.001***			-0.024***	-0.031**
			(0.000)	(0.000)			(0.009)	(0.012)
DA		-0.000		-0.000		0.033		0.020
		(0.001)		(0.001)		(0.027)		(0.022)
DIS				0.000				0.018
				(0.001)				(0.017)
R	-0.003	-0.003	-0.002	-0.002	-0.999***	-1.004***	-0.838***	-0.838***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.106)	(0.105)	(0.078)	(0.078)
Crisis	0.000	0.000	-0.002	-0.000	0.018	0.019	0.439***	0.448***
	(0.003)	(0.003)	(0.004)	(0.004)	(0.060)	(0.061)	(0.111)	(0.151)
Crisis*R		0.001		0.002		0.124		0.056
		(0.009)		(0.007)		(0.240)		(0.196)
Time fixed effects								
Region fixed effects								
Constant				-0.005				0.010
				(0.006)				(0.181)
Observations	+	+	+	+	+	+	+	+
R^2_w	+	+	+	+	+	+	+	+
Number of banks	0.013*	0.030***	0.011**	0.011	0.427***	0.005	0.267**	0.236

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table A6 Reliance on local authorities vs. regionalism (broad definition)

	GovTrust				**RIndex**			
	>Median		***<Median***		***>Median***		***<Median***	
Variables	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*	*2001-2007*	*2001-2010*
$MD_{(t-1)}$	-0.033	-0.023	0.057	0.039	0.020	0.031	-0.071***	-0.050**
	(0.042)	(0.036)	(0.037)	(0.040)	(0.032)	(0.029)	(0.023)	(0.020)
CA	0.895	0.952*	0.128	0.380	0.228	0.308	0.306	0.308
	(0.563)	(0.509)	(0.261)	(0.267)	(0.240)	(0.207)	(0.313)	(0.288)
Crisis*CA		-0.758**		0.124		-0.526**		0.086
		(0.295)		(0.509)		(0.229)		(0.425)
R*CA	-0.303	-0.366	0.483	0.230	0.204	0.062	0.469	0.427
	(0.644)	(0.593)	(0.608)	(0.557)	(0.469)	(0.410)	(0.441)	(0.404)
Crisis*R*CA		-0.959		-1.302**		-0.186		-1.408***
		(0.878)		(0.637)		(0.426)		(0.510)
LA	0.488	0.383	-0.128	-0.050	0.043	0.076	0.223	0.223
	(0.361)	(0.300)	(0.214)	(0.212)	(0.121)	(0.108)	(0.252)	(0.208)
Crisis*LA		-0.379		0.111		-0.210**		-0.274
		(0.300)		(0.286)		(0.103)		(0.316)
R*LA	-0.603	-0.604*	-0.249	-0.288	-0.339*	-0.330**	-0.335	-0.278
	(0.372)	(0.312)	(0.351)	(0.323)	(0.187)	(0.166)	(0.272)	(0.232)
Crisis*R*LA		0.049		-0.152		0.006		-0.062
		(0.323)		(0.353)		(0.169)		(0.354)
NPL	-0.627	-1.022	-1.554**	-2.202***	-1.641***	-1.657***	-0.405	-0.665
	(1.611)	(1.453)	(0.751)	(0.720)	(0.511)	(0.512)	(0.673)	(0.727)
Crisis*NPL		0.706		1.403		1.327		-1.126
		(1.984)		(1.005)		(1.266)		(1.059)
R*NPL	-1.533	-1.037	0.084	0.958	0.281	0.451	-0.947	-0.616
	(1.797)	(1.611)	(0.870)	(0.834)	(0.832)	(0.794)	(0.732)	(0.777)
Crisis*R*NPL		-0.124		-0.172		-1.142		2.916**
		(2.167)		(1.297)		(1.458)		(1.345)
LnA	-0.064	-0.079	-0.074*	-0.043	-0.081**	-0.073***	0.048	0.009
	(0.075)	(0.057)	(0.044)	(0.037)	(0.032)	(0.025)	(0.042)	(0.034)
Crisis*LnA		-0.055***		0.006		-0.023*		-0.035
		(0.020)		(0.027)		(0.014)		(0.025)
R*LnA	0.043	0.041	-0.010	-0.022	0.047	0.033	0.001	-0.004
	(0.057)	(0.046)	(0.057)	(0.047)	(0.040)	(0.033)	(0.039)	(0.031)
Crisis*R*LnA		0.003		-0.002		0.012		0.025
		(0.034)		(0.036)		(0.019)		(0.030)
	-0.841***	-0.739***	-1.139***	-0.824***	-1.027***	-0.849***	-0.969***	-0.818***
	(0.231)	(0.159)	(0.200)	(0.156)	(0.141)	(0.103)	(0.151)	(0.113)
DIS	0.185	0.209**	0.299**	0.239**	0.235***	0.158**	-0.137	-0.091
	(0.128)	(0.099)	(0.143)	(0.121)	(0.079)	(0.063)	(0.092)	(0.082)
R	0.066	-0.093	0.440	0.467	0.167	0.052	0.069	0.107
	(0.533)	(0.447)	(0.462)	(0.396)	(0.367)	(0.297)	(0.286)	(0.244)
Crisis				-0.417		0.365***		0.441
				(0.323)		(0.129)		(0.312)
Crisis*R		0.066		0.365		-0.084		0.022
		(0.392)		(0.404)		(0.201)		(0.348)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.427	0.574	0.343	0.117	0.728***	0.667***	0.076	0.230
	(0.486)	(0.393)	(0.354)	(0.309)	(0.194)	(0.167)	(0.278)	(0.235)
Observations	3,853	5,150	3,860	5,045	7,563	9,506	7,699	9,707
R^2_w	0.066	0.084	0.059	0.064	0.059	0.075	0.044	0.051
Number of banks	447	462	433	452	349	352	343	346

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table A7 Market discipline and regional ties (Moscow region and St. Petersburg excluded)

	Interest Rate				**Deposit Growth**			
	2001-2007		*2001-2010*		*2001-2007*		*2001-2010*	
Variables	I	II	III	IV	I	II	III	IV
$MD_{(t-1)}$	0.286***	0.286***	0.298***	0.298***	-0.030	-0.031	-0.014	-0.015
	(0.049)	(0.049)	(0.050)	(0.050)	(0.020)	(0.020)	(0.017)	(0.017)
CA	0.005	0.005	0.005	0.005	0.407**	0.162	0.368**	0.207
	(0.007)	(0.008)	(0.005)	(0.006)	(0.170)	(0.181)	(0.150)	(0.163)
Crisis*CA			-0.002	-0.002			-0.478**	-0.299
			(0.004)	(0.005)			(0.213)	(0.254)
R*CA		-0.002		-0.002		1.008**		0.709*
		(0.014)		(0.011)		(0.411)		(0.370)
Crisis*R*CA				0.004				-0.946***
				(0.009)				(0.347)
LA	-0.004	-0.004	-0.004	-0.004	-0.018	-0.006	0.019	0.021
	(0.004)	(0.005)	(0.003)	(0.004)	(0.109)	(0.126)	(0.092)	(0.108)
Crisis*LA			-0.001	-0.004			-0.302**	-0.262*
			(0.003)	(0.004)			(0.122)	(0.151)
R*LA		0.002		0.003		-0.075		-0.057
		(0.006)		(0.005)		(0.203)		(0.178)
Crisis*R*LA				0.010*				-0.215
				(0.006)				(0.212)
NPL	0.024	0.023	0.026	0.026*	-1.107***	-0.942***	-1.128***	-1.049***
	(0.020)	(0.018)	(0.018)	(0.016)	(0.268)	(0.336)	(0.260)	(0.340)
Crisis*NPL			-0.030	-0.034*			0.462	0.035
			(0.018)	(0.018)			(0.503)	(0.662)
R*NPL		0.004		0.001		-0.543		-0.273
		(0.050)		(0.046)		(0.454)		(0.450)
Crisis*R*NPL				0.017				1.261
				(0.046)				(0.976)
LnA	0.000	0.000	0.000	0.000	0.017	0.005	-0.011	-0.018
	(0.001)	(0.001)	(0.001)	(0.001)	(0.027)	(0.028)	(0.020)	(0.021)
Crisis*LnA			0.001***	0.002***			-0.024**	-0.031**
			(0.000)	(0.000)			(0.010)	(0.012)
R*LnA		0.000		-0.000		0.065**		0.036
		(0.001)		(0.001)		(0.032)		(0.027)
Crisis*R*LnA				-0.001				0.031
				(0.001)				(0.019)
DA	-0.000	-0.000	-0.001	-0.001	-1.023***	-1.031***	-0.869***	-0.873***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.107)	(0.104)	(0.079)	(0.077)
DIS	-0.000	-0.000	-0.004	-0.005	-0.020	-0.024	0.408***	0.444***
	(0.003)	(0.003)	(0.004)	(0.004)	(0.062)	(0.062)	(0.119)	(0.149)
R		-0.001		-0.000		-0.340		-0.231
		(0.009)		(0.007)		(0.265)		(0.232)
Crisis			0.000	0.000			0.000	0.000
			(0.000)	(0.000)			(0.000)	(0.000)
Crisis*R				0.002				-0.083
				(0.006)				(0.196)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.015*	0.015*	0.013**	0.013**	0.104	0.156	0.231*	0.279**
	(0.008)	(0.008)	(0.006)	(0.006)	(0.163)	(0.175)	(0.129)	(0.140)
Observations	13,790	13,790	17,781	17,781	13,988	13,988	17,599	17,599
R^2_w	0.147	0.147	0.162	0.162	0.064	0.068	0.069	0.072
Number of banks	622	622	628	628	623	623	629	629

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table A8 Reliance on local authorities vs. regionalism (Moscow region and St. Petersburg excluded)

	GovTrust				**RIndex**			
	>Median		***<Median***		***>Median***		***<Median***	
Variables	2001-2007	2001-2010	2001-2007	2001-2010	2001-2007	2001-2010	2001-2007	2001-2010
MD(t-1)	-0.022	-0.012	0.062	0.034	0.048	0.057**	-0.070***	-0.049**
	(0.043)	(0.036)	(0.043)	(0.046)	(0.031)	(0.028)	(0.023)	(0.020)
CA	0.652	0.702	0.156	0.336	0.066	0.098	0.265	0.311
	(0.511)	(0.441)	(0.291)	(0.278)	(0.234)	(0.199)	(0.263)	(0.239)
Crisis*CA		-1.273**		-0.154		-0.429*		-0.257
		(0.508)		(0.417)		(0.230)		(0.379)
R*CA	0.746	0.214	0.683	0.274	0.745	0.543	1.022**	0.712
	(0.624)	(0.578)	(0.937)	(0.843)	(0.684)	(0.604)	(0.480)	(0.446)
Crisis*R*CA		0.979		-0.938		0.062		-1.189***
		(0.673)		(0.672)		(0.469)		(0.456)
LA	0.311	0.199	-0.310	-0.299	-0.083	-0.034	0.071	0.062
	(0.328)	(0.266)	(0.219)	(0.214)	(0.116)	(0.103)	(0.215)	(0.179)
Crisis*LA		-0.616**		0.224		-0.228**		-0.254
		(0.277)		(0.281)		(0.104)		(0.254)
R*LA	-0.308	-0.424	0.366	0.379	-0.140	-0.182	0.064	0.133
	(0.367)	(0.318)	(0.461)	(0.423)	(0.263)	(0.232)	(0.275)	(0.238)
Crisis*R*LA		0.493		-0.510		0.077		-0.339
		(0.327)		(0.445)		(0.237)		(0.308)
NPL	-0.975	-1.163	-1.736**	-2.344***	-1.333**	-1.366***	-0.758*	-0.869**
	(1.086)	(0.969)	(0.869)	(0.824)	(0.533)	(0.494)	(0.395)	(0.419)
Crisis*NPL		0.882		1.163		0.902		-0.467
		(1.673)		(1.012)		(1.263)		(0.780)
R*NPL	-0.938	-0.587	0.587	1.409	0.405	0.629	-0.807	-0.555
	(1.532)	(1.413)	(1.041)	(0.981)	(1.080)	(1.048)	(0.490)	(0.510)
Crisis*R*NPL		-1.091		0.707		-1.258		2.413*
		(1.976)		(1.807)		(1.718)		(1.329)
LnA	-0.028	-0.044	-0.063	-0.053	-0.034	-0.046*	0.034	0.004
	(0.075)	(0.051)	(0.053)	(0.043)	(0.031)	(0.023)	(0.041)	(0.031)
Crisis*LnA		-0.069***		0.009		-0.023*		-0.040*
		(0.022)		(0.026)		(0.013)		(0.021)
R*LnA	0.053	0.037	0.078	0.047	0.060	0.048	0.059	0.026
	(0.066)	(0.053)	(0.080)	(0.065)	(0.053)	(0.045)	(0.039)	(0.032)
Crisis*R*LnA		0.069**		0.005		0.028		0.035
		(0.028)		(0.057)		(0.020)		(0.030)
	-0.920***	-0.819***	-1.159***	-0.895***	-1.061***	-0.908***	-0.978***	-0.826***
	(0.241)	(0.165)	(0.211)	(0.163)	(0.130)	(0.097)	(0.153)	(0.115)
DIS	0.147	0.173*	0.219	0.229*	0.169**	0.165**	-0.141	-0.098
	(0.132)	(0.096)	(0.147)	(0.124)	(0.081)	(0.066)	(0.090)	(0.080)
R	-0.344	-0.266	-0.122	0.069	-0.150	-0.211	-0.527*	-0.284
	(0.487)	(0.445)	(0.477)	(0.414)	(0.470)	(0.401)	(0.300)	(0.264)
Crisis		0.982***		-0.248				0.541**
		(0.267)		(0.352)				(0.256)
Crisis*R		-0.875***		0.278		-0.280		-0.052
		(0.303)		(0.500)		(0.218)		(0.318)
Time fixed effects	+	+	+	+	+	+	+	+
Region fixed effects	+	+	+	+	+	+	+	+
Constant	0.268	0.394	0.614	0.382	0.480**	0.513***	0.239	0.340*
	(0.482)	(0.348)	(0.383)	(0.318)	(0.192)	(0.155)	(0.259)	(0.205)
Observations	3,347	4,523	3,516	4,491	6,235	7,822	7,699	9,707
R^2_w	0.062	0.074	0.062	0.066	0.058	0.075	0.045	0.049
Number of banks	382	396	367	384	282	286	343	346

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

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