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Asymmetric information and loan spreads in Russia: Evidence from syndicated loans



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Abstract

This paper considers whether local bank participation exerts an impact on the spreads for syndicated loans in Russia. Following Berger, Klapper and Udell (2001), we test whether local banks possess a superior ability to deal with information asymmetries. Using a sample of 528 syndicated loans to Russian borrowers, we perform regressions of the spread on a set of variables including information on local bank participation and the characteristics of loans and borrowers. Unlike earlier studies, we distinguish foreign banks with a local presence from those without such presence. The intuition here is that a local presence may influence a foreign bank's monitoring ability and access to information about borrowers. We observe no significant impact on the spread when there is local bank participation in a syndicated loan, nor do we find any significant influence of the presence of domestic-owned banks or foreign-owned banks on the spread. Additional estimations considering subsamples with exacerbated information asymmetries provide similar results. Therefore our conclusion is that local banks do not benefit from an advantage in monitoring ability and in information in Russia.

JEL Codes : G21, P34. Keywords : Bank, Information asymmetry, Loan, Syndication, Russia.

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Tiivistelmä

Tässä tutkimuksessa arvioidaan, onko paikallisen pankin osallistumisella vaikutusta syndikaattilainojen korkoeroihin Venäjällä. Bergerin, Klapperin ja Udellin (2001) tapaan testaamme tässä tutkimuksessa, onko paikallisilla pankeilla parempi kyky käsitellä epäsymmetrisen informaation ongelmaa. Aineisto sisältää 528 syndikaattilainaa venäläisille yrityksille. Korkoeroa selitetään työssä laajalla joukolla lainoihin ja lainanottajiin liittyviä ominaisuuksia, mutta tärkein muuttuja on kotimaisten pankkien osallistuminen syndikaattiin. Aikaisemmista tutkimuksista poiketen ulkomaiset pankit jaetaan tässä työssä niihin, joilla on toimintaa Venäjällä, ja niihin, joilla ei ole. Jaottelun taustalla on ajatus, että paikallinen läsnäolo voi vahvistaa pankin kykyä valvoa ja saada tietoa lainanottajista. Tulokset eivät kuitenkaan tue tätä näkemystä, vaan paikallisen pankin osallistuminen ei vaikuta korkoeroon. Sen lisäksi tutkimuksen perusteella voidaan todeta, että kotimaisten ja ulkomaisten pankkien osallistumisella ei näytä olevan tilastollisesti merkitsevää vaikutusta korkoeroon. Estimoinnit toistetaan myös osa-aineistoissa, joissa epäsymmetrisen informaation merkitys korostuu, mutta tulokset eivät muutu. Tutkimuksen johtopäätös on, että paikallisilla pankeilla ei ole lisäetua valvonnassa tai tiedonsaannissa Venäjällä.

Asiasanat: pankit, epäsymmetrinen informaatio, laina, syndikoitu luotto, Venäjä

1 Introduction

Russia presents a fascinating laboratory for the study of emerging market growth. While the world average for the banking sector's ratio of domestic credit to GDP was 55.8% in 2005, despite impressive banking sector expansion, Russia's was just 25.7% that year (EBRD,2006).¹ Moreover, the level of bank lending in Russia remains stunningly low.² Given the well-established positive relationship between bank lending and growth (Levine, 2005), Russia's shortcomings in terms of bank lending could be seen as an impediment to economic development.

Examining Russian borrowing more closely, we find a significant rise in syndicated loans, that is, loans where two or more banks jointly grant funds to a borrower. The volume of syndicated loans in Russia increased from just under \$11 billion in 1997 to \$117 billion in 2006.³ These figures are significant also in comparison to the amounts of credit to non-financial private sector in the same period, which BIS puts at about \$42 billion in 1997 and \$313 billion in 2006. The expansion of syndicated lending has largely involved non-Russian banks, with Russian banks providing a mere 2.22% of funding for syndicated loans to Russian borrowers.⁴

Has the low participation of Russian banks in syndicated loans, in fact, constrained Russia's financial development? Berger, Klapper and Udell (2001) argue that local banks enjoy a dual advantage of monitoring ability and information about borrowers over non-local banks. They claim the lower spread for local banks in a sample of Argentinean loans evidences the existence of an informational advantage. Nini (2004) investigates whether the participation of local banks in a syndicate influences the loan spread using a sample of syndicated loans from 13 emerging countries in Eastern Europe and Latin America. He concludes spreads are generally lower for syndicated loans where local banks participate. Again, this conclusion supports the view that local banks in emerging countries are well positioned to alleviate information asymmetries.

Drawing from Nini (2004), we consider whether the participation of local banks has a similar impact on syndicated loan spreads in Russia. Our goal is to uncover whether local Russian banks take advantage of monitoring opportunities and access to information. This, in turn, helps answer the larger question of whether the low participation of local banks in syndicated loans contributes to hampering Russia's financial development by keeping loan spreads wide.

¹ The banking sector's ratio of domestic credit to GDP was 13.3% in 2000.

² Rosstat figures show that only 6.5% of investment was financed by bank loans in 2005. The corresponding figure for 2007 was 9.4%.

³ Authors' computations from Dealscan database.

While Nini's (2004) multi-country analysis includes a sample of 143 loans to Russian borrowers, we consider a larger sample of 528 loans. We also distinguish between foreign banks with a local presence and those without. Nini (2004) defines a local bank simply as a domestic-owned bank and lumps foreign-owned banks and banks operating abroad as a single group. Yet, critical differences may exist in information and monitoring within these categories of banks. Foreignowned banks can exploit information on borrowers and the legal system through a local presence and in-country staff.

This issue carries large implications for foreign banks contemplating the establishment of a subsidiary in Russia. A finding that foreign-owned banks with a local presence can offer smaller spreads in syndicated loan suggests a potential competitive edge over non-local banks in the market for syndicated loans.

The impact of the participation of domestic-owned banks on syndicated loans also has normative implications for Russia. Unlike in most transition countries, Russia's banking industry remains largely owned by domestic investors – most notably the state. Therefore, a finding of lower spreads for syndicated loans with domestic-owned bank participation supports preserving the presence of domestic-owned banks in the Russian banking industry, and, as a corollary, enhancing their participation in syndicated loans.

Despite the boom in syndicated loans in Russia, this paper, to our best knowledge, is the first that specifically investigates the subject. Related studies either deal generally with the topic of syndicated loans in emerging markets or the determinants of spreads of syndicated loans.⁵ Altunbas and Gadanecz (2004), for example, study the determinants of the spread for a sample of loans from emerging markets that includes Russia. They focus on the potential impact of macroeconomic factors and loan characteristics, and identify macro- (e.g. GDP growth) and micro- (e.g. loan maturity) determinants of the spread. Godlewski and Weill (2008) investigate the determinants of the decision to syndicate a loan using a sample of loans from emerging countries that includes Russia. They observe the impact of loan characteristics (e.g. loan size, maturity, presence of covenants) and institutional factors (e.g. legal environment) on the decision to syndicate a loan, and suggest that cross-country differences in the expansion of syndicated loans may be explained by cross-country institutional differences.

⁴ We estimate Russian banks provided \$5.5 billion in funding for syndicated loans in 2006.

⁵ Nini (2004) straddles both strands of the literature.

Three recent papers deal specifically with spreads of syndicated loans. Carey and Nini (2007) provide evidence that loan spreads are smaller for corporate borrowers in Europe than in the US. They show that this difference is not linked to borrower, loan or lender characteristics, and offer "home bias" as a possible explanation. Foccarelli, Pozzolo and Casolaro (2008) and Ivashina (2009) investigate a possible role of the share of the lead bank in the loan on the spread from different perspectives. Indeed, this share can mitigate information asymmetries between the banks participating in a lending syndicate. The studies find evidence of a negative impact on a sample of loans (one from the world, the other from the US) that suggests that the lead bank's share is a positive signal for syndicate participants.

The remainder of this article is structured as follows. Section 2 describes the loan syndication process and the syndicated loan market in Russia. Section 3 presents data and variables, and section 4 shows our results. Section 5 concludes.

2 Loan syndication in emerging markets

The section is divided into two parts. First, we discuss how the loan syndication process is implemented. Then, we present significant features of syndicated loans in Russia.

2.1 The loan syndication process

Bank loan syndication follows a three-stage sequence.⁶ In the first, pre-mandated stage, competitive offers are solicited from one or more banks to act as arranger of the syndication (the pool of potential arrangers typically includes the borrower's main relationship banks). The borrower next chooses one or more banks⁷ (sole- or joint-mandated lead arranger) to form the syndicate and negotiate the preliminary loan agreement. The lead arranger negotiates key loan terms, appoints participants and structures the syndicate.⁸ Once designated, the lead arranger is responsible for placing the syndicated loan with other banks and ensuring that it is fully subscribed. The arranger's compensa-

⁶ See Esty (2001) for a detailed presentation of syndication.

⁷Such syndications are usually chosen by the borrower to maximize the likelihood of a successful syndication in terms of loan characteristics, subscription and duration of the syndication process.

⁸ Participants lend a portion of the loan and receive a compensation essentially composed of a spread.

tion is composed largely of fees for performing agency duties, costs of arrangement, securing commitments, etc.

Loan placement occurs in the second, so called post-mandated, stage. The arranger prepares an information memorandum, i.e. an information package with information about borrower creditworthiness and loan terms. The memorandum is then distributed to a set of targeted participants largely determined by the arranger. This is backed up with a "road show" for potential participants, at which the arranger presents the contents of the information memorandum, fields' questions and comments, and sets forth the closing fees, timetable for commitments and closing date. The road show gives participants an opportunity to make suggestions about the structure and the pricing of the loan. Following the road show, the arranger issues formal invitations to potential participants and sets the allocation for each participant.

The final stage takes place after closing and the loan conditions take effect (i.e. the debt contract has become binding on the borrower and syndicate members). The contract sets out the terms and conditions of the loan (amount, purpose, period, the rate of interest plus fees, periodicity and repayment schedule, and collateral, if any).

2.2 Loan syndication in Russia

Although Russia's first syndicated loans contracts were made in the mid-nineties, the business took off in 1997 as Russian banks and other enterprises failed to get access to cheaper financing options such as Eurobonds. Indeed, syndicated loans were the only financing method available to many large Russian firms as it was the only financing format requiring no credit rating. Lenders to Russian borrowers were exclusively foreign financial institutions. While the 1998 financial crisis crimped lending and caused a few down years in syndicated loan-taking, Russia's buoyant economic recovery in the early 2000s generated a rising demand for long-term financing. As Russia's underdeveloped banking sector was unable to provide such financing, investment had to be financed either out of pocket from retained earnings or by borrowing from abroad.⁹ With rising confidence in the Russian economy and Russian firms finally establishing credit histories, foreign banks began to take an interest in the Russian market. All of these factors were reflected in a significant increase in the amount of syndicated loans for Russian companies in 2003 to a total of \$34.2 billion. Following

⁹ Domestic bank loans were used to finance only 5% of investments in 2003 and about half of invested capital originated from retained earnings (The Banker, 2004).

the mini-bank crisis and the Yukos affair in 2004, lenders pulled back and there was a slight decrease of the amount of syndicated loans. Nevertheless, growth in lending revived again.

From the very beginning, the main borrowers on the syndicated market have been Russian banks. However, in terms of volume syndicated loan market is dominated by traditionally strong Russian gas and oil companies. The majority of deals is arranged in US dollars. Most of the syndicated loans to Russian borrowers are short-term loans i.e. up to two years. However, loan extension options are rather common. Banks tend to use most of their loans for refinancing and trade financing, other companies mostly for general corporate purposes.10

3 Data and variables

3.1 Data

The sample of syndicated loans consists of all loan facilities in the Dealscan database, provided by the Loan Pricing Corporation (LPC, Reuters), where the borrower is from Russia. Data on loan characteristics come from the Dealscan database.¹¹ Data concerning borrower characteristics are taken from the Ruslana database provided by Bureau Van Dijk. Central Bank of Russia data is used to determine the ownership of Russian banks.

Following Qian and Strahan (2007) and Ivashina (2009), we skip loans to financial companies owing to the specificities of these firms in comparison to others (different risk, different capital structure with notably a greater leverage).¹² Based on information availability of the variables used in the regressions, our sample consists of 528 loan facilities for the period between 1997 and 2006. Unremarkably, over half of these loans (320) were issued to companies operating in the oil and gas industry.

¹⁰ For more detailed description of the Russian syndicated loans market see Zobov and Vasilyev (2009).

¹¹ Data on all loans in this database are given in US dollars.

¹² Altogether, about 135 of loans went to borrowers from the financial and insurance sector.

3.2 Variables

We focus on the potential impact of the role of the nationality of lenders on the loan spread. In this aim, we proceed to regressions of the spread on a set of variables including variables on the nationality of lenders and some control variables.

The explained variable in our regressions is the spread on the base rate in basis points (*Spread*). A local bank is defined as a Russian bank, i.e. domiciled in Russia. A Russian bank can be domestic-owned or foreign-owned. The presence of a local bank is taken into account through a dummy variable equal to one if at least one local bank participates in the syndicate (*Local*). We also distinguish between categories of local banks with dummy variables equal to one if a domestic-owned (*Domestic-owned*) or foreign-owned (*Foreign-owned*) bank participates in the syndicate. A foreign-owned bank is a bank with a foreign ownership share exceeding 50%.

We control for loan characteristics in the estimations. Loan size (*Loan amount*) is the amount of the loan facility. We control for the maturity of the loan (*Maturity*). The presence of covenants (*Covenants*) and guarantors (*Guarantors*) in the loan contract are taken into account by introducing dummy variables. We consider loan type through a dummy variable (*Term loan*) equal to one if the loan is a term loan and zero otherwise. We include dummy variables to describe the purpose of the loan, including debt repayment, general corporate purpose or trade finance, as well as to take the loan benchmark rate (Euribor and Libor) into account.

We also consider borrower characteristics among our control variables. Following Focarelli, Pozzolo and Casolaro (2008), we include size measured by total assets (*Size*), debt ratio defined by the ratio of total liabilities to total assets (*Debt ratio*), and return on assets measured by the ratio of profit before tax to total assets (*ROA*). We also control for the fact that the borrower is listed by including a dummy variable equal to one if the borrower is listed on the stock exchange (*Listed*).

Table 1 lists descriptive statistics for the variables.¹³ Appendix A.1 provides their definition. We observe an average spread of 153.4 basis points, which is quite in line with the average spread of 161.7 basis points observed by Focarelli, Pozzolo and Casolaro (2008) in their analysis of 80 countries. Only 6.12% of syndicated loans include at least one Russian bank. Russian participants are more likely to be foreign-owned banks (3.99% of loans) than domestic-owned banks (2.13% of loans). As expected, the typical syndicated loan is fairly large, \$203 million on average. While the maturity of loans is just 46 months on average, a relatively short period, we note that corporate loans in Russia are usually provided for only two or three years. In this respect, the average maturity of syndicated loans is quite long. Moreover, it accords with the observation that most loans in transition countries are granted on a short-term basis. The presence of covenants and guarantors for loan contracts is scarce, 7.71% and 4.27%, respectively. Finally, the vast majority of loans are term loans (83.55%).

The borrowers are usually large, listed companies. Again, high mean debt ratio, 45.08%, implies equity represents more than half of the total balance sheet of firms in the sample. In fact, such debt ratios are commonly observed in transition countries (e.g. Delannay and Weill, 2004). They are most likely a testament to the difficulties companies face in obtaining financing. Indeed, Pissarides, Singer and Svejnar (2000), make this very case in their discussion of Russian firms. Profitability is also relatively high – an average ROA of 13.55% – reflecting the flourishing economic conditions during the observation period.

4 Results

This section displays our results. We first present the main estimations, before displaying some additional tests.

4.1 Main estimations

We perform regressions of the spread on a set of variables including information on the participation of local banks in the loan and control variables. Dummy variables for years are included in the estimations. We consider two panels for all specifications. Panel A reports the results for all syndicated loans, and includes 528 loans. Panel B reports the results for the 351 loans for which borrower characteristics are known.

In Table 2, we examine whether the presence of a local bank influences the spread. The results in panels A and B show that the variable *Local* is not significant. This lack of significance is not dependent on the presence of borrower characteristics as it is observed in both estimations.

¹³ There is no significant difference between the descriptive statistics for syndicated loans with a without the participation of a local lender.

Therefore, we find no support for the view that the participation of local banks in syndicated loans reduces information asymmetries between the borrower and lenders in Russia.

Two control variables for loan characteristics are significant. In line with Nini (2004) and Focarelli, Pozzolo and Casolaro (2008), we observe a negative and significant coefficient for *Loan amount*. There are two possible explanations here: the existence of economies of scale in lending or the fact that larger borrowers are considered safer customers by syndicates. As is commonly observed in other studies, *Maturity* is significantly negative in all estimations. As the maturity of loans is relatively short, this result can be explained by the fact that loans with longer duration are associated with lower default risk.

Turning to borrower characteristics, we observe a significantly negative coefficient for *Size*. This reflects the fact that larger size is associated with lower default risk. The negative sign for *Debt ratio* can appear surprising at first glance. As greater debt ratio means greater indebtedness, one could expect that greater debt increases the spread by deteriorating the financial situation of the borrower. Nevertheless, debt can be perceived as a signal of good borrower quality and thus helps reduce spreads in Russia for two reasons. First, following Ross (1977) and Leland and Pyle (1977), debt can be seen as a signal to lenders. Indeed issuance of debt leads to a higher probability of default due to the debt-servicing costs which represent a costly outcome for firm managers and shareholders. This signalling role of debt is particularly relevant in countries characterized by greater ex ante information asymmetries. As Russia is marked by a limited experience with banks (with almost all were established within the past two decades) and a short history of relationships between banks and borrowers, any track record is hard to find. Second, given the challenges Russian companies face in obtaining financing, higher debt level can be perceived as a good signal by lenders, by showing the ability of the firm to obtain loans in the past.

We now investigate if domestic-owned banks differ from foreign-owned banks in their ability to exploit or overcome information asymmetries. Indeed, the absence of impact of the presence of a local bank in the first estimations may come from the fact that we have grouped both categories of banks, while only domestic-owned banks may have a better ability deal with information asymmetries. In Table 3, we regress the spread on the variables taking the participation of both categories of local banks in the loan into account. However, our results suggest no difference between domestic-owned and foreign-owned banks. The coefficient for *Domestic-owned* is significantly negative in panel A, but this result is not robust as the addition of borrower characteristics in panel B leads to a non-significant coefficient. The coefficient for *Foreign-owned* is not significant

in both estimations. The results for control variables are similar to those observed in the previous estimations.

In a nutshell, we have two main findings. The first finding is that domestic-owned banks do not do any better in overcoming information asymmetries in Russia. This finding directly contradicts the general finding of Nini (2004) that syndicated loans with the participation of domestic-owned banks have lower spreads in emerging countries. Several factors unique to the Russian context may explain this finding.

First, Russian domestic-owned banks in the observation period may still have been so inexperienced that they have yet to learn to exploit borrower information. Indeed, many of the banks were only established in 1990s and a considerable number of failures took place since then. Moreover, most of the syndicated loan borrowers in Russia are global companies operating in international markets. One would be hard pressed to find local banks with comparable expertise in global commodity markets and the international arena.

Second, foreign banks, regardless of whether they have a local presence, may benefit from better technology and know-how in risk analysis that allows them to offset the informational advantage of domestic-owned banks. Indeed, this advantage has been advanced in the literature to explain the fact that, while domestic-owned banks are more cost-efficient than foreign-owned banks in developed countries, the finding is reversed in transition countries (see Weill, 2003; Hasan and Marton, 2003; and Bonin, Hasan and Wachtel, 2005).

Third, Russia is highly corrupt. Transparency International ranked Russia 143rd out of 169 countries in its 2007 Corruption Perception Index. Weill (2008), for example, notes that corruption can exert a positive impact on spreads by resulting in a waste of any informational advantage offset by illegal practices. As a result, Russian banks are more likely to be afflicted with corruption than non-local banks established in more transparent Western countries. Furthermore, among local banks, domestic-owned banks are expected to suffer more from corruption than foreign-owned banks, which have more often foreign managers that have more incentives to refuse bribes.

Our second main finding is the absence of an advantage in information for foreign-owned banks with a local presence over non-local banks. This suggests that there is no basis for establishing a bank in Russia for the purpose of obtaining better information on borrowers and the environment. Lending could be done just as well from abroad. This conclusion is of interest in Russia where a relative degree of uncertainty on stability and state intervention may deter foreign banks from establishing a subsidiary in the country.

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4.2 Additional estimations

Deepening the analysis, we split the sample along dimensions related to the importance of informational problems.

Our first split is between listed and non-listed companies. Information asymmetries should be lower for listed companies owing to the obligations to provide information for these companies. The advantage in monitoring ability and in information for local banks should then play a lesser role when participating in a syndicated loan to a listed company.

The result that the variable *Listed* was not significant in our first estimations might be explained by the fact that there are no differences in information asymmetries between listed and nonlisted companies, as they are all charged with spreads which are not significantly different. Nevertheless, one has to investigate whether the behaviour of banks differs according to their ability to solve information asymmetries.

In Table 4, we analyze whether the presence of a local bank in the syndicate influences the spread depending whether the borrower is listed. The results in panels A and B show no significant coefficient for *Local*. Table 5 considers the participation of a domestic-owned bank or a foreign-owned bank in the syndicate. Again, the variables for the participation of local banks are not significant. As a consequence, our findings support the view that the fact that the borrower is listed or not makes no difference to lenders in dealing with information asymmetries.

Our second split is with respect to the size of the loan, following notably Focarelli, Pozzolo and Casolaro (2008). The assumption is that larger loans are generally granted to larger, more transparent borrowers. We define a small loan as a loan of less than \$150 million. The intuition is that local banks should have a superior monitoring ability and better information than their non-local counterparts when it comes to small loans. In Table 6, we investigate how the presence of a local bank in the syndicate affects the spread for small and large loans. All estimations show no significant coefficient for *Local*. We also test variables taking into account the participation of a domestic-owned or foreign-owned bank in the estimations in Table 7. While the coefficient of *Foreign-owned* is never significant, we obtain a significantly negative coefficient for *Domestic-owned* for the sample of small loans in Panel A. Nevertheless, this result is not robust to the inclusion of borrower characteristics in Panel B that leads to a non-significant coefficient. Therefore, these results corroborate our conclusion regarding the absence of any informational advantage for domes-

tic-owned banks or more generally for local banks. Even for small loans, we observe no significant impact on the spread from the presence of such banks.

All in all, our main findings are supported by these additional estimations. We find no informational advantage for local banks whether their owners are domestic or foreign.¹⁴

5 Conclusions

In this paper, we investigate whether the presence of local banks in a syndicated loan exerts an influence on the spread in Russia. Despite the contention of Nini (2004) that for local bank offers a possible advantage in dealing with information asymmetries in emerging economies, we find no evidence that the participation of local banks contributed to lower spreads for syndicated loans in the case of Russian borrowers. This finding is observed for domestic-owned as well as for foreignowned banks, as we distinguish between these categories of local banks. Additional estimations in which we consider subsamples for which information asymmetries are exacerbated provide similar results.

Consequently, our conclusion is that local banks do not enjoy, or at least have been unable to exploit, an informational advantage over non-local banks (manifested as lower loan spreads for borrowers). Furthermore, no similar advantage could be identified for domestic-owned banks over foreign banks (with or without a subsidiary in Russia) or foreign-owned banks with a local presence have over non-local banks. The apparent inability of local banks to exploit their advantage may result from their lack of experience in acquisition of information about borrowers, the international sophistication of Russia's syndicated loan-taking community, as well as the harsh impacts of corruption on local banks, particularly domestic-owned banks, relative to foreign banks based in lowcorruption countries.

The implications of these results are numerous. For policy advisors, the persistence of an important domestic-owned banking industry in Russia cannot be motivated by arguments based on a better ability of local banks to exploit information asymmetries and provide loans with lower spreads. For foreign bankers, the establishment of a bank in Russia cannot be justified by the fact that a presence in Russia is required to be competitive in loan pricing as it provides access to better information.

¹⁴ Furthermore, we obtain virtually same results when performing the regressions on a subsample of loans to borrowers operating in the oil and gas industry.

This analysis could be extended in a number of directions. Further work is needed to provide more evidence on the determinants of loan spreads in Russia. It might also be rewarding to assess whether these findings are repeated for single-lender loans.

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Table 1 Descriptive statistics

Definitions of variables appear in the Appendix. Spread is given in basis points, Maturity in months. Loan Amount and Size are logarithms of amounts in thousands of dollars. Debt ratio and Profitability are given as percentages.

	Mean	Std Dev.	Min.	Max.
Spread	153.403	131.469	11	562.5
Local	0.0613	0.2399	0	1
Domestic-owned	0.0213	0.1445	0	1
Foreign-owned	0.0399	0.1958	0	1
Loan amount	19.14	1.14	14.79	21.82
Maturity	46.07	16.48	2	120
Guarantors	0.0427	0.2022	0	1
Covenants	0.0771	0.2668	0	1
Term loan	0.8355	0.3708	0	1
Size	24.23	2.15	16.50	27.17
Debt ratio	0.4508	0.2027	0.0799	0.8758
ROA	0.1355	0.0902	-0.0617	0.4896
Listed	0.6669	0.4715	0	1

Table 2 Participation of a local bank

Definitions of variables appear in the Appendix. The dependent variable is *Spread*. Table 2 reports coefficients and robust standard errors. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% or 1% level. Dummy variables for loan purpose, benchmark rate and year are included in the regressions, but not reported.

		Regr	essions	
	Panel A		Panel B	
Explanatory variables	Coefficient	Std. error	Coefficient	Std. error
Intercept	749.441***	100.09	977.537***	120.84
Local	-29.631	20.37	-7.894	14.12
Loan amount	-20.612***	4.43	-12.114***	4.13
Maturity	-0.826**	0.36	-1.020*	0.58
Guarantors	5.107	19.09	32.114	41.27
Covenants	-17.287	18.47	-22.970	27.75
Term loan	13.504	14.44	14.936	23.58
Size	-	-	-16.125***	3.31
Debt ratio	-	-	-156.916***	36.41
ROA	-	-	31.445	56.76
Listed	-	-	-16.655	20.70
Number of observations	528		345	
Adjusted R ²	0.7838		0.8556	

Table 3

Participation of a domestic-owned or foreign-owned bank

Definitions of variables appear in the Appendix. The dependent variable is *Spread*. Table 3 reports coefficients and robust standard errors. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% or 1% level. Dummy variables for loan purpose, benchmark rate and year are included in the regressions, but not reported.

		Regr	essions	
	Panel A		Panel B	
Explanatory variables	Coefficient	Std. error	Coefficient	Std. error
Intercept	762.002***	99.90	984.89***	105.92
Domestic-owned	-56.619*	29.25	-7.994	24.41
Foreign-owned	14.625	18.27	-7.753	9.69
Loan amount	-21.166***	4.42	-12.117***	4.14
Maturity	-0.863**	0.36	-1.020*	0.59
Guarantors	5.040	19.38	32.096	42.02
Covenants	-18.486	18.11	-22.971	27.78
Term loan	12.601	14.32	14.926	23.49
Size	-	-	-16.124***	3.29
Debt ratio	-	-	-156.943***	37.49
Profitability	-	-	31.424	57.17
Listed	-	-	-16.638	21.50
Number of observations	528		345	
Adjusted R ²	0.7863		0.8556	

Table 4 Participation of a local bank: comparison between listed and unlisted companies

Definitions of variables appear in the Appendix. The dependent variable is *Spread*. Table 4 reports coefficients and robust standard errors. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% or 1% level. Dummy variables for loan purpose, benchmark rate and year are included in the regressions, but not reported.

		Par	nel A			Ра	nel B	
	List	ted	Unlisted		List	ed	Unlisted	
Explanatory variables	Coefficient	Std. error						
Intercept	448.910***	54.35	1141.226***	155.65	-54.348	487.57	1046.383***	106.75
Local	-8.803	16.48	-4.231	23.31	-9.370	9.72	-22.827	16.01
Loan amount	-4.467	6.02	-52.059***	7.56	-3.778*	1.96	-12.282*	6.57
Maturity	0.333	0.86	-1.351***	0.51	5.622***	1.71	-1.835***	0.39
Guarantors	55.480	43.51	-24.349	28.41	7.388	98.11	37.658	39.75
Covenants	42.250	33.57	-49.229**	22.58	-24.378	71.79	-9.547	41.34
Term loan	47.600*	24.34	23.612	22.62	-191.648***	66.43	52.980*	27.36
Size	-	_	-	-	26.578	23.42	-19.132***	4.86
Debt ratio	-	-	-	-	108.281	126.09	-155.066***	53.74
ROA	-	-	-	-	-688.647***	231.16	102.327	88.28
Number of observations	289		239		215		130	
Adjusted R ²	0.8467		0.7548		0.9116		0.8091	

Table 5 Participation of a domestic-owned or foreign-owned bank: comparison of listed and unlisted companies

Definitions of variables appear in the Appendix. The dependent variable is *Spread*. Table 5 reports coefficients and robust standard errors. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% or 1% level. Dummy variables for loan purpose, benchmark rate and year are included in the regressions, but not reported.

		Par	nel A		Panel B				
	List	ted	Unli	Unlisted		Listed		Unlisted	
Explanatory variables	Coefficient	Std. error							
Intercept	450.807***	156.54	1144.312***	156.82	-49.766	486.53	1034.708***	105.83	
Domestic-owned	-11.183	21.87	-15.950	45.96	-11.875	13.85	-11.964	40.93	
Foreign-owned	-1.733	5.13	4.181	24.65	-3.777	2.73	-25.588	18.81	
Loan amount	-4.536	6.02	-52.111***	7.59	-3.851**	1.93	-12.256*	6.61	
Maturity	0.330	0.86	-1.371***	0.50	5.605***	1.72	-1.817***	0.40	
Guarantors	55.331	43.57	-23.996	28.71	5.939	99.06	39.175	42.97	
Covenants	41.932	33.72	-48.995**	22.31	-24.848	71.67	-9.935	41.24	
Term Loan	47.665*	24.35	22.969	23.19	-192.037***	66.62	52.973*	27.51	
Size	-	-	-	-	26.556	23.43	-19.092***	4.83	
Debt ratio	-	-	-	-	106.077	126.89	-153.397***	53.89	
ROA	-	-	-	-	-689.463***	231.49	102.956	88.93	
Number of observations	289		239		215		130		
Adjusted R ²	0.8467		0.7548		0.9117		0.8092		

Table 6 Participation of a local bank: comparison of large and small loans

Definitions of variables appear in the Appendix. The dependent variable is *Spread*. Each panel reports respectively the results for small loans (less than \$150 million) and for large loans (over \$150 million). Table 6 reports coefficients and robust standard errors. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% or 1% level. Dummy variables for loan purpose, benchmark rate and year are included in the regressions, but not reported.

		Pa	nel A		Panel B				
	Large	loans	Small	loans	Large loans		Small loans		
Explanatory variables	Coefficient	Std error							
Intercept	484.040***	55.07	1244.129***	247.44	333.189	306.69	1101.458***	291.07	
Local	-12.918	21.17	-32.991	23.37	12.453	13.86	-10.026	21.06	
Loan amount	-2.207	2.27	-47.883***	13.29	0.200	0.91	-19.501	18.97	
Maturity	-0.553	0.65	-1.364***	0.40	-4.883***	1.81	-1.522**	0.65	
Guarantors	71.913**	32.28	-30.343	20.61	96.928	138.21	12.093	66.10	
Covenants	-54.923	37.67	0.792	23.72	98.955*	49.82	-15.842	35.01	
Term loan	35.129*	18.22	-5.798	20.46	55.621	58.71	32.043	38.82	
Size	-	-	-	-	-3.729	11.44	-10.621***	3.95	
Debt ratio	-	-	-	-	-166.392	162.47	-171.514***	56.17	
ROA	-	-	-	-	311.924**	124.76	-70.802	93.81	
Listed	-	-	-	-	-40.117	30.10	-15.645	28.05	
Number of observations	278		250		222		123		
Adjusted R ²	0.8883		0.6741		0.9691		0.7507		

Table 7 Participation of a domestic-owned or a foreign-owned bank: comparison of large and small loans

Definitions of variables appear in the Appendix. The dependent variable is *Spread*. Each Panel reports respectively the results for small loans (less than \$150 million) and for large loans (over \$150 million). Table reports coefficients and robust standard errors. *, ** and *** denote an estimate significantly different from 0 at the 10%, 5% or 1% level. Dummy variables for loan purpose, benchmark rate and year are included in the regressions, but not reported.

		Par	nel A		Panel B					
	Large	loans	Small	loans	Large	loans	Small	loans		
Explanatory variables	Coefficient	Std. error								
Intercept	484.041***	55.07	1269.551***	247.35	333.189	306.69	1080.341***	296.58		
Domestic-owned	-	-	-50.386*	29.45	-	-	-3.475	27.14		
Foreign-owned	-12.918	21.17	16.272	26.52	12.453	13.86	-33.599	25.05		
Loan amount	-2.208	2.27	-49.027***	13.48	0.200	0.91	-18.046	19.59		
Maturity	-0.553	0.65	-1.396***	0.39	-4.883***	1.81	-1.530**	0.65		
Guarantors	71.913**	32.28	-29.702	21.00	96.928	138.21	12.211	66.24		
Covenants	-54.923	37.67	-2.463	23.84	98.955**	49.82	-15.082	35.50		
Term loan	35.129*	18.22	-6.619	20.34	55.621	58.71	33.592	38.53		
Size	-	_	-	-	-3.729	11.44	-10.813***	4.05		
Debt ratio	-	-	-	-	-166.392	162.47	-167.867***	56.68		
ROA	-	-	-	-	311.924**	124.76	-68.693	93.04		
Listed	-	-	-	-	-40.117	30.10	-17.198	28.81		
Number of observations	278		250		222		123			
Adjusted R ²	0.8883		0.6774		0.9691		0.7512			

Appendix A.1. Brief descriptions of variables and their sources

Variable	Description	Source
Loan contract cha	racteristics	
Syndicated	= 1 if the loan is syndicated	Dealscan
Loan amount	Logarithm of loan size in dollars	Dealscan
Maturity	Maturity of loan in months	Dealscan
Guarantors	= 1 if there is at least one guarantor	Dealscan
Covenants	= 1 if the loan agreement includes covenants	Dealscan
Term loan	= 1 if the facility is a term loan	Dealscan
Borrower characte	eristics	
Size	Logarithm of the company size in dollars	Ruslana
Debt ratio	Total liabilities to total assets	Ruslana
ROA	Ratio of profit before taxes to total assets	Ruslana
Listed	= 1 if the borrower is listed on the stock exchange	Dealscan
Lender nationality	7	
Local	= 1 if a Russian bank participates in the loan	CBR
Domestic-owned	= 1 if a Russian domestic-owned bank participates in the loan	CBR
Foreign-owned	= 1 if a foreign-owned bank operating in Russia participates in the loan	CBR

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