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Collateral requirements of SMEs: The evidence from less-developed countries

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ABSTRACT

This paper aims to investigate the determinants of collateral requirements for loans that are extended to small and medium-sized enterprises in less-developed countries. Our primary data source consists of the results from firms in Eastern Europe and Central Asia from the Business Environment and Enterprise Performance Survey, which is compiled by the World Bank and the European Bank for Reconstruction and Development. The results show that borrower-specific variables are more important than country-specific variables in determining collateral requirements on loan contracts. The strongest evidence in our paper emphasises the importance of borrower risk and loan cost in collateral determinants.

1. Introduction

Borrowing difficulties can be one of the main obstacles to starting and running a business for small and medium-sized enterprises (SMEs), particularly in less-developed economies. Both the information asymmetry between lender (the bank) and borrower (the firm) (Baas and Schrooten, 2006) and the overall banking market structure (Petersen and Rajan, 2002; Berger and Udell, 2006) can influence lending terms and conditions. Pledging collateral is often an efficient solution to easing access to credit. Collateral requirements are stringent in less-developed countries because the financial environment in these countries typically involves opaque information and weak enforcement (Hainz, 2003; Menkhoff et al., 2006). In less-developed countries, borrowers have relatively low probabilities of holding collateralisable assets; thus, firms in these countries are more likely to experience difficulties in obtaining access to external financing (Menkhoff et al., 2006, 2012). Beck et al. (2006) use the World Business Environment Survey (WBES) to examine 12 financing obstacles. They report that collateral requirements are the third most important of these obstacles. The EBRD-World Bank Business Environment and Enterprise Performance Survey (BEEPS) results for firms in Eastern Europe and Central Asia indicate that high collateral requirements are the fourth most important reason firms do not apply for external loans; this factor ranked immediately below the issues of complex application processes and high interest rates in importance.[1] Therefore, collateralisation appears to be a crucial aspect of a firm's access to external financing; this access can determine the eventual disappearance or survival of a firm. Due to poor data availability, however, there is a substantial lack of empirical evidence on collateral and its determinants in less-developed countries. Information about collateral for a cross-section of less-developed countries is even more difficult to obtain. Theoretical models addressing collateralisation typically refer to financially developed economies, and their empirical verifications primarily use data from developed countries and largely focus on a single country. We aim to close this gap.

An extensive body of research on developed countries[2] regards collateral as an efficient solution to the problems of information asymmetry with respect to the quality of borrowers (Berger et al., 2011a,b; Bester, 1987; Chan and Kanatas, 1985; Chan and Thakor,

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[1] See Table A.1 of the Appendix A.

[2] The wider literature on developed countries addresses many aspects of collateralisation. In this paper, we refer to only those studies on the role of collateral that are closely related to our analysis.

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1987; Coco, 1999). Another stream of literature investigates how banking competition affects collateral requirements (Besanko and Thakor, 1987; Hainz et al., 2013; Jiménez et al., 2011; Voordeckers and Steijvers, 2006). Because of the more serious information asymmetry and lower degree of bank intermediation in less-developed economies, the literature suggests that a further investigation of collateral requirements in these countries should be addressed. Research on less-developed countries is both scant and poor in quality, which makes it difficult to identify clear streams of literature. As far as we know, this paper is the first to investigate the determinants of collateral with respect both to borrower risk and the banking market structure by considering a sample consisting solely of less-developed economies.

To address this, we construct a cross-country sample consisting solely of less-developed economies, including transition economies from Eastern Europe and Central Asia. We draw on survey data from the World Bank Business Environment and Enterprise Performance Survey (BEEPS hereafter) and collect deep and wide data at both the firm and loan levels by focusing on a subsample of SMEs. We investigate not only the presence of collateral but also the amount of collateral in loan contracts. The analysis specifically investigates the importance of various firm- and country-specific factors by testing (i) whether higher borrower quality reduces the collateral-to-loan ratio; (ii) whether information sharing among lenders affects collateralisation; and (iii) to what extent lending market and macroeconomic conditions affect the presence of collateral in loan contracts. Our main contribution indicates that country-specific variables are less important than borrower-specific variables in determining collateral requirements. Accordingly, we find that loan variables and all the firm's risk variables explain the collateral determinants. We are unaware of a previous cross-country study on SMEs' collateral determinants based solely on a sample of less-developed countries. Thus, our paper yields new results and important insights for businesses and policy makers that operate in these countries. The remainder of the paper is organised as follows. Section 2 reviews the relevant literature on collateral with regard to less developed countries. Section 3 introduces the model employed in this study. Section 4 presents data and descriptive statistics. The results are discussed in Section 5, and Section 6 concludes the paper.

2. Review of the literature on collateral in less developed economies

Caballero and Krishnamurthy (2001) is the first theoretical paper on collateral in emerging countries; however, the focus of their model is specifically on financial crises in economies constrained by limited international collateral. The model developed in Caballero and Krishnamurthy (2001) indicates that firms in emerging countries with limited domestic collateral and binding international collateral constraints systematically undervalue international collateral by taking actions that lead them to reduce international collateral during crises, which exacerbates the effects of adverse shocks. Most of the studies addressing the role of collateral in emerging countries are empirical in nature. The scant availability of information on both collateral and firms explains why most of the empirical research consists of single-country analyses using data that are mostly collected through surveys. One of the first empirical studies of developing economies is an investigation by Feder et al. (1988) that emphasises both the use of land collateral and credit availability in three developing rural countries (Thailand, India and Korea). The authors show that political, legal and social issues might influence the enforcement of land pledged as collateral and affect the lending transaction. Where it is legal – in Thailand and in India – the extensive use of land collateral reduces creditworthiness assessment costs. For Thailand, the available data indicate that a credible threat of losing land makes collateral effective in accessing financing: pledging land collateral increases the amount of credit offered by more than 40% compared to loans without security. In the literature investigating how financial reform affects both investment and credit allocation, Gelos and Werner (2002) explore the role of real estate used as a proxy for collateralisable assets in enhancing investments following the financial liberalisation of the Mexican financial sector in late 1988. Their main results show that the effect of collateral on capital expenditures became more important after 1989. Moreover, after the financial liberalisation, banks appear to have continued to rely heavily on collateral in their lending because of persistent informational and enforcement problems. The primary effect of financial liberalisation is not to lower the cost of credit but to increase its availability. In the debate over the effectiveness of relationship lending in emerging economies, La Porta et al. (2003) examine the extent and the impact of related lending extended by 17 Mexican banks in 1995. The so-called related borrowers consist of the bank's shareholders, associates, family and firms controlled by the bank. The authors find that strong relationship-oriented loan transactions show a lower level of collateral and, simultaneously, higher default rates and lower recovery rates than with unrelated borrowers. Related lending (also called relationship lending) in Mexico appears to be consistent with the pessimistic assessment – the so-called looting view – of such related lending. The authors suggest that scaling back on related lending might be the best way to reduce the fragility of the financial system in emerging countries such as Mexico. Conversely, Menkhoff et al. (2006) find a positive relationship between collateralisation and relationship banking. Their paper analyses credit transactions engaged in by nine Thai commercial banks during the 1992–1996 period. In their analysis, relationship-oriented house banks demand higher collateral than non-house banks. This finding suggests that house banks appear more likely to be affected by a hold-up problem than by a reverse looting problem, as found by La Porta et al. (2003) in Mexico. In a subsequent paper, Menkhoff et al. (2012) focus on the possible substitutes for collateral and find that only 11% of households in northeastern Thailand are credit-constrained and that most borrow without pledging collateral. To solve this puzzle, they investigate how substitutes allow smaller firms to access collateral-free financing. Their survey was conducted in 2007 and covered 2186 rural households. The results confirm that the use of third-party guarantees decreases the probability of collateral requirement by a factor of 0.54–0.57, whereas relationship lending decreases the probability by only 0.07–0.10. Because even low-income households possess assets – typically land – that might serve as collateral suggests that ineffective collateral enforcement affects the lending conditions and explains the high number of loans with collateral substitutes. Thus far, the evidence indicates that empirical research on emerging countries is narrow in its coverage, and most studies analyse a single market. Three recent papers perform cross-country analyses on the role of collateral in emerging markets. Although important results are shown about collateral requirements in emerging markets, we argue that these studies present some limitations with respect to their observed sample. Liberti and Mian (2010) investigate how financial development affects collateral requirements using an original sample of loans extended to SMEs in 15 countries. The loans were extended by a single multinational bank, and the cost of financial underdevelopment is denoted in terms of collateral spreads measured by the difference in collateralisation rates between high- and low-risk loans within the same economy. Their results show that an improvement in financial institutional development by one standard deviation reduces a country's collateral spread by nearly one-half. The authors analyse a wide (and rare)