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Journal of Financial Economics

journal homepage: www.elsevier.com/locate/jfec



Bridging the gap: the design of bank loan contracts and distance *



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ARTICLE INFO

Article history:
Received 16 January 2015
Received in revised form
26 March 2015
Accepted 7 April 2015
Available online 3 October 2015

JEL classification: G21 G32 M41

Keywords:
Private debt
Debt covenants
Geographical distance
Information asymmetry

ABSTRACT

How do the distance constraints faced by lenders in acquiring borrower information affect the design of bank loan contracts? Theoretical studies posit that greater information asymmetry leads to the allocation of stronger ex ante decision rights to the lender (the uninformed party). Consistent with this hypothesis, we find that, upon inception, contracts tend to be more restrictive when firms seek loans from remote lenders. This finding is robust to potential endogeneity bias and simultaneity of various loan terms. Overall, we establish a strong informational link between distance and loan contract design.

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1. Introduction

A recent literature studies the existence of locationbased cost advantages in bank lending. For example, Hauswald and Marquez (2006) formally analyze lending competition under locationally differentiated information. Their analysis rests on the premise that distance erodes the ability of lenders to acquire borrower-specific information

^{*}We are grateful to the editor, Bill Schwert, and in particular the referee, Clifford Smith, for excellent guidance and suggestions on the paper. We thank Hans Degryse and Steven Ongena for stimulating discussions, and Sudheer Chava and Michael Roberts for generously sharing their DealScan-Compustat link. We are indebted to Nikki Bosch, Patty Bosch, Nadya Jaddoe, and Ewout Verriest for superb research assistance. We thank Margaret Abernethy, Daniel Bens, Jan Bouwens, Eleonora Broccardo (discussant), Willem Buijink, Hans Christensen, Anna Costello, Peter Demerjian (discussant), Bart Dierynck, Peter Easton, Joey Engelberg, Pingyang Gao, Robert Göx, Martin Jacob, Wim Janssen, Kelvin Law, Laurence van Lent, Edith Leung, Ningzhong Li, Zoltan Matolcsy, Valeri Nikolaev, Manuel Rodrigues (discussant), Richard Sansing, Catherine Shakespeare, Doug Skinner, Jeroen Suijs, Andrew Sutherland, Stephen Taylor, Yachang Zeng, and workshop participants at Tilburg University, University of Technology Sydney, the AAA Financial Accounting and Reporting Section conference in Chicago, the Midwest Finance Association conference in New Orleans, and the Eastern Finance Association conference in Boston for valuable comments. We thank Penelope Cray for her editorial assistance. Portions of this paper were completed while the second author was visiting the University of Chicago Booth School of Business. A previous version of this paper circulated under the title "The Geography of Debt Contracting: Evidence from Syndicated Loans."

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(see also Almazan, 2002). According to this theory, banks derive cost advantages ex ante from being geographically closer to the borrowing firm, giving rise to spatial competition. The evidence gathered so far is supportive of this view. For instance, several studies (e.g., Guiso, Sapienza, and Zingales, 2004; Degryse and Ongena, 2005) document a tendency among banks to concentrate their loans on their local captive markets. Moreover, there is convincing evidence of spatial discrimination, through credit rationing (Petersen and Rajan, 2002) and loan pricing (Agarwal and Hauswald, 2010; Bellucci, Borisov, and Zazzaro, 2013). However, existing research has largely ignored the role contracting, and covenants in particular, can play in reducing informational frictions associated with distance. This paper attempts to fill this void.

Our analysis builds on, and is complementary to, a literature that views covenants as ex ante mechanisms designed to "protect" lenders in the face of asymmetric information (e.g., Billett, King, and Mauer, 2007; Garleanu and Zwiebel, 2009; Murfin, 2012; Roberts, 2015). Broadly speaking, this work argues that, when covenants are set more restrictive upon inception, lenders retain greater ex ante decision rights, which they can give up (or relax), via ex post renegotiation, as more information becomes available. Our goal is to study whether banks exploit this contractual feature to mitigate informational frictions related to distance from an ex ante perspective.

Following related studies in this area, our main focus is the intensity of financial covenants. We limit our analysis to financial covenants because they represent an ex ante commitment to renegotiate loan terms and, thus, allowing the contract to incorporate post-contracting information (Demerjian, 2014). We approximate covenant intensity by counting the number of covenants included in the loan agreement. All else equal, a contract with more covenants (i.e., covenants binding more of the borrower's financial ratios) will give the lender more contingent control and, therefore, should be treated as stricter (Murfin, 2012). While this measure is frequently used, it has a notable drawback: it implicitly assumes that different types of covenants, with possibly differing degrees of "tightness," have the same impact. To ensure that this (rather strong) assumption does not drive our results, and to further explore the implications of the basic premise of this study, we provide three additional sets of analyses.

First, we explore the relative initial tightness of covenant restrictions. One direct implication of Garleanu and Zwiebel's (2009, p. 752) model, cited above (and discussed in the next section), is that "stronger rights (tighter covenants) are granted to the lender in the initial contract the greater the asymmetric information." We measure the tightness of debt-to-earnings before interest, taxes, depreciation and amortization (EBITDA) covenants as the difference between the covenant threshold and the actual accounting ratio measured at loan origination. Here, we

focus on Debt/EBITDA covenants because they are by far the most popular financial covenants and, equally important, with relatively homogeneous measurement (Demerijan and Owens, 2013).

Second, following Christensen and Nikolaev (2012), we classify covenants into two types: capital covenants (*C-covenants*) and performance covenants (*P-covenants*). As they argue, and document empirically, C-covenants facilitate ex ante monitoring by aligning debtholdershareholder interests. Specifically, C-covenants require shareholders to have "skin in the game," thus aligning their interests with those of debtholders, and encouraging shareholders to monitor the firm. P-covenants, on the other hand, facilitate ex post control allocation, requiring contractible accounting information to be available. We expect distance to affect the choice of covenant package through two complementary channels: (1) directly, by constraining lenders' ability to monitor a borrower ex ante (suggesting a role for C-covenants); and (2) indirectly, through reducing the contractibility of accounting information (a requirement for *P-covenants*).² Therefore, we expect the initial contracts of distant borrowers to rely more on C-covenants than on P-covenants.

Finally, we consider the design of performance pricing. Asquith, Beatty, and Weber (2005) posit that, in the face of asymmetric information, lenders rely on "pricing grids" to reduce adverse selection problems by threatening ex post settling up. Following Christensen and Nikolaev (2012), we classify pricing grids into (1) profitability-based grids (P-grids), which rely on accounting indicators used by P-covenants; (2) capital-based pricing grids (C-grids), which rely on capital-based accounting indicators used by *C-covenants*; and (3) grids based on credit ratings (*R-grids*). The authors argue, and provide supporting evidence, that C-grids have similar ex ante interest-aligning effects as C-covenants. Because of this, and because C- and R-grids are less dependent on the contractibility of accounting information than P-grids (as shown by Christensen and Nikolaev (2012)), we expect, through the two channels described above, that R- and C-grids are chosen initially over P-grids as the borrower is located further away from the lender.

We retrieve detailed information on both lenders in the syndicate and contract terms from DealScan. We augment our sample with borrower-specific data from Compustat and Center for Research in Security Prices (CRSP). (Thus, we restrict our sample to public firms.) We determine a lender's location, and retrieve missing or incorrect Compustat data on borrowers' locations, from their websites. Following common practice, for both lenders and

¹ Carling and Lundberg (2005, p. 40) illustrate the idea that physical separation from the borrower limits the lender's ability to screen the borrower using the *Church Tower Principle*: "This principle is well known by Swedish banks. Figuratively speaking, the bank is the church tower and from its outlook it can screen and monitor firms in its proximity."

² As in Christensen and Nikolaev (2012), we define accounting information contractibility as the inherent ability of accounting information to measure the state of nature. Aghion and Bolton (1992) view contracts as inherently incomplete because future states of nature are not contractible. As they show, this contractual incompleteness creates incentives for wealth expropriation. Because distance erodes a lender's ability to monitor a firm, firm managers have greater opportunity to extract private benefits by opportunistically using their accounting discretion (Ayers, Ramalingegowda, and Yeung, 2011), and, therefore, ceteris paribus, the contractibility of accounting information must also be decreasing as a function of this distance.

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