Journal of Business Research 68 (2015) 1650–1652

Contents lists available at ScienceDirect

Journal of Business Research

Information acquisition in SME's relationship lending and the cost of loans ☆

Irene Comeig [a,*], Matilde O. Fernández-Blanco [b], Federico Ramírez [b]

[a] Department of Corporate Finance and ERICES, University of Valencia, Avda. Tarongers, s/n., 46022 Valencia, Spain
[b] Department of Corporate Finance, University of Valencia, Avda. Tarongers, s/n., 46022 Valencia, Spain

ARTICLE INFO

Article history:
Received February 2014
Received in revised form October 2014
Accepted January 2015
Available online 7 February 2015

Keywords:
Asymmetric information
Collateral
Reputation
SMEs
Relationship lending

ABSTRACT

This study analyzes the effect of the reputation SMEs get in a relationship lending on the cost of next loans. A unique dataset of 734 Spanish SMEs' relationship lending provides information on a loan-by-loan basis about the *ex post* previous loan performance, which measures reputation. No prior empirical research differentiates the cost of loans following a defaulted loan from the costs of those following a successfully repaid loan. Results show that lenders obtain information about borrowers' risk-level during relationship lending and use this information. Loans granted after a successful one pledge significantly lower collateral and interest rate than loans granted after a defaulted one. However, the pledged collateral is stronger in the second loan not only following a defaulted loan but also following a successfully repaid one. This result is consistent with the credit screening mechanism, in which good borrowers differentiate themselves from bad ones by pledging high collateral to get lower interest rates.

1. Introduction

Small and medium enterprises face strong asymmetric information problems when trying to access credit. Informational asymmetries between lenders and borrowers may decrease with multi-period lending relationships (Townsend, 1982). Relationship lending would improve banks' information on firms and their projects, providing firms with reputation, and reducing the risk for the bank to grant a loan. SME borrowers with good reputation, in turn, might receive funds at a lower cost. Boot and Thakor (1994) state that following the first successful loan, borrowers obtain an infinite sequence of unsecured loans at under-market borrowing cost. Previous empirical literature, however, finds mixed results, probably because it does not distinguish between SMEs with good and bad reputation.

This study analyzes the effect of reputation SMEs get in a relationship lending on the next loan cost by distinguishing between SMEs with good and bad reputation. The unique dataset of 734 Spanish SMEs' lending relationships provides information on a loan-by-loan basis about the *ex post* previous loan performance, the reputation measure. No prior empirical research differentiates the cost of loans after a defaulted loan from the costs of those after a successfully repaid loan. Some studies use relationship length as an indirect proxy for reputation. Berger and Udell (1995), Harhoff and Körting (1998), Degryse and Van Cayseele (2000) and Lehmann and Neuberger (2001) find that borrowers with longer relationships pledge less collateral, but they obtain mixed results for interest rate. Hernandez-Canovas and Martinez-Solano (2006, 2010), using a Spanish SME sample, however, find firms bear higher collateral and interest rate. Machauer and Weber (1998) do not find any effect. Studies using relationship concentration, instead, as a proxy for reputation, find mixed results too (Angelini, Di Salvo, & Ferri, 1998; Harhoff & Körting, 1998; Hernandez-Canovas & Martinez-Solano, 2010; Machauer & Weber, 1998; Petersen & Rajan, 1994).

The present study, applying a logit model, finds lenders obtain information on borrowers' risk-level during relationship lending and use this information. The group of loans after a successful one pledges significantly lower collateral and interest rate than the group after a defaulted loan. However, contrary to Boot and Thakor's (1994) predictions regarding collateral requirements, pledged collateral is stronger in the second loan not only after a defaulted loan but also after a successfully repaid one.

This study has the following structure: Section 2 describes database and methodology. Section 3 presents results. Section 4 highlights main conclusions.

2. Sample and methodology

The goal of this study is to explore the effects of good and bad reputation gained in a relationship lending on the cost of new loans.

☆ The authors thank SGR Comunidad Valenciana for the information provided, and Esther del Brío, University of Salamanca (Spain), for valuable comments to previous versions of this paper. Irene Comeig acknowledges financial support from MAEC-AECID, Generalitat Valenciana BEST/2009/224 and Spanish Ministry of Economy ECO2013-46550-R, 2014–2017 grant.

* Corresponding author.
E-mail addresses: irene.comeig@uv.es (I. Comeig), matilde.fernandez@uv.es (M.O. Fernández-Blanco), federico.ramirez@uv.es (F. Ramírez).

http://dx.doi.org/10.1016/j.jbusres.2015.02.012
0148-2963/

The database contains information on 734 loan relationships between 44 Spanish banks and SMEs during 17 years, from 1982 to 1998. This sample covers an entire economic cycle with recession and growth periods, ensuring results robustness regardless of business cycle stage. SGR Comunidad Valenciana provides data as financial intermediary that grants guarantees to banks against their loans to SMEs. All loans correspond to SMEs (sole proprietors, private limited liability companies, and public limited companies with less than two hundred and fifty employees). From these loans, 21 follow a defaulted loan (Group 1) and 713 follow a successfully repaid loan (Group 2).

A logit model relates firm's reputation—the *ex post* first loan performance (actual default or success)—with the next loan's collateral and interest rate from the same bank, and some control variables. The dependent variable, $Reputation_{t-1}$, is a binary variable—value equals 1 for non-defaulted loans, and 0 for defaulted ones. Defaulted loans include non-performing loans, not only legal insolvency (i.e., due date 90 days ago and doubtful loans). Loans after different results are heterogeneous in reputation. Consequently, they should not be in the same pool when analyzing reputation effects on loan cost.

The model defines interest rate (*Lint*) as the spread between each loan's initial interest rate and the interest rate in the Bank of Spain Bulletin at that period. Collateral variable (*Lcoll*) equals 0 for outside real estate collateral, 1 for guarantees and 2 for unsecured loans.

Therefore, the model is as follows:

$$Reputation_{it\text{-}1} = \beta_0 + \beta_1 Lint_{it\text{-}1} + \beta_2 Lint_{it} + \beta_3 Lcoll_{it\text{-}1} + Lcoll_{it} + \varepsilon_{it}. \quad (1)$$

3. Results

Table 1 presents the analysis of variance and key exogenous variables' means and standard deviations in each loan's group. Table 1 also shows normality and homoscedasticity tests.

Results show that loans following a successfully repaid loan (Group 2) significantly pledge lower collateral ($Lcoll_t = 1.19$) than Group 1 loans ($Lcoll_t = 0.95$). However, collateral is stronger in the second loan ($Lcoll_t < Lcoll_{t-1}$) in both groups.

Interest rates are also lower in Group 2 ($Lint_t = 0.82$) than in Group 1 ($Lint_t = 4.26$). Moreover, consistent with Boot and Thakor's (1994) predictions on interest costs, interest rate falls in the second loan in Group 2 ($Lint_{t-1} = 1.45$; $Lint_t = 0.82$), and rises in the second loan in Group 1 ($Lint_{t-1} = 3.73$; $Lint_t = 4.26$).

Between groups differences, in both interest rate and collateral, increase in the second loan. This result supports that lenders obtain information on borrowers' risk-level during the first loan and use this information to adjust second loan costs.

However, results show that pledged collateral is stronger in the second loan both after a defaulted loan and after a successfully repaid one. This result is consistent with the credit screening mechanism (see Bester, 1985), in which low-risk borrowers differentiate themselves by pledging high collateral to get lower interest rates (see Comeig, Del Brio, & Fernandez Blanco, 2014 for an empirical test, and Capra, Comeig, & Fernández-Blanco, 2014 for a laboratory experiment on this screening mechanism). In line with these results, the Zambaldi, Aranha, Lopes, and Politi (2011) empirical analysis of Brazilian SMEs finds that lenders decide to grant credit based on a positive amount of collateral optimal for the bank; and the Bigelli, Martín-Ugedo, and Sánchez-Vidal (2014) empirical analysis of Italian private firms shows that small firms with fewer tangible assets do not access credit.

Table 2 presents the logit analysis' results, which confirm ANOVA results. Logit analysis considers just 607 lending relationships due to missing data on interest rates in the 127 excluded consecutive loans.

Results from Test A—$Lcoll_{t-1}$, $Lcoll_t$, $Lint_{t-1}$ and $Lint_t$ are the exogenous variables—corroborate that second loan interest rate, $Lint_t$, and collateral, $Lcoll_t$, distinguish good reputation from bad reputation firms. Table 2 shows the final model solution, which comprises $Lcoll_t1$, $Lcoll_t2$ and $Lint_t$; all of them with negative signs. Thus, the lower the second loan's interest rate the higher the probability of good reputation. Also, the firm's good reputation relates to lower probability of outside real estate collateral requirements, in comparison with bad reputation loans.

Results from Test B—includes $Reputation_t$ and the four previous exogenous variables—show that most defaulted second loans come from bad reputation firms (final model just selects $Reputation_t$). $Reputation_t$ represents the second loan's *ex-post* loan performance—value 0 for defaulted loans, value 1 for non-defaulted loans.

4. Conclusions

This study presents an empirical analysis of SME's reputation effects on the costs of new loans. Informational asymmetries between lenders and SMEs, and their consequences on credit access, motivate such analysis.

Theoretical models suggest that relationship lending improves bank's information on firms and their projects, providing firms with a reputation, and reducing the banks' risk to grant a loan. Consequently, SME borrowers with good reputation receive new funds at a lower cost (Boot & Thakor, 1994). Previous empirical literature, however, finds mixed results. These mixed results may come from not distinguishing between good and bad reputation SMEs.

In this study, data on 734 Spanish SME relationships lending with information on a loan-by-loan basis about *ex post* loan performance, the reputation measure, shows that loans granted after a successful one

Table 1
Analysis of variance (ANOVA).

Exogenous variables	1.1. Normality and homoscedasticity test			1.2. Analysis of variance		
	Kolmogorov–Smirnov* Group 1	Kolmogorov–Smirnov* Group 2	Levene's test*	Mean** Group 1	Mean** Group 2	F***
$Reputation_t$	0.492	0.541	32.053	0.19	0.96	284.201
	(0.000)	(0.000)	(0.000)	(0.40)	(0.20)	(0.000)
$Lcoll_{t-1}$	0.357	0.383	6.733	1.00	1.26	4.856
	(0.000)	(0.000)	(0.010)	(0.55)	(0.53)	(0.028)
$Lcoll_t$	0.342	0.366	0.762	0.95	1.19	3.604
	(0.000)	(0.000)	(0.383)	(0.59)	(0.56)	(0.058)
$Lint_{t-1}$	0.117	0.098	0.030	3.73	1.45	22.251
	(0.200^)	(0.000)	(0.862)	(2.73)	(2.17)	(0.000)
$Lint_t$	0.146	0.119	7.216	4.26	0.82	36.645
	(0.200[a])	(0.000)	(0.007)	(3.41)	(2.35)	(0.000)

This table shows the normality and homoscedasticity tests and the analysis of variance for both groups. P-values are in parentheses. Group 1: 21 loans after a defaulted one. Group 2: 713 loans after a successfully repaid loan. The superscripts *, **, and *** indicate that the correction of the significance of Lilliefors, the standard deviations, and the levels of significance are in parentheses, respectively.

[a] Lower limit.