

Finance and Growth: A Counter-Example from the Origins of Banking in Russia

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Abstract

This paper examines the effect of banking on economic growth in modern Russia. To overcome simultaneity and selection, we exploit regional banking variation induced by the creation of “specialized banks” in the last years of the Soviet Union (1988-1991). Consistent with the qualitative work of Hellman [1993] and Johnson [2000], we show that these reforms generated an ideal natural experiment in that the concentration of specialized banks is jointly uncorrelated with predictors of future growth, including pre-banking income, unemployment, anti-market sentiment, institutional quality, and government interference in the economy. Results indicate that while the presence of one additional specialized bank per million inhabitants increased total within-state lending to private firms and individuals by 10 to 20 percent in the early 2000s, it had no effect on investment or per capita income, though it did modestly reduce unemployment. Data on lending suggest this ineffectiveness may be due to lower risk-taking and greater government connections. Thus, evidence here suggests that private ownership in the context of a competitive market may not be sufficient to transform socialist institutions. Instead, it indicates that the political origins of banking are important in determining whether finance affects growth.

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1. Introduction

There is a large body of cross-country evidence showing that financial development promotes economic growth.¹ In their pioneering study of 77 countries during 1960-1989, King and Levine [1993] show that increasing the size of the financial intermediary sector² from the mean of the slowest quartile of countries to the mean of the fast growing quartile would increase per capita growth by almost 1 percent per year. However, as those and other researchers have noted, cleanly identifying the impact of finance on growth is challenging because of the potential for bias due to selection and simultaneity. For example, countries with developed financial systems may also have strong enforcement of property rights and rule of law, making it difficult to distinguish the effect of one factor versus another [La Porta et al, 1998]. Similarly, countries that grow quickly may also have ample savings available for banks to lend. While subsequent studies have used instrumental variables and panel data methods in an attempt to overcome these problems,³ there are lingering concerns that these approaches do not overcome the simultaneity and selection biases. For example, within-country changes in financial systems may not be exogenous to economic growth, and instruments such as legal origins may have their own independent effect on economic growth.⁴

In response to these concerns, several studies have exploited within-country variation in bank regulation to identify the effect of finance on growth. Jayaratne and Strahan [1996] use the variation in the state-level deregulation of intrastate bank branching in the USA that starts in the

¹ For a survey of these findings, see Demirgiuc-Kunt and Levine [2008].

² Their original measure is currency plus demand and interest-bearing liabilities of bank and nonbank financial intermediaries. However, their results also hold for alternative measures that more precisely specify the sources and users of finance.

³ e.g., see Beck, Levine, and Loayaza [2000].

⁴ See La Porta et al [2008].

1970s;⁵ and, Guiso, Sapienza and Zingales [2004] estimate effects using both OLS and an instrumental variable strategy exploiting a 1936 bank regulation in Italy as a source of exogenous variation in local financial development in the 1990s. These within-country studies largely support the findings of the cross-country literature: for example, Guiso, Sapienza and Zingales [2004] find that between 1989 and 1997, moving from the least to most financially developed region would boost GDP per capita by 1.2 percentage points per year.

This paper uses an approach similar to these papers in that it exploits variation in banking across regions within Russia to identify the impact of finance on growth. However, instead of using changes in bank regulations in a market system, we exploit the top-down creation of “specialized” banks, herein denoted “spetsbanks”, in the last years of the former Soviet Union (1988-1991) as a plausible source of exogenous variation. According to Soviet reform documents, these banks were supposed to provide external finance to state owned enterprises. The decision to create spetsbanks was made by high level Soviet administrators on the basis of their own preferences, as was the typical approach to decision-making generally in the now defunct Soviet System. Because the preferences of Soviet administrators were largely divorced from forces shaping organizations in market economies, reforms of economic organizations in the classic Soviet system were “exogenous” to market forces (see Kornai [1992] chapter 7 and Ickes [1990]).⁶ In a study of banking in Soviet Union and Russia, Hellman [1993] documents that the creation of spetsbanks in 1988 was yet another case of top down institutional tinkering.

“Like previous reform efforts in the Soviet Union, the reorganization of the banking system was a true exogenous reform. The new banking institutions were not designed by

⁵ Deheja and Lleras Muney [2007] conduct a similar analysis of branching and deposit insurance in the American states during 1900-1940.

⁶ One powerful explanation for organizational reform is that would serve to increase the number of privileged administrative and managerial positions. Another explanation is the spetsbanks were created as part of a bank war between powerful administrators in the former Soviet Union and the former Russian Socialist Republic (which became subsequently became Russia). Regardless, one advantage of this variation in banking capacity is that it is less susceptible to concerns regarding endogeneity than variation in state- or region-level banking policy.

bankers or other economic actors in response to the problems and incentives of the centrally planned financial system. Instead, a small group of so-called economic reformers crafted an entirely new institutional structure based on external models, political interests, and their beliefs about economic efficiency. The new structure was imposed on the banking system in a series of decrees and internal instructions that caught most Soviet bankers by surprise... ” [Hellman [1993], p.101]

Importantly, we find powerful empirical support backing up the argument that the locations of spetsbanks were exogenous to economic factors. Specifically, we show that the concentration of spetsbanks that were created between 1988 and 1991 and survived till at least October of 1995 is jointly uncorrelated with 17 variables one might expect to be correlated with future economic growth, including per capita income in 1996, education and other demographics, anti-market sentiment, the quality of economic and political institutions, and government interference in the economy.⁷

The spetsbanks created between 1988 and 1991 began to function as commercial banks for state owned enterprises circa 1991. During 1991 many of the spetsbanks were informally and spontaneously privatized.⁸ After the breakup of the USSR the formal privatization of spetsbanks successors was part of the broad package of large scale market reforms. While many of their spetsbank successors went bankrupt during the financial crisis of 1998—as did many other banks—their presence did have a lasting impact on the regional banking market. When in early 1999 banks began to make loans to firms and households⁹; 157 of the 1441 registered banks in Russia were spetsbank successors, and they accounted for almost 18% of loans to firms and households.

⁷ The only variable found to be conditionally correlated with the number of spetsbanks was population; areas with lower population had somewhat more spetsbanks per capita. This is unsurprising, as banks in densely populated areas could be served by fewer banks. Still, we control for log of 1996 population in all of our estimations.

⁸ See Abarbanell and Meyendorff [1997] and Schoors [2003].

⁹ See Berkowitz and DeJong [2011] and sources cited therein. Banks finance accelerated during 2000-2007.

Moreover, this increased regional bank capacity caused by spetsbank successors resulted in a significant net increase in regional loans. Results indicate that regions that have one more spetsbank per million population—approximately a $\frac{1}{2}$ standard deviation increase—have a 10 to 20 percent increase in lending to private firms and individuals in 2003 and 2006. This result is robust to the inclusion or exclusion of controls, consistent with exogenous spetsbank location.

However, our results indicate that this increase in banking did not cause economic growth. Specifically, we find that this additional lending did not affect investment or per capita income in 2007, though it reduced unemployment modestly. Data on lending suggests one potential explanation: although the successors to the spetsbanks were privately owned and subject to market forces, they appear to act like government-owned banks in that they made lower-risk loans, made fewer loans to individuals who might generate economic growth, and relied significantly on income generated from loans to government (see La Porta et al. [2002]). Thus, our findings suggest that banking origins matter, and cast doubt on the efficacy of top-down reforms such as the creation of spetsbanks that subsequently became private commercial banks.

The next section contains a brief description of Soviet banking and spetsbanks. Section 3 describes the data; section 4 documents that the location of spetsbanks at the end of 1995 is as good as random, and is a strong predictor of regional bank capacity during 2003-2006. Section 5 presents our main results on the impact of regional bank capacity on growth and other economic outcomes in 2007; section 6 interprets our finding and section 7 concludes.

2. Banking in the former Soviet Union and in Russia¹⁰

Before 1990, physical plans set by central administrators were more important than financial constraints in the socialist economies in Eastern Europe and the former Soviet Union. In the former Soviet Union, the mono-bank Gosbank issued credits to state owned enterprises so that they could fulfill administered plan targets. State owned enterprises typically had “soft” financial budget constraints, which meant they could get credits from the bank for fulfilling plan targets even if their projects were unprofitable and served no particular consumer or firm need.¹¹ Banks collected taxes from state owned firms and monitored the extent to which these firms were fulfilling centrally administered plan targets.¹²

During 1987-1991, the Soviet banking system underwent significant changes. On the one hand, after the passage of a law on state owned enterprises in 1987 that was designed to harden their budget constraints, commercial banks spontaneously and informally emerged. These new commercial banks took advantage of profit opportunities created by the breakdown of the system of enforced planning quotas, the large spreads between state and market prices, and the ability to set up cooperative ventures in state-owned enterprises. Many of these commercial banks flourished and continued their activities after the collapse of the Soviet Union.

The Gosbank mono-bank system that had previously been the only source of banking in the Soviet Union also underwent significant changes from 1987 to 1991, though we note that these changes were driven entirely by the Soviet authorities rather than market forces. In 1987 a working group with representatives from Gosbank and Stroibank (the Construction Bank which was a subsidiary of Gosbank) divided the Soviet banking system into a central bank and five kinds of spetsbanks. This division went into effect January of 1988. The old Soviet foreign trade

¹⁰ This section draws on Abarnell and Meyendorff [1997], Johnson [2000], Hellman [1993] and Schoors [2003].

¹¹ See, e.g., Kornai, Maskin and Roland [2003].

¹² See Garvy [1997].

bank and the old Soviet savings were renamed, but they remained under the control of the Gosbank and no substantial changes were made in their personnel or organizational structure or assets. The rest of Gosbank and its subsidiary Stroikank (the Soviet bank for construction), however, was divided up into three spetsbanks including the Agromprombank (agricultural-industrial banks), Zhilsotsbank (the banks for housing and social development) and Promstroibank (the banks for industrial-construction). These three kinds of spetsbanks were supposed to provide finance to the reforming state-owned enterprises on the basis of criteria that were more market-based than under the previous system. However, while Gosbank transferred assets and cash reserves, control over the interbank clearing system, and control over personnel policy to these three spetsbanks, initially Gosbank did not give these spetsbanks control over their credit and interest rate policies.

There are several explanations for why the Gosbank system was transformed in this way. One is that spetsbanks were created in order to increase the number of privileged management positions within the old Soviet command system. A complementary explanation is the spetsbanks were established as part of a bank war between powerful administrators in the former Soviet Union and the former Russian Socialist Republic (which became subsequently became Russia). After Soviet leaders created spetsbanks and the Soviet Union Central Bank in 1987, in an effort to be independent of the former Soviet Union and its central bank, the leaders of the Russian Republic subsequently created the Central Bank of Russia (CBR), which then gave spetsbanks additional autonomy from the Soviet Central Bank to serve as commercial banks for state owned enterprises. Specifically, the CBR worked to transfer all of the assets and liabilities of the spetsbanks to its local branches, and then gave the bank managers in each branch the power to form a small bank or join with other branches in a larger bank (Abarbanell and Meyendorff

[1997], p.70). Many regional branches did separate from these three banks and established new regional banks within the regional branches of the Central Bank of Russia (Schoors [2003]). This informal and spontaneous privatization of spetsbanks deprived the Soviet Union Central Bank control over Russian bank branch managers. Thus, while the Agprombank, Zhilsotbank and Promstroibank and their successors initially “had few incentives to operate in a market-oriented way” (Johnson [2000], p.30) in time and, in particular, after the disintegration of the former Soviet Union, they learned to behave like commercial banks. We consider these three banks and their successors as spetsbanks.

Importantly for our research design, while these spetsbanks were given additional autonomy by the Central Bank of Russia, the location of the banks themselves was based on pre-existing Soviet Banking capacity. And as discussed above, that capacity had been built according to the preferences of Soviet bureaucrats, independent of economic conditions one might expect to affect future economic growth.

The former Soviet Union officially ceased to exist on December 25, 1991, and the Russian Federation emerged as a new country the next day. The Russian government instituted market reforms in January 1992 when it released price controls on a broad set of goods and then subsequently instituted several sweeping programs that formally privatized state owned enterprises. Spetsbanks that operated as private banks in the former Soviet Union were formally privatized when the Soviet Union was dissolved and large scale privatization was implemented.

From 1992 to 1998 the successors of the spetsbanks and the other commercial banks continued to perform many tasks that they performed under socialism, including providing credit to state firms, financing state-related programs, and financing government debt (see Tompson [1997]). Spetsbanks and commercial banks made substantial profits transferring central bank

credits to state owned enterprises and exploiting negative real interest rates on bank deposits up till 1995 and invested in foreign currencies and precious metals in a variety of ways throughout the 1990s. Similarly, banks made a great deal of money issuing high-interest bearing government bonds known as GKO's starting around 1995 (Johnson [2000] and Shleifer and Treisman [2001], chapter 4). Because banks made so few loans, private firms had to finance projects with either internal funds or funds raised from internal sources, even though they could earn an unusually high return on their capital (see Johnson, McMillan and Woodruff [2002]). In return for providing finance to the government, some commercial banks were able to buy up state assets at very low prices.¹³

Overall, from August of 1992 through 1998 spetsbanks and commercial banks were profitable without serving as a source of finance to private firms and households. And, as Juliet Johnson argues, they were profitable largely because of their political connections.

“These banks could be profitable without being productive by relying on central bank credits at negative real interest rates, conducting foreign exchange operations, facilitating export-import operations and capital flight, handling government monies, developing the interbank credit market, and granting expensive short-term loans. All of these activities exploited their ties to government ministries, the CBR¹⁴, and state-run enterprises”. [Johnson [2000], p.8]

The dysfunctional behavior of the banks, along with falling world oil prices and the Asian crisis likely contributed to the near collapse of the Russian financial system in August of 1998. Following the crisis the Russian government defaulted on its domestic and international debts, GDP fell almost 5%, there was a massive outflow of capital from Russia, and hundreds of Russian banks went bankrupt.

¹³ The most famous case is the “loans for shares” deal in 1995 in which the Yeltsin government effectively sold interests in lucrative nickel, oil and steel companies to bankers.

¹⁴ CBR stands for the Central Bank of Russia.

After the financial crisis, there was a large increase in growth of exports due in part to the massive devaluation of the ruble and in part to the large increase in world oil prices. It was during this period that banks began making loans to private firms and households: between 1999 and 2007 bank-issued loans to firms as a share of GDP went from 10.5% to 37.3%. Moreover, during this period real income overall grew rapidly and there was also substantial variation in the growth in bank finance and income across the regions (see Berkowitz and DeJong [2011]). Thus, the period after the financial crisis is a good testing ground for whether or not bank finance matters for growth and other indicators of economic welfare.

3. Identification Strategy and Methodology

The purpose of this study is to determine whether increased banking capacity leads to higher economic growth. However, estimating the causal impact of banking on growth is difficult because of the potential for simultaneity and selection biases. That is, one might worry that countries that grow quickly may have more capital available for lending, or that fast-growing countries have more demand for loans, which may lead one to infer incorrectly that additional lending causes growth. Similarly, selection bias may arise if those countries or regions that have well-developed banking sectors are also those that have better legal and judicial institutions to protect property rights, in which case one may misattribute higher income or growth to better banking rather than to better institutions generally.

To overcome these identification problems, we exploit the variation in the number of spetsbanks per million inhabitants across the Russian regions in 1995. The identifying assumption is that regions with many spetsbanks would have grown at the same rate as regions with few spetsbanks in the absence of the additional banking. This assumption appears broadly

consistent with the existing views of the reforms discussed in the previous section, in which the location of the spetsbanks was determined largely on the basis of bureaucratic reasons, rather than economic ones.

Nonetheless, we test this identifying assumption empirically as well. The intuition of our test is to see whether spetsbank concentration was uncorrelated with exogenous pre-banking variables that one would expect to predict economic growth. Thus, we examine whether the concentration of spetsbanks in 1995 is conditionally correlated with other variables expected to cause economic growth, such as income and demographics in 1996, anti-market sentiment, quality of institutions, and government interference in the economy. Specifically, we estimate the following:

$$(1) \text{ Spetsbank}_i = \alpha_0 + \alpha_1 \text{LnPop}1996_i + \alpha_2 \text{LnRinc}1996_i + \alpha_3 X_i + \varepsilon_i$$

where subscript i denotes the i th region, Spetsbank_i is the number of spetsbanks per million people in October of 1995, $\text{LnPop}1996_i$ is the log of population in 1996, $\text{LnRinc}1996_i$ is the log of real income in 1996, and X_i is a vector of covariates measured circa 1996 including demographics, the political environment and preferences, institutional quality, and government interference in the economy, and ε_i is a stochastic error term.

We test the null hypothesis that log of real income in 1996 is insignificant, and we also test the null that log of real income in 1996 and the vector of covariates X_i , are jointly insignificant. These are powerful tests of whether regional spetsbank concentration is orthogonal to other observed factors known to predict growth. To the extent that we fail to reject these

nulls, it provides some assurance that our measure of bank capacity is also uncorrelated with unobserved determinants of economic growth.

We then examine whether regions with higher concentrations of spetsbanks in October of 1995—a period when there was almost no lending in Russia—have more lending in the 2000s than regions with lower concentrations of spetsbanks in 1995. Formally, we estimate the following:

$$(2) \quad \begin{aligned} \text{Bank Outcome}_i &= \beta_0 + \beta_1 \text{LnPop1996}_i + \beta_2 \text{LnRinc1996}_i + \beta_3 X_i + \\ &+ \beta_4 \text{Spetsbank}_i + u_i \end{aligned}$$

where the variable Bank Outcome_i can denote log of lending per capita by region of lender, log of lending per capita by region of borrower, log of the bank Herfindahl index, and the interest rate charged. Bank outcomes are measured in 2006 and 2003.

Finally, we examine whether the increased lending caused by having a higher concentration of spetsbanks in 1995 leads to differences in regional economic outcomes including investment, per capita income, unemployment, and the share of small business activity years later in 2007. To do this we replace the variable Bank Outcome_i in equation (2) with variables measuring regional economic outcomes in 2007.¹⁵

We estimate all models controlling for real income and population in 1996; and, each specification is estimated with and without controls for the vector of covariates, X_i . To the extent that our estimates are unaffected by the inclusion of covariates X_i that predict growth in a

¹⁵ Here we are using a reduced form instrumental variables approach. This estimation strategy is more flexible than a two-stage least squares approach in which the spetsbanks concentration in 1995 must influence economic outcomes in 2007 exclusively through one particular measure of bank outcomes.

significant way, we gain some confidence that including unobserved determinants of investment and economic growth would also not matter.

One important implication of our research design is that the coefficient of interest is a local average treatment effect that captures the effect of the increased lending induced by successors to the old spetsbanks (Angrist, Imbens, and Rubin [1996]). Thus, while these results are informative regarding the impact of additional banking capacity induced by the top-down creation of spetsbanks in the final years of the Soviet Union, they may be less informative of the causal impact of other types of banking on growth. We return to this question of interpretation later in the paper.

4. Data

Data on spetsbank status come from “A Guide to Russian Bank Data” (Karas and Schoors [2010]), as collected from various publications from the Central Bank of Russia. This source contains the registration records of all Russian banks from August 1988 through April 2007. Banks are classified as old spetsbanks if they were registered as an Agprombank and/or a Zhilsotbank and/or a Promstroibank no later than December 30, 1991, as Russia instituted market reforms shortly after this date. These old spetsbanks are measured in each region of Russia per million inhabitants of a region at the beginning of 1992. The average region has almost 2 spetsbanks per million inhabitants; 6 regions have no spetsbanks, and the Altai Krai has more than 15. We report data on spetsbanks for 78 of Russia’s 83 regions.¹⁶

The bank registry contains records only for those banks that survived until October 1, 1995. Some spetsbanks that registered before December 30, 1991 subsequently were absorbed

¹⁶ We drop three small regions for which data is limited including the Jewish Autonomous oblast, the Komi-Perm Autonomous oblast and Taimyr Autonomous district; and, we drop the war-torn Chechen Republic and Ingush Republic for which data are also limited.

primarily by the agricultural spetsbanks (Agprombank) and some may have gone out of business. Of the 250 spetsbanks that were in operation on October 1, 1995, 236 spetsbanks were registered before December 30, 1991 and an additional 14 spetsbank were registered after December 30, 1991. Thus, our measure of old spetsbanks is conditional on survival as a spetsbank through October 1, 1995. This is reasonable since there was little bank lending activity to private firms and households as of October 1, 1995. Moreover, we show in the next section that the location of these spetsbanks that survive until October 1, 1995 is orthogonal to a host of covariates that predict future economic growth.

We use four measures of regional bank capacity including lending per capita by the region of the lender, lending per capita by the region of the borrower, the concentration of regional banks, and the loan interest rate charged by the banks. These variables are measured in 2003 and 2006, and allow us to test whether having additional spetsbanks increases lending or bank competition in the years preceding 2007, when we measure economic outcomes of interest. All lending variables are deflated by a regional consumer price index (April 2007=100) acquired from Roskomstat (Web site: www.gks.ru) and expressed in thousands of deflated rubles per capita.

The source for lending per capita by region of lender, bank concentration and loan interest rate charged by the regional banks is “A Guide to Russian Bank Data” (Karas and Schoors [2010]), as meticulously collected from quarterly reports put out by a Moscow-based information agency “Interfax” (www.interfax.ru). Interfax publishes quarterly an extensive list of items from the financial statements and regulatory ratios of all Russian banks. Loan interest rate is calculated as the volume-weighted annualized rate charged to firms and individuals. Bank concentration is computed using a weighted average of the Herfindahl indices for the firm and

consumer markets.¹⁷ Lending per capita by region of lender is computed as the total stock of loans to private firms and households made by the banks in a region for each quarter of 2003 and 2006. While the advantage of these data is that they include the entire population of banks, the downside is that they may capture lending to firms and individuals in other states. This is a problem primarily for Moscow and St. Petersburg, because banks registered in these cities often makes loans throughout Russia. Consequently, we complement these data with data on aggregate lending per capita by region of the borrower, the source of which is the Bulletin of Banking Statistics: Regional Supplement (Central Bank of Russia, various years).¹⁸

Our primary economic outcomes of interest include per capita income, real GDP per capita, investment, unemployment rate, and two measures of the size of small and medium enterprises in 2007. All measures were collected by the Russian official statistical agency (Sources: Goskomstat Rossii, 1996, 2001, 2008a, 2008b, 2010)

Our data allow for the inclusion of many important control variables, which we use both to show the exogeneity of the concentration of spetsbanks as of 1995 as well to test the robustness of the main results. We measure these variables in 1996 or earlier, which is well before the period when bank finance emerges. Education (EDU) in a region is taken from 1994 Russia micro-census and is measured as the share of the population that is at least fifteen years old as of 1994, completed secondary school, and has at least some post-secondary education (source: Goskomstat [1995]). Another important potential determinant of future growth is ethnolinguistic fractionalization, which is related to levels of trust, corruption and financial depth (see,

¹⁷ The Herfindahl Index is calculated as the sum of squared market shares (in percent) for all firms in a market, and thus can theoretically range from 0 (least concentrated) to 10,000 (monopolist).

¹⁸ We measure 2003 loans as the average of the stock of loans held by private firms and households in October 2002 and October 2003, and in 2006 average the stock of loans for October 2005 and October 2006.

for example, Alesina et al [2003]). We use the standard measure¹⁹ using data from the All Union Census of 1989 (Goskomstat RSFSR [1990]), where higher values represent more ethnically fragmented regions. We also have data on population, urban population share, and migration inflows per 10,000 inhabitants (source: Goskomstat [2008a and 2010]). Finally, since Moscow was and is the financial capital of the the Former Soviet Union and Russia, respectively, we also include distance to Moscow.

We also have several political measures in order to capture popular sentiment regarding market reform, as these preferences may well predict future growth after the fall of the Soviet Union. One such measure is the urban Jewish population in areas occupied by the Nazis during World War II measured just prior to their invasion. As argued by Acemoglu et al [2010], this variable predicts the extent of the destruction of the Soviet urban middle class during World War II and also predicts subsequent anti-market and pro-Communist sentiment that persists long after the fall of the Soviet Union. In addition, our data also contain a measure of the regional importance of powerful elites inherited from the Former Soviet Union, which we proxy using voter participation rates in the Russian regions in 1989.²⁰ In what was considered to be the first open elections in Soviet history, Soviet citizens were allowed to vote for some representatives to the national legislature. However, these elections for the first time allowed opposition candidates to compete with Communists for power. Thus, in regions where the Communist Party remained strong and well organized, the Communists used their traditional administrative structures to mobilize voter turnout from traditional bases of support including state farms and

¹⁹
$$\text{ETHNO} = 1 - \sum_{i=1}^J (g_{i,\text{reg}} / \text{POP}_{\text{reg}})^2, \quad i = 1, \dots, J$$

Where $g_{i,\text{reg}}$ is the number people in ethnic group i in a region, POP_{reg} is the total population of the region, and J is the total number of ethnic groups.

²⁰ This argument is taken from Berezkin et al [1989] and Berkowitz and DeJong [2011].

state owned enterprises. Thus, high voter turnout in these elections is a reasonable indicator of the strength of the old Communist party.

Our last measures of the political environment are proxies for pro-reform sentiment among the general population, in that they measure the share of the regional population that voted for then President Yeltsin in the presidential election in June of 1991, and the share of the regional population that supported Yeltsin again in June of 1996 in the first round of a presidential runoff election.²¹ In both elections, Yeltsin stood for economic and political reform and his opponents wanted a return to the socialist past; therefore, pro-market sentiment is stronger when vote shares for Yeltsin are higher.

We have also obtained several measures of the quality of political institutions and government. For political institutions, we use political competition as measured in regional elections for the top executive (the governor or president) in 1996 and an indicator variable that equals 1 if the appointed regional executive in 1991 was an insider and 0 if he/she was outsider (source: Remington [2011]). In addition, our data include four direct measures of government involvement in market circa 1997 including the share of production subsidies in regional budget expenditures in 1995; the share of agriculture subsidies in the regional budget in 1995; the share of enterprise of enterprises in commerce, public catering and public services owned as state or municipal property as of July 1, 1997 and the weighted average of goods and that had regulated prices in 1996 (source: Remington [2011]).

Summary statistics are shown in Table 1. Figures are shown in 1995-1996 when there was very little banking in Russia. In addition, we show statistics separately for regions with more and fewer than 1.4 spetsbanks per million, which is the median number of spetsbanks

²¹ We obtain basically the same results if we use the second round of election in July of 1996.

across the regions. This was done to enable evaluation of the identifying assumption that these groups should otherwise trend similarly over time.²²

As shown in Table 1, by construction these two groups have significantly different levels of banking. This highlights the relatively high degree of variation in the full sample, where the number of spetsbanks per million people ranges from 0 to 15, averages 2, and has a standard deviation of approximately 2.²³

However, there are no other statistically distinguishable differences between regions with high and low concentrations of spetsbanks. Even more, the similarities along most dimensions are quite striking: the two groups have similar levels of education, urban population share, political environment, institutional quality, and government involvement in the economy. While this is somewhat surprising given that politics and institutions in particular have been shown to be drivers of finance,²⁴ it is consistent with what we would expect based on our understanding of how spetsbanks were created by Soviet bureaucrats.

There are only a few dimensions along which the two groups are less similar, though still not statistically so. Regions with more spetsbanks per million inhabitants have somewhat lower population.²⁵ This makes some sense; one spetsbank might have been able to serve more state-owned enterprises in an area with higher population density. Migration is also somewhat different, although the difference of 35.5 migrants per population of 10,000 is small. Distance to Moscow is also somewhat different, with high-concentration regions an average of 900 kilometers further away than regions with fewer spetsbanks per million population.

²² In the main analysis, we exploit the continuous variation in spetsbank concentration. Here, for ease of illustration, we simply categorize regions into two groups based on spetsbank concentration.

²³ None of the results in the paper are qualitatively different when excluding the region with 15 spetsbanks per million population, which is substantially more than the next-highest region has (7.8).

²⁴ See Malmendier [2009].

²⁵ We note that this difference is not statistically significant, and that there is no such difference in the urban population share.

Table 2 also contains summary statistics for regions with low and high concentrations of spetsbanks for variables available both in 1995-1996 and in 2006. Thus, these results offer a glimpse into the primary results of the paper on the impact, as well as a way to see whether other plausibly exogenous covariates are changing systematically over time.

As shown in Table 2, banking in Russia took off quickly between 1996 and 2007. While real loans per capita were only 40 and 120 rubles for the two groups in 1996, this increased to over 5,000 and 17,000 rubles per capita in 2007. This increase in banking, however, was not accompanied by a systematic change in other plausibly exogenous variables such as percent urban or population, which is consistent with the assumptions of our research design. It also appears that the divergence in banking did not cause a divergence in real income per capita. Specifically, while real per capita income went up by 96 percent on average in states with below-median spetsbank concentration, it went up by only 81 percent in states with above-median spetsbank concentration. These patterns are also apparent from Figures 1 and 2, where Figure 1 shows the positive relationship between the log of per capita lending in 2006 and the number of spetsbanks in 1995, and Figure 2 shows the lack of such a relationship between the percent increase in real income per capita from 1996 to 2007 and the number of spetsbanks in 1995.

5. Test of the Exogeneity of Spetsbank Concentration

Before estimating the effect of spetsbanks on both banking capacity and economic outcomes, we first test whether spetsbank concentration in October of 1995 is uncorrelated with other variables (shown in Table 1) that predict future income. Specifically, we regress spetsbanks per million population on log real income in 1996, and then on log of population and all covariates from 1996.

Results are shown in Table 3. Column 1 indicates that while per capita income in 1996 is positively correlated with the number of spetsbanks, it is not statistically significant. Column 2 shows that when spetsbanks is regressed on 18 pre-banking variables, while we reject the null that all coefficients are equal to zero, this result is driven entirely by the inclusion of population in 1996. When population is excluded (column 3), we cannot reject that the coefficients of the other 17 variables are jointly equal to zero ($F=1.06$, $p=0.5899$).

By comparison, columns 4 through 6 show results from similar regressions, except using instead *non-spetsbanks* in October of 1995. As shown, this banking measure is highly correlated with variables expected to predict future growth. For example, in column 6 when population is excluded, 3 of the 17 variables are significant at the 5 percent level, and 8 are significant at the 10 percent level. Similarly, the F-statistic testing joint significance is 9.03 ($p<0.00005$), compared to 1.06 for the spetsbanks measure in column 3. Thus, while the concentration of non-spetsbanks is likely endogenous, the concentration of spetsbanks appears to be only correlated with initial population and is orthogonal to all other determinants of finance and growth.

6. Results

The Effect of Spetsbanks on Banking Capacity in the Modern Banking Era

We now examine whether the concentration spetsbanks in 1995 increases banking capacity once modern banking takes hold in Russia. The raw data are shown in Figure 1, while the estimation results are shown in Table 4, where Panel A shows results for banking outcomes measured in 2003, and Panel B shows outcomes measured in 2006. There are four specifications corresponding to each outcome, where the first controls for log 1996 population and per capita income and the second additionally controls for all other pre-banking characteristics to test

whether the spetsbank measure is orthogonal to other important determinants of banking and income. The remaining two columns test whether the estimates are sensitive to likely outliers: the third excludes the capital cities of Moscow and St. Petersburg which are outliers in terms of foreign investment, growth, and finance. Because of the importance of institutions for finance (see La Porta et al [1998]), the fourth column excludes the two states that have particularly bad institutions. The first four columns in Table 4 estimate the effect of spetsbank concentration on the log of per capita lending in 2003, as measured by the state of the lender. As described earlier, these are the most reliable data we have, as they come from banks' administrative records and includes the entire population. As shown in Table 4, we find that having one more spetsbank per million population—or about a $\frac{1}{2}$ standard deviation increase in spetsbanks—causes between a 15 and 22 percent increase in per capita lending, with all estimates statistically significant at the 1 percent level.

In columns 5 through 8 of Table 4, we show results using a second measure of regional lending compiled by the Central Bank of Russia. Thus, while this measure falls somewhat short of the gold standard of administrative data, the advantage is that regional lending is defined at the level of the borrower. Results indicate that having one more spetsbank in a region increases lending by around 10 percent.

In columns 9 through 12, we ask whether having the presence of spetsbanks affects bank competition, as measured by the Herfindahl Index. Results indicate that having more spetsbanks reduces the Herfindahl Index by 5 to 11 percent, suggesting that their presence makes the banking industry more competitive.

Finally, in columns 13 through 16 we estimate the effect of spetsbanks on the (volume-weighted) average interest rate charged on loans in each region. Here, while point estimates are

negative—as one might expect given the results on loan quantity and bank competition—most are economically small and only some are marginally significant. The largest estimate implies that having one additional spetsbank per million population reduces the interest rate charged by 0.3 percentage points (s.e. = 0.2), which is relatively small relative to the average annual rate in 2006 of 16.6 percent.

The Effect of Spetsbanks on Investment, Per Capita Income, Unemployment, and Small Business Activity

Next, we turn to whether the increase in private banking induced by spetsbanks affects investment, per capita income, unemployment, or the economic significance of small businesses. Results are shown in Table 5. As shown in Panel A, there is no evidence that additional spetsbanks increase per capita income or per capita GDP. For example, in our preferred specification in column 2, results indicate that one additional spetsbank reduced per capita income in 2006 by a statistically insignificant 1.4 percent, with a corresponding 95 percent confidence interval of [-3.8, 1.0]. This is also clear from Figure 2, which graphs the percent increase in real per capita income from 1996 to 2007 against spetsbank concentration.

In contrast, we do find some evidence that additional banking reduces unemployment; results in column 10 indicate that having one additional spetsbank reduces the unemployment rate by 0.29 percentage points, which represents a 4.3 percent reduction relative to the average unemployment rate of 6.8 percent in 2006.

Lastly, in columns 5 through 12 of Panel B, we examine whether banking impacts the economic importance of small enterprises, measured as the share of workers employed by small

and medium enterprises and the share of production by small and medium enterprises. Here, while point estimates are positive, they are not statistically different from zero.

Importantly, none of our estimates are sensitive to the inclusion of controls, to the inclusion of the capital cities of Moscow and St. Petersburg, or to the inclusion of regions of Kabardino-Balkaria and Tuva that have particularly bad institutions.²⁶

7. Interpretation and Discussion

Our findings are somewhat surprising given the consensus in the literature that banking increases economic growth. In contrast, we show that while the presence of spetsbanks induced a 10 to 20 percent increase in lending over the following 10 years, it did not increase per capita income. For example, even the upper bound of our largest estimate on per capita income implies an effect of no more than 1.5 percentage points, which is small relative to the average regional growth in per capita income of 91 percent.

Our estimates are also small relative to effects found in the literature. For example, Guiza, Sapienza, and Zingales (2004) estimate that moving from the least to the most financially developed region in Italy (which was twice as developed, by their measure) would increase growth by 1.2 percentage points per year. Over the 12 year period studied here, that would yield per capita income that is over 15 percent higher. In contrast, our results imply that having 5 more spetsbanks per million population—which increases lending by 50 to 100 percent—would yield per capita income that is a statistically insignificant 7 percent lower, with a 95 percent confidence interval of (-19, 5).

²⁶ Following Remington [2011] we measure quality of regional institutions using the Petrov index during 2000-2004. Kabardino-Balkaria and Tuva have indices that are more than two standard deviations below the average.

The estimates indicating that banking reduces unemployment present somewhat of a puzzle, given our other findings. One possibility is that this represents a real result, and that, perhaps, successors to spetsbanks are more willing to make loans when they increase employment than when they increase growth-causing capital. This would be consistent with the idea that spetsbanks help traditional large firms retain workers, in part to help keep elected political elites in office and in part because these firms provide public goods such as health services and education to the populace and thus help maintain social stability (see Remington [2011]). On the other hand, we note that we examined 4 different economic outcomes with 6 different measures, which means that while not probable, it is possible that we would find statistically significant results for at least one outcome due to chance.²⁷

One potential explanation for the difference in findings relative to the existing literature is that our estimates capture the impact of banking induced by successors to spetsbanks, which could have a different impact on economic activity than loans made by other banks. That is, while successors to spetsbanks were privatized and faced the same incentives and constraints as other banks, it is possible that they behave differently.

To investigate this, we perform a series of empirical exercises to determine whether successors to spetsbanks appear to be acting like commercial banks that do not have their origins in the Soviet Union. Specifically, we ask whether spetsbank successors charge similar interest rates as non-spetsbanks of similar size who operate in the same region. To do so, we regress the outcome of interest (interest rate charged or share of income) on regional fixed effects, log assets, and an indicator for whether the bank had its origins as a spetsbank.

²⁷ There is an 18.5 percent chance of finding at least one estimate in four that is statistically significant at the 5 percent level ($1 - 0.95^4$), assuming independence.

Results are shown in Table 6, where the first two columns show results for interest rates charged, while the remaining columns examine the share of interest income earned from various sources. Point estimates on interest rates charged indicate that spetsbanks charge somewhat lower interest rates to firms and individuals than non-spetsbanks (7 and 19 percentage points, respectively), only the estimate for firms is statistically significant at the 10 percent level. Thus, there appears to be suggestive, if inconclusive evidence that spetsbanks made lower-risk loans than non-spetsbanks, despite both being privately owned and serving the same markets.

The remaining columns reveal an interesting story regarding spetsbanks: they derive a significantly greater share of their income from loans made to the federal government, and there is suggestive evidence that spetsbanks receive a greater share of interest income from firms owned by the federal government (p-value=0.14) and local governments (p-value=0.11). In addition, spetsbanks earn significantly less income from foreign banks, which are outside the political sphere of government and the banks, and from individuals, who are likely to be higher-risk borrowers who may well spur economic growth.

Thus, our evidence on spetsbank behavior indicates that successors to spetsbanks appear to have a closer relationship with the government than their counterparts that originated from bottom-up, and they appear to make lower-risk loans to private individuals. Viewed in this way, the results here do not necessarily contradict the findings of Guiso, Sapienza and Zingales [2004] and Jayaratne and Strahan [1996], who show that within-country banking variation causes growth in Italy and the United States, both of which had well-established banks that had started from the bottom-up. Indeed, Jayaratne and Strahan [1996] report that the quality of lending, rather than the quantity of it, appeared to cause economic growth. Results presented here

suggest that history matters when it comes to making high-quality loans; the origins of banking institutions may well have persistent influence on behavior years afterward.

8. Conclusions

This paper examines whether additional banking capacity causes increases in per capita income, investment, unemployment, and the share of small business activity. To overcome biases due to selection and simultaneity, we exploit variation induced by the creation of old banks created to function as clearinghouses under the former Soviet Union. Existing research on these banks characterizes the locational decision as bureaucratic and exogenous to economic factors, which we confirm by showing the concentration of spetsbanks is uncorrelated with 17 covariates that predict economic growth.

Results indicate that while having one additional spetsbank per million population increases private lending up to 10 years later by 10 to 20 percent, this increase in lending does not cause an economically meaningful increase in investment or per capita income. This stands in stark contrast to existing research, providing an important counterexample in the banking and finance literature.

Further evidence indicates that this ineffectiveness may be due to lower risk-taking and greater government connections. Thus, our findings suggest that private ownership in the context of a competitive market may not be sufficient to transform socialist institutions. Instead, it appears that the origins of banking are important in determining whether finance affects growth, and top-down banking reforms coupled with privatization may not be an effective way to help a country achieve economic growth.

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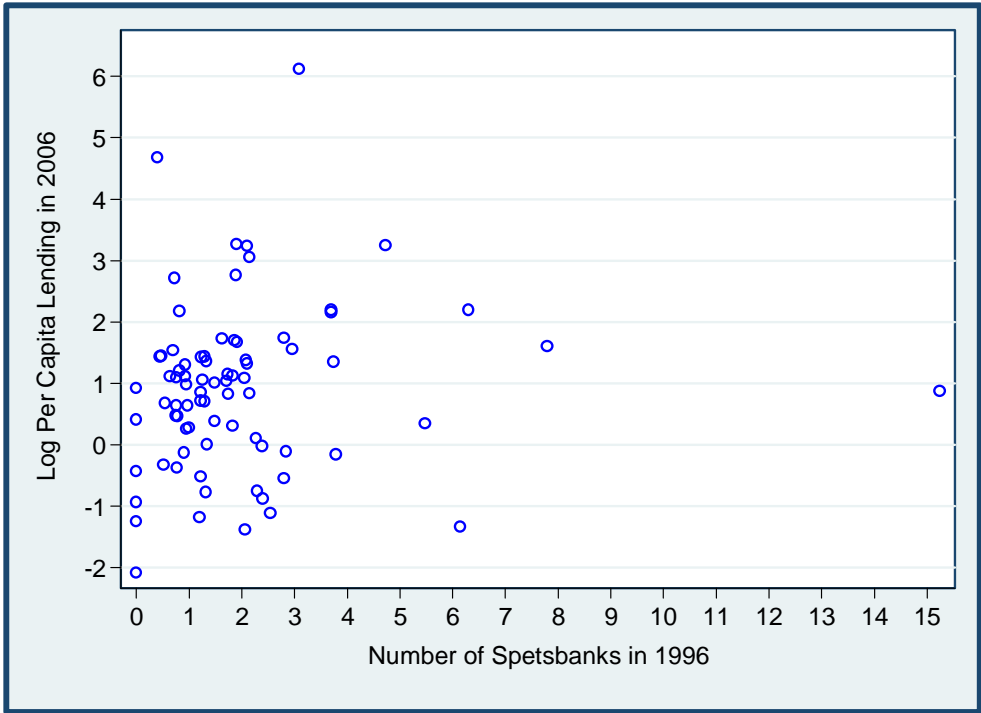


Figure 1: Spetsbank Concentration and Per Capita Lending in 2006

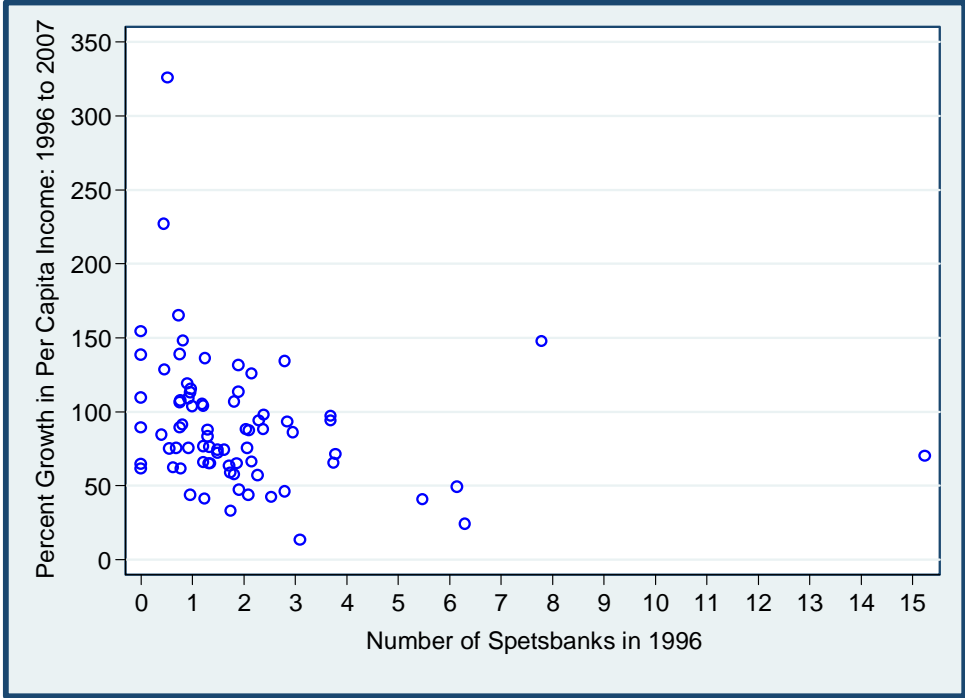


Figure 2: Spetsbank Concentration and Per Capita Income in 2006

Table 1: Descriptive Statistics for States in 1995-1996 with Above- and Below-Median Number of Spetsbanks

	Prior to the Crash of 1998			Observations
	Low Old Bank Presence	High Old Bank Presence	Difference in Means	
Banking:				
Number of Old Banks Per Capita, as of 1995:IV	0.78 (0.43)	3.14 (2.46)	2.364*** (0.40)	78
Demographics:				
Population (millions), 1996	2.10 (1.33)	1.71 (1.72)	-0.39 (0.35)	78
Share of 15 + year olds with at least some tertiary education, 1994	13.3 (3.4)	14.0 (3.8)	0.677 (0.81)	78
Ethno-linguistic fractionalization, 1990	0.30 (0.22)	0.33 (0.19)	0.03 (0.05)	78
Urban population share, 1996	68.7 (11.6)	70.6 (14.5)	1.918 (2.97)	78
Migration per 10,000, 1996	20.6 (56.1)	-13.9 (120.2)	-34.49 (21.2)	78
Distance to Moscow, logged kms	1765.0 (1749.3)	2653.4 (3192.1)	888.40 (582.90)	78
Political Environment:				
% of Urban Jewish Population in 1939 in regions subsequently occupied by the Nazis during WWII	0.09 (0.22)	0.07 (0.23)	-0.02 (0.05)	78
Strength of Communist Party, 1989 (proxied by participation in Soviet elections)	87.5 (6.1)	86.2 (6.9)	-1.3 (1.5)	78
Support for Yeltsin, 1991	54.4 (10.4)	52.0 (13.0)	-2.4 (2.7)	78
Support for Yeltsin, 1996	32.1 (9.0)	34.2 (11.7)	2.2 (2.4)	78
Institutions:				
Political Competition in Gubernatorial Elections, 1996	0.45 (0.28)	0.45 (0.30)	0.00 (0.07)	77
Appointed Governor, 1991, Insider or Outsider	0.28 (0.40)	0.22 (0.37)	-0.06 (0.09)	78
Government Involvement in Markets:				
Budget subsidies, 1995	16.7 (14.9)	13.3 (4.7)	-3.4 (2.6)	76
Agricultural subsidies, 1995	8.9 (4.8)	10.0 (6.1)	1.2 (1.3)	76
Share of municipal and state enterprises, July 1, 1997	18.8 (15.1)	23.0 (21.2)	4.2 (4.2)	76
Weighted average of goods and services with regulated prices, 1996	16.2 (10.3)	14.5 (7.0)	-1.7 (2.0)	76

Notes: Figures represent the average across all states during that time period. Robust standard errors are in parentheses. Standard errors for differences in means assumes that variances are equal.

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Table 2: Descriptive Statistics Before and After Modern Banking, by Presence of Old Spetsbanks

	Prior to Modern Banking in Russia (circa 1996)		2007	
	Low Old Bank Presence	High Old Bank Presence	Low Old Bank Presence	High Old Bank Presence
Spetsbanks Per Capita (in millions)	0.8 (0.5)	2.2 (1.7)	0.6 (0.5)	1.7 (1.7)
Bank Loans to Households and Firms Thousands of Rubles Per Capita	0.04 (0.04)	0.12 (0.36)	5.31 (17.03)	17.19 (72.14)
Real income per capita in rubles April 2007=100	4334 (1830)	5547 (4048)	8504 (2834)	10015 (5749)
Unemployment Rate (%)	10.7 (4.6)	10.4 (3.7)	7.2 (4.0)	6.4 (3.2)
Herfindahl Index for Household Loans	3381 (2315)	3309 (1978)	5249 (2426)	5001 (2430)
Herfindahl Index for Firm Loans	3606 (2321)	2821 (1443)	4820 (2436)	4575 (2542)
Migration	20.6 (56.1)	-13.9 (120.2)	-1.9 (36.0)	-8.8 (38.9)
% Urban	68.7 (11.6)	70.6 (14.5)	68.7 (11.5)	70.9 (14.1)
Population, millions	2.10 (1.33)	1.71 (1.72)	2.00 (1.32)	1.66 (1.86)

Notes: Standard deviations are in parentheses. Low old bank presence refers to regions in which there were fewer than the median of 1.4 spetsbanks per million population, while high old bank presence refers to regions in which there was an above-median number of spetsbanks per million population. Bank loans to private sector prior to modern banking are from the last 2 quarters of 1997, as this is the earliest time for which reasonable data coverage is available.

Table 3: Correlation Between Spetsbank Concentration and Other Pre-Banking Region Characteristics

Dependent Variable:	Spetsbanks October 1995 per Million			Other Banks October 1995 per Million		
	1	2	3	4	5	6
Income and Demographics						
Log of real per capita income, 1996	0.56 (0.54)	0.09 (1.18)	0.55 1.406	2.92 2.207	5.20* (2.90)	5.86* 3.066
Unemployment rate, 1996	-	-0.20* (0.10)	-0.10 (0.09)	-	-0.27* (0.15)	-0.12 (0.15)
Log of population (millions), 1996	-	-1.69*** (0.60)	-	-	-2.42** (1.04)	-
Share of 15 + year olds with at least some tertiary education, 1994	-	0.18* (0.11)	0.14 (0.11)	-	0.06 (0.22)	0 (0.23)
Ethno-linguistic fractionalization, 1990	-	3.47* (1.80)	1.2 (1.86)	-	5.59 (3.78)	2.32 (4.01)
Urban population share, 1996	-	-0.05 (0.05)	-0.09 (0.06)	-	0 (0.07)	-0.05 (0.07)
Migration per 10,000, 1996	-	0.00 (0.01)	0.00 (0.00)	-	0.02** (0.01)	0.01 (0.01)
Distance to Moscow	-	0.00 (0.00)	0.00 (0.00)	-	0.00 (0.00)	0.00* (0.00)
Political Environment:						
% of Urban Jewish Population in 1939 in regions subsequently occupied by the Nazis during WWII	-	-0.75 (0.95)	-0.32 (0.86)	-	-2.31 (1.80)	-1.69 (1.63)
Strength of Communist Party in 1989	-	-0.06 (0.06)	-0.04 (0.06)	-	0.25* (0.13)	0.28** (0.12)
Support for Yeltsin, 1991	-	-0.02 (0.03)	-0.03 (0.03)	-	-0.07 (0.04)	-0.09* (0.05)
Support for Yeltsin, 1996	-	0.67 (1.08)	0.01 (0.04)	-	0.11* (0.05)	0.09* (0.05)
Institutions:						
Political Competition in Gubernatorial Elections, 1996	-	0.67 (1.08)	0.83 (1.19)	-	2.76* (1.57)	2.99* (1.57)
Appointed Governor, 1991, Insider or Outsider	-	-0.35 (1.37)	-1.38 (1.52)	-	-0.36 (1.29)	7.26** (3.26)
Government Involvement in Markets:						
Budget subsidies, 1995	-	-0.02 (0.01)	-0.02 (0.01)	-	-0.06** (0.02)	-0.06** (0.03)
Agricultural subsidies, 1995	-	-0.01 (0.05)	-0.01 (0.05)	-	0.04 (0.09)	0.04 (0.08)
Share of municipal and state enterprises, July 1, 1991	-	-0.01 (0.02)	0.00 (0.02)	-	-0.06* (0.03)	-0.05 (0.03)
Weighted average of goods and services with regulated prices, 1996	-	-0.03* (0.02)	-0.05** (0.02)	-	0.00 (0.04)	-0.02 (0.04)
Observations	78	78	78	78	78	78
F-statistic of Test of Joint Significance	-	5.35	0.90	-	34.73	9.03
Prob > F	-	0.0000	0.5899	-	0.0000	0.0000
R ²	0.02	0.48	0.37	0.09	0.56	0.51

Notes: Each column represents a different regression. Robust standard errors are in parentheses.

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Table 4: The Effect of Old Spetsbank Presence on Banking Capacity

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Panel A: Bank Capacity in 2003	Log Per Capita Lending in 2003, by State of Lender				Log Per Capita Lending in 2003, by State of Borrower				Log Herfindahl Index in 2003				Loan Interest Rate Charged in 2003			
Number of Old Banks per Million Population	0.19*** (0.05)	0.20*** (0.05)	0.20*** (0.05)	0.23*** (0.05)	0.14*** (0.05)	0.12*** (0.04)	0.13*** (0.04)	0.09** (0.04)	-0.08*** (0.02)	-0.05** (0.02)	-0.05** (0.03)	-0.06** (0.03)	-0.15 (0.16)	-0.31* (0.18)	-0.31 (0.19)	-0.32 (0.20)
Observations/Regions	78	78	76	76	78	78	76	76	78	78	76	76	78	78	76	76
R ²	0.52	0.76	0.68	0.77	0.50	0.69	0.67	0.70	0.35	0.63	0.61	0.64	0.24	0.52	0.49	0.46
Panel B: Bank Capacity in 2006	Log Per Capita Lending in 2006, by State of Lender				Log Per Capita Lending in 2006, by State of Borrower				Log Herfindahl Index in 2006				Loan Interest Rate Charged in 2006			
Number of Old Banks per Million Population	0.16*** (0.04)	0.17*** (0.05)	0.18*** (0.05)	0.22*** (0.06)	0.10** (0.04)	0.10*** (0.03)	0.10*** (0.04)	0.08** (0.04)	-0.11*** (0.02)	-0.11*** (0.02)	-0.10*** (0.02)	-0.11*** (0.02)	-0.05 (0.16)	-0.22* (0.12)	-0.23* (0.13)	-0.10 (0.14)
Observations/Regions	78	78	76	76	78	78	76	76	78	78	76	76	75	75	73	73
R ²	0.57	0.74	0.65	0.74	0.50	0.75	0.69	0.73	0.42	0.69	0.68	0.68	0.25	0.63	0.62	0.45
Controls for all pre-banking characteristics from Table 1	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Capital cities are dropped (Moscow and St. Petersburg)	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
Regions with bad political and economic institutions dropped (Karbardino-Balkar Republic and Tuva Republic)	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes

Notes: Each column represents a separate regression. Each specification controls for logged 1996 population and logged 1996 per capita income. Household lending is deflated by the CPI where April 2007=100, and the first two quarters of 2007 are included. Regions with "bad institutions" are those in which the composite Zubov index for 2000 to 2004 is more than two standard deviations below the average. Loan interest data in 2006 is missing for three regions including the Kursk, Magadan and the Republic of Kalmykia.

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Table 5: The Effect of Banking on Income, Investment, Unemployment, and Small Business Share

	1	2	3	4	5	6	7	8	9	10	11	12
Panel A: Income	Log Real Per Capita Income in 2007				Log Real GDP Per Capita in 2007				Unemployment in 2007			
Number of Old Banks	-0.004 (0.010)	-0.014 (0.012)	-0.014 (0.012)	-0.018 (0.013)	-0.012 (0.013)	-0.016 (0.019)	-0.018 (0.018)	-0.023 (0.020)	-0.016 (0.132)	-0.288** (0.134)	-0.303** (0.139)	-0.270* (0.157)
Observations/Regions	78	78	76	76	78	78	76	76	78	78	76	76
R ²	0.82	0.89	0.86	0.88	0.78	0.84	0.82	0.83	0.53	0.78	0.77	0.78
Panel B: Investment and Small Enterprises	Log Investment in 2007				Share of Workers Employed in Small/Medium Enterprises in 2007				Share of Small/Medium Enterprise Production in 2007			
Number of Old Banks	-0.037 (0.030)	-0.037 (0.039)	-0.031 (0.040)	-0.089** (0.033)	0.778* (0.461)	0.371 (0.290)	0.351 (0.290)	0.359 (0.330)	0.228 (0.153)	0.108 (0.197)	0.078 (0.200)	0.284 (0.223)
Observations/Regions	78	78	76	76	78	78	76	76	78	78	76	76
R ²	0.76	0.83	0.82	0.86	0.30	0.65	0.57	0.64	0.26	0.56	0.49	0.56
Controls for all other pre-banking characteristics from Table 1	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Capital cities are dropped (Moscow and St. Petersburg)	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
Regions with bad political and economic institutions dropped (Karardino-Balkar Republic and Tuva Republic)	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes

Notes: Each column in each panel represents a separate regression. Each specification includes log 1996 population, log 1996 per capita income, and region and year-by-quarter fixed effects, and each unemployment specification includes unemployment in 1996. Regions with "bad institutions" are those in which the composite Zubov index for 2000 to 2004 is more than two standard deviations below the average.

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

Table 6: Differences Between the Business Practices of Spetsbank Successors versus Non-Spetsbanks

	Interest Rates Charged To:				The Share of Interest Income That Comes From:						
	Firms	Individuals	Government	Central Bank of Russia	Domestic Banks	Foreign Banks	Firms Owned by the Federal Government	Firms Owned by Local Governments	Domestic, Private, Non-Banking Firms	Foreign Non-Banking Firms	Individuals
Spetsbank Origin	-0.003 (0.003)	-0.008** (0.004)	1.068*** (0.3980)	0.519 (0.5690)	0.996 (0.7190)	-0.498** (0.2300)	0.247 (0.1670)	0.37 (0.2330)	-0.334 (1.8160)	0.161 (0.5150)	-3.229** (1.6500)
Observations	5,176	4,995	7,093	7,093	7,093	7,093	7,093	7,093	7,093	7,093	7,093

Notes: Each column represents a separate regression. Each specification includes logged bank assets, region fixed effects, and quarter fixed effects. Standard errors are clustered at the bank level.

* Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level