Borrower Conservatism and Debt Contracting

Jayanthi Sunder[a]

Shyam V. Sunder[b]

Jingjing Zhang[c]

Kellogg School of Management

Northwestern University

November 2008

[a]Northwestern University, 6245 Jacobs Center, 2001 Sheridan Road, Evanston, IL 60208. E-mail: j-sunder@kellogg.northwestern.edu; Phone: (847)491-2671.

[b]Northwestern University, 6226 Jacobs Center, 2001 Sheridan Road, Evanston, IL 60208. E-mail:shyam-sunder@kellogg.northwestern.edu; Phone: (841)467-3343.

[c]Northwestern University, Jacobs Center, 2001 Sheridan Road, Evanston, IL 60208. E-mail:jingjing-zhang@kellogg.northwestern.edu; Phone: (841)467-4630.

Borrower Conservatism and Debt Contracting

Abstract

We study the role of conservative net asset valuation in enhancing debt contracting efficiency. We measure *realized conservatism* to isolate its effect from *conditional conservatism* which has been studied in the prior literature. Realized conservatism is the cumulative effect of past and current application of conditional conservatism and unconditional conservative accounting methods. It results in a lower bound valuation of the net assets of the borrower. We hypothesize that realized conservatism provides lenders greater confidence in the collateral value of the firm's assets and reduces the risk in the loan (*Asset Value Hypothesis*). Second, we hypothesize that realized conservatism constrains future conditional conservatism such that debt contracting efficiency is high only when the realized conservatism is not high (*Constraint Hypothesis*). Using a sample of bank loans we study interest spreads, covenant intensity and covenant slack and find results consistent with our hypotheses. Our study sheds light on the direct and indirect effects of realized conservatism in the *ex ante* design of loan contracts.

Borrower Conservatism and Debt Contracting

1. Introduction

We examine how lenders structure debt contracts in response to the type and source of conservatism in borrower financial statements. Conservatism impacts financial statements by imposing asymmetrical verification requirements for reporting losses versus gains (see Watts, 2003, for a discussion). The asymmetric verification requirement leads to timely loss recognition in financial statements which sends a timely signal of adverse economic shocks so that control rights are efficiently transferred to the lender if there is deterioration in firm performance (Watts and Zimmerman, 1986; Watts, 1993; Ball, 2001). The timely loss recognition also results in persistent understatement of net assets in financial statements and provides lenders with a lower bound on the value of net assets of the firm. This is a valuable property of conservatism since it improves the lender's confidence in net asset values that serve as an overall collateral against the loan.

Prior evidence with respect to the effect of conservatism on debt contracting efficiency has tended to focus on the timely loss recognition aspect, i.e. *conditional conservatism*. Conditional conservatism is considered to improve contracting efficiency (Basu 1997, Ball and Shivakumar 2005) and improves the terms at which borrowers are able to borrow.[1] In this study, we examine in more detail the role of understated net asset values in improving debt contracting efficiency. To capture this effect, we measure the cumulative effects of conservatism resulting from past and

[1]For example past conditional conservatism is associated with greater reliance on covenants (Nikolav 2007), reduction in information asymmetry in the secondary bank loan market (Moerman 2008), and lower interest spreads (Zhang 2008).

current application of conditional conservatism and conservative accounting methods and label this construct as *realized conservatism*.[2]

We conjecture that the stock of realized conservatism is valuable in contracting because it gives the lenders greater confidence in the collateral value of the firm's assets and therefore reduces the risk in the loan (*Asset Value Hypothesis*). Thus, controlling for the level of conditional conservatism, firms with higher levels of realized conservatism should experience lower interest cost. Also, since the net assets are represented at their lower bounds, covenants based on net asset value such as the net worth covenant will be set looser, i.e. with greater slack, to avoid covenant violations based on reported asset values when economic values of assets are still relatively high.

Another effect of realized conservatism on debt contracting is through its impact on the future ability of firms to be conditionally conservative. Since lenders particularly care about timely recognition of bad news after the loan origination, prior research assumes that the level of *ex ante* conservatism is a good proxy *ex post* conditional conservatism in earnings. However even firms that follow conservative accounting policies may not have the ability to persist in their level of conditional conservatism. Specifically, firms with high realized conservatism are constrained in their ability to use write downs to signal negative economic shocks in future since their asset values are already reported at their lower bound estimates. Thus realized conservatism interacts with conditional conservatism in affecting the firm's ability to be conditionally conservative in the future. Therefore, we hypothesize that conditional conservatism will improve debt contracting efficiency only when the realized conservatism is not high (*Constraint*

[2]Past and current application of conservative accounting methods has been referred to as unconditional conservatism (Beaver and Ryan 2000). Unconditional conservatism captures conservatism that is not in response to specific economic shocks and includes rules such as expensing of research and development expenditure. See Section 2.1 for a detailed discussion on the definition of realized conservatism used in this paper.

Hypothesis). Accordingly, we expect lower spreads and greater reliance on covenants for firms that are conditionally conservative only if current realized conservatism is low and not a constraint.

We examine loan contracts during the period 1996 through 2006 and relate the loan terms to various measures of conditional conservatism and realized conservatism. We measure conditional conservatism using timely loss recognition measures from Basu (1997), and conservative accruals and the incremental skewness of earnings relative to cash flows based on Givoly and Hayn (2000). As our primary measure of realized conservatism we use an adjusted measure of market-to-book of equity.[3] The market-to-book ratio cannot be used as is since it is a noisy measure of realized conservatism because the market value contains the value of monopoly rents (Roychowdhury and Watts, 2007). To tease out the noise in this measure, we compute the adjusted market-to-book measure as the residual from a regression of market-to-book on firm growth, R&D intensity, industry Herfindahl-Hirschman index, investor sentiment and time fixed effects.[4]

We find that irrespective of the level of conditional conservatism, spreads are decreasing in realized conservatism consistent with the *asset value hypothesis*. As for conditional conservatism, we find that on a stand-alone basis it results in lower spreads consistent with Zhang (2008). We then interact conditional and realized conservatism at the firm level to analyze the effect of the *constraint hypothesis*. We find that past conditional conservatism is not rewarded with lower spreads if borrowers appear to be constrained by high levels of realized conservatism. We conjecture that this is because lenders anticipate that these firms will not be

[3] Some empirical studies use M/B as an alternative measure of conservatism and find mixed results on the benefits to debt contracting, but to the best of our knowledge these papers do not attempt to distinguish the benefits of realized conservatism from that on ongoing conditional conservatism.
[4] Our results are robust to using raw Market-to-book in our tests

able to continue to be highly conservative in the future since they have already written down their asset values significantly.

When we examine covenant intensity, we find some evidence that covenant intensity is increasing in conditional conservatism only for firms with low realized conservatism. This is consistent with the *constraint hypothesis* since the effectiveness of covenant use relies on ongoing timely loss recognition. Interestingly, firms with high realized conservatism experience lower use of covenants across all levels of conditional conservatism. This is consistent with two explanations that are not mutually exclusive. When conditional conservatism is high, use of covenants is decreasing in realized conservatism because of the constraint role of realized conservatism. On the other hand when conditional conservatism is low, high levels of realized conservatism are likely driven by conservative accounting methods (unconditional conservatism). Such accounting methods are undesirable in the context of covenant use where lenders prefer covenant violations that are triggered by economic shocks rather than conservative accounting methods that are invariant to the underlying economic news. This is consistent with the hypothesis in Ball and Shivakumar (2005) that unconditional conservatism does not enhance contracting efficiency. Further, Sridharan and Magee (1997) suggest that lenders may not *ex ante* favor borrowers' use of conservative accounting which may allow them to manage earnings upwards *ex post* when approaching covenant thresholds.

Finally, we examine the effect of realized conservatism on net worth covenant slack. We find that the slack is increasing in realized conservatism across all groups of conditional conservatism but it is significant for only two out of the three conditional conservatism groups. The increase in net worth slack is consistent with the asset value hypothesis since firms with high realized conservatism already report assets values at their lower bound and below their economic value.

Therefore the increase in slack avoids covenant violation for small drops in economic value of the net assets.

Overall, we find that an important channel through which conservative accounting affects debt contracting is through realized conservatism that results in net asset values being reported at their lower bounds. An important difference between conditional conservatism and realized conservatism is the ease of contractibility. While lenders value ongoing future timely recognition of losses, firms cannot credibly commit to pursuing conservative accounting. This is because close to covenant thresholds borrowers have incentives to manage earnings to avoid covenant violation. For lenders to benefit from conditional conservatism, borrowers must be both able and willing to follow conservative accounting after the loan origination. In contrast, realized conservatism requires no additional commitment by the borrower and provides the lenders *ex ante* benefits in terms of asset valuation. Our results show that lenders recognize this and consequently charge lower spreads for firms with high realized conservatism and provide more slack in their net worth covenants. Realized conservatism also affects the ability of firms to be conditionally conservative in the future and thus has an additional indirect impact on debt contracting. Lenders reward borrowers for ongoing conditional conservatism only when realized conservatism is not binding. The results suggest an important direct and indirect role for realized conservatism in improving debt contracting efficiency.

The rest of the paper is organized as follows: Section 2 reviews the related studies and outlines the research hypotheses. Section 3 describes the sample, the variable measurements, and the research design. Section 4 presents the summary statistics and the empirical results. Section 5 concludes the study.

2. Related studies and hypotheses development

2.1 Conditional and realized conservatism

Two aspects of conservatism result in understatement of the book values of net assets relative to the economic values. One is defined by Basu (1997) as representing “accountants’ tendency to require a higher degree of verification for recognizing good news than bad news in financial statements” (p. 4). The asymmetric verification leads to timely recognition of economic losses but not economic gains. Examples of this type of conservatism include lower of cost or market accounting for inventories and asset write-downs. Under timely loss recognition, reported earnings are more sensitive to contemporaneous losses, which make the income statement more informative to users who care about firms’ downward risks but not the upside potential. The impact on the income statement also flows through to the balance sheet due to the clean surplus relation between the two financial statements. Writing down assets under bad news but not writing up for good news results in persistent understatement of net assets on the balance sheet.

The other aspect of conservatism that causes understatement of assets is “the selection of ‘conservative’ accounting methods” (Givoly, Hayn, and Natarajan 2007, p. 67). Examples of such unconditional conservative accounting are immediate expensing for R&D costs, the use of accelerated depreciation method, and LIFO inventory valuation. This type of conservatism lowers asset values, and such a balance sheet effect persists over time. However, its income statement effect is reversible, from understating earnings in the early years of an asset’s life to eventually overstating earnings in the later years.

Both aspects of conservatism introduce understatement of asset values, but they differ in their potential to convey new information in the financial statements. Timely loss recognition introduces understatement conditional on the type of the news. In contrast, applying conservative accounting methods brings in understatement by systematically allocating the cost over the life of an asset, without reflecting new information about changes in asset values (Basu 2001, p. 1334). Thus, the former is usually labeled as conditional conservatism, whereas the latter is called unconditional conservatism.[5]

The cumulative effect of both types of conservatism is reflected as persistent understatement of net asset values on the balance sheet. Such realized conservatism creates accounting slack[6] that constrains future application of conditional conservatism.[7] This can be illustrated with the following example. Suppose a firm has a very low book value of an asset compared to its economic value, either caused by past asset write-downs or by adopting very conservative accounting methods or both. When there is a negative shock, unless the shock is sufficiently big so that the economic value drops below the book value, the firm will not recognize the bad news in the financial statement. Therefore, over a wide range of economic shocks conditional conservatism would not be observed for a firm. Moreover, even if the negative shock was big enough to trigger a write-down, the magnitude of the write-down for such a firm would be smaller than for firms with less accounting slack.

In the rest of the paper we use the terms conditional and realized conservatism. We define realized conservatism to include past conditional conservatism and past unconditional conservatism. There are two reasons to define realized conservatism in this manner. First,

[5]Other names that have been used to refer to the two types of conservatism include income statement vs. balance sheet conservatism, *ex post* vs. *ex ante* conservatism, news dependent vs. news independent conservatism. See Beaver and Ryan (2005, p. 305) for details.

[6]Accounting slack is usually defined as the difference between economic value and book value. However, according to Roychowdhury and Watts (2007), accounting slack is only the difference between market value of net separable assets and book value of net assets.

[7]The fact that unconditional conservatism preempts conditional conservatism has been analyzed in detail by Beaver and Ryan (2005), and the negative relation between the two types of conservatism has also been documented in prior studies (Givoly, Hayn, and Natarajan 2007, Roychowdhury and Watts 2007). The implication of the interaction between the two types of conservatism on analyst earnings forecast errors has been examined more recently by Louis, Lys, and Sun (2007).

unconditional conservatism caused by applying conservative accounting methods is usually proxied for by the market-to-book ratio. But what this measure captures is in fact the level of realized conservatism.[8] Second, once conditional conservatism is realized, it reflects properties that are similar to the conservatism resulted from applying accounting methods. Realized conditional conservatism no longer provides new information to the users of financial statements. Moreover, it even preempts subsequent applications of conditional conservatism in the absence of asset growth, because it resets the value of the asset to a lower amount. To differentiate the sources of realized conservatism, in our paper we specifically differentiate whether the conservatism is caused by past conditional conservatism or is a result of unconditional conservatism.

2.2 The role of accounting conservatism in debt contracting

Accounting conservatism has been considered as a reporting mechanism that increases debt contracting efficiency. Two arguments are proposed with different emphases and implications. Watts (2003) emphasizes the enhanced reliability of financial statements resulting from conditional conservatism. Specifically, the cumulative financial effect of conditional conservatism produces a reliable estimate of the lower bound of net asset value as well as cumulative earnings from the beginning of a firm's operations. It helps to prevent inappropriate distributions to management and shareholders at the expense of debtholders and assists lenders in assessing potential borrowers' asset values as collateral, monitoring borrowers' ability to pay, and restricting managers' action to reduce net asset values. In accordance with this argument, Ahmed et al. (2002) find that conservative accounting helps to mitigate shareholder-bondholder conflicts over dividend policy and reduce firm's borrowing costs.

[8]An alternative measure is to look at specific accounting methods. But Ahmed et al. (2002) point out that such an aggregate measure is difficult to construct and is unlikely to reflect the magnitude of conservatism (p. 875).

Basu (1997) and Ball and Shivakumar (2005) highlight the importance of conditional conservatism. In debt contracting, timely loss recognition affects the effectiveness of financial covenants, which are used to define the property and decision rights between debtholders and shareholders. Once a borrower's financial condition deteriorates, timely loss recognition triggers covenant violations more quickly. Therefore, debtholders are able to obtain the control rights in a timely manner and take necessary actions to protect their interests. In contrast, unconditional conservatism does not bring any new information to lenders. It even reduces the likelihood and the magnitude of conditional conservatism during the contracting period. Thus, unconditional conservatism is likely to reduce contracting efficiency, or is at best neutral (Ball and Shivakumar 2005).

Following the spirit of this argument, Zhang (2008) provides empirical evidence that conditional conservatism benefits lenders *ex post* through timely signaling of default risks and benefits borrowers *ex ante* in obtaining lower interest rates. Nikolaev (2007) documents a positive association between timely loss recognition and covenant intensity, defined as the number of financial covenants used in a debt contract, in a sample of public debt agreements, suggesting that conditional conservatism increases the effectiveness of the use of covenants. Moerman (2008) finds a negative relation between timely loss recognition and bid-ask spreads charged on the traded loans, suggesting that conditional conservatism reduces information asymmetry by revealing losses in a timely fashion. In addition, both Zhang (2008) and Moerman (2008) test unconditional conservatism in their settings and are unable to document contracting implications.

The two arguments are not necessarily inconsistent with each other. In fact, lenders would desire both an informative income statement that signals downward credit risks in a timely manner and informative asset value that provides reliable downward biased estimates of net asset values.

2.3 Hypotheses

As pointed out in Section 2.2, Watts (2003) emphasizes the property of reliability of financial statements resulting from the cumulative effect of past conservatism. If lenders care about the collateral value of net assets of the firm they would prefer to know the lower bound value of the net assets at the time of loan origination. Firms with high levels of realized conservatism, derived from either prior timely loss recognition or unconditional conservative methods, are more likely to report net assets at their lower bound values. This reduces the risk of uncertainty in asset values for lenders when borrowers are in the worst case scenario. Consequently lenders would reward such borrowers with lower spreads.

On the other hand, the low net asset values understate the net worth of the firm. Therefore covenant thresholds set close to the reported net worth values would trigger covenant violations even though the economic value of the net assets is still high. So lenders would set looser net worth covenants for firms with high levels of realized conservatism. Therefore formally, our first hypothesis, stated in the alternative form is:

H1: Asset Value Hypothesis

H1a: Interest spreads are decreasing in realized conservatism irrespective of the level of past conditional conservatism

H1b: Net Worth slack is increasing in realized conservatism

A few prior studies have examined the interaction between conditional and realized conservatism. Beaver and Ryan (2005) model how on one hand, the level of unconditional conservatism preempts future application of conditional conservatism, and on the other hand, conditional conservatism resets unconditional conservatism.[9] Roychowdhury and Watts (2007) empirically examine the relation of conditional and unconditional conservatism in multiple periods and find a negative association between beginning unconditional conservatism and subsequent conditional conservatism. They also document a positive association between conditional conservatism and end-of-period market-to-book over a period of two years or beyond. These results are consistent with Beaver and Ryan's (2005) conjectures on the relation between conditional and unconditional conservatism.[10] In a recent study, Louis, Lys, and Sun (2007) document that the effect of conditional conservatism on analyst forecast errors decreases in the level of unconditional conservatism. Such an interaction effect demonstrates the constraining effect of accounting slack on future asymmetric accounting treatment of gains and losses in this applied setting.

In general, however, papers examining the effect of accounting conservatism on debt contracting either ignore the distinction between conditional and unconditional conservatism,[11] or treat the different types of conservatism in isolation.[12] Such analyses overlook the interdependence of components of conservatism in a debt contracting setting, where lenders are trying to anticipate future reporting behaviors.

As mentioned in the last section, Basu (1997) and Ball and Shivakumar (2005) emphasize the news-dependent nature of conditional conservatism and its role in debt contracting. What this argument suggests is that it is the application of conditional conservatism during the contracting

[9] As mentioned in Section 2.1 (see p. 7) we interpret some of the unconditional conservatism measures as measures of realized conservatism since they are affected by both prior conditional and unconditional conservatism.

[10] Even though the results in Roychowdhury and Watts (2007) are consistent with the expected association suggested by Beaver and Ryan's (2005) model, the underlying reasoning is totally different. Roychowdhury and Watts (2007) offer a contracting-based explanation that "the role of accounting is to report the market value of net assets available for interim distributions to claimants, not the EV of the firm" (p. 6), in which EV refers to equity value. Such an argument raises potential questions on the measurement issue of conservatism.

[11] For example, Ahmed, et al. (2002), Beatty, Weber, and Yu (2007)

[12] For example, Vasvari (2006), Moerman (2008), Ball, Robin, and Sadka (2007), Bauwhede (2007), Frankel and Litov (2007), Nikolaev (2007), Zhang (2008)

period that actually benefits lenders. In other words, what matters for lenders is *ex post* conditional conservatism. However, when entering into debt agreements, lenders cannot observe the realization of *ex post* conditional conservatism. In order to argue that *ex post* conditional conservatism affects debt contracting design, prior studies investigates the relation between *ex ante* conditional conservatism and debt contracting terms, assuming that lenders are able to infer the level of *ex post* conditional conservatism from the level of *ex ante* conditional conservatism.

Both Zhang (2008) and Nikolaev (2007) explicitly address the validity of this assumption in their studies on the effect of *ex ante* conditional conservatism on loan pricing and covenant intensity respectively. They point out that borrowers' reputation effect and other constraints, such as the threat of auditor litigation or using fixed GAAP in computing covenants, would keep borrowers from changing accounting practice.[13] But, even if borrowers could pre-commit to applying the same accounting practice after entering into the debt contracts, it is still unlikely for them to maintain the same level of conditional conservatism, since the likelihood and magnitude of conditional conservatism depend on whether the book values of the assets are close to their economic values or not. As a result, we expect that the relation between *ex ante* conditional conservatism and debt contracting terms documented in prior studies would be driven by the firms with low levels of realized conservatism (i.e. where the realized conservatism does not constrain future conditional conservatism). Specifically, we investigate the interaction effect of *ex ante* conditional and realized conservatism on loan pricing and covenant intensity in private debt contracting.

As Zhang (2008) finds that lenders reward more conditionally conservative borrowers by offering lower interest rates, we expect that this negative relation would be driven by firms with

[13] Zhang (2008) also points out that the possibility of *ex post* earnings management to avoid debt covenant violations works against the hypotheses on the negative relation between *ex ante* conditional conservatism and loan pricing.

less accounting slack that constrains future timely loss recognition. *Ex post* timely loss recognition accelerates covenant violation and thus makes the use of covenants more effective. Nikolaev (2007) documents a positive relation between conditional conservatism and covenant intensity, confirming that conditional conservatism increases the effectiveness of covenants. Hence, we expect that this positive relation would be driven by firms with low realized conservatism. This leads to our second hypothesis:

H2: Constraint Hypothesis

H2a: Ex ante conditional conservatism is associated with lower spreads only when realized conservatism is not high.

H2b: Ex ante conditional conservatism is associated with greater reliance on covenants only when realized conservatism is not high.

In fact even for firms with high realized conservatism where the realized conservatism is driven by unconditional conservative accounting methods, covenants may not be an effective contracting device. This is because applying conservative accounting methods creates accounting slack that can be used to inflate future earnings to avoid covenant violation. Sridharan and Magee (1997) go as far as suggesting that lenders may even favor adoption of aggressive accounting methods *ex ante* by borrowers to reduce the *ex post* uncertainty in financial reporting.

3. Data and research design

3.1 Sample selection

We obtain private debt information from the Dealscan database. The basic unit in Dealscan is a loan, which is also referred to as facility. A borrower usually enters into multiple loans at the same time with either a single bank or a group of banks. These loans are grouped into a package, which is also called as deal. The analysis of this study is conducted at the loan level. We focus on dollar denominated loans during the period from 1996 through 2006. We require that the loan start date is consistent with the package start date provided by Dealscan, with the difference of the number of dates no greater than 90 days. We drop any loan without spread, maturity, and loan amount information. We then manually match these loans to the firms in Compustat based on company names. We exclude borrowers in financial and regulated utility industries, because the debt contract terms for these industries differ substantially from other industries. We also exclude non-US firms. Since firms may borrow multiple loans in a given year and thus have the same conservatism measures and control variables, to avoid the problem over-weighing these observations in the sample, we only keep the loan with the largest borrowing amount for each borrower in each year. We also only retain revolvers with a maturity greater than one year and term loans. We then require that each firm in the sample have necessary accounting information and stock return data to obtain borrower specific control variables and to estimate accounting conservatism. The final sample contains 5,116 facilities. In our multivariate tests, the sample reduces to 4735 in the spread regression primarily because of availability of data to compute the Z-Score. We have 3907 loans with at least one covenant and 1757 loans with net worth covenants.

3.2 Measuring debt contracting terms

The debt contracting terms studied in this paper are spread, covenant intensity, and net worth covenant slack. Spread is measured by the all-in-drawn spread (AIS). *Dealscan* computes this figure as the sum of the borrowing spread over the 6-month LIBOR and the related fees for each facility, assuming that the facility is fully used. Such a computation enables comparison of borrowing costs across facilities with different fee structures.

Covenant intensity is measured as the log of total number of covenants contained in a debt contract plus 1 if the loan has collateral. Covenants include of both financial covenants and general covenants (sweep covenant and dividend restriction). The measurement of covenant intensity is problematic because of coding errors in Dealscan, whereby some loans that actually have covenants are misclassified as loans without any covenants (See Drucker and Puri, 2007). However, Drucker and Puri (2007) note that as long as Dealscan reports the existence of at least one covenant for the loan, the information for all covenants appears to be correct. Therefore to minimize measurement errors, we exclude loans for which Dealscan does not report any covenants.

Net worth covenant slack is computed as the (tangible) net worth slack divided by assets. (Tangible) net worth slack is the difference between either net worth (#60) or tangible net worth (#60 - #234 - #235) at the end of the quarter before loan origination and (tangible) net worth threshold specified in the debt contract. Tighter slack means higher restrictions imposed on borrowers as the borrower is more likely to violate the covenant, which leads to the transfer of the control rights to lenders.

3.3 Measuring conditional conservatism

In this study, we employ conditional conservatism measures from both Basu (1997) and Givoly and Hayn (2000). We also use a composite measure of conditional conservatism.

The measures from Basu (1997) are the timely loss recognition, $Basu\ Loss$, the asymmetric timely recognition, $Basu\ Asymmetric\ Loss$, and the sensitivity of earnings to bad news relative to the sensitivity to good news, $Basu\ Ratio$. In Basu's (1997) market-based model (named as the Basu model in the rest of the paper), stock return is used to proxy for contemporaneous economic gains and losses. Due to the GAAP requirement for asymmetric verification to recognize bad news versus good news, earnings are expected to be more sensitive to negative returns than positive returns. Specifically, the model is:

$$NI_{it} = \alpha + \beta R_{it} + \eta DR_{it} + \gamma R_{it} DR_{it} + \varepsilon_{it} \tag{I}$$

where NI_{it} is annual income before extraordinary items (#18) for firm i in the fiscal year t deflated by the market value of equity at the beginning of the year and adjusted by the average NI for sample firms in year t, R_{it} is the 12-month return on firm *i* ending three months after the end of the fiscal year less the corresponding CRSP equal-weighted market return, and DR_{it} is an indicator variable equal to one if the firm's market-adjusted return R_{it} is negative and zero otherwise. Observations with the deflated earnings or the returns falling to the top and bottom 1% are excluded. In the above regression, $(\beta + \gamma)$ captures timely loss recognition (*Basu Loss*), γ is asymmetric timely recognition (*Basu Asymmetry*), and $(\beta + \gamma)/\beta$ measures the sensitivity of earnings to bad news relative to the sensitivity to good news (*Basu Ratio*).

We estimate Basu measures at industry level since firm-specific time-series regressions have very few observations for each firm and are likely to result in noisy estimates with a downward bias (Givoly, Hayn, Natarajan 2007). Specifically, we run the regressions by three-digit SIC codes for each year of the sample period of 1996 through 2006 using prior ten years of data. Industries with less than ten firms are excluded to ensure a reliable estimate of conditional conservatism. The corresponding industry-year measure of conditional conservatism is assigned to each sample firm.

The measures based on Givoly and Hayn (2000) are $Skewness$ and $Conservative\ Accruals$. We follow Beatty, Weber, and Yu (2008) to estimate these two measures. Specifically, $Skewness$ is the difference of the skewness of cash flows deflated by assets (quarter data #308 / #44) and the skewness of earnings deflated by assets (quarter data

#69/#44), using a maximum of 20 quarters and a minimum of 5 quarters of the data before the firm enters into the debt contract. $Conservative\ Accruals$ is the average of non-operating accruals deflated by assets over the period with a maximum of 5 years and a minimum of 2 years before the firm enters into the debt contract. The non-operating accruals are calculated as (#172 + #14 - #308 + #302 + #303 + #304 + #305). In order to make the direction of this measure consistent with other measures, we multiply the non-operating accruals by negative one.

The final measure, $Overal\ Rank$, is a composite measure averaging the percentile ranks of $Basu\ Ratio$, $Skewness$, and $Conservative\ Accruals$. By so doing, we hope this measure captures conditional conservatism while minimizing the noise in any individual measure. This is our primary measure of conditional conservatism.

3.4 Measuring realized conservatism

The measure of realized conservatism is based on an adjusted version of the market-to-book ratio. The market-to book ratio reflects the understatement of net asset values to economic values and is a natural way to measure realized conservatism. However, as Roychowdhury and Watts (2008) point out, the market-to-book ratio contains measurement error in reflecting the level of conservatism as the ratio also includes rents enjoyed by the firm in its current and future projects. To address the concern that the results might be caused by the things other than realized conservatism, we regress the market-to-book ratio, M/B, on a set of variables that proxy for rents, growth, and market sentiment. Specifically, the model is:

$$M/B_i = \alpha + \beta_1 Growth_i + \beta_2 R\&D_i + \beta_3 HHindex_i + \beta_4 Investor\ Sentiment_i + \varepsilon_i \qquad \text{(II)}$$

where M/B is computed as the market value divided by the book value of shareholders' equity (#199 × #25 / #60) excluding the negative values of the book equity. $Growth$ is the asset growth ratio measured as assets (#6) divided by lag assets. $R\&D$ is the research and development expense (#46) divided by assets (#6). $HH\ index$ is the Herfindahl_Hirschman index, calculated by summing the squares of the individual firm market shares based on sales (#12) for the 50 largest companies in an industry (four-digit sic code) or all the firms in the industry, whichever is lower. $Investor\ Sentiment$ is the index of the consumer sentiment from University of Michigan. Qiu and Welch (2006) argue that this consumer sentiment index is a good proxy for investor sentiment. The residual ε_i is the proxy for realized conservatism, $Adj\ M/B$, in this study. We also use the raw market-to-book ratio, M/B, in the tests as robustness check.

3.5 Research design

First, we examine the relation between both types of conservatism and loan spread to test *asset value hypothesis*. Specifically, we estimate the following model including fixed time effects:

$$Spread = \alpha\ + \gamma_1 Conditional\ Conservatism + \ \gamma_2 Realized\ Conservatism + \delta_1 Log\ Size + \delta_2 Profitability + \delta_3 Loss\ Years + \delta_4 Leverage + \delta_5 Z\ Score + \delta_6 Rating + \delta_7 Std\ Returns + \delta_8 Tangibility + \delta_9 Facility\ Amt/Assets + \delta_{10} Log\ Maturity + \delta_{11} Log\ \#\ Lenders + \delta_{12} Collateral + \delta_{13} Performance\ Pricing + \delta_{13} Revolver + \varepsilon \quad (1)$$

$Conditional\ Conservatism$ refers to one of the measures from $Basu\ Ratio$, $Conservatism\ Accruals$, $Skewness$, and $Overall\ Rank$. $Realized\ Conservatism$ is either $Adj\ M/B$ or raw M/B. They are the variables of interest in this model.

We also include a set of control variables to proxy for firm-specific and loan-specific risks that are likely to affect loan spreads. Firm-specific controls are computed using the financial and return data prior to loan origination. The control variables include $Log\ Assets$ measured as the log of the total assets for each firm, which is a proxy for reputation and information asymmetry. $Profitability$ is measured as EBITDA divided by assets as of the prior fiscal year. $Loss\ Years$ is the percentage of losses over the past 5 years, proxy for risks when firms experience economic distress. $Leverage$ is the ratio of debt to assets, controlling for financial risks. $Z\ Score$ is the Altman's Z-Score, controlling for default risk. $Rating$ is computed debt rating to control for credit risk. Following Beatty, Weber, and Yu (2008), for firms with debt rating information, we regress the rating on $Log\ Assets$, ROA, $Debt\ to\ Assets$, $Dividend\ Indicator$, and $Subordinated\ Debt\ Indicator$. We then use the estimated coefficients from the regression and the firm's financial information to compute a credit rating for each firm year. $Std\ Returns$ is the measure of the volatility of daily returns. Higher volatility is suggestive of higher default risk (Frankel and Litov, 2007). The variable $Tangibility$ is the ratio of PPE to assets, which is used to control for the quality of the collateral. Better quality of collateral lowers spreads and reduces the need to use covenants as a monitoring mechanism (Vasvari 2006).

The loan-specific controls include $Facility\ Amt/Assets$, representing the ratio of the loan amounts to assets. $Log\ Maturity$ is the log of the maturity (in months) of the loan, a proxy for the length of the loan. $Log\ \#\ Lenders$ is the log of the number of lenders. These loan characteristics can either convey borrowers' credit risks (Beatty, Weber, and Yu 2008) or represents trade-offs in contracting terms. Therefore, the signs of these control variables can go either way depending on whether debt terms complement or substitute with each other. $Collateral$ indicates whether the loan is secured with collateral. The use of collateral can reduce interest rates as well as the use of financial covenants. $Performance\ Pricing$ indicates whether there is a performance pricing provision. Performance pricing provision ties interest rates to borrowers' performance and thus reduces lenders' risk and lowers initial spreads (Zhang 2008). Finally, $Revolver$ indicates whether the loan is a revolving loan.

To test the second hypothesis, the *constraint hypothesis*, in which the current level of unconditional conservatism constrains future application of conditional conservatism, we divide the observations into nine groups, based on independent two-way sorts into three groups each (High, medium, and low) based on conditional conservatism (*Overall Rank*) and realized conservatism (*Adj. M/B*). We create nine indicator variables to represent the different combinations of conditional and realized conservatism, ranging from LowCC&LowRC (captured in the intercept) to HighCC&HighRC. These groupings allow us to isolate the effect of one dimension of conservatism while keeping the other fixed. Specifically, the model is:

$$\text{Spread (intensity, slack)} = \alpha + \sum_{i=1}^{9} Conservatism\ Group\ i * \beta_i + \text{Controls} + \varepsilon_i \qquad (2)$$

Controls refers to the set of control variables that are used in Model (1) and are described above. The *constraint hypothesis* predicts that the relation between the contract terms and conditional conservatism depends on the specific realized conservatism group. This is because past conditional conservatism is rewarded with lower spreads and makes the use of financial covenants more effective only if such conditional conservatism is expected to persist in the future.

4. Empirical results

This section is organized as follows. Section 4.1 discusses summary statistics and correlation matrix for the variables used in the later tests. Section 4.2 reports the multivariate analyses examining the effect of the two dimensions of accounting conservatism on loan pricing, covenant intensity, and net worth covenant slack.

4.1 Summary statistics

Table 1, Panel A provides the distribution of loans over the sample period from 1996 through 2006. Panel B displays the industry distribution of loans and borrowers for the spread and collateral sample. The industry classification is based on Barth, Beaver, and Landsman (1998). We exclude finance and utilities industries. The industry of durable manufacturing comprises more than one fourth of the sample, counting either by the number of loans or by the number of firms. Retail, services, and computers are the next few major industries in the sample.

Table 2 provides summary statistics of firm and loan characteristics as well as various measures of accounting conservatism. There is significant variation in firm size with the mean value of total assets being over $2 billion while the median is under half a billion dollars. The average firm is profitable and the typical rating is 14.25 which falls somewhere in between BB and BB-. The median spread is 150 and the median maturity is about four years. The distributions of firm size ($Assets$), loan maturity ($maturity$), and number of lenders ($\# \, Lenders$) are skewed. As a result, we transform these variables to their log forms.

Table 3 examines the spread across the 9 groups based on independent two-way sorts on conditional conservatism using the overall rank measure and realized conservatism using the Adj. M/B measure. There is strong effect of realized conservatism on the interest spreads and down each column (low, medium, and high conditional conservatism), there is a monotonic reduction in spreads as realized conservatism increases. This is preliminary support for H1a. In the univariate analysis, we find no evidence that increase in conditional conservatism reduces the spreads.

4.2 Multivariate Analysis

In this section, we investigate the relation between accounting conservatism and loan pricing and covenants. Table 4 summarizes the regression results relating spreads to both the conditional and realized conservatism measures. Panel A (B) uses *Adj. M/B* (raw *M/B*) as the measure of realized conservatism. Each specification in Table 4 uses an alternative measure of conditional conservatism. We report one of the Basu measures (*Basu Ratio*), the *Conservative Accruals*, *Skewness* and the *Overall Rank*. We find that spreads are decreasing in Adj. M/B and M/B in all specifications and the results are significant at the one percent level. This provides support for the asset value hypothesis H1a. Consistent with Zhang (2008), we find that spreads are decreasing in *Basu Ratio*, *Conservative Accruals* and the *Overall Rank*. However the relation with *Skewness* is negative but not significant. Overall Table 4 provides evidence consistent with realized conservatism playing an important role in debt pricing.[14] In all further tests, we only report the results using the *Overall Rank* as our measure of conditional conservatism and *Adj. M/B* as our measure of realized conservatism for parsimonious tables.

The coefficients on most of the control variables representing firm characteristics have the expected signs. Larger firms with higher profitability, lower leverage ratio, better credit ratings, less volatile returns, and larger portion of fixed assets tend to incur lower borrowing costs. The loan characteristics, such as size of loans and maturity, are negative and significant, consistent with the prior literature and suggesting that the loan terms may be proxying for a dimension of risk. While contrary to the expectation of a trade-off between the use of collateral and loan pricing, the coefficient is significantly positive, such a result is consistent with Bharath, Sunder and Sunder (2008). The coefficient on performance pricing is significantly negative,

[14] Zhang (2008) examines the effect of M/B on spreads in some additional tests and finds no relation. However the sample we use is different and our specification includes additional controls that are likely to affect debt pricing.

consistent with other studies (Vasvari 2006, Zhang 2008). Finally the spread is lower for revolvers relative to term loans. In short, most control variables behave as expected and the results are similar to those documented in prior studies.

Table 5 examines the relation between spreads and conservatism allowing for the interaction between prior conditional conservatism and realized conservatism. We conduct F-tests for the differences in coefficients across groups. Based on the *constraint hypothesis* H2a, we expect that the negative relation between *ex ante* conditional conservatism (CC) and loan pricing should be driven by the firms with low levels of realized conservatism (RC). We find that the difference between High CC and Low CC within the group of Low RC firms is significant and negative (F-test 3.31, significant at the 10% level) and within the group of Medium RC firms (F-test 2.99, significant at the 10% level). Consistent with high realized conservatism constraining the ability of the firm to be conservative *ex post*, we find no reduction in spreads going from Low CC to High CC. We further validate our asset value hypothesis and find that even among firms with High CC, there is a significant decrease in spreads going from Low RC to High RC. Overall the results in Table 5 suggest that realized conservatism has a direct effect of reducing spreads as well as an indirect effect through conditional conservatism such that past conditional conservatism is not rewarded when the realized conservatism is high.

To further explore the *constraint hypothesis*, we next examine the use of covenants in loan contracts (*Covenant Intensity*). The results are reported in Table 6. The dependent variable is the log of total covenants (including collateral use). These tests are meant to validate the results of Nikolaev (2007) and examine whether realized conservatism affects the relation between conditional conservatism and realized conservatism. We find that covenant intensity is increasing in conditional conservatism for the low and medium RC groups, consistent with

Nikolaev (2007). The difference between low and high CC is significant in a one-sided test for the low RC group but significant at the 5% level (two-sided) for the medium RC group. On the other hand, we find that there is no increase in covenant use going from low to high CC in the High RC group. This is consistent with the *constraint hypothesis* H2b, which argues that in this group, prior conditional conservatism is not expected to persist in the future, which makes covenant use unattractive.

We also find that across all groups of conditional conservatism, as we go from low to high RC, there is a significant reduction in covenant use. This is likely driven by the constraint hypothesis discussed above and the fact that high RC and low CC firms may have adopted unconditional conservative methods increasing their ability to manage earnings in the future (Sridharan and Magee, 1997).

Finally we examine the effect of realized conservatism on net worth slack. According to the asset value hypothesis, H1b, we expect lenders to increase the slack in the covenant as the realized conservatism increases. We find some support for this hypothesis. Going from low RC to high RC, there is an increase in net worth slack in each of the three groups based on conditional conservatism but the difference is significant for only two out of the three groups.

Overall, taken together our results provide strong evidence that lenders reward realized conservatism with lower spreads and looser (net worth) covenants. Further, realized conservatism imposes a constraint on the ongoing ability of the firm to be conservative and therefore past conditional conservatism enhances debt contracting efficiency only when realized conservatism is not high.

5. Conclusions

We shed light on the debt contracting implications of different dimensions of accounting conservatism. We study the property of conservative financial reporting wherein net assets are reported in financial statements at their lower bound values. To measure the effect of conservatism on net asset values we develop the construct of *realized conservatism*. Realized conservatism is the total accumulated conditional conservatism and unconditional conservative resulting from application of conservative accounting methods that are independent of any specific economic shocks.

We hypothesize that the magnitude of realized conservatism improves the confidence of the lender in the net asset values that serve as collateral for the borrower and reduces the risk in the loan (*Asset Value Hypothesis*). Consequently, higher the level of realized conservatism in the borrower financial reports, lower would be interest spreads and higher the covenant slack for the net worth covenant.

Another effect of realized conservatism on debt contracting is through its impact on the future ability of firms to be conditionally conservative. Prior research assumes that the level of *ex ante* conservatism is a good proxy *ex post* conditional conservatism in earnings. However firms with high realized conservatism are constrained in their ability to use write downs to signal negative economic shocks in future since their asset values are already reported at their lower bound estimates. Thus realized conservatism interacts with conditional conservatism in impacting the firm's ability for future conditional conservatism. Therefore we hypothesize that conditional conservatism will improve debt contracting efficiency only when the realized conservatism is not too high (*Constraint Hypothesis*). Accordingly, we expect lower spreads and greater reliance on covenants for firms that are conditionally conservative only if current realized conservatism is low and not a constraint. We find results in support of both hypotheses.

Overall, our study adds to the understanding of the effect of accounting conservatism on debt contracting efficiency. We show that the stock of conservatism in the financial reports of the borrower at the time of the lending decision has a significant effect on debt contracting through interest cost and covenant design. Further, while prior literature has focuses on the efficiency gains from conditional conservatism, we show that the benefits from conditional conservatism are limited by realized conservatism.

References

Ahmed, A., B. Billings, R. Morton, and M. Stanford-Harris, 2002. The role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividend policy and in reducing debt costs. *The Accounting Review* 77: 867-890.

Ball, R. and L. Shivakumar, 2005. Earnings quality in U.K. private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics* 39, 83-128.

Ball, R. and L. Shivakumar, 2006. The role of accruals in asymmetrically timely gain and loss recognition. *Journal of Accounting Research* 44: 204-242.

Ball, R. and S. Kothari, 2007. Econometrics of the Basu asymmetric timeliness coefficients and accounting conservatism. Working paper, University of Chicago and MIT.

Ball, R., A. Robin and G. Sadka, 2007. Is financial reporting shaped by equity markets or by debt markets? An international study of timeliness and conservatism. *Review of Accounting Studies*, forthcoming.

Barth, M., W. Beaver and W. Landsman, 1998. Relative valuation roles of equity book value and net income as a function of financial health. *Journal of Accounting and Economics* 25, 1-34.

Basu, S., 1997. The conservatism principle and asymmetric timeliness of earnings. *Journal of Accounting & Economics* 24, 3-37.

Basu, S., 2001. Discussion of on the asymmetric recognition of good and bad news in France, Germany and the United Kingdom. *Journal of Business Finance & Accounting* 28: 1333-1349.

Beatty, A., J. Weber, and J. Yu., 2007. Conservatism and debt. *Journal of Accounting and Economics* 45, 154-174.

Beaver, W. and S. Ryan, 2000. Biases and lags in book value and their effects on the ability of the book-to-market ratio to predict book return on equity. *Journal of Accounting Research* 38, 127-148.

Beaver W. and S. Ryan, 2005. Conditional and unconditional conservatism: Concepts and Modeling. *Review of Accounting Studies* 10, 269-309.

Bharath, S., J. Sunder and S. Sunder, 2008. Accounting quality and debt contracting. *The Accounting Review* 83: 1-28.

Bradley, M. and M. Roberts, 2004. The structure and pricing of corporate debt covenants. Working paper, Duke University.

Demerjian, P., 2007. Financial Ratios and credit risk: the selection of financial ratio covenants in debt contracts. Working paper, Emory University.

Demiroglu, C. and C. James, 2007. The information content of bank loan covenants. Working paper, University of Florida.

Dietrich, D., K. Muller and E. Riedl, 2007. Asymmetric timeliness tests of accounting conservatism. *Review of Accounting Studies* 6, 267-274.

Drucker, S. and M. Puri, 2007. On loan sales, loan contracting, and lending relationships. *Review of Financial Studies*, forthcoming..

Frankel, R. and L. Litov, 2007. Financial accounting characteristics and debt covenants. Working paper, Washington University in St. Louis.

Givoly, D. and C. Hayn, 2000. The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative? *Journal of Accounting and Economics* 29, 287-320.

Givoly, D., C. Hayn and A. Natarajan, 2007. Measuring reporting conservatism. *The Accounting Review* 82, 65-106.

Louis, H., T. Lys and A. Sun, 2007. Conservatism and analyst earnings forecast bias. Working paper, Pennsylvania State University and Northwestern University.

Nikolaev, V., 2007. Debt covenants and accounting conservatism. Working paper, University of Chicago.

Moerman, R., 2006. The role of information asymmetry and financial reporting quality in debt trading: evidence from the secondary loan market. *Journal of Accounting and Economics* forthcoming.

Qiu, L.X., and I.Welch, 2006. Investor sentiment measures. NBER Working paper.

Roychowdhury, S. and R. Watts, 2007. Asymmetric timeliness of earnings, market-to-book and conservatism in financial reporting. *Journal of Accounting and Economics* 44, 2-31.

Ryan, S., 2006. Identifying conditional conservatism. *European Accounting Review* 15, 511-525.

Sridharan, S. and R. Magee, 1997. Financial contracts, opportunism and disclosure management, *The Review of Accounting Studies* 1: 225-258.

Vasvari, F., 2006. Managerial incentive structures, conservatism and the pricing of syndicated loans. Working paper, London Business School.

Watts, R., 2003. Conservatism in accounting, Part I: Explanations and implications. *Accounting Horizons* 17, 207-221.

Zhang, J., 2008. The contracting benefits of accounting conservatism to lenders and borrowers. *Journal of Accounting and Economics* 45, 27-54.

Appendix: Description of Variables

Firm characteristics

Assets	Total assets (#6).
Profitability	EBITDA (#13) divided by assets as of the prior fiscal year (lag #6).
Loss Years	The percentage of losses over the past 5 years. The loss is defined as negative net income before extraordinary income (#18).
Leverage	The sum of long-term debt (#9) and debt in current liabilities (#34) divided by assets (#6).
Z-Score	Altman's Z-Score computed as Z = 1.2 × working capital/assets (#179/#6) + 1.4 × retained earnings/assets (#36/#6) + 3.3 × EBIT/assets (#178/#6) +0.6 × market value of equity/book value of liabilities (#199×#25/#181) + sales/assets (#12/#6).
Rating	Computed rating. For firms with debt rating (#280 value 2 to 24), we regress the rating on the log of assets (#6), ROA (#18/#6), debt to assets ((#9+#44)/#6), dividend indicator (1 if #21 is greater than 0, and 0 otherwise), subordinated debt indicator (1 if #80 is greater than 0, and 0 otherwise). We use the estimated coefficients from the regression and the firm's financial information to compute a credit rating for each firm year.
Std Returns	The standard deviation of the daily holding period returns for the prior fiscal year multiplied by 100.
Growth	The growth of assets in the fiscal year before entering into the debt contract measured as assets divided by lag assets.
Tangibility	Net property, plant and equipment (#8) divided by assets (#6).

Loan characteristics and contracting terms

Facility Amt	The amount of facility in $ millions
Deal Amt	The amount of package in $ millions
Maturity	Maturity of the loan in months
# Lenders	The number of lenders in a package.
Performance Pricing	An indicator variable taking value 1 if the loan has a performance pricing option tieing the promised yield to one or more accounting measures of performance, and 0 otherwise.
Covenants	The total number of covenants in a package.
Revolver	An indicator variable taking value 1 if the loan type is a revolver, and 0 otherwise.
Spread	The interest rate spread over LIBOR on all drawn lines of credit for a loan.
Collateral	An indicator variable taking value 1 if the loan is secured with collateral, and 0 otherwise.
Net Worth Slack	Net worth slack divided by assets. Net worth slack is computed as the difference between either net worth (#60) or tangible net worth (#60-#234-#235) at the end of the quarter before entering into the debt contract and (tangible) net worth threshold.

Appendix (Continued): Description of Variables

Accounting Conservatism

Basu Loss	The timely loss recognition measure using industry-level Basu regression (1997).
Basu Ratio	The sensitivity of earnings to bad news relative to the sensitivity of earnings to good news using industry-level Basu regression (1997).
Basu Asymmetry	The incremental sensitivity of earnings to bad news relative to good news in the industry-level Basu regression (1997)
Conservative Accruals	The average (#172+#14-#308+#302+#304+#305)/#6 measured over the past 5 years.
Skewness	The difference between the skewness in the firm's cash flows (#308/#6) and the firms earnings (#172/#6) using 20 quarters of data prior to the firm entering into the debt contract.
Overall Rank	A composite measure computed as the sum of the firm's rank for Basu Ratio+ Conservative accruals+skewness.
M/B	Market-to-book ratio computed as market value of shareholders' equity (#199×#25) divided by book value of shareholders' equity (#60).
Adjusted M/B	The residual from the regression of M/B on growth, R&D, HH index, and Investor Sentiment with year fixed effects. R&D is research and development expense (#46) divided by assets (#6). HH index is the Herfindahl_Hirschman index, calculated by summing the squares of the individual firm market shares based on sales (#12) for the 50 largest companies in an industry (four-digit sic code) or all the firms in the industry, whichever is lower. Investor Sentiment is the University of Michigan index of the consumer sentiment.

Table 1 Sample Description

The sample contains all loans originated from 1996 through 2006 with available loan data and control variables.

Panel A: Distribution by Year

year	# Loans	Percent
1996	557	10.89
1997	664	12.98
1998	522	10.2
1999	437	8.54
2000	449	8.78
2001	441	8.62
2002	459	8.97
2003	466	9.11
2004	524	10.24
2005	528	10.32
2006	69	1.35
Total	5,116	100

Panel B: Distribution by Industry

Industry	# Loans	Percent
Chemicals	185	3.62
Computers	462	9.03
Durable Mfrs	1,312	25.65
Extractive	423	8.27
Food	117	2.29
Mining & Construction	212	4.14
Pharmaceuticals	133	2.6
Retail	987	19.29
Services	765	14.95
Textiles & Printing	351	6.86
Transportation	169	3.3
Total	5,116	100

Table 2 Descriptive Statistics

The sample contains 5,116 loans originated from 1996 through 2006. All variables are described in the Appendix.

Variable	Mean	Q1	Median	Q3	Std Dev.
Firm Characteristics					
Assets ($ mln.)	2104	150	474	1471	9082
Profitability	0.16	0.10	0.15	0.22	0.12
Loss Years	0.20	0.00	0.00	0.40	0.26
Leverage	0.28	0.15	0.27	0.39	0.17
Z Score	5.40	3.35	4.75	6.72	3.20
Rating	14.25	12.27	14.55	16.11	2.68
Std Returns	3.34	2.17	2.95	4.10	1.63
Growth	1.23	1.00	1.10	1.28	0.46
Tangibility	0.33	0.13	0.26	0.47	0.24
Loan Characteristics					
spread (basis points)	171.3	87.5	150.0	250.0	104.5
Facility Amount $ mln.	241.4	40.0	120.0	300.0	346.1
Maturity (months)	46.2	36.0	48.0	60.0	17.5
# Lenders	7.3	2.0	5.0	10.0	7.9
Fraction with Collateral	0.55	0.00	1.00	1.00	0.50
# Covenants	3.73	2.00	4.00	5.00	2.83
Fraction Performance Pricing	0.61	0.00	1.00	1.00	0.49
Fraction Revolvers	0.83	1.00	1.00	1.00	0.38
Conservatism Measures					
Basu Ratio	1.69	-2.36	0.64	4.95	14.56
Basu Loss	0.23	0.10	0.19	0.29	0.22
Basu Asymmetric Loss	0.22	0.07	0.18	0.31	0.29
Conservative Accruals	0.02	0.00	0.02	0.04	0.04
Skewness	1.27	0.09	1.15	2.56	1.75
Overall Rank	49.53	36.00	49.33	62.67	18.36
M/B	2.61	1.28	2.03	3.16	2.21
Adj M/B	0.00	-1.21	-0.53	0.49	2.13

Table 3 Spread and Conservatism

The sample contains 5,116 loans originated during 1996 through 2006. All variables are described in the Appendix. N denotes the number of observations. ***, **, * denote significance at 1%, 5% and 10% levels respectively.

		Conditional Conservatism Overall Rank				
		Low	Medium	High	Total	t-test
	Low	208	201	221	207	-2.1**
Realized	N	604	565	536	1705	
Conservatism	Medium	156	159	167	161	-1.9*
Adj M/B	N	565	591	549	1705	
	High	143	138	150	144	-1.2
	N	511	572	623	1706	
	Total	171	166	178	171	1.4
	N	1680	1728	1708	5116	
	t-test	10.9***	10.6***	11.5***	14.5***	

Table 4 Accounting Conservatism and Loan Spreads

The sample contains 4,735 loans between 1996 through 2006 with all control variables available. The dependent variable is Spread and the measure of conditional conservatism varies in each specification as mentioned at the top of each column. Standard errors are clustered at the firm level and p-values are reported below each coefficient. All variables are described in the Appendix. ***, **, * denote significance at 1%, 5% and 10% levels respectively. Panel A reports the results using Adjusted M/B as the measure of realized conservatism and Panel B uses M/B.

Panel A

Variable	Basu Ratio		Conserv Accruals		Skewness		Overall Rank	
Conditional Conservatism	-0.11	*	-67.71	**	-0.53		-0.14	**
	0.09		0.04		0.40		0.03	
Realized Conservatism (Adj. M/B)	-2.42	***	-2.22	***	-2.42	***	-2.35	***
	0.00		0.00		0.00		0.00	
Log Assets	-12.20	***	-12.21	***	-12.28	***	-12.00	***
	0.00		0.00		0.00		0.00	
Profitability	-60.23	***	-58.36	***	-59.84	***	-58.53	***
	0.00		0.00		0.00		0.00	
Loss Years	39.32	***	42.32	***	40.39	***	41.89	***
	0.00		0.00		0.00		0.00	
Leverage	97.71	***	96.56	***	97.76	***	97.39	***
	0.00		0.00		0.00		0.00	
Z Score	-1.49	***	-1.55	***	-1.51	***	-1.54	***
	0.01		0.00		0.00		0.00	
Rating	6.19	***	6.30	***	6.16	***	6.27	***
	0.00		0.00		0.00		0.00	
Std Returns	11.33	***	11.39	***	11.29	***	11.35	***
	0.00		0.00		0.00		0.00	
Tangibility	-11.80	**	-12.35	**	-12.16	**	-12.21	**
	0.04		0.03		0.03		0.03	
Facility Amt/ Assets	-21.59	***	-21.90	***	-22.00	***	-22.01	***
	0.00		0.00		0.00		0.00	
Log Maturity	-14.67	***	-14.66	***	-14.58	***	-14.76	***
	0.00		0.00		0.00		0.00	
Log # Lenders	3.63	**	3.77	**	3.70	**	3.68	**
	0.03		0.02		0.03		0.03	
Collateral	49.55	***	49.47	***	49.44	***	49.41	***
	0.00		0.00		0.00		0.00	
Performance Pricing	-17.12	***	-17.05	***	-17.00	***	-16.83	***
	0.00		0.00		0.00		0.00	
Revolver	-47.96	***	-47.83	***	-47.93	***	-47.85	***
	0.00		0.00		0.00		0.00	
Intercept	163.71	***	162.54	***	164.72	***	168.10	***
	0.00		0.00		0.00		0.00	
Time fixed effects	Yes		Yes		Yes		Yes	
N	4,735		4,735		4,735		4,735	
Adjusted R^2	0.612		0.613		0.612		0.613	

Table 4 Panel B

Variable	Basu Ratio		Conserv Accruals		Skewness		Overall Rank	
Conditional Conservatism	-0.11	*	-65.44	**	-0.60		-0.14	**
	0.09		0.05		0.35		0.02	
Realized Conservatism (M/B)	-2.55	***	-2.35	***	-2.56	***	-2.50	***
	0.00		0.00		0.00		0.00	
Log Assets	-12.10	***	-12.11	***	-12.17	***	-11.89	***
	0.00		0.00		0.00		0.00	
Profitability	-56.67	***	-55.14	***	-56.19	***	-54.93	***
	0.00		0.00		0.00		0.00	
Loss Years	40.54	***	43.36	***	41.72	***	43.17	***
	0.00		0.00		0.00		0.00	
Leverage	97.14	***	96.08	***	97.22	***	96.89	***
	0.00		0.00		0.00		0.00	
Z Score	-1.44	***	-1.50	***	-1.46	***	-1.49	***
	0.01		0.01		0.01		0.01	
Rating	6.24	***	6.34	***	6.20	***	6.32	***
	0.00		0.00		0.00		0.00	
Std Returns	11.42	***	11.47	***	11.38	***	11.44	***
	0.00		0.00		0.00		0.00	
Tangibility	-13.07	**	-13.51	**	-13.47	**	-13.48	**
	0.02		0.02		0.02		0.02	
Facility Amt/ Assets	-21.86	***	-22.15	***	-22.30	***	-22.29	***
	0.00		0.00		0.00		0.00	
Log Maturity	-14.79	***	-14.76	***	-14.70	***	-14.88	***
	0.00		0.00		0.00		0.00	
Log # Lenders	3.62	**	3.76	**	3.69	**	3.67	**
	0.03		0.02		0.03		0.03	
Collateral	49.52	***	49.44	***	49.41	***	49.38	***
	0.00		0.00		0.00		0.00	
Performance Pricing	-17.28	***	-17.19	***	-17.15	***	-16.98	***
	0.00		0.00		0.00		0.00	
Revolver	-48.11	***	-47.97	***	-48.07	***	-48.00	***
	0.00		0.00		0.00		0.00	
Intercept	169.27	***	167.71	***	170.35	***	173.60	***
	0.00		0.00		0.00		0.00	
Time fixed effects	Yes		Yes		Yes		Yes	
N	4,735		4,735		4,735		4,735	
Adjusted R^2	0.613		0.613		0.613		0.613	

Table 5 Relation between Spreads and the Interaction between Conditional and Realized Conservatism

The sample contains 4,735 loans between 1996 through 2006 with all control variables available. The dependent variable is Spread. Firms are independently sorted into three groups each based conditional conservatism (using the overall rank measure) and realized conservatism (using Adjusted M/B). Standard errors are clustered at the firm level and p-values are reported below each coefficient. All variables are described in the Appendix. ***, **, * denote significance at 1%, 5% and 10% levels respectively.

Variable	Coefficients		p-values
Low CC & Med RC	-13.95	***	0.00
Low CC & High RC	-22.94	***	0.00
Med CC & Low RC	-7.97	*	0.07
Med CC & Med RC	-14.39	***	0.00
Med CC & High RC	-24.91	***	0.00
High CC & Low RC	-9.46	*	0.07
High CC & Med RC	-21.16	***	0.00
High CC & High RC	-24.67	***	0.00
Log Assets	-12.00	***	0.00
Profitability	-55.44	***	0.00
Loss Years	41.88	***	0.00
Leverage	97.49	***	0.00
Z Score	-1.26	**	0.02
Rating	6.05	***	0.00
Std Returns	11.14	***	0.00
Tangibility	-10.93	**	0.05
Facility Amt/ Assets	-21.52	***	0.00
Log Maturity	-14.81	***	0.00
Log # Lenders	3.84	**	0.02
Collateral	48.71	***	0.00
Performance Pricing	-16.96	***	0.00
Revolver	-47.29	***	0.00
Intercept	178.04	***	0.00
Time fixed effects	Yes		
N	4735		
Adjusted R^2	0.61		
F test for differences in Coefficients	**Diff**	**F-test**	
High CC & Low RC vs. Low CC & Low RC	-9.46	3.31*	
High CC & Med RC vs. Low CC & Med RC	-7.21	2.99*	
High CC & High RC vs. Low CC & High RC	-1.73	0.18	
High CC & High RC vs. High CC & LowRC	-15.21	9.07***	

Table 6 Relation between Covenant Intensity and the Interaction between Conditional and Realized Conservatism

The sample contains 3,907 loans between 1996 through 2006 with covenant information available on Dealscan and all control variables available. The dependent variable is Covenant Intensity measured as the log of total number of covenants plus 1 if the loan has Collateral. Firms are independently sorted into three groups each based conditional conservatism (using the overall rank measure) and realized conservatism (using Adjusted M/B). Standard errors are clustered at the firm level and p-values are reported below each coefficient. All variables are described in the Appendix. ***, **, * denote significance at 1%, 5% and 10% levels respectively.

Variable	Coefficients		p-values
Low CC & Med RC	-0.011		0.76
Low CC & High RC	-0.082	**	0.04
Med CC & Low RC	0.088	**	0.02
Med CC & Med RC	0.025		0.47
Med CC & High RC	-0.11	***	0.00
High CC & Low RC	0.056		0.14
High CC & Med RC	0.068	*	0.07
High CC & High RC	-0.096	***	0.01
Log Assets	-0.019		0.20
Profitability	0.476	***	0.00
Loss Years	-0.135	***	0.00
Leverage	0.438	***	0.00
Z Score	-0.003		0.56
Rating	0.064	***	0.00
Std Returns	-0.022	***	0.01
Tangibility	-0.246	***	0.00
Facility Amt/ Assets	0.258	***	0.00
Log Maturity	0.028		0.25
Log # Lenders	0.069	***	0.00
Performance Pricing	0.177	***	0.00
Revolver	-0.31	***	0.00
Intercept	0.128		0.53
Time fixed effects			
N	3,907		
Adjusted R^2	0.34		

F test for differences in Coefficients	**Diff**	**F-test**
High CC & Low RC vs. Low CC & Low RC	0.056	2.15[#]
High CC & Med RC vs. Low CC & Med RC	0.079	4.86**
High CC & High RC vs. Low CC & High RC	-0.014	0.18
Low CC & High RC vs. Low CC & Low RC	-0.082	4.43**
Med CC & High RC vs. Med CC & Low RC	-0.198	26.4***
High CC & High RC vs. High CC & Low RC	-0.152	14.41***

Table 7 Relation between Net Worth Covenant Slack and the Interaction between Conditional and Realized Conservatism

The sample contains 1,757 loans between 1996 through 2006 with net worth covenant details available on Dealscan and all control variables available. The dependent variable is Net Worth Slack as described in the Appendix. Firms are independently sorted into three groups each based conditional conservatism (using the overall rank measure) and realized conservatism (using Adjusted M/B). Standard errors are clustered at the firm level and p-values are reported below each coefficient. All variables are described in the Appendix. ***, **, * denote significance at 1%, 5% and 10% levels respectively.

Variable	Coefficients		p-values
Low CC & Med RC	0.009		0.34
Low CC & High RC	0.022	**	0.04
Med CC & Low RC	0.006		0.53
Med CC & Med RC	0.007		0.41
Med CC & High RC	0.017	*	0.10
High CC & Low RC	-0.011		0.24
High CC & Med RC	0.024	**	0.03
High CC & High RC	0.026	**	0.03
Log Assets	0.008		0.10
Profitability	0.069	**	0.04
Loss years	0.038	***	0.00
Leverage	-0.109	***	0.00
Z Score	0.002	**	0.05
Rating	0		0.98
Std returns	-0.005	**	0.03
Tangibility	-0.028	***	0.01
Facility Amt/ Assets	-0.005		0.67
Log Maturity	-0.006		0.42
Log # Lenders	-0.017	***	0.00
Collateral	-0.008		0.17
Performance Pricing	-0.023	***	0.00
Revolver	-0.017	**	0.03
Intercept	0.18	***	0.00
Time fixed effects	Yes		
N	1,757		
Adjusted R^2	0.133		
F test for differences in Coefficients	**Diff**		**F-test**
Low CC & High RC vs. Low CC & Low RC	0.022		4.10**
Med CC & High RC vs. Med CC & Low RC	0.011		1.13
High CC & High RC vs. High CC & Low RC	0.037		9.80***