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DEBTOR-CREDITOR RELATIONSHIPS AND FINANCIAL REPORTING: BANKS' PREFERENCE FOR BORROWERS' ACCOUNTING CONSERVATISM

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DEBTOR-CREDITOR RELATIONSHIPS AND FINANCIAL REPORTING: BANKS' PREFERENCE FOR BORROWERS' ACCOUNTING CONSERVATISM

By

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ABSTRACT

DEBTOR-CREDITOR RELATIONSHIPS AND FINANCIAL REPORTING:
BANKS' PREFERENCE FOR BORROWERS' ACCOUNTING CONSERVATISM

By

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This paper examines the relation between conservatism in borrowers' financial reporting and their dependence on bank debt financing. Using 4,114 firm-year observations over the period 1988-2001, the analyses suggest that a firm's accounting conservatism is increasing in both the magnitude and length of a bank loan. This finding holds after controlling for both the effects of other corporate governance mechanisms and other explanations for accounting conservatism including debt covenants. These results indicate that for bank-dependent firms, banks are an important corporate governance mechanism in the United States. These results also indicate that the governance role of banks is broader than the imposition of debt covenants. This paper also examines the association between bank loan characteristics and a bank's governance activities, finding no evidence of an association.

Dedicated to my beloved family.

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CHAPTER 1: INTRODUCTION

This paper examines the relation between bank debt financing and accounting conservatism. Accounting research has examined the impact of a variety of different corporate governance mechanisms including auditors, audit committees, boards of directors, and institutional investors on a firm's reporting decisions [e.g., DeFond and Jiambalvo, 1991; Beasley, 1996; Becker et al., 1998; Francis et al., 1999; Bushee and Noe, 2000; Klein 2002; Ajinkya et al., 2003]. However, prior studies have not examined the governance role of banks, despite their significant financing role.[1]

Banks are concerned that borrowers' future cash flows be of a magnitude sufficient to repay loan principal and interest. Accrual accounting, however, requires a certain degree of managerial discretion. Therefore, in the presence of information asymmetries between lenders and borrowers, the use of accrual accounting to predict future cash flows creates an incentive for borrowers to influence lenders' expectations of future cash flows by managing accruals. Such earnings management is costly to lenders because it increases the risk that borrowers' financial positions are overstated. Therefore, to reduce the risk of overstatement, banks prefer conservatism in borrowers' financial reporting [e.g., FASB SFAC No. 2, 1980; Leftwich, 1983; Ahmed et al., 2002; Watts, 2003a and 2003b]. When a borrower seeks or has a significant relation with a lead bank, that bank has a strong incentive to screen and monitor the financial reporting behavior of the borrower. Thus, I predict a positive relation between accounting conservatism and

[1] An exception is the studies examining the role of debt covenants in accounting choices [e.g., Press and Weintrop, 1990; Healy and Palepu, 1990; Begley, 1990; Beneish and Press, 1993, 1995; Sweeny, 1994; DeFond and Jiambalvo, 1994; DeAngelo et al., 1994; Dichev and Skinner, 2002; Beatty, Ramesh, and Weber, 2002]. These studies, however, focus primarily on debt covenants rather than the overall governance role of debtors.

the dependence of the firm-bank relationship. I measure the dependence of the firm-bank relationship as the magnitude and length of a bank loan. [2,3]

Unlike prior research on firm-bank relationships in the United States, which focuses on small firms [e.g., Petersen and Rajan, 1994; Berger and Udell, 1995; Blackwell and Winter, 1997][4], the empirical analyses of this paper are based on all 1988-2001 bank loan data available from the *DealScan* database, which incorporates both large and small firms. The final sample consists of 1,232 firms and 4,114 firm-year observations. Accounting conservatism is measured by signed discretionary accruals. The magnitude of a bank loan is measured by the dollar value of the bank loan from the lead bank divided by the total assets of the borrower, while the length of a bank loan is measured by the maturity of the bank loan.

Consistent with the main hypotheses, the empirical results indicate that a firm's accounting conservatism is increasing in both the magnitude and length of the bank loan. The tests include controls for the effects of other corporate governance mechanisms (e.g., auditors, institutional investors, 5% block holders, managerial ownership, and outside directors), as well as other explanations for conservatism (e.g., the presence of accounting-based debt covenants, legal liability, regulation, and taxes). This finding indicates that for bank-dependent firms, banks are an important corporate governance

[2] One might also argue that a firm's bank dependence is a function of accounting conservatism, resulting in an endogeneity problem. Banks perform two important governance activities. Banks screen loan applicants before establishing firm-bank relationships to minimize adverse selection problems. They also monitor borrowers after bank loans are made to minimize moral hazard problems. This paper does not empirically discriminate between screening and monitoring because i) the focus of this paper is not on the process of governance, but on the overall governance role of banks and ii) it is difficult to obtain time-series data for comparing accounting conservatism before and after the initiation of firm-bank relationships.

[3] This paper does not address the issues of whether accounting conservatism is good or bad. Despite the fact that FASB's SFAC No. 2 expresses a concern that conservatism might conflict with some qualitative financial reporting characteristics, banks still have strong incentives to require firms to have conservative financial reporting policies for effective credit risk management.

[4] Overall, these studies show that firm-bank relationships are valuable to small firms. See Chapter 2.3. for further discussion of studies based on small firms.

mechanism in the United States.[5] This paper further examines two bank loan characteristics, collateral (secured vs. unsecured loans) and lender types (U.S. banks vs. Western Europe or Asian banks), finding no evidence of an association between these bank loan characteristics and accounting conservatism.

The results from this study shed light on two streams of research. First, this paper demonstrates that accounting conservatism continues to play an important role in debt contracting despite a significant decline in the use of accounting-based debt covenants (Begley and Freedman, 2004).[6] Prior studies generally argue that accounting conservatism plays an important role in efficient debt contracting especially when debt contracts include accounting-based debt covenants. Lenders, however, value accounting conservatism even in the absence of debt covenants because they rely on financial statements to estimate borrowers' future cash flows. Therefore, this paper posits that banks will provide debtors with incentives to report conservatively even in the absence of accounting-based debt covenants.

Second, banks are an important governance mechanism that accounting research has not examined. Shleifer and Vishny (1997) state that despite a number of theoretical discussions about governance by banks, there is little empirical evidence of their role. Bank governance is closely associated with a firm's financial reporting because accounting numbers play an important role in private lending agreements. The results of this study indicate that for bank-dependent firms, banks play an important role in the U.S.

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[5] The corporate governance concept used in this paper is a broad one that is related to the resolution of a general agency problem. Regarding the broad concept of corporate governance, Becht et al. (2002) state that corporate governance is a mechanism to resolve collective action problems among dispersed investors and to reconcile conflicts of interest between various corporate claimholders.

[6] Begley and Freedman (2004) examine public debt contracts. Similar to their results, the results of my study indicate that accounting-based covenants (i.e., covenants based-on financial ratios) are not commonly used in private debt contracts.

corporate governance system, and their contributions are incremental to other corporate governance mechanisms. This finding is consistent with Becht et al. (2002) who conclude their survey of the corporate governance literature by stating that there is an emerging consensus that banks have an important role to play in corporate governance if they are themselves well managed.

This paper proceeds as follows. Chapter 2 discusses related literature and develops the main hypotheses. Chapter 3 describes the sample and research design. Chapter 4 presents empirical results. Chapter 5 examines bank loan characteristics and their association with banks' governance activities. Chapter 6 presents sensitivity analyses. Chapter 7 concludes the paper.

CHAPTER 2: RELATED LITERATURE AND THE MAIN HYPOTHESES DEVELOPMENT

Although the focus of this study is on a bank's governance role, it is important to first discuss why accounting conservatism is important to lenders. Therefore, Chapter 2.1. and 2.2. discuss *why* firms have an incentive to manage earnings around debt financing and *why* accounting conservatism is important for banks' credit risk management, respectively. Then, Chapter 2.3. explains *how* banks provide borrowers with incentives to maintain accounting conservatism, thereby reducing credit risk. Finally, the main hypotheses are developed in Chapter 2.4.

2.1. Earnings management behavior around debt financing

Borrowers have various incentives to engage in earnings management behavior before and after debt financing.[7] Before loans are made, for example, they have incentives to manage earnings to increase borrowing capacity (e.g., higher loan amounts, lower interest rates, and lower contracting costs). Banks typically approve loans to borrowers based on the borrowers' financial conditions and collateral [Fraser, Gup, and Kolari, 2001; Mishkin, 2003; Mishkin and Eakins, 2003]. Therefore, terms of debt contracts are likely to be affected by profits and losses (income) of borrowers, providing strong incentives for *ex-ante* earnings management. Although banks' borrower-selection

[7] Banks (i.e., lenders) are interested in borrowers' earnings management behavior because of the role of accruals in predicting future cash flows. Banks' concern with the role of accruals provides borrowers with incentives to manage earnings. The role of accruals in future cash flow estimation will be discussed in detail in Chapter 2.2.

process is well-documented, little empirical research exists about borrowers' earnings management behavior before loans are made.[8]

After loans are made, borrowers continue to have incentives to manage earnings. One reason for *ex-post* earnings management is to avoid debt covenant violations. Debt covenant violations generally result in negative consequences to borrowers, including increases in interest rates, requests for early debt repayment, and additional restrictions on borrowers' activities (Beneish and Press, 1993). In addition, debt covenant violations are associated with significant shareholder wealth losses (Beneish and Press, 1995). Therefore, firms have incentives to reduce the probability of a covenant becoming binding through accounting choice (Begley, 1990). Empirical findings, however, are mixed. For firms approaching debt covenant violations, Press and Weintrop (1990), Sweeney (1994) and DeFond and Jiambalvo (1994) find evidence of income-increasing accruals, while DeAngelo, DeAngelo, and Skinner (1994) find evidence of negative accruals. Healy and Palepu (1990) find little evidence of accounting choice in relation to debt covenants. In addition, Dichev and Skinner (2002) find that when debt covenants are present in private lending agreements, they are set relatively tight, providing firms with incentives to manage earnings.

The incentive for earnings management to obtain a favorable cost of debt also exists under performance pricing, a recent innovation of debt contracting. Performance pricing links the cost of debt to certain measures of firm performance. For example, the debt/EBITDA ratio is frequently used for determining the cost of debt under performance pricing, providing borrowers with an incentive to manage earnings to influence EBITDA.

[8] Beatty, Ramesh, and Weber (2002) examine the ex-ante importance of accounting changes in debt contracts, but they do not explicitly examine ex-ante earnings management behavior.

Beatty and Weber (2003) specifically suggest that incentives to lower interest rates through performance pricing influence borrowers' accounting method choices. In addition, Beatty et al. (2002) find a complementary relation between same-variable performance pricing and covenant provisions.

The final reason for *ex-post* earnings management is to increase borrowers' renewal capacities. It is common for firms and banks to continue debtor-creditor relationships by renewing existing debt contracts. As in the case of new debt contracts, the renewal decision is likely to be influenced by the financial condition of the borrower, providing another incentive for *ex-post* earnings management.

2.2. Future cash flows, credit risk management, risk of overstatement, and accounting conservatism

2.2.1. The role of borrowers' future cash flows in credit risk management

For banks, borrowers' ability to generate future cash flows is of great concern due to its influence on credit risk. Credit risk is the risk to a bank's earnings and capital that a borrower will fail to repay loan principal and interest as agreed. It is the primary cause of bank failure and the most visible risk facing bank managers (Fraser, Gup, and Kolari, 2001). Financial institutions such as banks typically use both external rating agencies and internal risk assessment processes to manage their credit risk. In addition, regulators monitor credit risk.

In external, internal, and regulatory credit risk assessment systems, borrowers' expected future cash flows are considered one of the most important factors because cash is the primary source of repayment (i.e., today's loans are repaid with tomorrow's cash).

For example, the credit rating approach used by *Moody's Investor Service* focuses on an assessment of the level and predictability of a firm's future cash generation in relation to its commitments to repay debt holders. *Moody's* also states that the firm's capacity to respond favorably to uncertainty is key. Generally, the more predictable a firm's future cash flow, the higher the rating will be. In addition, in their study of internal credit risk rating systems at large U.S. banks, Tracy and Carey (1998) argue that the likely adequacy of future cash flow and thus the ability of the borrower to service its debt is critical in internal credit risk evaluation. Finally, the *Comptroller's Handbook* (Office of the Comptroller of the Currency, 2001) uses cash flows as an important factor in evaluating banks' credit risk. Collectively, external, internal, and regulatory credit risk assessment systems suggest that borrowers' expected future cash flows play a critical role in credit risk assessment.

2.2.2. Future cash flow estimation, risk of overstatement, and accounting conservatism

Accounting accruals affect a bank's ability to predict borrowers' future cash flows (and thereby credit risk) because banks generally rely on accrual-based financial statements for the estimation of future cash flows. As discussed in Chapter 2.1., in the presence of information asymmetries between banks and firms, firms have incentives to manage accruals to influence lenders' expectations of future cash flows. Such accrual manipulation, however, increases banks' credit risk because it increases the risk that borrowers' future cash flows are overstated. Therefore, banks have incentives to reduce risk of overstatement, thereby reducing credit risk. Lenders prefer accounting

conservatism to reduce the risk that their assessment of a borrower's ability to generate future cash flows is overstated due to overstatement of the borrower's financial position.[9]

Consistent with this notion, prior academic and anecdotal evidence suggests that lenders prefer conservative accounting in the presence of information asymmetries. For example, in his comprehensive review of the conservatism literature, Watts (2003a and 2003b) suggests that lenders such as banks are concerned with the lower bound of the earnings and new asset distributions, and use the lower bound measures during the loan period to monitor the borrower's ability to pay. He further suggests that conservatism can be used to address moral hazard, constraining management's opportunistic behavior in financial reporting. Leftwich (1983), Ahmed et al. (2002) and Watts (2003a) argue that accounting conservatism plays an important role in efficient debt contracting. Finally, FASB's SFAC No. 2 (1980) states that conservatism in financial reporting is desirable to bankers because a higher degree of conservatism provides a greater margin of safety for the assets that serve as loan security.

SFAC No. 2 (1980) defines conservatism as "a prudent reaction to uncertainty to try to ensure that uncertainties and risks inherent in business situations are adequately considered". In the same vein, this paper defines accounting conservatism associated with debt financing as a borrower's prudent financial reporting behavior in response to a lender's uncertainty about the borrower's expected future cash flows and the borrower's ability to repay loan principal and interest as agreed. This paper, however, does not focus on whether accounting conservatism enhances the overall quality of financial reporting.

[9] Relatedly, lenders might prefer accounting conservatism to reduce an agency conflict between bondholders and shareholders. For example, it is likely that firms with large amounts of bank debt have high bondholder-shareholder conflicts. Prior research including Ahmed et al. (2002) confirms this view by demonstrating that conservatism can be used as a mechanism for resolving the agency conflict.

Despite the fact that SFAC No. 2 expresses a concern that conservatism might conflict with some qualitative financial reporting characteristics, this paper posits that banks have strong incentives to require firms to have conservative financial reporting policies for effective credit risk management.

In summary, prior evidence on future cash flows, credit risk, accrual manipulation, and accounting conservatism suggests that banks have significant credit risk due to the risk of overstatement and therefore, prefer conservatism in financial reporting for the purpose of effective credit risk management.

2.3. Banks' governance activities

2.3.1. Academic evidence

In Chapter 2.1., I discussed *why* firms have an incentive to manage earnings around debt financing, and in Chapter 2.2., I discussed *why* accounting conservatism is important for banks' credit risk management. The next natural question is *how* banks provide incentives to borrowers to maintain accounting conservatism, and obtain lower credit risk. Generally speaking, banks carry out their fiduciary responsibilities by performing governance activities. Prior research shows that the governance activities are costly [e.g., Townsend, 1979; Gale and Hellwig, 1985; Williamson, 1986].[10] If it were not costly for lenders to detect earnings management of borrowers, firms would have little incentive to manage earnings.

Banks can obtain lower credit risk by choosing borrowers with a high degree of accounting conservatism and/or by providing incentives to borrowers to maintain a high degree of accounting conservatism. That is, banks can lower credit risk by performing

[10] See *the costly state verification* model of Townsend (1979) and subsequent studies for further discussion.

governance activities such as screening and/or monitoring. As discussed earlier, this paper does not empirically discriminate between the two governance activities because this paper focuses on the overall governance role of banks rather than the process of governance. In addition, it is difficult to obtain time-series data for comparing accounting conservatism before and after the initiation of firm-bank relationships.[11]

Diamond (1984) and Fama (1985) focus on banks' information generating abilities and show why financial intermediaries, especially banks, have advantages in performing governance functions. The delegated monitoring theory, first developed by Diamond (1984), argues that compared to individual lenders and other specialized agencies such as auditors, analysts, and rating agencies, banks have a comparative advantage in monitoring because of low costs of delegation, scale economies in monitoring, etc.[12] Fama (1985) argues that bank loans have informational advantages compared to market loans. Similar to internally generated funds, bank loans allow a firm to avoid the underinvestment problem associated with information asymmetries.[13] Since Diamond (1984) and Fama (1985), a significant body of theoretical research has shown that banks have advantages in monitoring borrowers over other debt financing sources [e.g., Berlin and Loyes, 1988; Hubrich, 1989; Diamond, 1991]. Despite a number of theoretical discussions of governance by banks, however, there is little empirical evidence of their role (Shleifer and Vishny, 1997).

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[11] One study that distinguishes between monitoring and screening is Choi (2003). It separates monitoring from screening by controlling for major screening devices, such as collateral and profitability.

[12] For further details of this argument, see Frexis and Rochet (1997).

[13] The underinvestment problem is caused by debt overhang, the inability of a company with profitable investment opportunities to finance them because it has excessive levels of debt relative to its assets (Milgrom and Roberts, 1992).

Prior empirical research on firm-bank relationships often focuses on small businesses because small firms obtain most of their external funding from financial intermediaries (i.e., commercial banks) and, in turn, firm-creditor relationships are expected to be especially important in small firms. Petersen and Rajan (1994) show that the primary benefit of a firm-bank relationship is that the availability of financing increases. Berger and Udell (1995) find results consistent with the theoretical argument that relationship lending generates valuable information about borrower quality. Finally, Blackwell and Winter (1997) demonstrate that firms can significantly reduce their costs of capital by establishing and maintaining close firm-bank relationships.

An analogy from the literature on screening and monitoring by institutional investors is also relevant. Prior studies argue that compared to diffuse owners, owners with concentrated equity holdings play a more active role in corporate governance [e.g., Shleifer and Vishny, 1986; Black, 1992; Shleifer and Vishny, 1997]. They show that large investors have a lower marginal cost of processing information and therefore, serve as effective monitors of management. Similarly, banks with concentrated lending are more apt to receive sufficient gains from their governance activities to cover the relevant costs. Moreover, in 1999, Congress repealed the Glass-Stegall Act, which puts restrictions on underwriting and dealing activities by commercial banks, allowing the banks to compete as investment bankers, brokers, and insurers in the U.S. market and play more active roles in obtaining private information.

In summary, prior research on bank loans, bank relationships, and institutional investors suggests that through their governance activities, banks have an incentive to reduce the risk that borrowers' financial condition is overstated.

2.3.2. Anecdotal evidence

In practice, banks perform various governance activities that provide incentives to borrowers to maintain conservatism in financial reporting. For example, about one-third of large U.S. firms have representatives from banks on their boards (Kroszner and Strahan, 2001). Bankers on boards could have a significant influence on the financial reporting of borrowers because, in the United States, the board of directors is legally responsible for the preparation and presentation of financial reports. In addition, banks regularly perform a loan review as part of their internal audit systems to identify potential problems with particular loans and weakness in loan procedures (Fraser et al., 2001). The Association of Bank Loan and Credit Officers (*Robert Morris Associates: RMA*) suggests that in some cases and especially, in the case of a permanent capital loan, banks require borrowers to provide a listing of accounts receivable and an aging to examine the appropriateness of the values of accounts receivable. Banks also examine whether loans are fully covered by receivables.

Another way for banks to provide incentives for borrowers to maintain accounting conservatism might be through an amendment to a debt contract. A debt contract is frequently amended after the contract is first made. For instance, a debt contract of Aviall, Inc., which was first signed on November, 1993, was amended three times within one year. An important change related to financial reporting was the inclusion of requirements for additional financial disclosures. In addition, periodic meetings and calls between firms' executives and loan officers could be other examples of banks' governance activities. Banks frequently check whether firms have conservative liquidity

and leverage positions which are within industry standards (*Robert Morris Associates: RMA*).

2.4. Main hypotheses (H1a and H1b)

As suggested in Chapter 2.1. and 2.2., banks have a significant amount of credit risk associated with uncertainty about borrowers' ability to repay loan principal and interest. Banks are particularly concerned with the lower bound of earnings distributions and use the lower bound during the loan period to monitor a borrower's ability to pay (Watts, 2003a). This argument implies that banks have incentives to require borrowers to maintain a high level of accounting conservatism for the purpose of effective credit risk management. As discussed in Chapter 2.3., banks lower their credit risk by performing governance activities, such as screening and monitoring, that provide incentives to borrowers to use conservative financial reporting.

This paper examines the association between bank governance and conservatism in a firm's financial reporting. Specifically, this paper argues that when a firm is more dependent on a bank, the firm has a higher level of accounting conservatism. Two aspects of the firm-bank relationship are examined to measure a firm's bank dependence.

The first aspect of the firm-bank relationship is the magnitude of a bank loan. Prior research suggests that the greater the relative magnitude of the bank loan to the firm, the greater is the bank's incentive to perform governance activities [e.g., Petersen and Rajan,1994; Kang, Shivdasani, and Yamada, 2000]. In other words, the bank devotes more effort to detecting upward manipulation of discretionary accruals when it lends more money to the firm. Therefore, I expect that conservatism in borrowers' financial

reporting is increasing in the magnitude of the bank loan. Accordingly, the first main hypothesis of this paper is as follows (stated in alternative form):

H1a. *Ceteris paribus*, a firm's accounting conservatism is increasing in the magnitude of the bank loan.

The second main hypothesis examines how the length of a bank loan affects a bank's incentive to perform governance activities. If a firm has a longer relationship with a bank, the firm is likely to have more chances to engage in opportunistic reporting behavior. The bank, in turn, has a greater incentive for monitoring. For example, Rajan and Winton (1995) argue that the existence of long-term debt with covenants increases a bank's incentive to monitor. Additionally, in their review of bank relationships, Ongena and Smith (2000) state that when a bank has a longer relationship with a firm, the bank will gain significant monitoring benefits including advantages over obtaining private information about its borrower. The longer relationship, in turn, allows the bank to more effectively see through the upward manipulation of discretionary accruals. Therefore, I expect that a bank's incentive to perform governance activities is increasing in the length of the bank loan. Accordingly, the second main hypothesis is as follows (stated in alternative form):

H1b. *Ceteris paribus*, a firm's accounting conservatism is increasing in the length of the bank loan.

CHAPTER 3: SAMPLE AND RESEARCH DESIGN

3.1. Sample and descriptive statistics

The initial sample comprises all bank loans for which it is possible to calculate the bank's percentage share of the firm's outstanding loans from the *DealScan* database for the years 1988 - 2001. Constructed by the Loan Pricing Corporation (LPC), *DealScan* contains deal terms and conditions on over 72,000 loans since 1988, the majority of which are U.S. loans. Deals in the database are often comprised of different "facilities". For example, a deal might include a term loan facility and a line of credit facility. Similar to prior research, each facility is treated as one observation.[14] Among all bank loan observations with percentage share information from 1988 to 2001, 1,232 firms and 4,114 firm-year observations are selected, which meet the following requirements:

1. The firm (i.e., the borrower) is public.
2. The firm (i.e., the borrower) is a non-financial institution and non-utility company.
3. The bank (i.e., the lender) is a lead lender and has the largest share of the bank loan.
4. Financial data on the firm are available from the Compustat database during the loan period.

Due to missing values, the sample has an unbalanced panel data structure. Although 4,114 firm-year observations are selected by using the above criteria, the actual number of observations used in each analysis varies with the model specification (e.g., the inclusion of lead and lag variables, the availability of corporate governance variables, the

[14] One problem with the *DealScan* database is that coverage improves during the late 1980s, so if a firm has a significant relationship with a bank before the late 1980s, it is difficult to find an exact date for the initiation of the firm-bank relationship. In addition, *DealScan* provides information about loans at the date of origination, but little information about subsequent events such as rollovers (Strahan, 1999). For further discussion of the *DealScan* database, see Strahan (1999), and Dichev and Skinner (2002).

use of a random effects model, and the availability of data for ratio calculations, etc.).[15] The sample is further restricted to those firms that have a minimum of five years of data on all necessary variables because of the nature of some of tests. Most loans in the final sample are long-term senior debts.

Panel A of Table 1 reports descriptive statistics for the sample. Consistent with the bank relationship literature [e.g., Hoshi, Kashyap, and Scharfstein, 1990; Petersen and Rajan,1994; Kang, Shivdasani, and Yamada, 2000], the first measure of bank dependence, the magnitude of a bank loan is the dollar value of the bank loan from the lead bank divided by the total assets of the borrower.[16] This measure captures the closeness of a firm to its main lender and the concentration of a firm's borrowing across blockholder lenders. It also measures how important a bank loan is to a firm. There are several reasons why the bank loan is scaled by borrowers' total assets rather than banks' total assets. First, this scaling measures the extent to which borrowers are influenced by banks' governance activities, which is consistent with the research questions of this paper. Second, for a lead bank, a reputation is very important. Therefore, a lead bank will perform governance activities regardless of the relative size of the bank loan to its total assets. Finally, transaction costs of switching to another bank are associated with the relative size of the bank loan to the firms' total assets. The second measure of bank dependence, the length of a bank loan, is the maturity of the bank loan. The second measure captures the length of a firm's borrowing relation with a lead lender.

[15] To mitigate the potential adverse effect of data errors and outliers, the analyses are also performed with the data winsorized at the 1% level. The results are qualitatively similar to those reported in the tables.
[16] To mitigate the potential adverse effect of data errors in the *DealScan* database, the first bank dependence measure is set to one if it exceeds one. The values of less than 15 observations are changed by the imposition of this restriction.

The median (mean) value of total bank loans per firm-year is $20.4 million ($104.37 million), while the median (mean) total bank loans from the lead lender is $15 million ($31.60 million). The median (mean) magnitude of the bank loan is 0.06 (0.10), indicating that the median (mean) value of the bank loan from the lead lender is approximately 6% (10%) of total assets. The median (mean) length of the bank loan is 60 (67) months. The median (mean) financial leverage, interest coverage, ROA, and the Altman-Z score are 0.56 (0.56), 5.75 (16.36), 0.05 (0.03), and 2.94 (3.76) respectively.[17] Finally, the median (mean) market-to-book ratio is 1.78 (2.67), implying that on average, a firm's market value is about twice as high as its book value.

Panel B of Table 1 reports descriptive statistics for low versus high bank dependent firms. Consistent with prior research, high bank dependent firms are relatively small firms compared to low bank dependent firms and have smaller free cash flows than low bank dependent firms. Other descriptive statistics are similar between low and high bank dependent firms. Table 2 shows that the industry composition of the sample is similar to that of firms on Compustat in 2001. Additionally, the industry compositions of the low and high bank dependent firm sub-samples are similar to each other. Finally, Table 3 presents the Pearson correlations among the independent variables used in the estimation models. In general, the correlations are low in absolute magnitude.[18]

[17] The interpretation of the Altman-Z score is as follows: i) $Z > 2.99$ means the firm is safe, ii) $Z < 1.80$ means the firm is financially distressed, and iii) $1.80 < Z < 2.99$ means the firm is in the 'grey' zone.
[18] The variance inflation factor (VIF) is measured to examine possible multicollinearity problems among independent variables. See Chapter 4 for further discussion.

3.2. Model specification

3.2.1. Discretionary accruals

I use discretionary accruals to measure accounting conservatism. To examine the relationship between accounting conservatism and bank dependence, I then regress signed discretionary accruals on the bank-dependence measures and control variables. A primary reason why discretionary accrual models are chosen is their relation to an important governance activity performed by banks. As stated in Chapter 2.3.2., the Association of Bank Loan and Credit Officers (*Robert Morris Associates: RMA*) suggests that it is not uncommon for banks to determine the appropriateness of the values of accounts receivable by performing an aging of specific accounts receivable. With respect to the level of discretionary accruals, this examination is particularly important because the modified Jones model assumes that the change in credit sales is the result of managerial discretion.

An alternative approach to measuring conservatism is the earnings-price regression developed by Basu (1997). Discretionary accruals are used in this paper because the focus is on conservatism in discretionary financial reporting behavior around bank debt financing. In contrast, Basu (1997) emphasizes the impact of conservatism on the asymmetric incorporation of good and bad news in stock price.[19]

The first model is the cross-sectional version of the modified Jones model [Jones (1991) and Dechow, Sloan, and Sweeney (1995)], which separates total accruals into discretionary and non-discretionary accruals. [20] Unlike the Jones (1991) model, which

[19] Basu (1997)'s conservatism measure is examined in Chapter 6 as a sensitivity analysis.
[20] The cross-sectional version means that the modified Jones model is estimated for each two-digit SIC group for each year. Subramanyam (1996) shows that the parameter estimates are better specified for the cross-sectional modified Jones model than their time series counterparts.

assumes that none of the change in revenues is attributable to managerial discretion, the modified Jones model assumes that the change in credit sales results from managerial discretion as follows:

$$TA_{it}/Asset_{it-1} = \beta_0(1/Asset_{it-1}) + \beta_1(\Delta Rev_{it} - \Delta AR_{it})/Asset_{it-1} + \beta_2 PPE_{it}/Asset_{it-1} + \varepsilon_{it} \quad (1)$$

where,

TA_{it} = firm i's total accruals in year t, calculated as change in current assets (ΔCA_{it}) – change in current liabilities (ΔCL_{it}) – change in cash ($\Delta Cash_{it}$) + change in debt in current liabilities (ΔST_DEBT_{it}) – depreciation and amortization expense ($\Delta Depr_{it}$),

$Asset_{it-1}$ = firm i's total assest at the beginning of year t,

ΔRev_{it} = firm i's change in revenue,

ΔAR_{it} = firm i's change in accounts receivable,

PPE_{it} = firm i's gross property, plant, and equipment,

i, t = firm and year index, respectively.

The above definitions follow those of Kothari et al. (2002), and Francis et al. (2002). Accounting conservatism is measured as the value of the residuals from equation (1). The lower the value of the residuals, the higher the accounting conservatism.

The second measure of discretionary accruals is performance-matched discretionary accruals, i.e., the value of [the discretionary accruals (residuals) from equation (1) – median discretionary accruals for the firm's ROA deciles]. In a recent

study, Kothari et al. (2002) find that inferences about earnings management using a performance-matched discretionary accrual measure are likely to be more reliable than those from traditional models of discretionary accruals, such as the Jones or modified Jones models. Therefore, I also measure the degree of earnings management by using the performance-matched modified Jones model. Francis et al. (2002) adapt the Kothari et al. (2002) treatment firm procedure to a portfolio adjustment procedure that is better suited for a broad sample study with no well-defined treatment groups. Francis et al. (2002) use a *time-series* version of the modified Jones model. In contrast, this paper uses the cross-sectional version of the modified Jones model for each two-digit SIC group in each year to obtain residuals, and then standardizes the residuals by the median values of the residuals from the performance-matching procedure. The sample is divided into deciles based on return on assets (ROA).

3.2.2. An estimation model, other governance mechanisms, and other explanations for accounting conservatism

After measuring discretionary accruals, I then test the main hypotheses by estimating the following random effects regression model:

$$\begin{aligned} DA\_Jones_{it} \text{ or } DA\_Perf_{it} = {} & \alpha_0 + \alpha_1 BD\_MAG_{it} + \alpha_2 BD\_LEN_{it} + \alpha_3 INSTITUTION_{it} \\ & + \alpha_4 5\%BLOCK_{it} + \alpha_5 INSIDER_{it} + \alpha_6 OBOD_{it} + \alpha_7 BIG_{it} + \alpha_8 FIN_{it} \\ & + \alpha_9 LEVERAGE_{it} + \alpha_{10} COVERAGE_{it} + \alpha_{11} ALTMAN_{it} + \alpha_{12} M/B_{it} \\ & + \alpha_{13} LASSETS_{it} + \alpha_{14} ROA_{it} + \alpha_{15} FREECF_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

where,

DA_Jones = the value of discretionary accruals from the modified Jones Model,

DA_Perf = the value of discretionary accruals from the performance matched discretionary accrual model,

BD_MAG = the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets),

BD_LEN = the length of a bank loan measured as a maturity of the bank loan,

INSTITUTION = proportion of institutional ownership,

5%BLOCK = proportion of 5% block holder ownership,

INSIDER = proportion of managerial ownership,

OBOD = proportion of outside directors on a firm's board,

BIG = an indicator variable that equals 1 if a firm's auditor is a Big 5 accounting firm, and 0 if a firm's auditor is a non-Big 5 accounting firm,

FIN = an indicator variable that equals 1 if a deal includes covenants based on financial ratios, and 0 if a deal dose not include financial ratios,

LEVERAGE = financial leverage measured as (total liabilities / total assets),

COVERAGE = the interest coverage ratio measured as (operating income / interest expenses),

ALTMAN = the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)],

M/B = the market-to-book ratio measured as (market value of equity / book value of equity),[21]

LASSETS = the natural log of the book value of assets,

ROA = the return on assets measured as (income before extraordinary items / beginning total assets),

FREECF = free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends],

i, t = firm and year index, respectively.

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[21] I also use the book-to-market ratio instead of the market-to-book ratio. The results are qualitatively similar.

The random effects model allows me to control for the unobserved firm effects, which is appropriate when analyzing an unbalanced panel dataset. The Hausman (1978) test indicates that the random effects model is appropriate when the control variable, BIG, is omitted.[22,23] Therefore, the random effects regression is estimated without BIG. For a comparison, equation (2) is also estimated using pooled OLS with controlling for the clustering effects of years.[24] The pooled OLS is estimated including BIG.

The estimation model includes important control variables that proxy for the presence of other corporate governance mechanisms (i.e., INSTITUTION, 5%BLOCK, INSIDER, OBOD, and BIG). Prior researchers have hypothesized that financial reporting quality is associated with monitoring incentives arising from institutional ownership and block holdings [e.g., Bushee and Noe, 2000; Klein, 2002; Ajinkya et al., 2003], managerial ownership [e.g., Warfield et al., 1995; Klein, 2002], and board composition [e.g., Beasley, 1996; Klein, 2002; Ajinkya et al., 2003]. Few studies, however, directly examine the association between signed discretionary accruals and these other corporate governance mechanisms. Prior research on institutional ownership and block holdings generally suggest that there is a positive association between financial reporting quality and institutional ownership and/or block holdings, implying that sophisticated institutional owners are less likely to be fooled by management of accruals. The findings from prior research on managerial ownership are mixed. For example, Warfield et al. (1995) suggest a negative relation between managerial ownership and

[22] The Hausman (1978) test examines the appropriateness of the fixed and random effects models, based on the difference between the fixed effect and random effect estimates. The fixed effects model cannot be used to estimate equation (2) because the fixed effects estimation automatically drops all time-invariant variables.

[23] About 94% of sample firm-year observations have a Big 5 auditor, indicating that there is little variation in BIG.

[24] One problem associated with using pooled OLS is that I must ignore all within-firm effects. In the case of a panel dataset, ignoring within-firm effects might lead to incorrect interpretation of the coefficients.

earnings management while Healy (1985) suggests a positive relation. Klein (2002) states that the relation is unclear. Finally, prior research on board composition generally suggests that there is a positive relation between board independence and financial reporting quality.

In addition, prior research has examined the relation between audit quality as indicated by Big versus non-Big 5 or 6 auditors and earnings management [e.g., DeFond and Jiambalvo, 1991; Becker et al, 1998; Francis et al, 1999]. Prior research generally shows that clients of Big 6 auditors are less likely to engage in earnings management than clients of Big 6 auditors. The control variable, BIG is included to control for the effect of audit quality. The corporate governance variables except BIG are collected from the *Compact* D/SEC database.[25] Similar to prior research, the mid-year of each loan period is used to measure governance structure for each firm because a firm's governance structure is generally sticky (Core et al., 1999). The identity of the auditor is obtained from the Compustat database.

Prior studies including Watts (2003a and 2003b) generally suggest four explanations for accounting conservatism: contracting, litigation, regulation, and taxes. This study argues that banks provide general contracting incentives for conservatism in borrowers' financial reporting beyond the direct contracting incentives in debt covenants. Thus, to control for the direct incentives of debt covenants, an indicator variable for the presence of accounting-based debt covenants, FIN, is included in the estimation

[25] The *Compact* D/SEC database provides access to financial and other information contained within annual reports, proxy statements, and 10-K/20-F filings for over 12,000 public US companies. The database is used with permission of the *Compact* D/SEC.

model.[26,27] There is an additional contracting explanation for accounting conservatism, compensation contracts. I do not control for the effect of this explanation because it is difficult to obtain compensation information for each of the sample firms. In addition, compensation contracts are likely to be related to various governance variables, such as managerial ownership, institutional ownership, and block holder ownership, for which I include explicit controls. Prior research also suggests that litigation risk and regulation provide incentives to use conservative financial reporting. Industry membership is typically used to proxy for the firm's litigation risk and regulatory environment (Francis et al., 1994). As discussed earlier, the second model of discretionary accruals, the performance matched model, is estimated for each two-digit SIC group, mitigating the effects of the litigation and regulation explanations. Finally, prior research argues that firms have incentives to use conservative financial reporting to reduce taxes. This tax explanation will be examined in Chapter 6.1. as a sensitivity analysis by using a correlation between book income and taxable income and marginal tax rate. It is tested in the sensitivity analyses chapter because of the reduction in sample size that results when the tax measure is included.

In addition, other control variables that might affect a firm's financial reporting are included in the estimation model. Financial leverage, interest coverage, and the Altman Z-Score are included to control for a firm's financial health. The market-to-book ratio and the log of the book value of assets are included to control for a firm's growth opportunities and size, respectively. Finally, ROA and free cash flow are included to

[26] Results when observations with financial ratio-based covenants are dropped are qualitatively the same as results using the indicator variable.

[27] In addition, Begley and Feltham (1999) show that the CEO ownership fraction is related to the use of debt covenants restricting dividends and borrowing. Managerial ownership is explicitly controlled in the estimation model of this paper.

control for a firm's performance and the ability to finance operations from internal savings, respectively.

To mitigate the possible effects of heteroskedasticity, the main hypotheses are tested with the White (1980) heteroskedasticity robust standard errors. The first main hypothesis (H1a) predicts that the coefficient on BD_MAG, α_1, will be negative and significant, indicating that a firm's accounting conservatism is increasing in the magnitude of the bank loan. The second main hypothesis (H1b) predicts that the coefficient on BD_LEN, α_2, will be negative and significant, indicating that a firm's accounting conservatism is increasing in the length of the bank loan.

CHAPTER 4: EMPIRICAL RESULTS

4.1. Banks' governance activities and conservatism in borrowers' financial reporting

The empirical tests of the main hypotheses examine the association between banks' governance activities, as indicated by the magnitude and length of the bank loan, and accounting conservatism, as measured by discretionary accruals. The two discretionary accrual models used to measure a firm's accounting conservatism are the modified Jones model and the performance-matched modified Jones model. Table 4 and 5 report results from equation (2) based on the modified Jones model and the performance-matched modified Jones model, respectively. Consistent with the first main hypothesis (H1a) that a firm's accounting conservatism is increasing in the magnitude of the bank loan, the coefficient on BD_MAG in Table 4, -0.1747, is negative and statistically significant (*p-value* < 0.01). The coefficient on BD_MAG in Table 5, -0.1506, is also negative and statistically significant (*p-value* < 0.01). Consistent with the second main hypothesis (H1b) that a firm's accounting conservatism is increasing in the length of the bank loan, the coefficient on BD_LEN in Table 4, -0.0005 is negative and statistically significant (*p-value* = 0.029). The coefficient on BD_LEN in Table 5, -0.0005, is also negative and statistically significant (*p-value* = 0.012).[28] The results from a pooled OLS that controls for the clustering effects of years are similar to those from the random effects estimations. Irrespective of whether discretionary accruals are measured

[28] The variance inflation factor (VIF) is measured to check for multicollinearity among independent variables. The largest VIF, 2.78, is less than 10, suggesting that the variance of an estimator is not significantly inflated by collinearity between independent variables. In addition, 1/VIF measure shows that over 60% of the variances of the most independent variables are independent of all the other independent variables. Both VIF measures indicate that multicollinearity is not a serious problem in this estimation.

using the modified Jones or performance-matched modified Jones model, the results indicate that for bank-dependent firms, banks are an important governance mechanism.

The coefficients on the other corporate governance control variables are generally not significant, attesting to the importance of bank governance for this sample of firms. FIN is not significant, implying that accounting-based debt covenants are not a significant determinant of accounting conservatism for this sample.[29] The significant results for the main variables from the performance-matched modified Jones model imply that the litigation and regulation environment do not significantly affect the main results. Among other control variables, ALTMAN and ROA are statistically significant in the modified Jones model while LASSETS and ROA are statistically significant in the performance-matched modified Jones model. The negatively significant coefficient of LASSETS indicates that larger firms have more conservative accounting. Because high bank dependent firms are relatively small, the negative sign on LASSETS implies that the main results (BD_MAG and BD_LEN) are not attributable to firm size. In summary, a firm's accounting conservatism is increasing in both the magnitude and length of the bank loan, supporting the main hypotheses, H1a and H1b.

4.2. Limitations

The interpretation of the results is subject to two caveats. First, the findings of this paper show that there is an association between bank governance and accounting conservatism. However, it is difficult to know if banks make firms conservative or firms choose to be conservative. Although the results demonstrate that banks play an important

[29] As mentioned earlier, results when observations with financial ratio-based covenants are omitted are unchanged.

governance role, the exact governance mechanism and its direction is left to future studies.

Second, the first measure of bank dependence, the magnitude of the bank loan, is scaled by the total assets of a borrower. This measure is consistent with the research questions of this paper and is widely accepted in prior studies. Alternatively, one might argue that scaling by the total assets of the lender is a better measure of a bank's incentive to perform governance activities. *DealScan* does not provide sufficient information to obtain the value of a lead bank's total assets. Therefore, as a sensitivity test, I use as a proxy for a lead bank's total assets, the sum of all bank loans per each lead bank within the sample, and scale the bank loan by this proxy. I do not find a significant coefficient on the magnitude of the bank loan, although the length variable is still significant. Possible explanations would be 1) as discussed above, the alternative measure is not appropriate for addressing the research questions of this paper, 2) the proxy is noisy and not representative because it is calculated within the sample and by using limited loan information, and/or 3) the current measure (scaled by the total assts of a borrower) is not an appropriate proxy for bank dependence and is confounding my analysis.

CHAPTER 5: BANK LOAN CHARACTERISTICS

In this chapter, I will discuss two bank loan characteristics, lender types and collateral, and explain how these loan characteristics might be expected to affect a bank's governance activities and therefore, a firm's accounting conservatism. Importantly, one should note that the purpose of the tests of the loan characteristics is not to examine a bank's governance activities in general, but, rather, to examine the *relative* intensity of a bank's governance activities conditional on various types of bank loans. The former question, a bank's overall corporate governance role *per se*, is examined by testing the two main hypotheses.

5.1. Secured vs. Unsecured loan

In their study of the role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividend policy, Ahmed et al. (2002) mention that, besides accounting conservatism, there are other mechanisms for resolving the agency conflict, such as secured debt, leaving to future research the examination of such other mechanisms. In response to their concern, the first loan characteristic examined in this paper is whether a loan is secured.

A secured loan is a loan that is collateralized by a borrower's tangible assets, while an unsecured loan is a loan that is backed only by a borrower's promise to pay. If a loan is secured, a lender can liquidate the collateral in the event that the borrower defaults on the loan. Therefore, the existence of collateral significantly reduces the lender's credit risk. The reduced credit risk, in turn, reduces incentives for the lender to perform

governance activities. In an extreme case when a loan is fully secured (i.e., fully collateralized), the collateral serves as a substitute monitoring mechanism and the lender has little incentive to perform governance activities.

On the other hand, although a secured loan reduces a lender's incentive to perform governance activities, it also requires a lender to monitor the collateral *per se* (as opposed to overall credit risk). For example, Rajan and Winton (1995) show that using collateral may give lenders an incentive to monitor. If this is the case, the intensity of bank governance is not reduced by using a secured loan. There is still the same incentive for a bank to perform governance activities because of the transaction costs of seizing and selling the collateral. In addition, due to macro shocks, the value of collateral is likely to be lowest at the time of default, providing a bank with another incentive to perform governance activities. Accordingly, the prediction of the association between secured loans and banks' governance (in turn, accounting conservatism) is non-directional.

5.2. U.S. banks vs. Foreign banks

The United States can be categorized as a *capital market-centered* system, while Japan and Continental Europe can be categorized as *bank-centered* systems. The term, "capital market centered", in this paper does not mean that firms obtain more funds from the stock market than from banks.[30] It is a relative concept and therefore, implies that banks in bank-centered countries play more active roles in disciplining a borrower's management than banks in capital-market centered countries. Prior research finds

[30] According to Mishkin and Eakins (2003), banks are the most important source of external funds used to finance U.S. corporations, accounting for 40.2% of the external financing of American business in the 1970-1996 period. For the same period, equity accounts for 9.2% of the external financing, while bonds and nonbank loans accounts for 35.5% and 15.1%, respectively. These figures are, however, based on all U.S. firms, while the current paper focuses only on public firms.

evidence that banks in bank-centered countries traditionally perform very active roles in a firm's corporate governance system [e.g., Kaplan, 1994; Kaplan and Minton, 1994; Kang and Shivdasani, 1995; Elsas and Krahnen, 1998].

Today more than 250 foreign banks do business in the United States under the federal regulation of foreign banking activities codified in the International Banking Act of 1978 (Fraser, Gup, and Kolari, 2001). In light of their active roles in firm governance in their home countries, it is likely that foreign banks from bank-centered countries perform more intensive monitoring and screening of U.S. borrowers than U.S. banks do. Additionally, foreign banks may perceive information asymmetries to be greater when loans are made to companies domiciled in other countries and may, therefore, increase screening and monitoring activities.

Alternatively, U.S. banks may have advantages over foreign banks in monitoring and screening borrowers because they have fewer information asymmetries. U.S. banks have less uncertainty in their operations than foreign banks because they have more information about domestic borrowers and the domestic economy. Therefore, as in the case of the first loan characteristic, the prediction of the association between lender types and banks' governance is non-directional.

5.3. Model specification and empirical results - Bank loan characteristics

Similar to the test of the main hypotheses, the random effects model without BIG is used as the primary test of the association between accounting conservatism and loan characteristics. Pooled OLS that include BIG is also estimated. I do not include the two loan characteristic variables in tests of the main hypotheses because the inclusion of these

variables reduces the sample size by one-third, reducing the power of the test.[31] The test of the significance of the loan characteristic hypotheses is performed by estimating the following regression model:

$$DA\_Perf_{it} = \alpha_0 + \alpha_1 BD\_MAG_{it} + \alpha_2 BD\_LEN_{it} + \alpha_3 INSTITUTION_{it} + \alpha_4 5\%BLOCK_{it} + \alpha_5 INSIDER_{it} + \alpha_6 OBOD_{it} + \alpha_7 BIG_{it} + \alpha_8 FIN_{it} + \alpha_9 LEVERAGE_{it} + \alpha_{10} COVERAGE_{it} + \alpha_{11} ALTMAN_{it} + \alpha_{12} M/B_{it} + \alpha_{13} LASSETS_{it} + \alpha_{14} ROA_{it} + \alpha_{15} FREECF_{it} + \alpha_{16} SECURE_{it} + \alpha_{17} USBANK_{it} + \varepsilon_{it} \quad (3)$$

where,

DA_Perf = the value of discretionary accruals from the Performance matched discretionary accrual model,

SECURE = an indicator variable that equals 1 if a loan is a collateralized loan, and 0 if a loan is a non-collateralized loan,

USBANK = an indicator variable that equals 1 if a lender is a U.S. bank, and 0 if a lender is an Western European or Asian/Pacific bank,[32]

i, t = firm and year index, respectively,

other variables are defined in equation (2).

In equation (3), the variables of interest are SECURE and USBANK. Since the two bank loan characteristics could have both increasing and/or decreasing effects on the intensity of banks' governance activities, I do not make a directional prediction.

[31] One might argue that if the loan characteristics are not included in equations (2), there might be a correlated-omitted-variables problem, making the interpretation difficult. There is, however, no problem interpreting the results from equations (2) even though the loan characteristics are not included in the models because the random effects model implicitly considers the unobserved effects in the calculation of the coefficients. For further discussion of the panel data analyses, see Wooldridge (2002).

[32] One problem with this variable is that the *DealScan* database categorizes foreign banks into Western Europe, Asian, etc. without specifying names of their home countries. Therefore, it is possible that there is measurement error in my USBANK variable. For example, Western Europe includes not only the bank-centered Continental countries, but also the capital market-centered United Kingdom.

Table 6 presents the results from two univariate tests. Both the t-test and Wicoxon rank-sum test show that mean and median values of discretionary accruals are lower for firms with unsecured loans and for firms with Western Europe or Asian bank loans, but the differences are generally insignificant.[33]

The estimations of equation (3) are reported in Table 7. In the random effects estimation, the coefficients on BD_MAG, -0.1825 (*p-value* = 0.014), and BD_LEN, -0.0007 (*p-value* = 0.026), are still negative and statistically significant. However, the coefficients on SECURE and USBANK are not statistically significant. Similar to the random effects estimation, the pooled OLS estimation shows that the coefficients on SECURE and USBANK are not significant while the coefficients on BD_MAG, BD_LEN, and FIN are negative and significant. The significant coefficient on FIN implies that when within-firm effects are ignored in the panel dataset, accounting conservatism is higher for a firm that has a deal with covenants based on financial ratios. Finally, Table 8 presents the Pearson correlations between bank dependence measures and loan characteristics. These correlations are low in absolute magnitude.

In summary, the results from the multivariate tests show that bank loan characteristics are not significantly associated with a bank's governance role and in turn, a firm's accounting conservatism. These results imply that the magnitude and length of the bank loan play a more important role in a bank's governance activities than bank loan characteristics.

[33] The Spearman rank correlations among the loan characteristic variables are less than 0.10.

CHAPTER 6: SENSITIVITY ANALYSES

6.1. A tax explanation for accounting conservatism

The link between reported income and taxable income provides a firm with an incentive to use conservative financial reporting to reduce taxes as long as the firm is profitable, has taxable income, and interest rates are positive (Watts, 2003a). Therefore, it is possible that tax incentives affect the findings of this paper. To rule out this possibility, I reexamine the main hypotheses, controlling for a firm's tax incentive.

Watts (2003b) states that when the links between tax accounting and financial reporting become closer, there are incentives for conservative financial reporting. Therefore, I use a correlation between pre-tax book income and taxable income as the first measure of a firm's tax incentive. I expect that the greater the correlation between pre-tax book income and taxable income, the greater is the firm's incentive to use conservative financial reporting. Therefore, I predict a positive relation between the correlation and accounting conservatism if tax incentives exist for the sample firms. Since discretionary accruals are inversely related to accounting conservatism, this implies a negative relation between the correlation and discretionary accruals. Following Hanlon et al. (2003), pre-book income and taxable income are measured as follows:

Pre-tax book income = Pre-tax book income – Minority interest,

Taxable income = (Current federal and foreign income taxes) / the top U.S. statutory tax rate – the change in net operating loss carry forwards.[34]

[34] The top U.S. statutory tax rates used are 34% for 1988-1993 and 35% for 1994-2001. For further discussion of book income and taxable income, see Hanlon et al. (2003).

The correlation between pre-tax book income and taxable income is measured for the sample period (i.e., from 1988 to 2001) per each firm. The main hypotheses are reexamined by including the correlation as an additional control.

In addition to the first measure, I use the marginal tax rate as the second measure of a firm's tax incentive. In their comprehensive survey of empirical tax research in accounting, Shackelford and Shevlin (2001) state that one needs a marginal tax rate estimate to control for possible tax effects. Shevlin (1990) and Graham (1996a) develop a simulated marginal tax rate measure and Graham (1996b) shows that the simulated tax rate is the best proxy for the true marginal tax rate. Watts (2003b) states that when taxes increase, incentives to report conservative financial reporting increases. Therefore, I predict that the higher the marginal tax rate, the greater is the firm's incentive to use conservative financial reporting. Similar to the first measure, I predict a negative relation between the marginal tax rate and discretionary accruals. The main hypotheses are reexamined by using the simulated corporate marginal tax rate after interest expenses as an additional control.[35] The interaction term between the marginal tax rate and the book-tax correlation is also included because the partial effect of the correlation on conservatism (holding all other variables fixed) might depend on the marginal tax rate and vice versa.[36] Accordingly, the estimation model with the measures of a firm's tax incentive is as follows:

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[35] The simulated tax rates are available on http://www.duke.edu/~jgraham. The results are qualitatively the same when the simulated corporate marginal tax rate before interest expenses is used. For further discussion of the simulated tax rate, see Graham (1996b).

[36] I do not have a directional prediction for the interaction term because it could have positive, negative, and no effect on the dependent variable. For example, even though the book-tax correlation is high, a firm might have no or little incentive to use conservative financial reporting if it has the low marginal tax rate. On the other hand, a firm might have more incentive to use conservative financial accounting if it has both a high correlation and high marginal tax rate.

$$DA\_Perf_{it} = \alpha_0 + \alpha_1 BD\_MAG_{it} + \alpha_2 BD\_LEN_{it} + \alpha_3 INSTITUTION_{it} + \alpha_4 5\%BLOCK_{it} + \alpha_5 INSIDER_{it} + \alpha_6 OBOD_{it} + \alpha_7 BIG_{it} + \alpha_8 FIN_{it} + \alpha_9 LEVERAGE_{it} + \alpha_{10} COVERAGE_{it} + \alpha_{11} ALTMAN_{it} + \alpha_{12} M/B_{it} + \alpha_{13} LASSETS_{it} + \alpha_{14} ROA_{it} + \alpha_{15} FREECF_{it} + \alpha_{16} CORR_{it} + \alpha_{17} MTR_{it} + \alpha_{18} CORR_{it} * MTR_{it} + \varepsilon_{it} \quad (4)$$

where,

DA_Perf = the value of discretionary accruals from the Performance matched discretionary accrual model,

CORR = the correlation between pre-tax book income and taxable income measured for 1988 – 2001,

MTR = the corporate marginal tax rate after interest expenses,

i, t = firm and year index, respectively,

other variables are defined in equation (2).

As reported in Table 9, the main results are unchanged after controlling for the effect of the tax incentive. Consistent with H1a and H1b, the coefficients on BD_MAG, -0.1487 and BD_LEN, -0.0006, are negative and statistically significant (*p-value* = 0.054 and 0.015, respectively). Although the signs are negative as predicted, the coefficients on CORR and MTR, are not statistically significant, implying that the tax incentive is not a determinant of accounting conservatism for this sample of firms.

6.2. Basu (1997)'s conservatism measure

Basu (1997) interprets conservatism as an asymmetric verification requirement for recognizing good versus bad news in financial statements, suggesting that earnings reflects bad news more quickly than good news. Regarding debtholders, he states that debtholders demand more timely information about bad news that might adversely affect future cash flows because they have an asymmetric loss function. Therefore, in this

chapter, I examine the association between accounting conservatism based on the Basu (1997)'s conservatism measure and the magnitude and length of the bank loan. The association is measured by using a modified version of the Basu (1997)'s model as follows:

$$X_{it}/P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \alpha_2 R_{it} + \alpha_3 R_{it}*DR_{it} + \alpha_4 BD\_MAG*R_{it}*DR_{it} + \alpha_5 BD\_LEN*R_{it}*DR_{it} + \varepsilon_{it} \quad (5)$$

where,

X_{it} = the earnings per share measured as income before extraordinary items / (number of shares outstanding*stock split adjustment factor),

P_{it-1} = the price per share at the beginning of the fiscal year divided by stock split adjustment factor,

R_{it} = the buy-and-hold returns from nine months before fiscal year-end to three months after fiscal year-end,

DR_{it} = an indicator variable that equal 1 if Rit < 0, and 0 otherwise,

BD_MAG = the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets),

BD_LEN = the length of a bank loan measured as a maturity of the bank loan,

i, t = firm and year index, respectively.

Based on the sign of returns, Basu divides the sample into 'good news' group (i.e., firm-year observations with positive returns) and 'bad news' group (i.e., firm-year observations with negative returns). He predicts that under conservatism, the coefficient on R*DR, α_3, will be significantly positive, suggesting that the earnings-return relation is stronger during the bad news period. He also predicts that α_0 and α_2 will be positive and

significant. This paper further predicts that α_4 and α_5 will be positive and significant, indicating that the extent to which earnings reflects bad news more quickly than good news is increasing in both the magnitude and length of the bank loan.

Table 10 presents results from equation (5). Consistent with the Basu's prediction, α_3, 0.1570, is significantly positive (*p-value* < 0.01), implying that earnings is more sensitive to negative returns than to positive returns. Both α_0 and α_2 are significantly positive consistent with Basu's predictions. As predicted, the coefficient on BD_MAG*R*DR, 0.2044, is positive and significant (*p-value* = 0.084), implying that the extent to which earnings reflects bad news more quickly than good news is increasing in the magnitude of the bank loan. The coefficient on BD_LEN*R*DR, 0.008, however, is positive, but insignificant (*p-value* = 0.123).

Basu (1997)'s conservatism measure might not be appropriate for examining the research questions of this paper because of the following reasons. First, this paper focuses on accounting conservatism related to a firm' discretionary financial reporting behavior. In other words, the focus of this paper is on conservatism in a firm's financial reporting *per se*, rather than on how fast earnings reflect specific news. Second, Basu's measure relies on stock price movements to distinguish between good and bad news (Givoly and Hayn, 2000). This paper, however, focuses on debt financing, which is not directly related to the stock market.[37]

[37] In their study of the joint effect of investment and conservative accounting on the accounting rate of return, Penman and Zhang (2002) measure the effect of conservative accounting on the balance sheet. Their measure of conservatism focuses on how GAAP accounting for inventories, R&D expenditures, and advertising expenditures differentially impacts firms' financial statements. As a result, it is not relevant to this paper, which focuses on conservatism related to a firm's discretionary financial reporting behavior.

6.3. Absolute values of discretionary accruals

Francis et al. (2002) define the quality of accounting accruals as the absolute value of discretionary accruals. The absolute value might be of interest to banks because the quality of accruals is related to the predictability of future cash flows. Specifically, accruals can be used to estimate borrowers' future cash flow generating ability, and the absolute value of discretionary accruals can be one measure of the quality of accruals. The higher the absolute value of the discretionary accruals, the lower the quality of accruals. Therefore, I reexamine the main hypotheses using the absolute value of discretionary accruals as a dependent variable. Table 11 reports results using the absolute value of discretionary accruals. Results are consistent with predictions that the quality of accruals (the absolute value of discretionary accruals) is increasing (decreasing) in both magnitude and length of the bank loan. In the modified Jones model, the coefficients on BD_STR and BD_LEN, -0.1196 and -0.0007, are negative and statistically significant (*p-value* = 0.03 and <0.01, respectively). Similarly, in the performance-matched modified Jones model, the coefficients on BD_STR and BD_LEN, -0.0867 and -0.0006, are negative and statistically significant (*p-value* = 0.09 and <0.01, respectively).

Given the significance of the absolute value of discretionary accruals results, one might argue that the quality of accruals is a primary driver of the main results of this paper rather than accounting conservatism. To address this concern, I first divide the sample into two groups based on the signs of discretionary accruals, and then examine the main hypotheses using the absolute value of discretionary accruals for positive and negative discretionary accrual groups. For the positive discretionary accrual group, the coefficients on BD_STR and BD_LEN, -0.2016 and -0.0009 are negative and statistically

significant (*p-value* = 0.026 and <0.01, respectively). In contrast, neither coefficient is significant for the negative discretionary accrual group. These results imply that banks are concerned about income-increasing discretionary accruals and perform governance activities to reduce the level of positive discretionary accruals, but do not monitor the level of negative discretionary accruals. This finding is consistent with the main prediction that banks prefer accounting conservatism, demonstrating that accounting conservatism is a primary driver of the main findings of this paper.

6.4. Estimation error in accruals

Banks might be concerned with estimation error in accruals because it is likely to be related to the predictability of firms' future cash flows. Dechow and Dichev (2002) measure the quality of accounting accruals as the magnitude of estimation error in accruals. They argue that the quality of accruals and earnings is decreasing in the magnitude of estimation error in accruals. One problem with this measure in relation to the current study is that it is not appropriate to apply their data requirements (i.e., the availability of at least eight years of data) to my sample. First, I lose too many observations, and second, most sample loans are a five-year length, so the estimation error is measured using a longer period than the length of the loan. As part of my sensitivity analyses, I reexamine the main hypotheses using the estimation error model and the less restrictive requirement that there be at least five years of data.

Following Dechow and Dichev (2002) and Francis et al. (2002), the estimation error is calculated as the standard error of the residuals from the following regression:

$$TCA_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \varepsilon_{it} \quad (6)$$

where,

TCA_{it} = firm i's total current accruals in year t, calculated as $\Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta ST\_DEBT_{it}$,

CFO_{it-1} = firm i's cash flow from operations in year t-1, calculated as firm i's net income before extraordinary items in year t-1 – firm i's total accruals in year t-1,

CFO_{it} = firm i's cash flow from operations in year t , calculated as firm i's net income before extraordinary items in year t – firm i's total accruals in year t,

CFO_{it+1} = firm i's cash flow from operations in year t+1 , calculated as firm i's net income before extraordinary items in year t+1 – firm i's total accruals in year t+1,

i, t = firm and year index, respectively,

other variables are defined in equation (1),

all variables are deflated by total assets in t-1.

Equation (6) is estimated annually for each two-digit SIC group with at least 20 observations.

The results using the estimation error model (Dechow and Dichev, 2002) with a less restrictive data requirement (i.e., at least five years of data) are similar to the modified Jones and the performance matched model for BD_MAG.[38] As reported in Table 12, the coefficient on BD_MAG, -0.0312, is statistically significant (*p-value* = 0.037), indicating that accrual estimation errors (the quality of accruals) are decreasing (increasing) in the magnitude of the bank loan. As for BD_LEN, however, the results

[38] McNichols also measures the quality of accounting accruals using a modified version of the Dechow and Dichev (2002) model. The results using the McNichols (2002) model are qualitatively the same as those using the Dechow and Dichev (2002) model.

using the estimation error models are no longer significant at conventional levels although the signs are still negative.

6.5. Accounting conservatism before and after bank loans are made

In this chapter, I examine accounting conservatism as measured by discretionary accruals before and after bank loans are made. The purpose of this analysis is to examine changes in accounting conservatism before and after bank loans are made between high and low bank-dependent firms. This analysis, however, is descriptive because other relevant variables are not controlled. Moreover, the loan dates do not necessarily represent the initiation of the firm-bank relationship.

Panel A of Figure 1 presents the comparison of mean discretionary accruals between high and low bank-dependent firms. Consistent with the prediction that high bank-dependent firms have low discretionary accruals, the mean discretionary accruals for high bank-dependent firms is lower than those for low bank-dependent firms before and after bank loans are made. After bank loans are made, the difference becomes larger. Panel B of Figure B presents the comparison of median discretionary accruals between high and low bank-dependent firms. Before bank loans are made, high bank-dependent firms have higher median discretionary accruals than low bank-dependent firms. After bank loans are made, however, high bank-dependent firms have significantly lower median discretionary accruals than low bank-dependent firms. This figure might indicate that bank monitoring plays an important role in governing borrowers while their screening does not, consistent with the notion that recent bank competition makes banks' *ex-ante* screening more difficult.

CHAPTER 7: CONCLUSION

This study provides evidence on the association between a firm's accounting conservatism and the firm's bank dependence. Prior accounting research has examined the specific role of debt covenants, but has not examined the more general governance role of banks, despite their significant role in the U.S. economy. Using 4,114 firm-year observations over the period 1988-2001, this study finds a positive relationship between conservatism in borrowers' financial reporting and both the magnitude and length of the bank loan. In contrast, other corporate governance mechanisms, such as auditors, institutional investors, 5% block holders, managerial ownership, and outside directors are generally unassociated with the accounting conservatism of the sample firms. In addition, my findings cannot be explained by other explanations for accounting conservatism such as accounting-based debt covenants, litigation, regulation, and taxes.

These results are important for at least four reasons. First, the results indicate that for bank-dependent firms, banks play an important role in monitoring financial reporting quality, and their contributions are incremental to those of other corporate governance mechanisms. This finding helps us to better understand the relation between U.S. corporate governance mechanisms and financial reporting quality. Second, the results imply that the incentives creditors provide for conservatism in borrowers' financial reporting extend beyond the incentives in debt covenants. The results further imply that banks induce borrowers to have higher accounting conservatism by performing governance activities such as screening and/or monitoring. Third, this paper finds that the magnitude and length of the bank loan play a more important role in banks'

governance activities than do loan characteristics. Specifically, there is little evidence of a relation between borrowers' accounting conservatism and loan characteristics such as collateral and lender type. Finally, this paper finds that the length of the bank loan is positively related to the intensity of banks' governance activities. This result is relevant to ongoing debates about the impact of the length of monitoring relationships on the quality of the monitoring.

The results suggest several additional issues for future research. Of particular interest is to distinguish between screening and monitoring, the two major governance activities discussed in the current paper. This paper does not empirically discriminate between the two governance activities. Instead, it focuses on the overall governance role of banks. The two activities are, however, different in that screening is performed before bank loans are made to avoid adverse selection problems, while monitoring is performed after bank loans are made to prevent moral hazard problems. Therefore, an examination of the differential roles of the two governance activities would further our understanding of a bank's governance role. In addition, an examination of other explanations for accounting conservatism such as compensation contracts in relation to debt financing would further our understanding of the association between a firm's financial reporting behavior and debtor-creditor relationships. Finally, an examination of the effects of firm-bank relationships on other important accounting issues (e.g., valuation) would provide a more complete understanding of the accounting consequences of private debt financing.

Table 1
Sample description

Panel A: Descriptive statistics for all sample firm-year observations

	Median	Mean	25% Percentile	75% Percentile	N
Bank loans - Total	20.40	104.37	6.50	75.00	4,114
Bank loans - Lead lender	15.00	31.60	6.00	34.01	4,114
Bank dependence - Magnitude	0.06	0.10	0.02	0.13	4,114
Bank dependence - Length	60	67	47	84	3,400
Short-term debt/Total Asset	0.02	0.05	0.00	0.05	4,108
Long-term debt/Total Asset	0.22	0.25	0.09	0.36	4,108
Common equity/Total Asset	0.44	0.43	0.30	0.59	4,105
Total Assets	250.90	1,287.91	79.01	848.85	4,108
Financial leverage	0.56	0.56	0.41	0.69	4,114
Interest coverage	5.75	16.36	2.95	11.28	4,019
Altman-Z score	2.94	3.76	1.93	4.35	4,031
Market-to-book ratio	1.78	2.67	1.05	2.93	4,063
ROA	0.05	0.03	0.01	0.08	4,108
Free cash flow	23.53	148.09	5.94	86.73	4,017
Institutional investors	0.40	0.42	0.21	0.62	3,931
5% Block holders	0.37	0.40	0.17	0.61	3,931
Managerial ownership	0.12	0.20	0.02	0.30	3,923
Outside directors	0.67	0.66	0.57	0.78	3,958
Big-5 auditor	1	0.94	1	1	4,144
FIN	0	0.03	0	0	4,113
SECURE	1	0.80	1	1	2,612
USBANK	1	0.89	1	1	4,060

Table 1 - continued
Sample description

Panel B: Descriptive statistics for high vs. low bank dependent firm-year observations

	Low bank-dependent (N = 2,057)		High bank-dependent (N = 2,057)	
	Median	Mean	Median	Mean
Bank loans - Total	25.00	132.55	20.00	76.20
Bank loans - Lead lender	15.00	28.81	17.00	34.38
Bank dependence – Magnitude	0.02	0.03	0.13	0.17
Bank dependence – Length	60	71	60	63
Short-term debt/Total Asset	0.02	0.04	0.02	0.05
Long-term debt/Total Asset	0.23	0.26	0.20	0.24
Common equity/Total Asset	0.41	0.41	0.47	0.45
Total Assets	628.08	2,292.03	109.54	283.79
Financial leverage	0.58	0.58	0.53	0.55
Interest coverage	5.97	15.42	5.47	17.30
Altman-Z score	2.86	3.99	3.01	3.56
Market-to-book ratio	1.95	2.82	1.63	2.52
ROA	0.05	0.03	0.04	0.03
Free cash flow	60.90	263.13	10.05	32.76
Institutional investors	0.51	0.50	0.31	0.34
5% Block holders	0.35	0.40	0.38	0.41
Managerial ownership	0.08	0.17	0.16	0.23
Outside directors	0.70	0.68	0.67	0.64
Big-5 auditor	1	0.96	1	0.92
FIN	0	0.04	0	0.02
SECURE	1	0.77	1	0.82
USBANK	1	0.84	1	0.94

Table 1 - continued
Sample description

Bank loans (total and lead lenders), short- and long-term debt, common equity, market value of equity, and total assets represent dollars in millions. Bank dependence – Length is in months.

Bank loans (total) are total bank loans in dollars in each firm-year. Bank loans (lead lender) are bank loans in dollars from a lead lender in each firm-year. Bank dependence – Magnitude is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets). Bank dependence – Length is the length of a bank loan measured as a maturity of the bank loan. Financial leverage is measured as (total liabilities / total assets). The interest coverage ratio is measured as (operating income before depreciation / interest expenses). The Altman Z-Score is a measure of a firm's financial health, calculated as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)]. The market-to-book ratio is a measure of a firm's growth opportunity, calculated as (market value of equity / book value of equity). ROA is the return on assets measured as (income before extraordinary items / beginning total assets). Free cash flow is measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends]. Institutional investors is proportion of institutional ownership. 5% Block holders is proportion of 5% block holder ownership. Managerial ownership is proportion of managerial ownership. Outside directors is proportion of outside directors on a firm's board. Big-5 auditor is an indicator variable that equals 1 if a firm's auditor is a Big 5 accounting firm, and 0 if a firm's auditor is a non-Big 5 accounting firm. FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios. SECURE is an indicator variable that equals 1 if a loan is a collateralized loan, and 0 if a loan is a non-collateralized loan. USBANK is an indicator variable that equals 1 if a lender is a U.S. bank, and 0 if a lender is an Western European or Asian/Pacific bank.

Table 2
Distribution of Firm-Year Observations by Industry

	All sample		*Low bank dependent*		*High bank dependent*		*Compustat Year 2001*
Industry Description	N	%	N	%	N	%	%
Agriculture	9	0.22	9	0.44	0	0.00	0.51
Mining	301	7.33	125	6.09	176	8.57	7.00
Construction	36	0.88	18	0.88	18	0.88	1.49
Manufacturing	2,367	57.62	1,212	59.01	1,155	56.23	43.32
Wholesale trade	257	6.26	117	5.70	140	6.82	4.82
Retail trade	422	10.27	197	9.59	225	10.95	7.65
Services	716	17.43	376	18.31	340	16.55	22.67
Total	4,108	100.00	2,054	100.00	2,054	100.00	100.00

Industry membership is determined by two-digit Statistical Industrial Classification (SIC) codes. Out of total 4,114 firm-year observations, 6 observations are not classifiable. Sample firms are divided into two groups, high and low bank-dependent, based on bank dependence.

Table 3
Pearson correlations among independent variables (Significance levels in parentheses)

	BD_ MAG	BD_ LEN	INST	5% BL	INSD	OBOD	BIG	FIN	LEV	COV	ALT	M/B	ASSET
BD_MAG	1.00												
BD_LEN	-0.06	1.00											
	(0.00)												
INST	-0.35	0.10	1.00										
	(0.00)	(0.00)											
5% BL	0.00	-0.04	0.03	1.00									
	(0.91)	(0.03)	(0.09)										
INSD	0.19	-0.09	-0.32	0.30	1.00								
	(0.00)	(0.00)	(0.00)	(0.00)									
OBOD	-0.12	0.06	0.21	-0.07	-0.16	1.00							
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)								
BIG	-0.14	-0.01	0.19	0.01	-0.03	0.11	1.00						
	(0.00)	(0.64)	(0.00)	(0.57)	(0.05)	(0.00)							
FIN	-0.05	-0.02	0.10	0.03	0.03	0.02	0.04	1.00					
	(0.00)	(0.28)	(0.00)	(0.03)	(0.03)	(0.28)	(0.00)						
LEV	-0.01	0.10	-0.00	0.02	-0.04	0.10	0.02	0.09	1.00				
	(0.42)	(0.00)	(0.92)	(0.35)	(0.00)	(0.00)	(0.19)	(0.00)					
COV	-0.00	-0.04	0.05	-0.01	0.01	-0.01	0.01	-0.00	-0.17	1.00			
	(0.89)	(0.03)	(0.00)	(0.67)	(0.58)	(0.39)	(0.39)	(0.86)	(0.00)				
ALT	-0.06	-0.08	0.07	-0.04	0.03	-0.03	-0.01	-0.02	-0.43	0.26	1.00		
	(0.00)	(0.00)	(0.00)	(0.03)	(0.11)	(0.10)	(0.61)	(0.22)	(0.00)	(0.00)			
M/B	-0.01	0.00	0.04	-0.02	-0.01	0.03	0.01	0.00	0.00	0.01	0.06	1.00	
	(0.75)	(0.94)	(0.01)	(0.26)	(0.73)	(0.06)	(0.73)	(0.89)	(0.95)	(0.72)	(0.00)		
ASSET	-0.48	0.18	0.57	-0.08	-0.29	0.26	0.20	0.08	0.26	-0.03	-0.08	0.01	1.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.08)	(0.00)	(0.52)	

	BD_ MAG	BD_ LEN	INST	5% BL	INSD	OBOD	BIG	FIN	LEV	COV	ALT	M/B	ASSET	ROA
ROA	-0.04	0.01	0.12	-0.02	0.01	-0.00	-0.00	0.03	-0.16	0.20	0.22	-0.01	0.08	1.00
	0.00	(0.57)	(0.00)	(0.35)	(0.65)	(0.90)	(0.99)	(0.04)	(0.00)	(0.00)	(0.00)	(0.43)	(0.00)	
FREECF	-0.18	0.16	0.21	-0.13	-0.15	0.13	0.07	0.00	0.10	-0.01	-0.03	0.01	0.53	0.04
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.95)	(0.00)	(0.47)	(0.01)	(0.55)	(0.00)	(0.01)

BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
INST is proportion of institutional ownership.
5% BL is proportion of 5% block holder ownership.
INSD is proportion of managerial ownership.
OBOD is proportion of outside directors on a firm's board.
BIG is an indicator variable that equals 1 if a firm's auditor is a Big 5 accounting firm, and 0 if a firm's auditor is a non-Big 5 accounting firm.
FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios.
LEV is financial leverage measured as (total liabilities / total assets).
COV is the interest coverage ratio measured as (operating income / interest expenses).
ALT is the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)].
M/B is the market-to-book ratio measured as (market value of equity / book value of equity).
ASSET is the natural log of the book value of assets.
ROA is the return on assets measured as (income before extraordinary items / beginning total assets).
FREECF is free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends].

Table 4
Modified Jones model

Results of equation (2):

	Random effects estimation		*Pooled OLS*	
Independent Variables	Coefficient	*z-statistics*	Coefficient	*t-statistics*
BD_MAG	-0.1747	-2.93***	-0.0890	-2.83***
BD_LEN	-0.0005	-2.19**	-0.0002	-2.11**
INSTITUTION	-0.0273	-0.79	-0.0036	-0.23
5%BLOCK	-0.0288	-1.09	-0.0015	-0.09
INSIDER	-0.0014	-0.04	0.0010	0.04
OBOD	-0.0324	-0.80	-0.0160	-0.78
BIG	-	-	-0.0020	-0.10
FIN	0.0078	0.20	-0.0091	-0.69
LEVERAGE	0.0027	0.05	-0.0120	-0.68
COVERAGE	-0.0001	-1.19	-0.0001	-1.40
ALTMAN	0.0033	2.11**	0.0020	1.19
M/B	-0.0001	-0.40	-0.0000	-0.03
LASSETS	-0.0100	-1.61	-0.0071	-1.64
ROA	0.0934	3.85***	0.1676	1.60
FREECF	0.0000	1.06	0.000	1.54
R^2	0.0223		0.0165	
N	2,931		2,930	

Table 4 - continued
Modified Jones model

***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, for two-tailed tests.

A dependent variable is the value of discretionary accruals from the modified Jones Model.
BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
INSTITUTION is proportion of institutional ownership.
5%BLOCK is proportion of 5% block holder ownership.
INSIDER is proportion of managerial ownership.
OBOD is proportion of outside directors on a firm's board.
BIG is an indicator variable that equals 1 if a firm's auditor is a Big 5 accounting firm, and 0 if a firm's auditor is a non-Big 5 accounting firm.
FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios.
LEVERAGE is financial leverage measured as (total liabilities / total assets).
COVERAGE is the interest coverage ratio measured as (operating income / interest expenses).
ALTMAN is the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)].
M/B is the market-to-book ratio measured as (market value of equity / book value of equity).
LASSETS is the natural log of the book value of assets.
ROA is the return on assets measured as (income before extraordinary items / beginning total assets).
FREECF is free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends].

Table 5
Performance-matched modified Jones model

Results of equation (2):

	Random effects estimation		*Pooled OLS*	
Independent Variables	Coefficient	*z-statistics*	Coefficient	*t-statistics*
BD_MAG	-0.1506	-2.70***	-0.0796	-2.74***
BD_LEN	-0.0005	-2.53***	-0.0002	-2.58**
INSTITUTION	-0.0250	-0.75	-0.0013	-0.08
5%BLOCK	-0.0236	-0.95	0.0010	0.07
INSIDER	-0.0130	-0.40	-0.0073	-0.35
OBOD	-0.0276	-0.72	-0.0148	-0.72
BIG	-	-	-0.0042	-0.25
FIN	0.0022	0.06	-0.0131	-1.26
LEVERAGE	0.0136	0.47	-0.0069	-0.37
COVERAGE	-0.0001	-1.22	-0.0001	-1.39
ALTMAN	0.0022	1.46	0.0015	0.83
M/B	-0.0001	-0.37	-0.0000	-0.04
LASSETS	-0.0110	-1.83*	-0.0079	-1.97*
ROA	0.0545	2.31**	0.0651	0.77
FREECF	0.0000	1.00	0.0000	1.72
R^2	0.0214		0.0080	
N	3,127		3,126	

Table 5 - continued
Performance-matched modified Jones model

***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, for two-tailed tests.

A dependent variable is the value of discretionary accruals from the performance matched discretionary accrual model.
BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
INSTITUTION is proportion of institutional ownership.
5%BLOCK is proportion of 5% block holder ownership.
INSIDER is proportion of managerial ownership.
OBOD is proportion of outside directors on a firm's board.
BIG is an indicator variable that equals 1 if a firm's auditor is a Big 5 accounting firm, and 0 if a firm's auditor is a non-Big 5 accounting firm.
FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios.
LEVERAGE is financial leverage measured as (total liabilities / total assets).
COVERAGE is the interest coverage ratio measured as (operating income / interest expenses).
ALTMAN is the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)].
M/B is the market-to-book ratio measured as (market value of equity / book value of equity).
LASSETS is the natural log of the book value of assets.
ROA is the return on assets measured as (income before extraordinary items / beginning total assets).
FREECF is free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends].

Table 6
T-tests and Wilcoxon rank-sum tests for loan characteristics
- Performance matched discretionary accrual model

Loan characteristics	Categories	Mean	T- test [a] *p-value*	Median	Wilcoxon tests [b] *p-value*	σ
Collateral	Secured	0.0230	0.20	-0.0027	0.09	0.2618
	Unsecured	0.0094		-0.0046		0.2046
Lender types	U.S. banks	0.0135	0.09	0.0573	0.23	0.1333
	Western Europe/ Asian banks	0.0012		0.0512		0.2311

Mean and median are the mean and median values of the values of discretionary accruals from the Performance matched modified Jones model, respectively. The results are qualitatively the same when the values from other accrual models are used.

[a] The t-test is the standard t-test for differences in means.
[b] The Wilcoxon rank-sum test (also known as a Mann-Whitney *U* test) is the nonparametric test for differences in medians.

Table 7
Test for loan characteristics

Results of equation (3):

	Random effects estimation		*Pooled OLS*	
Independent Variables	Coefficient	*z-statistics*	Coefficient	*t-statistics*
BD_MAG	-0.1825	-2.46***	-0.0832	-2.16**
BD_LEN	-0.0007	-2.26**	-0.0004	-1.96*
INSTITUTION	-0.0327	-0.68	-0.0009	-0.03
5%BLOCK	-0.0692	-1.93	-0.0300	-1.12
INSIDER	-0.0082	-0.18	0.0021	0.07
OBOD	-0.0638	-1.16	-0.0415	-1.26
BIG	-	-	0.0016	0.08
FIN	-0.0061	-0.13	-0.0238	-2.75***
LEVERAGE	0.0262	0.69	0.0005	0.02
COVERAGE	-0.0001	-0.95	-0.0001	-0.83
ALTMAN	0.0017	0.92	0.0007	0.39
M/B	-0.0001	-0.37	0.0000	0.07
LASSETS	-0.0088	-0.97	-0.0080	-1.16
ROA	0.0448	1.66*	0.0554	0.51
FREECF	0.0000	0.01	-0.0000	-0.02
SECURE	0.0062	0.26	-0.0046	-0.33
USBANK	0.0067	0.18	-0.0003	-0.02
R^2	0.0307		0.0097	
N	1,968		1,967	

Table 7 - continued
Test for loan characteristics

***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, for two-tailed tests.

A dependent variable is the value of discretionary accruals from the performance matched discretionary accrual model.
BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
INSTITUTION is proportion of institutional ownership.
5%BLOCK is proportion of 5% block holder ownership.
INSIDER is proportion of managerial ownership.
OBOD is proportion of outside directors on a firm's board.
BIG is an indicator variable that equals 1 if a firm's auditor is a Big 5 accounting firm, and 0 if a firm's auditor is a non-Big 5 accounting firm.
FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios.
LEVERAGE is financial leverage measured as (total liabilities / total assets).
COVERAGE is the interest coverage ratio measured as (operating income / interest expenses).
ALTMAN is the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)].
M/B is the market-to-book ratio measured as (market value of equity / book value of equity).
LASSETS is the natural log of the book value of assets.
ROA is the return on assets measured as (income before extraordinary items / beginning total assets).
FREECF is free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends].
SECURE is an indicator variable that equals 1 if a loan is a collateralized loan, and 0 if a loan is a non-collateralized loan.
USBANK is an indicator variable that equals 1 if a lender is a U.S. bank, and 0 if a lender is an Western European or Asian/Pacific bank.

Table 8
Pearson Correlations among bank dependence and loan characteristics
(Significance levels in parentheses)

	BD_MAG	BD_LEN	SECURE	USBANK
BD_MAG	1.00			
BD_LEN	-0.06	1.00		
	(0.00)			
SECURE	0.10	0.07	1.00	
	(0.00)	(0.00)		
USBANK	0.12	-0.03	-0.05	1.00
	(0.00)	(0.06)	(0.01)	

BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
SECURE is an indicator variable that equals 1 if a loan is a collateralized loan, and 0 if a loan is a non-collateralized loan.
USBANK is an indicator variable that equals 1 if a lender is a U.S. bank, and 0 if a lender is an Western European or Asian/Pacific bank.

Table 9
Performance-matched modified Jones model with the measures of tax incentives

Results of equation (4):

	Random effects estimation		*Pooled OLS*	
Independent Variables	Coefficient	*z-statistics*	Coefficient	*t-statistics*
BD_MAG	-0.1487	-1.93**	-0.0772	-2.47**
BD_LEN	-0.0006	-2.43***	-0.0003	-1.73*
INSTITUTION	-0.0312	-0.71	0.0144	0.61
5%BLOCK	-0.0162	-0.50	0.0091	0.45
INSIDER	-0.0726	-1.70*	-0.0506	-2.41**
OBOD	-0.0325	-0.65	-0.0319	-1.28
BIG	-	-	-0.0144	-0.62
FIN	0.0118	0.25	0.0156	1.11
LEVERAGE	-0.0090	-0.24	-0.0133	-0.66
COVERAGE	-0.0001	-1.89**	-0.0001	-2.36**
ALTMAN	0.0022	1.18	0.0027	1.29
M/B	-0.0002	-0.84	-0.0001	-0.70
LASSETS	-0.0142	-1.73*	-0.0104	-2.32**
ROA	0.0292	1.16	0.0145	-0.09

Table 9 - continued
Performance-matched modified Jones model with the measures of tax incentives

	Random effects estimation		*Pooled OLS*	
Independent Variables	Coefficient	*z-statistics*	Coefficient	*t-statistics*
FREECF	0.0000	1.35	0.0000	1.90*
CORR	-0.0277	-1.06	-0.0314	-1.69
MTR	-0.0728	-0.91	-0.1196	-1.20
CORR*MTR	0.1349	1.40	0.1618	1.73
R^2	0.0290		0.0152	
N	1,828		1,827	

***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, for two-tailed tests.

A dependent variable is the value of discretionary accruals from the performance matched discretionary accrual model.
BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
INSTITUTION is proportion of institutional ownership.
5%BLOCK is proportion of 5% block holder ownership.
INSIDER is proportion of managerial ownership.
OBOD is proportion of outside directors on a firm's board.
BIG is an indicator variable that equals 1 if a firm's auditor is a Big 5 accounting firm, and 0 if a firm's auditor is a non-Big 5 accounting firm.
FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios.
LEVERAGE is financial leverage measured as (total liabilities / total assets).
COVERAGE is the interest coverage ratio measured as (operating income / interest expenses).
ALTMAN is the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)].
M/B is the market-to-book ratio measured as (market value of equity / book value of equity).
LASSETS is the natural log of the book value of assets.
ROA is the return on assets measured as (income before extraordinary items / beginning total assets).
FREECF is free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends].
CORR is the correlation between pre-tax book income and taxable income measured for 1988 – 2001.
MTR is the corporate marginal tax rate after interest expenses.

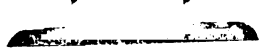


Table 10
Basu (1997)'s conservatism measure

Results of equation (5):

	Basu (1997)		*Modified Basu (1997)*	
Independent Variables	Coefficient	*t-statistics*	Coefficient	*t-statistics*
Intercept	0.0446	7.56***	0.0485	8.32***
DR	-0.0106	-0.92	-0.0020	-0.17
R	0.0160	3.32***	0.0148	3.18***
R*DR	0.1879	6.94***	0.1570	3.65***
BD_MAG*R*DR			0.2044	1.73*
BD_LEN*R*DR			0.0008	1.54
Adjusted R^2	0.0458		0.0616	
N	3,827		3,147	

A dependent variable is the earnings per share, measured as [income before extraordinary items / (number of shares outstanding*stock split adjustment factor)], divided by [the price per share at the beginning of the fiscal year / stock split adjustment factor].
R is the buy-and-hold returns from nine months before fiscal year-end to three months after fiscal year-end.
DR is an indicator variable that equal 1 if $R < 0$, and 0 otherwise.
BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.

Table 11
Absolute values of discretionary accruals

	Modified Jones		*Performance matched*	
Independent Variables	Coefficient	*t-statistics*	Coefficient	*t-statistics*
BD_MAG	-0.1196	-2.22**	-0.0867	-1.71*
BD_LEN	-0.0007	-3.11***	-0.0006	-3.21***
INSTITUTION	-0.0586	-1.79*	-0.0473	-1.50
5%BLOCK	-0.0185	-0.74	-0.0219	-0.92
INSIDER	-0.0062	-0.19	-0.0077	-0.25
OBOD	0.0045	0.12	0.0045	0.12
FIN	-0.0004	-0.01	0.0036	0.10
LEVERAGE	0.0305	1.16	0.0199	0.80
COVERAGE	-0.0000	-0.21	0.0000	0.01
ALTMAN	0.0019	1.40	0.0019	1.46
M/B	-0.0001	-0.31	-0.0001	-0.45
LASSETS	-0.0178	-3.12***	-0.0169	-3.04***
ROA	-0.0149	-0.75	0.0031	0.16
FREECF	0.0000	1.43	0.0000	1.42
R^2	0.0461		0.0419	
N	2,930		3,127	

Table 11 - continued
Absolute values of discretionary accruals

***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, for two-tailed tests.

A dependent variable is the absolute value of discretionary accruals from the modified Jones or performance matched discretionary accrual model.
BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
INSTITUTION is proportion of institutional ownership.
5%BLOCK is proportion of 5% block holder ownership.
INSIDER is proportion of managerial ownership.
OBOD is proportion of outside directors on a firm's board.
FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios.
LEVERAGE is financial leverage measured as (total liabilities / total assets).
COVERAGE is the interest coverage ratio measured as (operating income / interest expenses).
ALTMAN is the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)].
M/B is the market-to-book ratio measured as (market value of equity / book value of equity).
LASSETS is the natural log of the book value of assets.
ROA is the return on assets measured as (income before extraordinary items / beginning total assets).
FREECF is free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends].
i is a company index, and t is a year index.

Table 12
Estimation error model – Dechow and Dichev (2002)

Results of equation (6):

Independent Variables	Coefficient	*z-statistics*
BD_MAG	-0.0312	-2.08**
BD_LEN	-0.0001	-1.23
INSTITUTION	0.0136	1.66*
5%BLOCK	0.0010	0.17
INSIDER	0.0077	0.96
OBOD	0.0175	1.78*
FIN	0.0026	0.31
LEVERAGE	-0.0037	-0.50
COVERAGE	0.0000	1.18
ALTMAN	0.0006	1.65*
M/B	0.0000	0.20
LASSETS	-0.0031	-2.01**
ROA	0.0029	0.55
FREECF	0.0000	2.04**
R^2	0.0613	
N	1,547	

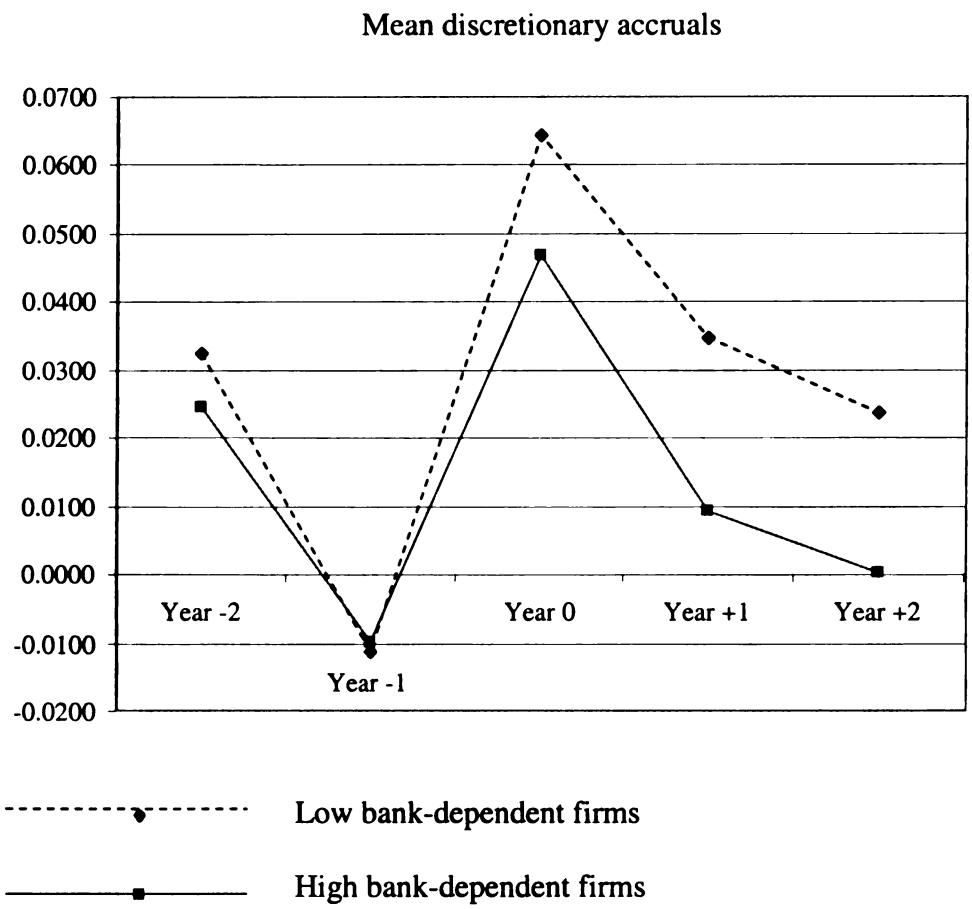
Table 12 - continued
Estimation error model – Dechow and Dichev (2002)

***, **, and * indicate significance at the 1 percent, 5 percent, and 10 percent levels, respectively, for two-tailed tests.

A dependent variable is the estimation error calculated as equation (6).
BD_MAG is the magnitude of a bank loan measured as (the dollar value of the bank loan from the lead lender / total assets).
BD_LEN is the length of a bank loan measured as a maturity of the bank loan.
INSTITUTION is proportion of institutional ownership.
5%BLOCK is proportion of 5% block holder ownership.
INSIDER is proportion of managerial ownership.
OBOD is proportion of outside directors on a firm's board.
FIN is an indicator variable that equals 1 if a deal includes financial ratios, and 0 if a deal dose not include financial ratios.
LEVERAGE is financial leverage measured as (total liabilities / total assets).
COVERAGE is the interest coverage ratio measured as (operating income / interest expenses).
ALTMAN is the Altman Z-Score measured as [1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (earnings before interest and taxes/total assets) + 0.6 (market value of equity/book value of liabilities) + 1.0 (sales/total assets)].
M/B is the market-to-book ratio measured as (market value of equity / book value of equity).
LASSETS is the natural log of the book value of assets.
ROA is the return on assets measured as (income before extraordinary items / beginning total assets).
FREECF is free cash flow measured as [operating income before depreciation – interest expenses – (income taxes – deferred tax & invest tax credit) – dividends].
i is a company index, and t is a year index.

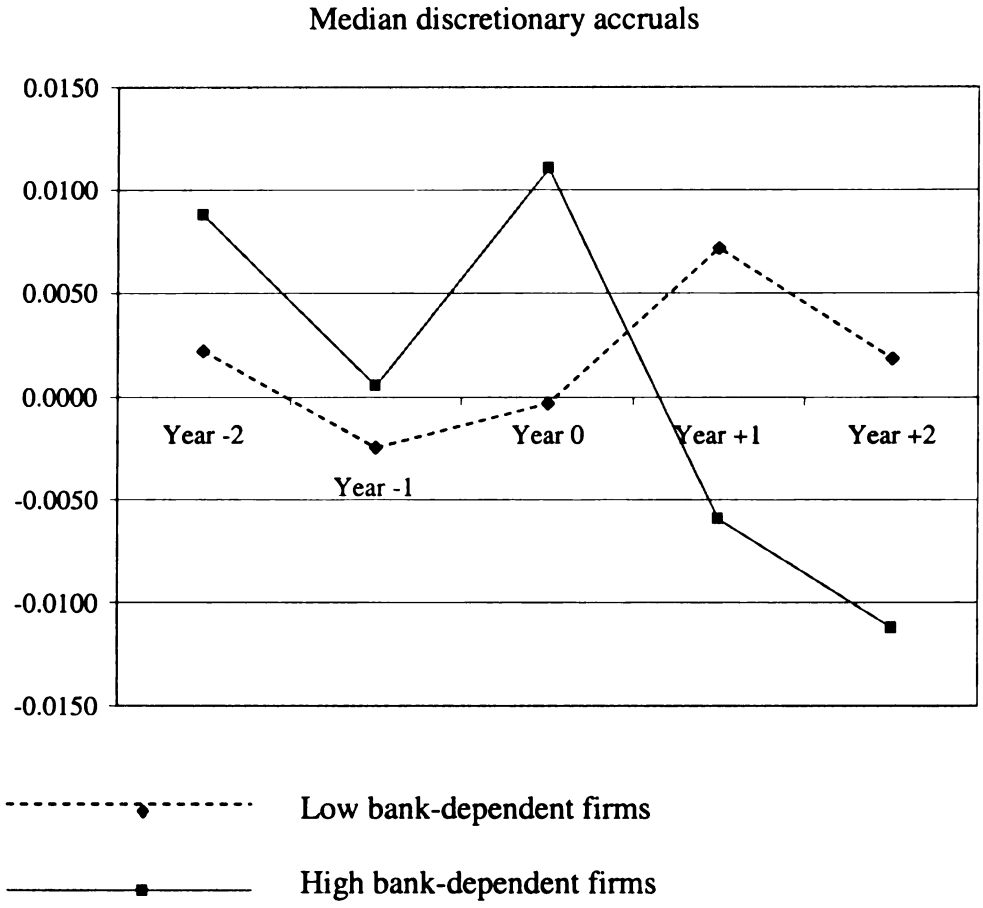
Figure 1
Comparisons of mean and median discretionary accruals before and after bank loans are made

Panel A: Mean discretionary accruals from Year -2 to Year +2



Year 0 represents the year when bank loans are made.
The sample firms are divided into four groups based on their bank dependence. The low bank-dependent firms are the firms in the first quartile and the high bank-dependent firms are the firms in the fourth quartile. The number of observations for low and high bank-dependent firms is 1,028 each.

Panel B: Median discretionary accruals from Year -2 to Year +2



Year 0 represents the year when bank loans are made.
The sample firms are divided into four groups based on their bank dependence. The low bank-dependent firms are the firms in the first quartile and the high bank-dependent firms are the firms in the fourth quartile. The number of observations for low and high bank-dependent firms is 1,028 each.

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