BANKS AND SMES: EMPIRICAL QUANTITATIVE APPROACH ON BANKS BEHAVIOUR AS LENDERS TO SMALL BUSINESSES DURING CRISIS TIMES

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Abstract

As some recent studies revealed, the access to sufficient and appropriate funding for SMEs is still an essential issue for EU countries, the access being limited by various demand and supply constraints and imperfections. This paper approaches the issue of SMEs financing by investigating the main factors influencing the quality of the banking relationship. We undertook an extended quantitative research, based on a survey on Romanian SMEs, as to analyse the main determinants of bank relationship, i.e. trust, loyalty, length. Based on a multiple linear regression and using the method of ordinary least squares, we found that SMEs benefit from more favourable treatment from banks due to trust in managers/owners of the companies and the effects of long-term relationships. The results we obtained are in line with other similar researches but also as a critical interpretation of the role and objectives of the banks related to the SMEs perspective and expectations.

Key words: SMEs, lending relationship, credit renewal, banks' behaviour

JEL Code: G21, G32

Introduction

SMEs financing is, both from theoretical and practical view, a matter of first importance, but the way banks and SMEs deal with this relationship, seeking the best financing, is still a controversial topic. The aim of this paper is to investigate the specific features of SMEs in the contemporary economy (particularly the way SMEs come to financing), attempting to answer to what extent the bank lending are adapted and adequate for small businesses' needs, especially in crisis time. Identifying the key elements defining the SMEs' relationship lending will give us the possibility to confirm the literature data through our own survey-based research. The survey we carried out on a significant number of SMEs from Bihor County, Romania, was focused on investigating the way that determinants such as

concentration, length, credit lines, age, size, or solvability influence the bank`s availability to renew the credit on maturity.

1 Brief overview on the financing needs of European SMEs during crisis times

According to 2011 SMEs Access to Finance Survey (EC Enterprise and Industry, 2011), *the access to finance* of European SMEs is mentioned as the second most pressing issue for the firms, with 15% responses (approximately equal with *competition)*, after *finding customer* and just ahead of the *availability of experienced or skilled staff* (14%). Remarkable is the constancy of this second rank both on 2009 and 2011 surveys, and also the significant variation among EU economies, which is, no doubt, a direct or residual consequence of the economic crisis. The crisis further emphasized the need for external support, making SMEs critically dependent on external sources of finance; the share of firms using external financing only had doubled (from 27% to 56%) in the last two years. The most widely used external funds were bank overdrafts and bank loans (40%, respectively 30%). SMEs` managers were clearly more pessimistic about the general economic outlook. They believe the performance of their firms (mainly in terms of sales and profitability) was deteriorated, which hinders their access to financing. Another factor influencing the availability of bank financing is SMEs credit history; managers are also quite prudent, and the slight improvement over previous years gives not large hopes regarding relatively stringent bank’s requirements. SMEs` managers who would prefer a bank loan (63% from total) to achieve their growth ambitions said that insufficient collateral or the high interest rates would be the main limiting factors stopping them from receiving financing (23%, respectively 22%) and bank services were not always tailored to their needs. As a conclusion, SMEs continue to suffer from a problematic access to finance during the crisis.

Which are the explanations for the insufficient or inappropriate funding? Most of the researchers consider the insufficient funding for SMEs as a structural feature, often unavoidable, which must be mitigated by measures going beyond the framework of the market, often through state intervention: government lending programs, grants, guarantees or other favourable fiscal measures (Beck, Demirguc-Kunt, & Maksimovic, 2005), (de la Torre, Martínez Pería, & Schmukler, 2010). One explanation may come from the fact that SMEs are incorrectly considered as a reduced version of large business, so they are often analysed and financed with methods and techniques considered for large companies financing. The problems of inadequate funding of SMEs may come also from the supply

side, particularly related to the way financial institutions work (Beck, Demirgüç-Kunt, & Soledad Martinez Peria, 2010), and the invoked arguments are: the impossibility of building a viable image on repayment capacity, the "moral hazard" (Berger & Udell, 1998), (Berger & Udell, 2004), banking relationship without history, the precarious financial situation, non-professional prepared, insufficient collateral (OECD, 2004).

Summarizing, SMEs cannot meet the requirements of banks, and they are perceived to be riskier than large enterprise, all justifying the banks requirements for additional protection, as collateral, higher interest rates, covenants and so forth.

2 The main determinants of SMEs relationship lending: some theory

The quality and efficiency of a lending relationship is revealed through several descriptors, such as the possibility to renew credit lines at maturity, to obtain favourable conditions inside the banking relationship (fees, covenants, and flexibility), a reasonable collateral, etc. All these last elements (credit renewal, favourable conditions and reasonable collateral) act as dependent variables or effects of the indicators of the banking relationship, as mentioned in the empirical literature, namely the number of lending relations, the length of the bank-borrower relationship, the degree of concentration, the share of debt financing by one bank, the extent of participation in the relationship, and so on.

We will now briefly approach these indicators, one by one. The most important effects of *concentrated* relationships seem to be related to credit costs and the opportunity to be credited, even in difficult situations. Concentrated relationship lowers borrowing costs (Petersen & Rajan, 1994), (Petersen & Rajan, 1995), and (Hernandez-Canovas & Martinez-Solano, 2006). Moreover, concentrated relationship enhances credit availability (Angelini, Di Salvo, & Ferri, 1998) and (Elsas, 2005). However, there are also different opinions, founding significant variation in the number of relationships across countries or considering that the number of bank relationships does not influence the degree of financial constraints the firm faces. Accepting that concentrated relationship reduce liquidity constraints, Fuss and Vermeulen (2006) argued that the possibility that firms can be supported by banks in case of liquidity shocks depends very little on the number of relationships, but more on firm size or degree of indebtedness.

Regarding the *length* of a banking relationship, the starting idea is that duration indicates the intensity of relationship banking over time, but in the same time duration means a private information accumulation over time, and the capture of the borrower

(switching costs and hold up problem) should increase with duration. Boot asserts that contract terms improve over the length of the relationship with interest rates and collateral requirements falling, and states that "relationship banking lubricates value-enhancing exchange of information and that the longer the duration of the relationship, the greater the information exchange (Boot, 2000). Berger and Udell (1995) find that the interest rate and collateral required for lines of credit is decreasing with the length of a firm's relationship with its bank. However, in Europe, unlike the U.S., companies haven't reported benefits from long lasting relations with the bank, pointing out even a direct correlation between the interest rate on credit and the bank-firm relationship duration, or the hold-up phenomenon of banks to their customers through long term loans (Degryse & Van Cayseele, 2000), (Angelini, Di Salvo, & Ferri, 1998). Even the credit availability increases for the firms with longer bank relationships, there is no certitude for a better loan interest (Petersen & Rajan, 1994). One advantage of close or lasting relationships with a bank may be the bank involvement in company's difficult situations during times of adverse liquidity shocks. Moreover, the length is not a proxy for a more stable relationship lending in the future: "the likelihood of ending a bank relationship is not influenced by the duration of the relationship" (Ongena & Smith, 1996-1997). They found statistical relation rather between the duration of bank relationship and the firm size: i.e. large firms with low debts tend to keep a relationship with the bank more than the leveraged small firms. Including the *trust* beside the two descriptors above mentioned, Hernandez-Canovas and Martinez-Solano (2010) believe that European firms intending to reduce the number of bank relationships or to increase their duration would confer a monopoly power for the bank leading to higher interest rates. They agreed that the existence of relationship lending does not depend on the duration of the relationship or the existence of other lenders financing the firm, "but rather on the bank's participation in the firm's financing, on its capacity to generate information, and on its commitment to aid the firm when it experiences financial difficulties".

In terms of *age, size, performance*, we can state that firm age provides, simultaneously, several indications of continuity of performance and survival skills, but also age acts as a proxy for flexibility and efficiency of management (firms that have achieved a certain size are more likely to end in rigidity and bureaucracy). Typically, many studies have focused on correlating age, size and financial performance with the quality of banking relationship. We can say that improved lending access is more critical for firms in the first stages of lifecycle (start-up) than for those in the growth and consolidation stages: "firm size is positively correlated with firm age, such a correlation between firm size and borrowing

cost implies a negative association between firm age and borrowing cost" (Sakai, Uesugi, & Watanabe, 2005). In fact, lenders seek to gather information about the quality of the borrower from their relationships and not necessarily from borrower's age. All in all, the best use of financial results can be found in concentrated, bilateral relations: as disclosing proprietary information to lenders, the effective use of funding is higher for firms that use a single funding source. If the quality of financial performance of borrowers is variable in time, borrowers tend to add more banking relationships to meet their financial needs.

3 Data and methodology

In this section we present the data set and the methodology we have used in the empirical analysis to assess the effect of lending relationships on the availability and terms of SMEs financing. In order to carry out this study, following the methodology used by Hernandez-Canovas and Martınez-Solano (2010), we undertook, during March – May 2011 a large survey on more than 600 SMEs from Bihor county and Oradea, its main city (North-Western part of Romania). The findings from the survey were corroborated with the reports of the National Bank of Romania indicating a normal position of this region compared to the national average, for the main banking indicators. Final database containing responses from 527 SMEs also included additional information provided by the Romanian Ministry of Finance on key financial ratios of the analysed companies.

Based on this empirical research we have conducted among Romanian SMEs, we analysed the main determinants of the relationship banking and tested the effect of some general (age, size/turnover, and solvency), lending (lines of credit) and relational (trust, concentration, length) characteristics of the firm on the renewal/extension of loan at maturity (variable name: Renewal). Our analysis focuses on the banks` availability to meet companies` requests for loan renewal. Specifically, SMEs` managers were asked to rate on a scale from 1 (never) to 5 (always) the following statement: "Bank showed high availability to credit requests from our company or to renew/extend our loan at maturity". From the responses, we define the dummy variable Renewal, which takes value 1 when the response exceeds median and 0 otherwise. The effect of the bank relationship on Renewal is analysed through the following model:

$$\begin{aligned} \text{Renewal}_i = \beta_0 + \beta_1 \text{Trust} + \beta_2 \text{Concentration} + \beta_3 \text{Length} + \beta_4 \text{Size} + \beta_5 \text{Age} \\ + \beta_6 \text{Solvency} + \beta_7 \text{Lines of credit} + \varepsilon_i \end{aligned} \quad (1)$$

The relationship between firm and bank is identified by the existence of length, i.e. the relationship is determinate by the number of years that the firm has worked with its oldest bank. Together with Length, we include Concentration and Trust, variables most used in the literature to analyse the existence and strength of the bank relationship. The variable Length is measured by the natural logarithm of the number of years that the firm has worked with its oldest bank and the variable Concentration is defined as the natural logarithm of 1 plus the number of banks with which the firm works. Trust is measured ranking on a five-point scale base, from 1 (strongly disagree) to 5 (strongly agree), the opinion of SMEs` managers on the following statement: “When granting a loan to an SME, trust in company’s managers is the most important argument for the bank". From the responses, we define the dummy variable Trust, taking value 1 when the response exceeds median and 0 otherwise. We also have included three other dummy variables: Age, which is determined as the natural logarithm of the age of the firm (number of years since the foundation of the firm), Size (net turnover) and Solvency, determined as ration between cash flow and total assets. Finally, we measure the variable Lines of Credit based on SMEs` managers answers indicating, on a scale from 1 (never) to 5 (always), the frequency of using lines of credit to finance their company's activity (Hernandez-Canovas & Martınez-Solano, 2010, pp. 468-470). Table 1 summarizes the definition of variables and Table 2 summarizes the regressions` results.

Tab. 1: Definition of variables

	Variable	Explanation of variable
Endogenous variables		
	Renewal	On a scale from 1 (never) to 5 (always), we denote the opinion of SMEs` managers on the following: "Bank showed high availability to credit requests from our company or to renew/extend our loan at maturity”. Dummy variable Renewal takes value 1 when response exceeds median and 0 otherwise
Exogenous variables		
Firm characteristics	Age	Ln (Number of years since firm’s foundation)
	Size	Ln (Net turnover)
	Solvency	(Cash flows)/(Total assets)
Relationship characteristics	Concentration	Ln (1 + number of banks with which firm works)
	Length	Ln (Number of years of the longest banking relation)
	Trust	On a scale from 1 (totally disagree) to 5 (totally agree), we denote manager’s opinion on the following: “When granting a loan to an SME, trust in company’s managers is the most important argument for the bank".

		Dummy variable Trust takes value 1 when response exceeds median and 0 otherwise
Lending characteristics	Lines of credit	On a scale from 1 (never) to 5 (always), SMEs managers indicate the frequency of using lines of credit by the firm

Source: Harhoff and Körting (1998), pp.1328-1329), Hernandez-Canovas and Martinez-Solano (2010), p. 469

Tab. 2: Effect of trust, concentration and duration of bank relationship on debt availability (Renewal)

	Renewal **OLS (1)**	**Renewal** **OLS (2)**
Constant	0.014937 (0.125932)	0.016178 (0.141860)
Relationship characteristics		
Concentration	-0.014945 (-0.245051)	
Length	0.080517 (2.416981)**	0.076046 (2.304388)*
Trust	0.054522 (1.6633751)*	
Firm characteristics		
Age	0.008310 (0.260455)	0.055345 (1.698751)*
Size	-0.005090 (-0.565303)	-0.000902 (-0.103153)
Solvency	-0.068644 (-1.722487)*	-0.066910 (-1.708477)*
Financing characteristics		
Lines of credit	0.113324 (7.356371)***	0.054532 (1.6633872)*
Observations	**527**	**527**
Adjusted R-squared	**0.111538**	**0,104986**
F	**0**	**0**

The dependent variable in all regressions is dummy variable Renewal. All regressions estimated using ordinary least squares. Description of all variables reported in Table 1. Observations denote the number of cases included in estimation. F is p-value of global test of significance of linear model. Adjusted R^2 is the adjusted coefficient of determination (measures goodness of fit of linear model). T-statistic in parentheses.
*, **, *** Significant at the 10%, 5%, 1% level

Regression (1) in Table 2 contains the estimation by ordinary least squared of the Model (1). Firms using more frequently lines of credit renew their short-term loans and credit more easily. On the contrary, renewal is less “automatic” for SMEs with higher solvency, which might indicate their reduced use of short-term debt. We find a positive and significant coefficient for the variables Trust, at 10% level, and Length, at 5% level. It should also be noted that the sign of the coefficient of the variable Concentration is negative and insignificant, indicating that firms working with more banks do not benefit of a high availability of the banks regarding their credit request (or for renewal of existing credit).

The longer the relationship between the bank and the firm, the more likely it is that the credit lines will be automatically renewed on maturity. A bank is more likely to renew financing granted to firms with which it maintains a relationship based on trust. This result is consistent with the evidence reported by Hernandez-Canovas and Martinez-Solano (2010). The probability of renewing the loan increases by 0.54% when the variable Trust increases by 10%, whereas an increase by 10% in the variable Length increases the probability of renewal by 0.80%. As a consequence, we can conclude that the impact of Length on debt availability is higher than the impact of Trust. Starting from Model (1) we can now estimate a new model by omitting the variables Trust and Concentration, in order to check the robustness of the results. According to the above mentioned work of Harhoff and Körting (1998), the information contained in these two variables (Trust and Concentration) may not be orthogonal to Length, which would distort the estimation and invalidate the model. The results remain qualitatively the same after excluding Trust and Concentration in Regression (2), as shown in Table 2. Thus, the effect of length on debt availability (Renewal) appears to depend more on other variables than competition from other banks (Concentration) or the trust that financial institution have in the firm's managers (Trust).

Conclusion

The access to finance for SMEs is often limited by the imperfections and constraints of supply and demand, covenants and excessive requirements, information asymmetry or special banking strategy. Under these conditions, maximizing the value of real relationship banking and the features enhancing mutual benefits seem to be essential. To confirm the validity of this assertion, we carried out a survey on 527 Romanian SMEs, investigating the relationship banking descriptors, such as trust, length, concentration, age, size and financial performance. We found that the availability of bank to grant loans or to renew/extend credit lines at maturity (for existing clients) significantly depends mainly on the length of the banking relationship and also on the trust between the lender and the SME; there is no significant influence of the number of bank relations (concentration) on the availability of bank to grant loans. Moreover, between Trust, Length and Concentration (as independent variables) we didn't find any link to distort the regression, as we succeeded to isolate individual influences of each variable on the dependant variable Renewal. Our researches results confirm, in a great extent, the findings in the literature, and contribute to a better

understanding of Romanian SMEs expectations regarding their relation with banks as main lenders.

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