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Journal of Banking & Finance

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

Board quality and the cost of debt capital: The case of bank loans

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ARTICLE INFO

Article history:

Received 20 July 2011

Accepted 28 December 2011

Available online 8 January 2012

JEL classification:

G21

G34

Keywords:

Bank loans

Cost of capital

Corporate governance

ABSTRACT

We analyze the relation between comprehensive measures of board quality and the cost as well as the non-price terms of bank loans. We show that firms that have higher quality boards with a greater advisory presence borrow at lower interest rates. This relation exists even after controlling for ownership structure, CEO compensation policy, and shareholder protection, as well as the size and financial characteristics of the borrower and of the loan. We also show evidence that board quality and other governance characteristics influence the likelihood that loans have covenant requirements, but the relations differ by covenant type. When we combine the direct and indirect costs of bank loans we find that firms with large, independent, experienced, and diverse boards and lower institutional ownership borrow more cheaply. Overall, the evidence indicates that board quality impacts the cost of bank debt.

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1. Introduction

What is the role of corporate boards in resolving the potential for conflict between shareholders and debt holders? The answer to this question is of clear importance for understanding the general issue of how governance mechanisms influence agency costs, and in turn, corporate costs of capital. Boards that strengthen the position of shareholders relative to creditors may result in firms accepting high-risk projects (or engaging in mergers) that may benefit shareholders but expropriate wealth from bondholders. Reflecting this conflict, creditors of firms with stronger pro-shareholder governance may insist on higher loan rates and more restrictive covenants. In contrast, some boards may improve firm efficiency in such a way that both creditors and shareholders benefit, thereby reducing the cost of loans and/or their covenant requirements. For example, board diversity may cause banks to have greater faith in internal governance mechanisms and thus reduce borrowing costs. Or, greater board experience may lead to better quality advice to management and lead to better terms for debt. More generally, the quality of the board may have a material impact on the cost of debt capital.

In this paper, we conduct an extensive study of how board quality affects the terms at which banks lend to corporations. We focus on bank debt not only because the relation between board quality

and bank loans has not previously been explored comprehensively, but also because bank loans in corporate capital structures are quantitatively quite significant. Indeed, [Bradley and Roberts \(2004\)](#) report that private debt, including bank loans, ranges from two to three times the amount of new issuances of public debt.

Our basic hypothesis is that high quality boards, by better governance, may complement the monitoring role of banks (delimited, for example, in [Rajan \(1992\)](#)), and thus reduce the costs and ameliorate the non-price terms of bank debt. We consider a large set of quality measures such as board size, board member independence, experience, busyness, diversity, compensation, share ownership, and a board member's capacity to serve in an advisory role. The results support the notion that high quality boards reduce corporate borrowing costs. Thus, we are able to establish a reliable link between board quality and borrowers' cost of capital.

Reflecting the potential for bias due to well-known endogeneity and simultaneity problems in governance studies (see [Hermalin and Weisbach \(2003\)](#)) we conduct a number of robustness checks to reinforce confidence in the validity of our results. First, we use board and other variables in our models that we lag one period relative to our loan data. Second, we perform the analysis for a subset of data for which the borrowers have not had loans in the previous 2 years on the grounds that such loans are less likely to be part of a regular borrowing program that could materially affect the previous year's board quality. Finally, we use an instrumental variables approach where we instrument for board quality. We find that our empirical results are robust to these specifications.

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We also examine the impact of board quality on debt covenants.¹ While governance research adds much to our understanding, it does not explicitly focus on covenant characteristics; yet covenants can have very important effects on firm behavior. For example, Chava and Roberts (2008) show that lender banks interfere with management following covenant violations and that this leads to a sharp contraction of capital expenditures for covenant-violating borrowers. We find that board quality and other governance characteristics influence the likelihood that lenders will require certain types of covenants. Specifically, borrowers with larger, more independent, and more diverse boards, and with lower inside ownership are less likely to have financial ratio covenant limitations. For example, increasing board independence from 50% to 75% decreases the probability of having financial ratio covenants by almost 32%. Firms with more diverse boards, more board members with longer tenures, and greater incentive-based compensation for the CEO are less likely to have collateral requirements on their loans. Board quality does not appear to influence whether firms have sweep requirements on their loans, but those with lower inside ownership and greater shareholder protection (higher probability of takeover) are more likely to have sweep requirements.

Given that loans may be negotiated as packages of both direct costs (spread) and indirect costs (covenant restrictions), we examine the impact of board quality and other governance mechanisms on the total cost (direct and indirect) of bank loans. We find that board quality, particularly board size, independence, experience, and diversity reliably impacts the overall cost of bank loans. Further, we find that having greater institutional ownership raises the overall costliness of borrowing from banks.

Prior research (e.g., Bhojraj and Sengupta (2003), Anderson et al. (2004), Klock et al. (2005), Chava et al. (2009), and Cremers et al. (2007)) makes a significant contribution by relating the cost of borrowing – usually the cost of bonds – to borrower characteristics. However, this research typically considers individual or small subsets of governance characteristics. In contrast to these studies, our focus is on the overall impact of a broad set of board quality measures on the cost of bank debt. Like previous papers, we find that both increased board size and independence result in lower cost bank loans. But we also find that other measures of board quality such as greater board experience and the advisory role of board members decrease bank loan costs, and that these quality measures are important determinants of loan costs even after controlling for CEO compensation and ownership, institutional ownership, shareholder protection, and many financial and loan characteristics known to impact loan prices. We find that board characteristics are not only statistically significantly related to the cost of borrowing, but that they also result in economically meaningful reductions in loan rates. For example, increasing board independence by one standard deviation decreases loan costs by 3.93%.

Other research on the importance of the board focuses primarily on the influence of the size and independence of the board (for example see Yermack (1996), Hermalin and Weisbach (2003), Coles et al. (2008)) on firm valuation. Few studies examine other characteristics of the board though Erhardt et al. (2003), Carter et al. (2003), and Jurkus et al. (2008) report that the number of female board members is positively related to financial indicators of firm performance. Ryan and Wiggins (2004) show that director

equity-based compensation is tied to the power of independent directors versus the CEO. Additionally, Brick et al. (2006) examine director compensation and share ownership and find evidence that excess compensation of directors (and CEOs) is associated with poor firm performance. While these studies provide important insights, they do not explicitly relate comprehensive measures of board quality to the cost and terms of debt capital.

Our paper proceeds as follows. Section 2 discusses the sample and the process by which the data are obtained. We follow this discussion with an analysis of the financial, loan, board quality, and other governance characteristics of the sample. Section 3 provides analyses of the effects of board quality on loan prices, on the likelihood that lenders require more or particular types of loan covenants, and of the effect of board quality on overall bank loan costliness. Section 4 concludes.

2. Data

2.1. Data sources and sample selection criteria

Our governance data are taken from The Corporate Library and IRRIC databases that provide a large set of governance characteristics for S&P 1500 firms. Variables related to the board of directors, to ownership structure, and to compensation are extracted for the years 2002 through 2004. In order to minimize any potential simultaneity biases, we measure the board of director variables (and other governance mechanisms) that are in place in a given year and then assess the association between these board characteristics and credit terms 1 year later. Thus, our loan data are for the years 2003 through 2005. Loan information comes from the Loan Pricing Corporation Deal Scan database that provides information on loans made by a large number of commercial banks to their business borrowers. Data include the interest rate charged, the fee structure of the loan, specific covenant data, the size and maturity of the loan, and loan covenant information, as well as other dimensions of the loan. Thus we construct our sample from the intersection of the Corporate Directory, IRRIC, and the Deal Scan databases. We further require that the borrowers have financial data available from COMPUSTAT for each of the relevant years (1 year prior to the loans). We supplement the executive compensation data when needed using EXECUCOMP. We exclude loans for which the cost of borrowing is missing, and we exclude financial firms and regulated utilities. These criteria result in a sample of 1460 loans representing 1054 firm-years of data.

2.2. Financial characteristics

Table 1 provides the basic financial characteristics of our sample firms (represented once per year regardless of the number of loans).² Using the criteria listed above naturally results in a sample of relatively large firms.³ In fact our sample firms tend to be much larger than those in the Compustat universe (excluding financials, utilities, and firms in our sample), where the mean value of total assets is \$146.88 million. Sales to total assets, long-term debt, market to book ratio, tangible to total assets, quick ratio, and return standard deviation are all comparable to the Compustat universe, but ROA and times interest earned for our sample are higher and total liabilities to total assets is lower than for other Compustat firms.

¹ Bank loan covenants are flexible at loan origination and are often renegotiated during the time period of the loan, while public debt is seldom renegotiated. Bank loan terms are also likely to be influenced by the length and strength of the relationship between the borrower and its bank, a characteristic that is absent from bond debt. The bank lender usually maintains a monitoring role during the life of the loan that is more active than for bond debt even if, as is often the case, the bank loan is syndicated. These aspects necessitate the need for monitoring and make it more likely that boards, by complementing bank monitoring, would influence the cost of bank capital.

² Allowing repeat loans per firm in the analysis biases our results against finding significant relations between the cost of the loan and the governance variables because each set of loan terms is unique to the loan in question even within a given year, but the governance variables do not change per firm within a single year.

³ The data that we report in the tables and use for the analysis are winsorized (top and bottom 1%) for variables that are subject to potentially extreme values such as market value of equity, total assets, and others.

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