

## MODELS OF BANK FINANCING OF CZECH CORPORATIONS AND CREDIT RISK

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*This article presents the results of an analysis of data on individual bank loans of non-financial corporations in the Czech Republic taken from the CNB's Central Register of Credits. It focuses on the question of how firms obtain financing from domestic banks. The results show that the vast majority of non-financial corporations use the services of just one relationship lender. Small and young firms in technology- and knowledge-intensive industries tend to concentrate their credit needs in a single bank, whereas less creditworthy firms and firms in cyclical industries tend to borrow from more than one bank. It also turns out that the level of credit risk at bank level decreases in line with the extent to which firms applying single relationship banking occur in the bank's portfolio.*

### 1. INTRODUCTION

The global financial crisis that erupted in summer 2007 has raised concerns about how banks trying to maintain sensible solvency and liquidity values will respond in their traditional portfolios, i.e. primarily in the segment of lending to non-financial clients. The signals so far suggest that banks have responded vis-à-vis their customers by tightening all three dimensions of their financial conditions, i.e. the volume of loans (or new loans), the interest conditions (higher interest rates) and the non-interest conditions (the collateral required and the proportion of project self-financing). From firms' perspective, the situation may thus be highly unfavourable, as the critical situation in the financial markets coupled with high risk aversion reduces the opportunities for market financing using market instruments (bonds, equities and other securities). At times of financial turbulence, bank financing thus becomes the primary source of external finance again, giving banks a relatively strong position in determining the financial conditions.

The financial conditions can also be affected by whether a firm borrows from just one relationship lender or whether it obtains financing from multiple banks. Relationship banking is most often cited as a phenomenon of the German banking system, but the available evidence suggests that this model is also relevant to other economies, including the Czech Republic. An important question is whether this bank financing model is beneficial to the firm at a time of economic crisis.

This article sets out to determine which bank financing model predominates in the Czech Republic, what its main characteristics are, and what factors the choice of bank financing model depends on at firm level. We also analyse whether the model chosen has a significant effect on the credit risk of relationship lenders.

This article uses internal data from the database of the CNB's Central Register of Credits (CRC), which since 2002 has been recording all new credit relationships between companies and banks in the Czech Republic. These data have not previously been used for analytical purposes, so this article represents the first research study drawing on this original source of data.

Section 2 presents the CRC data used, while section 3 contains numerous descriptive statistics regarding the model of bank financing of firms in the Czech Republic. Section 4 analyses the determinants of the choice of the number of lending relationships at firm level, and section 5 tests the effect of the application of relationship banking on the credit risk of banks. Section 6 concludes.

### 2. DATA

The CNB's Central Register of Credits contains all the balance sheet exposures of domestic banks (including branches of foreign banks) to resident and non-resident legal entities and to sole traders and has been maintained since the end of 2002. Anonymised data on the loans of non-financial corporations were used for the analysis. Loans to non-residents, sole traders, the public sector and financial institutions were not taken into

account. In all, the sample contained almost 8 million records describing the loans of around 120,000 companies in the period from December 2002 to December 2008.

For each firm, in addition to their main characteristics, we constructed variables describing the number of lending relationships, debits/overdrafts as a percentage of total debt, FX loans as a percentage of total bank loans, the year of the oldest granted loan, the firm's "age" (computed as the difference between the year of the observation and the year of the oldest granted loan) and client creditworthiness (using information on the default rate in previous years). For each firm, we also created variables relating to the three most important lenders (in terms of the banks' share in the firm's total borrowings from domestic banks), namely the amount of the share, selected data on the bank and selected data on the credit relationship with that bank, i.e. the above mentioned characteristics of the relationship (debt and foreign currency ratios, year of oldest loan and information on default).

Finally, we created variables at individual bank level, i.e. the 12M default rate in the corporate loan portfolio<sup>32</sup>, the bank's market share in total loans to non-financial corporations, and the shares of various types of debtors and selected sectors and loans in the total corporate loan portfolio (foreign currencies, foreign-controlled corporations, small and medium-sized enterprises, etc.).

### 3. MODEL OF BANK FINANCING OF FIRMS IN THE CZECH REPUBLIC

Relationship banking may be the optimal financial strategy for many companies, as a relationship lender has a good knowledge of the firm's credit history and performance and can react optimally to its evolving financing needs. From the bank's perspective, relationship banking may be an attractive business strategy, since it maximises the benefits while minimising the necessary borrower monitoring costs. This reduces the main problem of banking business, namely the information asymmetry between borrower and lender. "Service packages" for businesses and "customised financing" are indeed a manifestation of a business model that focuses on a single bank winning a client and financing all its needs.

According to the conclusions of previous studies, company characteristics and competition are important determinants of the bank-customer relationship (Petersen and Rajan, 1994; Nam, 2004; Elsas, 2005). These studies also reveal that companies with a relationship lender have easier access to loan financing (Elsas and Krahn, 1998; Harhoff and Körting, 1998), although an effect on interest conditions has not been unambiguously proved (Stein et al. 2007; Elsas and Krahn, 1998; Harhoff and Körting, 1998; Gorton and Schmid, 1996).

It is relevant to ask whether relationship banking is beneficial to the firm during a recession. This would be true if the above arguments concerning easier access to financing apply even at times of financial distress. One counter-argument is that the consequences of cancelling a line of credit to a company may be greater in the case of relationship banking, because the company has no credit history with any other bank and so its chances of raising alternative bank financing under reasonable interest conditions are reduced.

Petersen and Rajan (1994) define relationship banking as a situation where there are close ties between the firm and the lender. The usual indicator of this model is the number of lenders, with the existence of just one bank corresponding to relationship banking. However, for large firms, which often use the services of multiple banks, this indicator is too restrictive. Even if it uses multiple banks, the firm may have a truly close, tight and long-term relationship with just one lender. The existing literature offers three main indicators of close ties: (a) the number of lending relationships, (b) the share of the most significant bank in the company's total debt, and (c) the duration of the main lending relationship (Ongena and Smith 2001; Memmel et al. 2007). The share of the most important bank turns out to be the indicator with the highest information value for close ties between a company and a bank (Elsas, 2005).

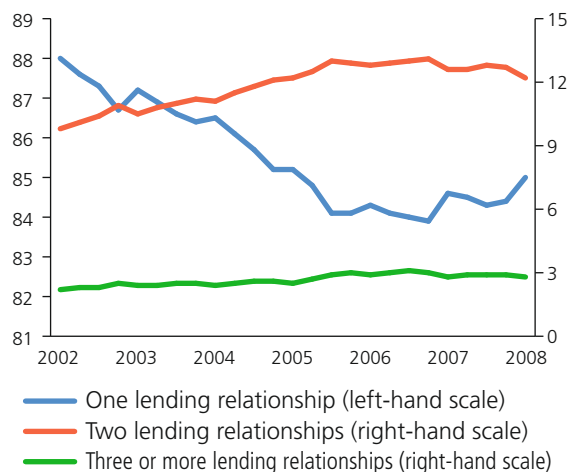
<sup>32</sup> The 12M default rate was computed as the proportion of the bank's claims that will fall into the category "in default for more than 90 days" within 12 months.

For the purposes of this article we use only the first two indicators, i.e. the number of lending relationships and the share of the most significant bank. For the latter, we additionally construct a dummy variable taking the value of 1 when the share of the main bank is more than 80%. In the text that follows, "single relationship banking" refers to the situation where a firm borrows from a single bank. The situation where one bank has a dominant share in a company's borrowings (more than 80%) we term "dominant relationship banking".

The analysed data on the number of lending relationships reveal that relationship banking predominates in the Czech Republic. At the end of 2008, 85% of all non-financial corporations had just one lender, 12% had two and only around 3% had three or more (see Chart 1). Over the past six years, however, single relationship banking has been declining in significance, as almost 90% of companies were applying this model in 2002.

It is interesting to compare this figure with Germany, which is considered by theoreticians and practitioners alike to be the classic example of single relationship banking (the Hausbank model). In a study based on the Deutsche Bundesbank credit register, Memmel et al. (2007) state that only around 45% of companies apply single relationship banking (see Table 1). A comparison of the distribution of the number of lending relationships between the Czech Republic and Germany reveals that German firms use the services of multiple banks to a far greater extent.<sup>33</sup> This difference may be partly due to the different relative size of corporations and banks. Germany has far more large enterprises and small regional banks, so consortium financing is the only option for many large companies.<sup>34</sup>

**Chart 1 – Proportion of companies with given number of lending relationships (% of total number of companies in given period)**



Source: CNB (CRC), authors' calculations

**Table 1 – Comparison of distribution of number of lending relationships between Czech Rep. and Germany**

No. of lending relationships	in % of all companies		
	CZ (2008)	CZ (2002)	Germany (2002)
1	85.0	88.0	43.5
2	12.2	9.8	23.2
3	2.2	1.7	11.4
4	0.4	0.4	5.8
5	0.1	0.1	3.8
6	0.0	0.0	3.3
7	0.0	0.0	2.1
8	0.0	0.0	1.4
9	0.0	0.0	1.1
10+	0.0	0.0	4.3

Source: CNB (CRC), authors' calculations; Memmel et al. (2007)

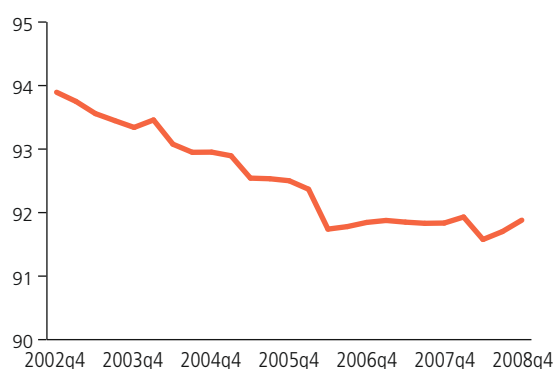
In the other indicator of single relationship banking, i.e. the share of the most important bank in a company's total bank debt, the proportion of companies applying dominant relationship banking is of course even higher (see Chart 2). But this indicator is declining over time as well. In Germany, the figure is somewhere between 50% and 60% (Schmieder et al., 2008). For the Czech Republic, the mean share of the most important bank is almost 97%, which is, of course, due to the high proportion of firms with a single relationship lender, with a range of 14% to 100%. Stein et al. (2007) report an average for this indicator of around 60% (with a minimum of 9% and a maximum of 100%).

<sup>33</sup> Memmel et al. (2007) report a maximum value for the variable "number of lending relationships" of 197. In the Czech Republic the maximum number is 11.

<sup>34</sup> This reason is supported by the fact that the data used for the analysis of Germany in Memmel et al. (2007) come from the Deutsche Bundesbank credit register, which only contains loans that exceed EUR 1.5m, i.e. loans primarily to large corporations.

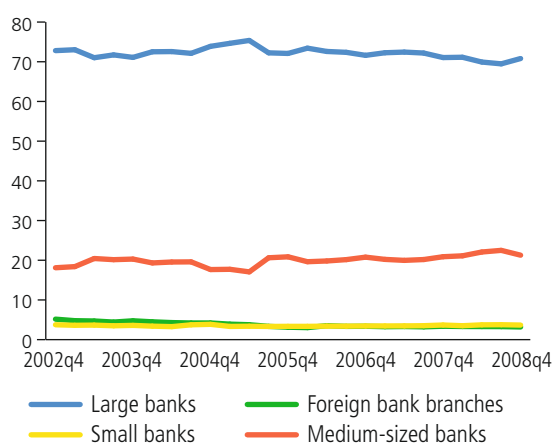
Given that single relationship banking prevails among Czech firms, it is not surprising that large banks dominate as single relationship lenders (see Chart 3). Roughly 70% of companies with single relationship lenders choose a large bank as their only bank, while around 20% choose a medium-sized bank. The role of branches of foreign banks and small banks is limited in this regard.<sup>35</sup>

**Chart 2 – Proportion of companies applying dominant relationship banking**  
(% of total number of companies in given period)



Source: CNB (CRC), authors' calculations

**Chart 3 – Single relationship lenders by bank category**  
(percentage of companies with single relationship lender from given category)



Source: CNB (CRC), authors' calculations

Note: The chart does not contain building societies, whose role as single relationship lenders is minimal.

The data offer more interesting information on which first and second most important banks are chosen by firms using multiple banks. The role of foreign bank branches, for instance, could be greater here, since these banks offer companies certain specialised services. The average share of the first most important bank (for firms that have more than one relationship lender) in the total debt of the firm is 77% and the share of the second relationship lender is 20%. Table 2 shows the distribution of firms with two relationship lenders by the group of the first and second relationship lender. It turns out that large banks also have the largest share in the role of second bank, including for firms that already have a large bank as their first lender.

As the lending services offered to firms by all the large banks are broadly similar, firms may opt for the “large–large” combination as a strategy for avoiding the problem of being “captured” by one relationship lender (Schmieder et al. 2008). Memmel et al. (2008) show on German data that firms applying single or dominant relationship banking reduce their share with the largest bank in favour of another bank over time as they grow. The firm’s bargaining position as regards lending conditions thus improves over time, as its credit history is known to more than one bank.

Table 2 also shows that the second most common combination of relationship lenders is large–medium-sized or medium-sized–large (with a very similar number of firms), followed by foreign bank branch–large (or large–branch). In these cases, a greater role is probably played by the firm’s specific requirements, geographical location (accessibility of the bank), efforts made by banks to target specific clients and, for foreign-controlled corporations, existing ties between the firm’s owners and the bank.

<sup>35</sup> The role of medium-sized banks was not significantly reduced by the change of form of Citibank from a medium-sized bank to a branch of a foreign bank in 2008.

For the sake of completeness, we should mention that for firms using the services of three or more banks, large banks again play the most important role, followed by medium-sized banks and foreign bank branches. The most common bank combination for these firms is thus large–large–large. The factors here may include the firm's size (the need for syndicated financing in large firms) and the strategy of avoiding capture and cutting financing costs, although historical ties may also play a role. The largest banks were all to some extent specialised in the past decade, so companies used the services of large banks for different purposes (payments, investment vs. operating vs. export financing, etc.). Owing to the conservative nature of large domestic firms, these ties apparently still survive, even though these banks now operate essentially as universal banks offering practically every banking service.

**Table 2 – Distribution of relationship lenders by bank group for firms with two relationship lenders (% of total number of companies for all periods)**

	Second relationship lender			
	Large banks	Medium-sized banks	Small banks	Foreign bank branches
First relationship lender				
Large banks	35.2	19.1	2.3	5.4
Medium-sized banks	19.1	3.3	0.7	1.7
Small banks	2.2	0.7	0.1	0.3
Foreign bank branches	6.8	1.9	0.4	0.5

Source: CNB (CRC), authors' calculations

**Table 3 – Differences in behaviour towards various relationship lenders (average indicators in %)**

#### Share of overdrafts and debit balances in bank debt

	One relationship	Two relationship lenders			Three or more relationship lenders			
		Total	1st bank	2nd bank	Total	1st bank	2nd bank	3rd bank
2002	44.6	27.9	27.9	41.2	13.1	11.8	20.3	28.4
2005	57.9	42.7	41.6	56.0	30.2	27.8	35.3	44.5
2008	46.5	37.3	35.7	53.4	32.3	30.8	38.0	49.0

#### Share of foreign currency loans in bank debt

	One relationship	Two relationship lenders			Three or more relationship lenders			
		Total	1st bank	2nd bank	Total	1st bank	2nd bank	3rd bank
2002	8.8	8.0	7.8	8.8	11.4	11.9	11.0	15.4
2005	5.4	3.3	3.2	4.6	6.0	6.1	5.9	6.3
2008	3.5	2.7	2.8	3.2	4.3	4.4	4.3	6.0

Source: CNB (CRC), authors' calculations

The CRC contains information on whether a company borrows in the form of an overdraft or debit balance. This is an indirect indicator that the firm also has a current account with a particular bank and that it therefore uses the bank for routine payments with other trading partners. The data reveal that firms applying dominant relationship banking have a higher share of overdrafts and debit balances in their total bank debt than companies that do not apply this model (50% versus 36% of total bank debt). This may be linked with company size, since dominant relationship banking is applied more by small firms (see below). They usually have more volatile revenues, as they have a smaller number of clients, and so they are forced to use overdraft or debit facilities more often for their day-to-day operations.

For firms using multiple banks, detailed data on their lending relationships allow us to analyse whether firms behave differently towards different banks. In the case of overdrafts and debit balances, it turns out that firms obtain overdrafts from their main bank to a lesser extent than from other banks in the sequence (see Table 3). One of the reasons may be that second and subsequent relationship lenders finance companies' other needs (in particular operations), in which overdrafts naturally have a greater weight. Moreover, firms may behave more cautiously towards their main bank in the overdraft area and probably do not make full use of overdraft or debit facilities. This behaviour has not changed significantly over time, even though the rate of overdraft use has changed.

Similar behaviour can be observed for the share of FX loans. The average share of FX loans in firms' total bank debt has steadily decreased from around 9% in 2002 to 3.5% in 2008.<sup>36</sup> This share differs little between firms applying dominant relationship banking and other firms, but firms with three or more banks have a higher share of FX loans than firms with two relationship lenders (see Table 3). These tend to be larger firms with a strong export orientation. It also turns out that in the case of multiple bank financing the share of FX loans is usually higher for more distant banks. This is to some extent consistent with the finding that foreign bank branches, which specialise in providing FX loans or financing international trading, tend to occupy second or third place in the order of financing importance.

The final issue in the area of firms' different behaviour towards different banks is their strategy in the event of repayment difficulties. An analysis of the data reveals that firms with two relationship lenders tend to default with their main bank (on average almost 50% of firms with repayment difficulties) and keep up their repayments with the second bank. A further 30% of firms stop repaying both banks simultaneously.<sup>37</sup> At first glance, this situation contrasts with the conclusions of the analysis of behaviour in the area of debit balances and overdrafts, where firms try to maintain a good credit history with their main bank. A more detailed analysis reveals, however, that firms defaulting primarily with their main bank likewise use overdraft and debit facilities with them to a greater extent. In the case of three or more relationship lenders, the situation is heterogeneous and no dominant model of behaviour can be identified. In percentage terms, the most frequently observed phenomenon is default with all three relationship lenders (around 22% of cases), followed by default with the first two banks (20% of cases) and default with the first bank (16% of cases).

#### 4. ANALYSIS OF THE DETERMINANTS OF THE CHOICE OF SINGLE RELATIONSHIP BANKING

Empirical studies analysing the determinants of the choice of bank financing model by individual firms (Mommel et al., 2007) find a particularly important role for the size, age and creditworthiness of the firm, the technology and knowledge intensity and cyclicity of the industry, and the type and size of the lender/lenders. The industry- and firm-level characteristics indicate a positive correlation between a firm's size and age and its number of lending relationships, and a negative correlation between the creditworthiness of the firm and the technology and knowledge intensity of the industry and the number of lending relationships. Stein et al. (2007) set out detailed arguments from the theoretical literature supporting these correlations, arguments that are based to a large extent on the problem of information asymmetry and strategic behaviour of firms. The geographical location of the firm may also play a role, as firms from smaller communities away from financial (regional) centres may tend to borrow from the single bank that is most accessible to them. For foreign firms, ties between parent companies and foreign banks may also play a role. It is reasonable to assume, therefore, that Austrian firms, for instance, will borrow mainly from banks owned by Austrian banking groups.<sup>38</sup>

We analyse the determinants of the choice of bank financing model using classical regression (the pooled OLS method), fixed-effects panel regression and random-effects panel regression in order to capture the effects of variables that do not vary over time.<sup>39</sup> The share of the main relationship lender in the firm's total bank debt

<sup>36</sup> This is the unweighted average. The decline is due to a decrease in this share in individual firms and partly also to the appreciation of the Czech koruna against other currencies, as well to a change in the set of firms towards a higher proportion of (for example smaller) firms using mostly koruna loans. The relatively small average amount of this share (as compared to the often cited share of FX loans in total loans provided by domestic banks of around 20%) is due to the high proportion of smaller firms with mostly koruna loans.

<sup>37</sup> At the end of 2008, this situation switched towards equal default vis-à-vis both relationship lenders (50% of all firms in default in 2008 Q4).

<sup>38</sup> Variables capturing corporations' geographical ties and countries of origin were not available, so the influence of these factors was not tested in the analysis.

<sup>39</sup> The firm size information does not vary over time as it is taken from the turnover categories in the RES (Register of Economic Agents) database and is always overwritten in the CRC historical data by the latest information.

(i.e. actually the loan concentration) was used as the dependent variable.<sup>40</sup> The explanatory variables used were firm characteristics, the degree of concentration of the banking market, and selected industry-level variables, namely the procyclicality of the industry (the correlation between the industry's gross added value and overall GDP) and a dummy variable for high and medium-high technology and knowledge intensity industries.<sup>41</sup> As the effect of firm size on bank loan concentration may be non-linear, a dummy variable was used for medium-sized and large firms.

The regression results (see Table 4) confirm that larger and older enterprises have less concentrated loans and hence a greater number of relationship lenders.<sup>42</sup> Some non-linearity of the effect of firm size on the share of the largest relationship lender was also confirmed, although its size is relatively small (about 2 percentage points). Firms in technology- and knowledge-intensive industries tend to concentrate their borrowing needs in one bank, whereas firms with lower creditworthiness as measured by the default rate in the past two years borrow from more than one bank (although this fixed-effects model does not find a significant effect). The results are consistent with findings for the German economy (Mommel et al., 2007; Stein et al., 2007).

The industry cyclicality effect is not provable. Stein et al. (2007) do not find a significant effect of this variable for German firms. The OLS results on the one hand and the two panel estimates on the other hand differ in our case and are significant in both cases. Economic intuition would suggest that firms in procyclical industries should use multiple relationship lenders and have less concentrated loans, as indicated by the panel estimate results, because banks do not like to be the single relationship lenders of too procyclical and hence relatively risky firms.

**Table 4 – Regression results for bank financing model (OLS, fixed-effects model (FE) and random-effects model (RE))**

Dependent variable: Share of main relationship lender	OLS	FE	RE
Turnover	<b>-0.0000847***</b> [0.00000061]		<b>-0.0000657***</b> [0.00000014]
Old firms	<b>-0.00254***</b> [0.000029]		<b>-0.00218***</b> [0.000059]
Dummy for technology- and knowledge-intensive industries	<b>0.00634***</b> [0.00032]		<b>0.0101***</b> [0.00062]
Cyclicality of industry	<b>0.0289***</b> [0.00061]	<b>-0.0338***</b> [0.0011]	<b>-0.0124***</b> [0.00087]
Risk of firm (past default rate)	<b>-0.00840***</b> [0.00069]	<b>0.000294</b> [0.00087]	<b>-0.00330***</b> [0.00078]
Dummy for medium-sized and large firms	<b>-0.0192***</b> [0.00041]		<b>-0.0217***</b> [0.00096]
Constant	<b>0.969***</b> [0.00057]	<b>0.982***</b> [0.00081]	<b>1.003***</b> [0.00092]
No. of observations	717,346	717,346	717,346
No. of banks	63,088	63,088	63,088
R-squared	0.08	0.01	0.01

Standard error in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

<sup>40</sup> Alternatively, we also used the number of banks the firm borrows from. Given the nature of this variable, which takes discrete values between 1 and 11, in this case we used Poisson regression, which takes the categorical nature of the dependent variable into account. The results, however, are in line with the aforementioned findings.

<sup>41</sup> See CZSO, *Klasifikace zpracovatelského průmyslu podle technologické náročnosti* [Classification of manufacturing by technology intensity] and *Klasifikace odvětví služeb podle znalostní náročnosti* [Classification of services by knowledge intensity].

<sup>42</sup> Information on turnover is not available for all firms, so the regressions using this variable were performed only on a subsample containing roughly half the number of firms.

## 5. EFFECT OF APPLICATION OF SINGLE RELATIONSHIP BANKING ON BANKING PORTFOLIO RISK

Does a bank's orientation towards clients applying dominant relationship banking have an effect on its portfolio risk, and is that effect positive or negative? The above analysis of the determinants of the choice of relationship banking model showed that firms with higher creditworthiness (lower default risk) tend to concentrate their loans in a single dominant relationship lender.<sup>43</sup> According to von Thadden (2004) this is consequence of a dynamic process where creditworthy clients stay with their main relationship lender while uncreditworthy clients switch to the model of multiple relationship lenders. Over time, the higher proportion of firms applying dominant relationship banking with such lenders should thus give rise to a lower corporate portfolio default rate. However, large firms, which are generally less risky but due to their size are often financed by syndicated loans from several banks, may have the opposite effect.

To answer this question, we performed a panel regression in which the dependent variable was the default rate in banks' corporate loan portfolio. The explanatory variables used were portfolio characteristics, macroeconomic indicators and in particular an indicator for the bank's orientation towards "single" clients as measured by the ratio of loans to clients applying dominant relationship banking to the bank's total loan portfolio.

The panel regression results reveal that an orientation towards clients applying dominant relationship banking has a positive effect on the bank's loan portfolio quality. This result can be explained by a better knowledge of such clients by the bank and more effective risk management in this segment and is largely in line with the theoretical literature (Rajan, 1992; von Thadden, 2004). The panel regressions containing all the banks did not prove any dependence of their credit risk on the economic cycle as measured by GDP growth.<sup>44</sup> This is largely due to the inclusion of numerous small and medium-sized banks, whose share in the credit risk of the banking sector's total loans is relatively negligible. However, these banks, given their relatively small loan portfolios, different strategies and specialisations in selected segments of the economy, can show relatively sizeable changes in portfolio structure and performance that are not primarily correlated with the economic cycle.<sup>45</sup> If we perform this regression for large banks only, dependence on the economic cycle is confirmed.

An orientation towards small firms fosters a higher default rate, although this factor is reflected in higher client interest rates. Moreover, single or dominant relationship banking, where the main bank knows the company well and is better able to manage the risks, predominates in small companies. A lower default rate is fostered by greater orientation of banks towards foreign-controlled corporations and a lower proportion of FX loans. The last two factors, however, are insignificant in large banks.

<sup>43</sup> Although the fixed-effects panel regression results did not support this conclusion, the alternative estimates of the effect of this variable on the number of relationship lenders confirm it.

<sup>44</sup> The other macroeconomic variables were either insignificant or had a sign inconsistent with economic intuition.

<sup>45</sup> Some small and medium-sized banks, for example, applied an aggressive strategy to win market share, leading to growth in the credit risk of their portfolios at times when the economy was growing strongly.

**Table 5 – Panel regression results for credit risk (fixed-effects model; all banks excluding banks with zero default rate)**

Dependent variable: 12M default rate	All banks	Large banks
Share of clients applying dominant relationship banking	<b>-0.125***</b> [0.038]	<b>-0.105**</b> [0.049]
Share of small corporations in total portfolio	<b>0.109**</b> [0.049]	<b>0.129***</b> [0.045]
Share of foreign-controlled corporations in portfolio	<b>-0.0986**</b> [0.043]	<b>0.00899</b> [0.049]
Share of FX loans in portfolio	<b>0.0987***</b> [0.038]	<b>-0.0296</b> [0.062]
GDP growth (y-o-y)	<b>0.00181</b> [0.0018]	<b>-0.00394***</b> [0.00099]
Constant	<b>0.0706**</b> [0.028]	<b>0.0754**</b> [0.037]
No. of observations	412	100
No. of banks	17	4
R-squared	0.06	0.25

Standard error in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 6. CONCLUSIONS

The results of the analysis of the model of bank financing of firms in the Czech Republic revealed a high relevance of single (sole) relationship banking. This model is applied primarily by small and young firms in technology- and knowledge-intensive industries. By contrast, less creditworthy firms and firms in cyclical industries tend to borrow from more than one bank. The data used also indicated different behaviour of firms towards individual lenders depending on their importance. This confirms the hypothesis that firms choose their bank financing model strategically with regard to their ability to obtain the cheapest possible financing and to take advantage of the specialisations of various types of banks.

The finding that the level of credit risk at bank level decreases significantly in line with the extent to which firms applying dominant relationship banking occur in a bank's portfolio is relevant to the financial stability area.

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