



The Twelfth Dubrovnik Economic Conference

Organized by the Croatian National Bank



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Hotel "Grand Villa Argentina",
Dubrovnik
June 28 - July 1, 2006

Draft version

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CROATIAN NATIONAL BANK

PRELIMINARY DRAFT
June 22, 2006

Are the banks in the transition countries banks?

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Paper prepared for:
Central Bank of Croatia
12th Dubrovnik Economic Conference
June 28-30, 2006

The authors appreciate financial support for this work from the Japan Europe Cooperation Fund and to the European Bank for Reconstruction and Development (EBRD).

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The banking sectors of the transition countries have progressed remarkably in the last 15 years. In fact, the banking sectors in most transition countries have largely shaken off the traumas of the transition era. At the start of the 21st century banking in these countries looks very much like banking elsewhere around the world. That is they are by no means problem free but they are struggling with the same issues as banks in other emerging market countries. There have been a surprisingly large number of studies that have told us about the performance of these banks and have reported on their profitability, returns, interest margins and efficiency at length. But, we do not really know very much about their banking activity. Are the banks in the transition countries acting as intermediaries that channel private savings to investment projects? This question – whether the banks are acting as banks – is particularly important in transition and other emerging market economies where other private sector intermediaries (capital markets or other financial intermediary institutions such as insurance companies) are largely absent. In this paper we address this question with the help of a new survey data set from EBRD.

It is surprising that the question posed is unanswered even though the role of banking sectors and the performance of banks has been a subject of intense research interest in the last 20 years. However, the ability of researchers to answer the question with comparisons among country experiences is often limited by the scarcity of consistent information. As a result a large fraction of all cross country bank research relies on the balance sheet and income data prepared by Bank Scope. Bank Scope takes accounting data from banks around the world and applies a common set of accounting definitions and also converts all the national data to US dollars. Bank Scope data are widely respected and can be very useful but they do not provide sufficient data to answer our question. In order to do so we supplement the Bank Scope data with information from a survey conducted by EBRD in the summer of 2005.

The EBRD Banking Environment and Performance Survey (BEPS) was conducted on a random sampling of banks in 20 transition countries. A common questionnaire, translated into each local language, was presented to a senior bank officer in an interview. The survey obtained detailed data on the credit and deposit activities of the banks (in greater detail than available from the balance sheet) and the other business activities of the bank. In addition, senior management was asked about their use of risk management techniques and their perceptions of the security rights of lenders, bankruptcy law and its application and effectiveness of government regulatory policy. It is this rich data set, combined with the more familiar Bank Scope balance sheet data that are the subject of this study.

I. On banking in transition

The remarkable progress in the banking sectors of the transition economies obscures the distance that these economies have come in less than two decades (see Bonin and Wachtel, 2003). The short history of transition banking can be characterized by four stages that take the banking sectors from the absence of banking institutions in

1990 to sound, competitive modern banking industries with a large foreign presence 15 years later.

The first stage of banking development in the transition economies involved the establishment of banking institutions in the early 1990s. During the planned economy era, the only financial institutions were adjuncts of the state mechanism. There were some exceptions like import export banks but by and large bank in the contemporary sense of the word was unknown. Commercial banks were established as spin offs of the central bank payments system and by allowing the establishment of new banks. However, the role of these institutions was largely unchanged. The state owned banks financed state owned enterprises and were soon insolvent. Further, entry of new banks prior to the establishment of an operating regulatory structure led to a large number of abuses. The second stage of transition banking involved bank failures and systemic crises that at one time or another affected every transition economy in the middle of the 1990s (see Bonin and Wachtel 2005). The third stage of transition banking involved a lengthy process of restructuring through privatization and the entry of foreign banks. By the end of the century, most banks were privately owned and in virtually all of the transition countries foreign banks predominated. The fourth stage brings us to the present. In most transition economies banks are largely sound, appropriately regulated and competitive institutions. By the time of the EBRD banking survey in 2005, banking in transition had largely shaken off its planned economy heritage.

However, transition central Europe and Asia consists of more than two dozen both very large and very small independent countries that are hardly homogeneous with respect to banking or anything else. For one thing the pace of development differs from country to country even among the more advanced transition countries. The Czech Republic was the first out of the gate with an ambitious privatization program at the start of the 1990s that backfired and took a decade to emerge from resultant bank crises and effectively put the banks into private hands. Poland dealt quickly with bank insolvencies while Romania took until 2003 to restructure and privatize banks. Moreover, the experiences in the non-Baltic countries of the former Soviet Union were very different. Rather than establishing commercial banks from the pieces of the existing financial and payments structure, these countries relied on the establishment of new private banks. As a result banking crises inhibited development until the end of the 1990s. Finally, the degree of concentration and competition in banking differs from country to country. Even where large banks dominate; there are many smaller banks whose expertise and practices may not be up to international standards. In the former Soviet Union there are often large numbers of banks with wide variation in capability.

Banks are the original financial intermediaries whose role is to channel savings to investors. In a modern economy, banks do this by both encouraging risk taking and managing risk. That is always a delicate balance to maintain and banks have which are also the providers of the payments mechanism have a difficult role to fulfill. Although the progress in the transition countries has been remarkable and, overall, the banking sectors are well developed and highly functional, a closer look at whether they balance these roles and act as intermediaries is worth undertaking.

II. Related research

Research on banking on transition is fairly extensive but does not address the issues of interest here. The topics of interest in earlier work were determined during the first three stages of banking development in transition described earlier (establishment, crisis, restructuring). Thus, the issues that relate to intermediary behavior and risk management in the fourth or mature stage of transition are largely unexamined. Our focus on intermediation and risk rather than performance is unique.

Initial research on banking in transition focused on the creation and design of banking institutions (see for example Corbet and Mayer, 1992 and Udell and Wachtel, 1995). As the transition proceeded, research interest on banking turned to studies of bank performance and, later on, bank efficiency in the transition economies. In the late 1990s it was not at all clear that a significant number of the banks were truly profitable and solvent. So, measurement of performance characteristics was an important way of gauging progress in transition. Studies such as Drakos (2003) and Fries, Neven and Seabright (2002) emphasized measures like net interest margins and return on assets to evaluate transition progress. Moreover, there was concern that the planned economy legacy left many poorly managed banks with excessive staffs and few banking skills. Hence, there was great interest in efficiency studies to see which banks or bank types were better managed or improving. Fries and Taci (2005), Bonin, Hasan and Wachtel (2005a) and Weil (2003) all estimated bank efficiency with multi country samples of banks. Finally, throughout the late 1990s, banking crisis, restructuring and privatization were the principal policy issues and the subject of extensive research as well (see for example Bonin and Wachtel 2005 and Bonin, Hasan and Wachtel 2005b).

As previously stated, the transformation from a communist to a market economy system was characterized by systematic banking crises for almost all transition economies. Tang, Zoli and Klytchnikova (2000) identify basically two reasons for the banking crises. First, the amount of non-performing loans inherited from the socialist system was large (e.g. about 50 to 66 percent of total loans in the Czech Republic; about 54 percent in Bulgaria). Second, all transition countries had a lack of experience in the field of both enterprises and banks operating under market conditions. Thus, regulating and supervising institutions were either inexistent or not yet functioning. A summary about resolving these crises is provided by Bonin and Wachtel (2005). The authors conclude that bank insolvencies are still likely in future as long as the incentive structure that encourages banks to support weak SOEs is not changed. Thus, the authors still find the presence of considerable sources of risk for transition banks at the time of their study.

de Haas and Lelyveld (forthcoming) and Althammer and Haselmann (2006) focus on the consequences of foreign banking penetration on banking sector stability. de Haas and Lelyveld analyze the credit supply of foreign banks during the various banking crises. They find that foreign banks not only reduced their outstanding credit less drastically than domestic banks during crises, but that foreign banks in most cases even

increase their credit base.¹ This is clear evidence for a stabilizing role of foreign banks in Central and Eastern Europe.

Efficiency studies have been used to get deeper insight into the functioning of the individual banks in transition countries. These econometric techniques allow for comparisons across countries with different banking environments. In two related studies Bonin et al. (2005a) and Fries and Taci (2005) apply the methodology of stochastic frontier analysis. They both find that foreign banks outperform their domestic counterparts in transition economies. The effects of bank privatization on efficiency seem, however, less clear-cut. Bonin et al. (2005b) find that especially early bank privatization compared to late privatization is associated with efficiency gains in transition economies.

The literature on transition banking largely stops with performance issues. It does not shed much light on whether banks are successfully operating as intermediaries. The broader economics literature demonstrates the importance of the banking and legal environment on the operations of the financial system and ultimately on economic growth. This is a major theme in the LLSV work (an acronym for the co-authors of an influential series of articles).

III. The survey data

The BEPS sample design was based on a random sample of 423 banks from 20 countries. The sample design over sampled banks in the smaller countries and also in Russia (26% of the sample frame). The response rate was reasonable with the exception of Russia where the initial data collection effort resulted in 22 responses out of the 113 banks in the sample. With Russia excluded the response rate was 63%. The countries with the lowest response rates were in addition to Russia, the Ukraine and also Hungary and the Czech Republic.² Each bank was linked to the Bank Scope data after a careful examination to make sure that the correct Bank Scope data was used. That is, care was taken to make sure that the Bank Scope data used had the proper bank identification and level of consolidation.³ When the Bank Scope data for the 423 banks in the EBRD sample frame are compared to the data for the 212 banks that responded to the survey, there is no indication of systematic response bias.⁴ The actual sample size is somewhat

¹ Althammer and Haselmann (2006) come to the same conclusion.

² Successful bankers in the advanced transition countries might have been less inclined to set aside the time for an EBRD interview than others. In the tense environment in Russia and the Ukraine bankers might have had other reasons to avoid responding.

³ The Bank Scope data was checked for anomalies. Several corrections were made using information provided by the banks in the survey and one bank in Serbia was eliminated. The Bank Scope data set was prepared with the help of Dr. Anita Taci of the EBRD.

⁴ In most countries the average asset level and the return on assets are about the same for responding and non-responding banks. The correlation of the average country ROAs from full sample and from the survey respondents is 0.97 and the rank correlation is 0.76.

smaller because Bank Scope does not cover a handful of banks that responded to the survey and when the survey data are used, many questions are skipped.⁵

IV. Bank Performance

The performance of transition is summarized in Table 1, which shows means for several interesting overall accounting measures are shown along with the standard deviation, range and sample size for 2004. The number of respondents in many countries is quite small so a comparison of averages by country is not particularly informative. Instead, we show the means for three country groups: the 8 transition countries that are now members of the European Union (EU), the countries of the former Soviet Union (FSU) with the exception of the Baltic countries which are already part of the EU, and the countries of south Eastern Europe (SEE).⁶

Average return on assets (ROA) is quite similar across the three regions. Return on equity is about the same in the EU and FSU but lower in SEE. Net interest margins (NIM) are lower in the EU countries than elsewhere vary from area to area are substantially wider in the less developed regions (3.9% and opposed to almost 6%). In other respects the banks in the three regions are, on average, very similar. Both loan to asset (L/A) and deposit to asset (D/A) ratios are similar across the regions. Loan to asset ratios are somewhat lower and the deposit to asset ratios is somewhat higher in the EU countries. Solvency or the equity to asset ratio (E/A) is highest in SEE countries and lowest in EU countries.

BEPS asked for detailed data on bank ownership. We used a majority ownership basis for classifying banks as government or foreign owned. Only 9% of the banks were government owned at the time of the survey.⁷ In fact the privatization process was largely completed in all of the transition countries. Even banks that reverted to government ownership during banking crises in the late 1990s (e.g. in Romania and Croatia) had been privatized when the survey was conducted in 2005. Fully 61% of the respondent banks are foreign. The foreign banks include both Greenfield banks and

⁵ The survey design included all banks in the country which might include some institutions which are not picked up by Bank Scope. There were 17 respondent banks excluded because there was not adequate Bank Scope data for 2004 in Moldova, 3 in Macedonia, 3 in Belarus, 2 in Slovakia and 1 in each of Bosnia, Bulgaria, Poland, Serbia, and Ukraine. One additional Serbian bank is eliminated because of inconsistencies in the Bank Scope data.

⁶ The countries are:

EU: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia

FSU: Belarus, Kazakhstan, Moldova, Russia, Ukraine

SEE: Albania, Bosnia, Bulgaria, Croatia, Macedonia, Romania, Serbia.

⁷ The state owned banks including two for which there is no Bank Scope information were located in a few countries. There were 3 in each of the following: Belarus, Bosnia and Serbia, 2 in the Czech Republic and one in each of 7 other countries including EU and FSU countries.

banks acquired by mergers and acquisitions. There are some noticeable performance differences among the three ownership groups. The government banks are on average twice the size of foreign banks although there are very large banks in both groups. The domestic banks are on average much smaller. (Asset size is not shown in Table 1).

To begin, return on assets and return on equity are negative for the government owned banks and about the same for the foreign banks and the domestic banks. The negative results for the government owned banks are due to two things. First, the remaining state owned banks are in very poor shape and second, the reporting of bad loans is now much more accurate than it was earlier in the transition era. ROA and ROE for the domestic and foreign banks are similar. Net interest margins are largest for the foreign banks and smallest for the government owned banks. Interestingly, net commission income to assets (COM) for the foreign banks is only slightly larger than for the other ownership groups.⁸

Finally, we group the banks into three size groups with roughly about a third of the banks in each group: assets less than \$200 million, between 200 and \$1 billion and in excess of \$1 billion. Both ROA and ROE are substantially smaller in the small banks. NIM and COM are smaller in the very large banks.

The last three columns of Table 1 show some broad balance sheet aggregates rather than performance measures: loan, deposit and equity to asset ratios (L/A, D/A and E/A respectively). There is very little variation in the L/A ratio among the bank types. The domestic banks do less lending relative to assets than either the government or foreign owned banks though the differences in the means are small. D/A varies mores; the deposit sources of funds are largest for foreign banks and smallest for government banks. These observations seem anomalous but not once we note how far the transformation of transition banking has gone. A decade ago the deposit to asset ratio of state owned banks would have been largest because the large savings institutions of the planned economy era had not been privatized. At the same time, early foreign entrants would not have had much of a deposit base. However, all of the large savings institutions have been privatized and most are now majority foreign owned. Solvency ratios (E/A) are largest for government banks and small banks while the regional differences are comparatively smaller.

Our interest in this paper is whether banks are acting as vehicles for intermediation between the savers and investors. Bank performance does not answer that question. It tells us that the banks in the transition countries have performance

⁸ These comparisons use data for just one year, 2004. Many accounting measures like return on assets might have a strong cyclical component, which might differ, across the region. We compared the group averages for ROA from 2004 (as shown in the Table) with Bank Scope data for four years (2001-4) for each bank. The comparison of averages based on 2004 data with poled data for the four years 2001-04 (though not all observations are always available) does not indicate any sensitivity to the choice of 2004 in Table 1.

characteristics that are similar to banks elsewhere but it does not tell us about the nature of their operations. Furthermore, the loan to asset ratio is about the same in all size and ownership categories so we do not have any indication that certain banks are doing more intermediation than others. The broad performance and balance sheet information from Bank Scope does not get us an answer to the question of interest. However, the BEPS data provides additional information.

V Types of lending and the banking environment

In this section, we examine bank lending by type using data from the BEPS survey. Although total loan to asset ratios (from Bank Scope) vary little by bank type, we find that there are wide variations in the composition of lending. In the first part we summarize the data on the composition of lending by sector. In the second section we examine the relationship between lending ratios and the banking environment.

Lending by type. The BEPS survey asked the bank manager to provide an allocation of customer loans among different type of loans – corporations households and government. In addition, further questions provided information about mortgage lending, lending to large and small enterprises.⁹ We used some of the disaggregated data that seemed most informative and settled on the following loan categories:

Total enterprise lending (TE)

Lending to small and medium enterprises (up to 249 employees) (SME)

Lending to large enterprises (LE)

Mortgage lending to (HM)

Other household lending (HC)

Lending to governments and government, government agencies and state owned enterprises (GOV).

Table 2 shows summary statistics for the lending ratios and also reproduces the aggregate loan to asset ratios from Table 1. There is much more variation in the composition of lending by bank type than in the overall L/A.

Foreign banks do less corporate lending than others, particularly less SME lending. However, they are more active lenders to households, particularly for mortgages. Lending to governments and government affiliates is only prominent among state owned banks. Mortgage lending is primarily found in the EU countries where the legal infrastructure for such loans is in place. Banks in the FSU do more corporate lending, perhaps because many of them are corporate affiliates or house banks. Larger banks do less SME lending and large enterprise lending. Large banks do less corporate lending overall because they are more active in the household lending.

A regression model is used to show the effects of bank size and ownership on lending ratios. The model is:

⁹ The data are not always internally consistent and there are sometimes incomplete. We made an effort to eliminate inconsistencies and distinguish missing information from 0s.

$$\text{Lending ratios} = \beta_0 + \beta_1 \ln(\text{Assets}) + \beta_2 \text{FOR} + \beta_3 \text{GOV} + \varepsilon$$

where FOR and GOV are dummy variables for foreign and government ownership respectively. We also estimated equations with region dummies but none of the region effects were significant (with the exception of the EU dominance for mortgage lending) and the other coefficients are unaffected by the exclusion of the regional effects. The regression results are summarized in Table 3 and are consistent with our observation from the means. Enterprise lending is significantly related to bank size – negatively for SMEs and positively for large enterprises. Domestic bank do significantly more enterprise lending than other either foreign or government banks.

From a macroeconomic perspective the most important lending would be those categories that support private sector capital formation – mortgages and enterprise lending. These results clearly indicate that certain types of banks stand out. The foreign banks do more mortgage lending perhaps because the specific expertise regarding mortgage contracts can be transferred from the parent company. The interesting result is that the domestic private banks stand out in their lending to enterprise, particularly SMEs. Recall from Table 2 that there are a reasonable number of both foreign and domestic banks in the sample although there are only a few banks that remain state owned. Thus, the results indicate that the private domestic banks are playing an important role in financing capital accumulation.

Lending and the banking environment. Lending decisions by the banks will be influenced by the bankers’ perceptions of the bank environment and also by the actual environmental conditions. We will measure both perceptions of the environment using information from BEPS and the actual environment using EBRD’s 2004 Secured Transactions Survey.

BEPS asked the bank managers a series of questions about several different aspects of the banking environment. In order to synthesize the diffuse responses we follow Hoshi (2006) and aggregate the responses to construct an indicator of positive views about each particular characteristic of the environment. We will illustrate the procedure by example.

The question about moveable collateral (Q32) presents four statements and asks there responding bank executive to indicate the extent of his or her agreement on a scale from 1 (strongly disagree) to 6 (strongly agree). We added the scores (using averages for missing responses) in order to get an overall measure of respondents’ confidence in the collateral laws. We then examined the distribution of the scores (which in this instance ranged from 0 to 18) and divided the respondents into two groups reflecting high and low confidence in the collateral laws.

Q.32	Thinking of the laws on the books in your country in 2004 related to pledges (loans secured by movable assets), to what extent do you agree with the following statements?
	The laws provide adequate scope of security (e.g., types of assets received as collateral, types of debt that can be secured)
	The laws enable efficient creation and perfection of security rights (simple, cheap, fast)

The laws enable efficient enforcement of security rights (simple, cheap, fast)
The laws adequately protect secured creditor rights

Measures of perceptions of the banking environment were constructed from three other questions as well. First, Q34 is identical to the above except that it relates to the laws concerning mortgages (loans secured by immovable assets). The next question (Q44) related to the ability of the court system to resolve business disputes. Respondents were asked to express their agreement with five statements on a scale from 1 (never) to 6 (always). We used the total of the response scores to divide the survey into groups with high and low confidence in the court system.

Q.44 How often do you associate the following descriptions with the court system in resolving business disputes?

Fair and impartial
Honest and uncorrupted
Quick and efficient
Affordable
Able to enforce its decisions

Lastly, the same procedure was used to identify groups with high and low confidence in the bank regulators. The question (Q48) presented the same statements and scaling used for the court system (with the exception of ‘affordable’ which is omitted).

Q.48 How often do you associate the following descriptions with the banking regulator?

There are four dummy variables that measure the respondents’ perceptions of the banking environment. A value of one indicates high degree of confidence in the collateral laws (movable and mortgage), the court system and the bank regulators.

Objective measures of the actual banking environment are country specific data taken from an EBRD survey.¹⁰ The 2004 EBRD survey about the laws on secured transaction is used to construct two indicators. The first (EBRD – ENF) relates measures how well a lenders’ claim can be enforced. It varies from 1 to 30 because it is the sum of three sub indices which score countries on the basis of (i) the amount that can be expected to be recovered from a debtor, (ii) the time needed to realize recovery and (iii) the simplicity of the legal process to be followed. The second index (EBRD – Quality) relates to the quality of the legal regime for secured transactions. It consists of 6 criteria on which the country is given a score ranging from 0 to 3. The criteria are:

- (i) Does the charge create a proprietary security right?
- (ii) Can the charge be granted by any person?
- (iii) Can the charge be granted to any person?
- (iv) Can the charge secure any debt?
- (v) Can the charge cover all types of asset?
- (vi) Does the charge give priority over all other creditors?

All six measures of the environment (the four perceptions measures and the two EBRD actual measures) are scores that provide an ordinal ranking rather than some objective numerical measure of intensity. It is for this reason that we create 0-1 dummy

¹⁰ <http://www.ebrd.com/country/sector/law/index.htm>

variables to separate responses into high and low groups for the quality of the environment. Nevertheless, we can look at the interrelationships among the variables by examining the correlations of the actual scores:

	EBRDBOOK	EBRDENF	Q32SUM	Q34SUM	Q44SUM	Q48SUM
EBRDBOOK	1.00					
EBRDENF	0.39	1.00				
Q32SUM	0.18	0.22	1.00			
Q34SUM	0.24	0.28	0.82	1		
Q44SUM	-0.03	0.12	0.44	0.36	1	
Q48SUM	0.29	0.22	0.29	0.36	0.45	1

The correlations are generally not large. In particular the correlations between the perceived quality measures and the actual quality measures are small.

Both EBRD environmental indexes are used to create a dummy variable where a value of 1 indicates a superior banking environment. The measures of the actual environment are country specific so the dummy variables are simply country groups. However, the actual quality of the banking environment does not correspond with a simple separation between advanced transition countries and the others. For example, for both variables, Albania is in the high quality banking environment group and Poland is in the low quality banking environment.

In table 4, we show summary statistics for the relationship between lending behavior and perceived and actual quality of the banking environment. Both the four perceptions variables and the two actual environment variables are presented as dummy variables that separate a higher quality environment (value of one) from a lower quality. The noticeable differences in the table are that there is more corporate lending, particularly to SMEs, when the perceived legal and regulatory environment is better. However, the actual environment and the perceptions of the collateral laws seem to work in the opposite way.

We next look at the influence of perceptions of and the actual banking environment on lending behavior in a multiple regression context where we can control for bank size and ownership. The regression model is:

$$\text{Lending ratios} = \beta_0 + \beta_1 \ln(\text{Assets}) + \beta_2 \text{FOR} + \beta_3 \text{GOV} + \beta_4 \text{LEGAL} + \varepsilon$$

LEGAL is one of the six dummy variables that reflect high perceptions of the quality of the environment or an actually high quality environment as indicated by the EBRD indices. The regression is estimated for each of the lending ratios and in Table 5 we show the estimates of β_4 from each regression.

Only a few of the perceptions variables have a significant effect on lending ratios. High perceptions of the collateral laws are associated, not surprisingly, with more mortgage lending. A high perception of the quality of law enforcements (Q44) is associated with more SME lending and less large enterprise lending. This is the key result of the analysis. SME lending, the key element of bank intermediation rises when the perceptions of the quality of the legal environment improves. The results for the

actual banking environment indicate that the quality of the laws on secured transactions is negatively related to enterprise lending and positively related to mortgage lending.

The conclusion seems to be the same for both the EBRD enforcement and quality of the law:

- The proportion of mortgage lending is positively correlated to good legal indicators.
- The proportion of government lending is negatively correlated to good legal indicators.
- The proportion of large enterprise lending is negatively correlated to good legal indicators.

VI. Determinants of lending arrangements.

Up to now we have been examining the influence of the banking environment on lending ratios or the portfolio allocations. There was some weak evidence that the types of lending vary with the banking environment. We will now look at lending practices and see how they relate to the banking environment. Specifically, the bankers were asked whether they in fact accept collateral in lending. The responses are scored to provide a high and low groups and we will use probit analysis to see how bank type and the bank environment affect the banks willingness to accept collateral.

The survey question was used to construct binary variables that reflect high or low willingness to accept immovable and moveable collateral for loans. We use a probit model to examine the determinants of collateral usage. In Table 6 we relate collateral usage to bank size and ownership. There is some indication that larger banks and domestic banks are more willing to use collateral.

Finally, we added each of the environmental variables to the probit models individually. The coefficients of the environmental variables from each probit model are shown in Table 7. We see that there is a significant positive relationship between perceptions concerning collateral laws and the willingness to actually take collateral. However, perceptions of the quality of the overall legal and regulatory environments have a positive but not significant impact on collateral taking. The EBRD survey measures of the actual banking environment provide mixed results. The variable that reflects the ease with which assets can be recovered in the event of default (EBRD ENF) does not seem to matter. The measure of the quality of secured lending laws does have a positive, and in one instance significant, impact on the willingness to take collateral. Hoshi (2006) presents some additional evidence that indicates that loan growth is higher among banks that are more willing to accept collateral.

There is additional information in the BEPS survey on bank behavior that will warrant further investigation. For example, in our earlier paper (Haselmann and Wachtel 2006) we examined questions concerning banks willingness to use information from credit registries, perceptions about the reliability of such information and whether loans applications are rejected because of a lack of acceptable collateral.

Although, credit agencies are a new development in transition economies, about three-quarters of bankers who know that they exist also make use of them to obtain information. The fraction is higher for large banks and smaller for government banks. The exception is for bankers in the FSU region; only a few responded to the question and all said that they did not use credit agencies.

About one-half of all the bankers responding reported that the lack of acceptable collateral was the main reason for loan rejection. The proportion was larger in the FSU region and among government banks and small banks. Similarly, just under half of the bankers reported that lack of creditworthy customers was the main constraint on the banks ability to make loans in 2004. The proportion was higher among government banks and smaller among foreign banks and larger banks. An absence of credit worthy customers was found in all regions.

Banks around the world have been improving their risk management tools particularly since Basel II will require banks to maintain sophisticated mechanisms to manage risk. The next few questions shown are about what our respondent banks are doing to measure and manage risk. Overall, 80% of the banks report that they have a risk management department; the proportion is larger among large, foreign and EU banks. Also, 51% say that they use VAR to measure risk in trading portfolios.

VII. Conclusions

Our conclusions are as yet tentative. We find that domestic banks in the transition countries, particularly large ones, are at the forefront of modern banking. Holding bank size constant, the domestic banks do more corporate lending, particularly to SMEs than other banks. Interestingly, they may be more important as intermediaries than the foreign owned banks many of which restrict their activities to niche businesses. Claeys and Hainz (2006) suggest that foreign bank behavior may differ depending on the mode of entry (Greenfield or via merger or acquisition) and this should be explored here as well. Foreign Greenfield, privatizations to foreigners and banks acquired by foreigners are likely to be a very heterogeneous group.

Holding bank size and ownership constant, the quality of the actual banking legal environment has a negative effect on corporate lending though the coefficients are not significant. But, the perceptions of the quality of the legal environment, which vary within country, have a positive effect on SME lending. However, the quality of the collateral laws does not affect the type of lending (except for mortgages). Finally, perceptions of the legal environment for banking do influence the willingness of bankers to accept collateral.

Table 1: Summary statistics of performance measures

		ROA	ROE	NIM	COM	L/A	D/A	E/A
I. Total								
	mean	1.40	11.50	5.07	2.05	55.51	74.45	13.80
	st dev	4.20	22.64	8.32	3.14	18.47	16.22	11.03
	obs	194	191	193	164	212	186	192
II. Ownership								
gov	mean	-1.56	-1.72	3.53	1.76	56.32	68.68	19.45
	st dev	6.57	30.64	1.58	1.40	18.66	20.02	17.08
	obs	16	16	16	16	18	15	16
dom	mean	1.79	12.89	5.10	1.96	54.21	70.46	15.15
	st dev	1.88	10.14	7.99	1.20	17.39	18.59	11.02
	obs	68	66	67	57	80	64	66
for	mean	1.59	12.60	5.27	2.15	56.29	77.64	12.17
	st dev	4.66	26.10	9.08	4.08	19.27	13.27	9.59
	obs	110	109	110	91	114	107	110
III. Region								
EU	mean	1.32	13.84	3.90	1.64	51.81	78.59	10.29
	st dev	2.68	31.11	5.38	3.52	22.67	15.99	7.19
	obs	71	71	71	42	72	70	71
SEE	mean	1.14	7.41	5.61	2.30	56.37	73.99	16.43
	st dev	6.10	17.59	9.83	3.74	15.47	14.83	12.91
	obs	74	73	74	74	78	69	74
FSU	mean	1.90	14.33	5.96	2.01	58.72	68.96	14.97
	st dev	1.84	10.81	9.27	1.25	15.89	17.08	11.40
	obs	49	47	48	48	62	47	47
IV. Size								
>200	mean	0.70	4.21	5.72	2.38	54.47	69.23	22.29
	st dev	4.35	19.43	8.87	1.40	18.90	18.10	16.37
	obs	55	53	54	45	63	47	53
200- 1000	mean	1.71	10.52	6.07	2.36	56.43	74.89	12.09
	st dev	5.43	25.77	10.44	4.64	18.90	15.53	6.54
	obs	73	72	73	62	83	73	73
>1000	mean	1.64	18.43	3.42	1.44	55.34	77.68	8.88
	st dev	1.83	19.44	3.87	1.80	17.72	14.80	2.97
	obs	66	66	66	57	66	66	66

Table 2: Summary Statistics of banks' lending ratios

		TE	SME	LE	HM	HC	Gov	Loan/A
I. Total								
	mean	65.51	36.74	17.30	9.02	16.04	6.67	55.51
	st dev	26.51	30.15	21.67	15.63	19.17	12.75	18.47
	obs	165	136	141	169	169	161	212
II. Ownership								
	mean	61.11	33.34	7.49	2.39	16.05	20.37	56.32
gov	st dev	24.11	34.25	9.72	3.17	10.88	24.14	18.66
	obs	11	12	11	12	12	12	18
	mean	74.06	47.01	22.73	6.19	13.45	3.97	54.21
dom	st dev	22.31	27.95	25.53	12.45	15.28	7.46	17.39
	obs	68	46	50	66	66	60	80
	mean	59.32	31.21	15.25	11.95	17.92	6.64	56.29
for	st dev	28.20	29.56	19.48	17.96	22.23	12.44	19.27
	obs	86	78	80	91	91	89	114
III. Region								
	mean	57.41	30.79	14.65	16.88	15.91	8.26	51.81
EU	st dev	26.83	29.79	20.99	23.66	24.14	14.04	22.67
	obs	61	34	33	57	57	57	72
	mean	65.01	35.11	12.84	6.76	19.00	5.74	56.37
SEE	st dev	24.69	29.88	15.91	5.92	17.55	12.82	15.47
	obs	53	64	67	66	66	65	78
	mean	75.72	44.81	26.71	2.53	11.97	5.89	58.72
FSU	st dev	24.90	30.00	27.26	5.99	13.08	10.55	15.89
	obs	51	38	41	46	46	39	62
IV. Size								
	mean	72.12	49.38	10.91	7.52	16.15	5.11	54.47
>200	st dev	26.36	29.64	15.54	18.40	19.58	13.11	18.90
	obs	41	44	45	53	53	49	63
	mean	68.62	37.39	19.51	7.06	17.63	5.40	56.43
200- 1000	st dev	24.98	29.96	22.32	10.18	22.29	12.09	18.90
	obs	66	52	56	67	67	61	83
	mean	57.52	23.23	22.88	12.37	14.70	8.83	55.34
>1000	st dev	26.42	24.96	25.85	13.24	13.65	12.35	17.72
	obs	53	35	35	44	44	46	66

Table 3: Regression results for bank ownership and size

$$\text{Lending ratios} = \beta_0 + \beta_1 \ln(\text{Assets}) + \beta_2 \text{FOR} + \beta_3 \text{GOV} + \varepsilon$$

The lending ratios are TE (total enterprise lending), SME (small and medium size enterprise lending), LE (large enterprise lending), HM (household mortgage lending), HC (household consumer lending), G (government lending) and Loan/A (overall loans to asset ratio).

FOR is a dummy variable that takes the value of 1 if a bank is foreign owned and 0 otherwise. GOV is a dummy variable that takes the value 1 if a bank is government owned and zero otherwise.

Standard errors are reported in brackets below each coefficient. The constant term is not reported. The adjusted R-squared and the number of observations of (N) are at the bottom.

*** denotes significant at the 99 percent hurdle. ** denotes significant at the 95 percent hurdle. * denotes significant at the 90 percent hurdle.

	TE	SME	LE	HM	HC	Gov	Loan/A
ln(Assets)	-3.13 (1.264)***	-4.65 (1.551)***	3.68 (1.136)***	0.95 (0.703)	-0.68 (0.975)	0.87 (0.597)	-0.006 (0.010)
FOR	-11.98 (4.259)***	-11.95 (5.662)**	-10.86 (3.973)***	3.82 (2.376)*	5.17 (3.296)	2.63 (2.062)	0.005 (0.032)
GOV	-10.06 (8.298)	-10.48 (9.437)	-17.87 (6.975)***	-4.13 (4.397)	2.42 (6.101)	16.89 (3.746)***	0.004 (0.056)
Adjusted -R	8.79%	10.83%	9.41%	3.25%	-0.27%	11.66%	-1.23%
N	160	131	136	164	164	156	213

Table 4: Means of lending ratios according to perceived and actual banking environment legal dummies

	TE	SME	LE	HM	HC	Gov	Loan/A
I. Q32 - Perception of law on movable assets							
0	66.74	37.31	17.23	7.19	17.24	6.91	56.17
	25.77	30.36	20.90	10.33	19.74	13.42	18.35
	123	111	114	129	129	127	165
1	61.92	34.21	17.61	14.94	12.17	5.75	56.58
	28.60	29.67	25.07	25.60	16.83	9.96	30.02
	42	25	27	40	40	34	48
II. Q34 - Perception of law on immovable assets							
0	67.96	38.73	16.11	7.09	17.15	6.94	56.60
	25.00	31.10	20.81	10.32	19.94	12.58	17.87
	120	105	107	126	126	125	157
1	58.99	30.01	21.05	14.69	12.79	5.73	55.31
	29.49	26.02	24.12	24.82	16.46	13.47	29.45
	45	31	34	43	43	36	56
III. Q44 - Perception of law enforcement							
0	64.54	23.92	22.21	9.40	17.59	4.38	57.08
	27.88	25.75	26.76	17.43	21.28	10.88	18.94
	63	51	56	62	62	60	87
1	66.12	44.44	14.06	8.80	15.15	8.02	55.69
	25.75	30.10	16.93	14.57	17.88	13.61	23.09
	102	85	85	107	107	101	126
III. Q48 - Perception of banking regulator							
0	64.51	34.36	19.68	8.03	16.57	6.13	57.28
	26.76	28.30	24.46	13.96	20.00	11.28	17.68
	100	83	87	105	105	99	129
1	68.90	42.20	12.65	10.93	13.20	7.69	55.31
	24.71	33.00	14.51	18.37	14.11	15.17	26.18
	59	49	50	61	61	59	76
IV. EBRD - Enforcement of laws							
0	70.95	44.13	23.43	4.64	17.78	8.76	56.63
	28.62	30.19	27.39	7.30	24.09	18.00	17.69
	52	40	41	50	50	51	64
1	63.01	33.67	14.78	10.86	15.31	5.70	55.02
	25.22	29.75	18.41	17.72	16.74	9.33	18.84
	113	96	100	119	119	110	148
V. EBRD - Quality of books							
0	67.44	39.47	21.81	6.10	17.43	9.53	57.94
	25.08	28.46	24.38	10.51	20.27	15.65	17.23
	94	79	82	101	101	93	132
1	62.96	32.96	11.02	13.36	13.98	2.75	51.49
	28.27	32.22	15.30	20.39	17.33	4.99	19.81
	71	57	59	68	68	68	80

Table 5: Coefficients of the legal indicators

$$\text{Lending ratios} = \beta_0 + \beta_1 \ln(\text{Assets}) + \beta_2 \text{FOR} + \beta_3 \text{GOV} + \beta_4 \text{LEGAL} + \varepsilon$$

The lending ratios are TE (total enterprise lending), SME (small and medium size enterprise lending), LE (large enterprise lending), HM (household mortgage lending), HC (household consumer lending), G (government lending) and Loan/A (overall loans to asset ratio).

FOR is a dummy variable that takes the value of 1 if a bank is foreign owned and 0 otherwise. GOV is a dummy variable that takes the value 1 if a bank is government owned and zero otherwise.

LEGAL stands for the different dummy variables on the environment where a value of 1 is high quality and 0 otherwise:

- Q32 takes the value 1 if perception of law on movable assets is high
- Q34 takes the value 1 if perception of law on immovable assets is high
- Q44 takes the value 1 if perception of law enforcement is high
- Q48 takes the value 1 if perception of bank regulator's abilities is high
- EBRD ENF takes the value 1 if quality of actual law enforcement is high
- EBRD BOOK takes the value 1 if quality of actual law on secured transactions is high

The table shows the LEGAL coefficients (β_4) from each equation only with the standard errors are reported in brackets below each coefficient.

*** denotes significant at the 99 percent hurdle. ** denotes significant at the 95 percent hurdle. * denotes significant at the 90 percent hurdle.

	TE	SME	LE	HM	HC	Gov	Loan/A
Q32	-4.703 (4.683)	-5.255 (6.672)	-0.604 (4.676)	6.139 (2.611)**	-3.376 (3.483)	-0.498 (2.388)	0.008 (0.037)
Q34	-9.289 (4.493)**	-11.135 (6.004)*	3.428 (4.247)	5.291 (2.509)**	-3.451 (3.451)	0.692 (2.298)	-0.008 (0.035)
Q44	0.305 (4.475)	18.424 (5.779)***	-9.359 (3.834)***	1.276 (2.509)	-1.843 (3.297)	2.868 (2.245)	-0.026 (0.034)
Q48	5.704 (4.704)	6.369 (5.228)	-7.314 (3.673)**	1.423 (2.299)	-3.422 (2.986)	2.394 (1.981)	-0.021 (0.031)
EBRD ENF	-4.659 (4.420)	-4.126 (5.783)	-7.118 (4.089)*	4.909 (2.423)**	-3.222 (3.395)	-3.872 (2.073)*	-0.005 (0.033)
EBRD BOOK	-2.990 (4.348)	-3.809 (5.250)	-9.404 (3.631)***	5.476 (2.266)**	-4.434 (3.181)	-6.090 (1.916)***	-0.050 (0.031)

Table 6: Probit Regression results

Coefficients of probit estimates of

$$\text{Acceptance of collateral} = \beta_0 + \beta_1 \ln(\text{Assets}) + \beta_2 \text{FOR} + \beta_3 \text{GOV} + \varepsilon$$

Acceptance of collateral is either IMMOV, a binary variable that takes the value of 1 if a bank has a high acceptance of immovable assets and 0 otherwise, or MOV, a binary variable that takes the value of 1 if a bank has a high acceptance of movable assets and 0 otherwise.

FOR and GOV are as described earlier.

Standard errors are reported in brackets below each coefficient. N is the number of observations.

*** denotes significant at the 99 percent hurdle. ** denotes significant at the 95 percent hurdle. * denotes significant at the 90 percent hurdle.

	IMMOV	MOV
c	-1.266 (0.771)*	-0.967 (0.767)
ln(Assets)	0.112 (0.060)*	0.102 (0,059)*
FOR	-0.127 (0.194)	-0.367 (0.195)*
GOV	-0.510 (0.335)	-0.530 (0.355)
N	195	195

Table 7: Coefficients of the environment variables in probit regressions

The table reports coefficients for β_4 from the following specification:

$$\text{Acceptance of collateral} = \beta_0 + \beta_1 \ln(\text{Assets}) + \beta_2 \text{FOR} + \beta_3 \text{GOV} + \beta_4 \text{LEGAL} + \varepsilon$$

Acceptance of collateral is either IMMOV, a binary variable that takes the value of 1 if a bank has a high acceptance of immovable assets and 0 otherwise, or MOV, a binary variable that takes the value of 1 if a bank has a high acceptance of movable assets and 0 otherwise.

FOR and GOV are the ownership dummies.

LEGAL stands for the banking environment legal variables:

Q32 is a dummy variable that takes the value 1 if perception of law on movable assets is high and 0 otherwise

Q34 is a dummy variable that takes the value 1 if perception of law on immovable assets is high and 0 otherwise

Q44 is a dummy variable that takes the value 1 if perception of law enforcement is high and 0 otherwise

Q48 is a dummy variable that takes the value 1 if perception banking on regulator's abilities is high and 0 otherwise

EBRD ENF is a dummy variable that takes the value 1 if actual law enforcement is high and 0 otherwise

EBRD BOOK is a dummy variable that takes the value 1 if actual law on secured transactions is high and 0 otherwise.

	IMMOV	MOV
Q32	0.268 (0.186)	0.619 (0.190)***
Q34	0.625 (0.189)***	0.581 (0.189)***
Q44	0.274 (0.194)	0.050 (0.195)
Q48	0.252 (0.194)	6.369 (5.228)
EBRD ENF	0.264 (0.182)	-0.007 (0.014)
EBRD BOOK	0.701 (0.204)***	0.291 (0.199)

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