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Essays on Accounting Conservatism

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ESSAYS ON ACCOUNTING CONSERVATISM

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ABSTRACT

I examine the role of accounting conservatism in the debt market and equity market. In the first essay I examine whether post-borrowing accounting conservatism is related to initial debt-covenant slack. I find firms with low debt-covenant slack display a smaller increase in conservatism after borrowing compared to firms with high debt-covenant slack. I further find that this relation is more pronounced when the cost of debt-covenant breach is greater and is less pronounced when lenders have stronger monitoring incentives. This study supports the debt covenant hypothesis. The second essay investigates the impact of financial market competition on a firm's choice regarding accounting quality (co-authored). The estimates indicate that foreign bank entry is associated with improved accounting quality among firms, and this improvement is positively related to a firm's subsequent debt level. The increase in accounting quality is also greatest among private firms, smaller firms, less profitable firms, and firms more dependent on external financing. The third essay investigates whether conditional accounting conservatism has informational benefits to shareholders (co-authored). We find some evidence that higher current conditional conservatism is associated with lower probability of future bad news. We also find weak evidence that the stock market reacts stronger (weaker) to good (bad) earnings news of more conditionally conservative firms. Thus, we provide additional evidence that conditional conservatism affects stock prices.

To my father, wife, kids, and Dr. Frankel

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Chapter I

Introduction

I examine the role of accounting conservatism in the debt market and equity market. Accounting conservatism is one of the most fundamental principles in accounting and has influenced accounting rules for a long time. Understanding the role of accounting conservatism would be particularly important in light of recent strong moves to adopt IFRS in the United States, such as the recent decision to accept IFRS-based foreign financial statements in the U.S. without reconciliation to GAAP and the proposed SEC Roadmap to adoption of IFRS in the US.

The first essay examines whether post-borrowing accounting conservatism is related to initial debt-covenant slack. Following the debt-covenant hypothesis, I posit firms with tighter debt-covenant slack will have less incentive to increase conservatism after borrowing. Using Dealscan data, I find firms with low debt-covenant slack display a smaller increase in conservatism after borrowing compared to firms with high debt-covenant slack. I further find that this relation is more pronounced when the cost of debt-covenant breach is greater and is less pronounced when lenders have stronger monitoring incentives. I also provide evidence that firms with tighter slack tend to report fewer negative special items after borrowing. Several robustness checks including a model to address endogeneity of covenant slack confirm the results. My study provides evidence that the level of post-contracting conservatism is associated with the cost of covenant breach and bank monitoring.

The second essay investigates the impact of financial market competition on a firm's choice regarding accounting quality (co-authored). In particular, this paper uses the entry of foreign banks into India during the 1990s—analyzing variation in both the timing of the new foreign banks' entries and in their location—to estimate the effect of increased banking competition on firms' timely recognition of economic losses, an important aspect of accounting quality to lenders. The estimates indicate that foreign bank entry is associated with improved accounting quality among firms, and this improvement is positively related to a firm's subsequent debt level. The change in accounting quality appears driven by a shift in firms' incentives to supply higher quality information to lenders and lenders seem to value this information. The increase in accounting quality is also greatest among private firms, smaller firms, less profitable firms, and firms more dependent on external financing. Overall, the evidence suggests that a firm's opaqueness is not static, and that a firm's choice regarding accounting quality is a function of credit market competition.

The third essay investigates whether conditional accounting conservatism has informational benefits to shareholders (co-authored). We find some evidence that higher current conditional conservatism is associated with lower probability of future bad news, proxied by missing analyst forecasts, earnings decreases, and dividend decreases. We also find weak evidence that the stock market reacts stronger (weaker) to good (bad) earnings news of more conditionally conservative firms. Thus, we provide additional evidence that conditional conservatism affects stock prices.

Chapter II

Post-Borrowing Conservatism and Debt-Covenant Slack

1. Introduction

I examine the relation between firms' debt-covenant slack and their post-borrowing change in conservatism. I find firms become more conservative after contracting to borrow but this increase in conservatism is less pronounced for firms with tighter initial debt-covenant slack. I measure conservatism via asymmetric timeliness and nonoperating accruals. I also find that the positive relation between firms' debt-covenant slack and post-borrowing changes in conservatism is more pronounced when the cost of breaching covenants is high and is less pronounced when lenders have stronger monitoring incentives. Finally, I find firms with tighter initial covenant slack recognize fewer negative special items after borrowing.

The debt-covenant hypothesis predicts that firms will choose accounting policies to avoid covenant violations (Watts and Zimmerman, 1986; DeFond and Jiambalvo, 1994; Sweeney, 1994; Dichev and Skinner, 2002), because breaching covenants is costly (Beneish and Press, 1993; Chava and Roberts, 2008). Managers will have stronger incentives to make income increasing accounting choices as the cost of covenant violation increases (Dichev and Skinner, 2002). Research provides evidence supporting the debt-covenant hypothesis by examining accounting choices such as depreciation method, inventory valuation method (FIFO/LIFO), amortization period for prior period pension costs, and abnormal accruals (Holthausen, 1981; DeFond and Jiambalvo, 1994; Sweeney, 1994; Beneish, Press, and Vargus, 2001).

Changes in accounting conservatism are relevant to the examination of the debt-covenant hypothesis, because of the relation between conservatism and debt contracting efficiency (Watts, 2003a). Accounting conservatism accelerates covenant violations upon the occurrence of bad news, allowing lenders to reduce their downside risk by taking protective actions (Zhang, 2008). Several studies provide evidence that lenders reward conservative borrowers with lower interest rates (Ahmed, Billings, Morton, and Harris, 2002; Zhang, 2008; Moerman, 2008). However, by reducing the timeliness of loss recognition after borrowing, managers can avoid the breach of debt covenants and vitiate lender protections. Thus, examining relation between covenant slack and loss-recognition timeliness provides a way to test for efficiency implications of the debt-covenant hypothesis.

Using the Dealscan database from Loan Pricing Corporation (LPC), I identify private lending agreements containing net-worth covenants. I then calculate covenant slack in the initial year of the lending agreement and examine the relation between this covenant slack and the firm's subsequent conservatism. Conservatism is measured by asymmetric timeliness (Basu, 1997) and nonoperating accruals (Givoly and Hayn, 2000). I predict and find that firms with low debt-covenant slack become less conservative after borrowing compared to firms with high debt-covenant slack because firms with low debt-covenant slack have incentives to avoid breaching covenants.

I also conjecture that this positive relation between debt-covenant slack and conservatism change will be stronger when borrowers exhibit increased bankruptcy risk after borrowing, because covenant breach will be more costly for these firms. Given covenant violation lenders are more likely to charge higher interest rates or recall the loans when borrowers become riskier than at inception of the loan. I use credit rating change after borrowing as proxy for change in bankruptcy risk of borrowers and find the positive association between conservatism change and covenant slack only exists when borrowers are downgraded after borrowing.

Further, I posit that the positive relation between debt-covenant slack and conservatism will be weakened when banks have stronger monitoring incentives. Banks have a competitive advantage in monitoring borrowers because they have access to borrowers' private information via the process of lending and the ongoing relationship with borrowers (Sharpe, 1990). Monitoring by banks prevents self-interested actions of borrowers and reduces earnings management of borrowers (Fama, 1985; Diamond, 1991; Bae, Hamao, and Kang, 2009). Thus, monitoring can mitigate borrowers' incentives to reduce conservatism after borrowing, and thereby weaken the positive relation between covenant slack and conservatism change after borrowing. I find supporting evidence.

I perform several robustness checks of my empirical results. In particular, I examine endogeneity of covenant slack. I model selection of covenant-slack as a function of volatility of net worth and agency costs of borrowers (Dichev and Skinner, 2002; Smith and Warner, 1979; El-Gazzar and Pastena, 1991; Flannery, 1986; Beatty, Weber, and Yu, 2008). I replace the actual slack with the residual from this model. All the results are robust to this alternative measure of slack. In addition, I further examine whether my results are affected by selection bias in determination of the initial covenant slack, cross-sectional variation in borrowing frequencies among firms, and different measures of nonoperating accruals and credit risk. These additional tests confirm my initial results.

This study provides evidence that the cost of covenant breach diminishes borrowers' incentives to be conservative after contracting. The empirical evidence in my study provides support for the debt-covenant hypothesis. Literature shows that various accounting choices are shaped by the potential for debt-covenant breach (Dhaliwal, 1980; Holthausen, 1981; Christie, 1990; DeFond and Jiambalvo, 1994; Sweeny, 1994; Dichev and Skinner, 2002). I contribute to this literature by providing evidence that asymmetrically timely recognition of losses is one of those accounting choices. In consideration of the role of accounting conservatism in debt contracts and benefits to borrowers from higher accounting conservatism, it is important to document that conservatism is one of accounting choices to avoid breaching covenants.

My study also makes a contribution to the extant literature by identifying the determining factors of accounting conservatism after borrowing. Although researchers identify a variety of individual firm characteristics associated with the level of accounting conservatism (Ball and Shivakumar, 2005; Givoly, Hayn, and Natarajan, 2007; Khan and Watts, 2009), they have not examined the effects of loan-specific factors on the level of conservatism. Post-borrowing conservatism differs from pre-borrowing conservatism in the sense that the specifics of the debt contracts are in place, giving rise to moral hazard problems that are shaped by the particular contract. My study identifies the distance to covenant violation along with the changes in borrowers' credit risk and lenders' monitoring incentives as a factor in determining the level of post-borrowing conservatism. It also shows dynamics of conservative policy in financial reporting.

The remainder of the paper is organized as follows. In section 2 I develop testable hypotheses. Section 3 describes the data and research design, and section 4 contains the findings regarding debt covenant slack and conservatism change. In section 5 I perform robustness checks, and in section 6 I summarize and conclude.

2. Hypothesis Development

Financial reporting flexibility inherent in GAAP and the lack of independently verifiable evidence allow managers latitude in the timing of loss recognition. Thus, accounting conservatism is subject to management discretion and reducing the timeliness of loss recognition can be a means used to forestall debt-covenant violations. However, Zhang (2008) argues that borrowers will not reduce a level of conservatism after contracting, because of negative consequences. In particular, the potential for future renegotiation and additional borrowing can provide the impetus for borrowers to increase conservatism after contracting. Furthermore, if banks' monitoring on borrowers reduces managers' discretion in the timing of loss recognition, the level of conservatism after borrowing will be higher than pre-borrowing[1]. Consistent with this conjecture, evidence shows that borrowers increase conservatism after borrowing (Beatty, Weber, and Yu, 2008).

The debt-covenant hypothesis suggests that managers' incentives to maintain or increase accounting conservatism will be weighed against the cost they incur for breaching covenants. Chava and Roberts (2008) show that capital expenditures decline by one percent of assets per quarter in response to a covenant violation. Beneish and Press (1993) argue that covenant violations lead to higher borrowing costs and require managers to spend time renegotiating loans. They document the cost of covenant breach

[1] Lenders may take legal actions for failure to recognize negative news timely in an extreme case (Ball, Robin, and Sadka, 2008).

ranges between 1.2 percent and 2 percent of the market value of equity; this includes higher costs of borrowings and restrictions on the borrowers' investment opportunities arising from amended contracts. These results suggest that managers of firms that are close to breaching covenants will incur greater costs for maintaining and increasing the timeliness of loss recognition relative to gain recognition. Proximity to covenant violation or "covenant slack" can be measured as the difference between the current level of a reported accounting measure and its required level as specified by the debt covenant. Low debt-covenant slack implies that a firm is close to breaching a covenant. The above discussion suggests that firms with low debt-covenant slack become less conservative after borrowing compared to firms with high debt-covenant slack[2]. However, the relation between covenant slack and the post-borrowing level of conservatism can be confounded by the relation between covenant slack and the pre-borrowing level of conservatism[3]. Hence, examining the relation between covenant slack and the *change* in conservatism after borrowing provides a more powerful setup to test the effect of borrowers' incentives to avoid covenant violations on the demand for higher conservatism after debt contracts. Hence my first hypothesis is

HYPOTHESIS 1 (H1): ***Conservatism change after borrowing is positively related to debt-covenant slack.***

[2] I assume the strength of monitoring by banks is the same for borrowers with different levels of covenant slack. This assumption is justified by the argument that lenders set the slack optimally so that the probability to breach covenants are equal for low slack and high slack group (Dichev and Skinner, 2002). Stronger bank monitoring on low-slack firms will work against finding supporting evidence for the hypothesis because it can restrain incentives of low-slack firms to reduce conservatism after contracts.

[3] A negative relation between pre-borrowing conservatism and covenant slack is possible if lenders believe conservative borrowers have more flexibility to reduce conservatism after contract to avoid covenant breach and set up slack tightly for borrowers with higher level of pre-borrowing conservatism. A positive relation between pre-borrowing conservatism and covenant slack is possible if lenders believe conservative borrowers are less risky and set up high slack for borrower with higher level of pre-borrowing conservatism. My sample shows that there is no relation between covenant slack and pre-borrowing conservatism level, suggesting both of affects cancel out each other (see table 11).

The debt-covenant hypothesis suggests that the cost of covenant breach motivates managers to make income increasing accounting choices. This cost may vary across firms. A covenant breach provides the lender with an option. Lenders have three choices: waiving the covenant breach, demanding certain conditions such as higher interest rates or recalling the loans (Chen and Wei, 1993; Smith, 1993). The choice among three alternatives depends on the lender's assessment of the default risk of the borrowers.

Obviously, the lender can reassess the profitability of an outstanding loan at any time, but a covenant breach gives the lender the right to renegotiate the loan when market conditions suggest that such a renegotiation will be unfavorable to the borrower. For example, lenders are more likely to charge higher interest rates or recall the loans if they believe borrowers have become riskier than at inception of the loan. Therefore, if a borrower's financial condition has deteriorated significantly after contracting, renegotiating terms with the lender will lead to a significant increase in borrowing costs, and covenant breach will be costly.

On the other hand, breaching covenants will not be so costly for the firms whose financial condition has improved since borrowing. The borrower is in a more favorable position to shop the credit market and lenders are more likely to waive the covenant breach. Therefore, the change in the borrowers' default risk after borrowing is a key factor in the determination of covenant-breach cost. I use credit rating changes after borrowing, as a proxy for changes of borrowers' default risk. I expect that the positive relation between conservatism change after borrowing and covenant slack is stronger for the firms whose credit ratings are downgraded. In contrast, I expect that the positive relation between post-contracting change in conservatism and covenant slack is weaker or nonexistent for firms whose credit ratings are upgraded. Thus, my second hypothesis is

HYPOTHESIS 2 (H2): ***The positive relation between conservatism change after borrowing and debt-covenant slack is more pronounced when borrowers' credit ratings have been downgraded after borrowing.***

Banks monitor borrowers to prevent self-interested actions and to ensure that borrowers' net worth is greater than the contracted amount (Campbell and Kracaw, 1980; Fama, 1985; Diamond, 1984, 1991). Banks can alleviate moral hazard through monitoring because the process of lending and their ongoing relationship with borrowers give them access to borrowers' private information (Sharpe, 1990). However, after lending, banks must rely on covenants to provide them with the decision rights that protect their interests. This suggests that timely violation of covenants, given changes in borrowers' riskiness, is critical to the interests of lenders.

Hence, lenders have incentives to ensure timely recognition of bad news, and as a result, timely violation of covenants by comparing financial reports with the inside information that they have obtained. Superior information allows lenders to demonstrate borrowers' failure of timely recognition of bad news in the court (Ball, Robin, and Sadka, 2008). The scrutiny by banks and high litigation costs can pressure borrowers and auditors to recognize bad news on a timely basis. In this way, monitoring by banks can restrain self-serving actions of borrowers. Thus, borrowers with tighter slack will be less likely to reduce conservatism if they borrow from lenders that have stronger monitoring incentives. This suggests that the positive association between covenant slack and conservatism change after borrowing will be less pronounced when lenders have stronger monitoring incentives. Hence my third hypothesis is

HYPOTHESIS 3 (H3): ***The positive relation between conservatism change after borrowing and debt-covenant slack is less pronounced when lenders have stronger monitoring incentives.***

To measure the intensity of monitoring by banks, I use two proxies for monitoring incentives of lenders. The first proxy for monitoring incentive is the loan portion of a lead arranger. In most syndicated loans, lead arrangers are responsible for monitoring borrowers[4]. If, however, the loan portion of lead arrangers is smaller, incentives for lead arrangers to monitor borrowers will be reduced because the cost from weak monitoring is lower (Sufi, 2007). Therefore, the positive association between conservatism change after borrowing and covenant slack will be less pronounced for the firms that have loans of which lead arrangers' portion is larger. Second, lenders have stronger monitoring incentives when the number of lenders in a syndicated loan is smaller. A large number of lenders in syndicated loans create a free-rider problem among lenders, which reduces lenders' incentives to monitor borrowers (Ramakrishnan and Thakor, 1984). Therefore, the positive association between conservatism change after borrowing and debt-covenant slack will be less pronounced for the firms that have loans with a smaller number of lenders.

[4] Lead arranger's main responsibilities include monitoring the borrower, distributing interests and principal repayments, and enforcing financial covenants (Cai, 2009).

3. Data and Research Design

3.1 Sample Selection

This study uses a sample drawn from the Dealscan database and includes all firms with private loans and net-worth covenants that have loan active dates between 1990 and 2005. I restrict sample to the loans with net-worth covenants for two reasons. First, net-worth covenants are the most frequently used and most frequently violated financial covenants (Chava and Roberts, 2008; Dichev and Skinner, 2002; Sweeney, 1994). Second, the computation of net worth covenant is less ambiguous compared to other measures in financial covenants.[5] The total number of loans with net-worth covenants is 5,385.

I merge this loan data with COMPUSTAT/CRISP. The total number of observations matched with COMPUSTAT/CRISP comprises 3,252 loans from 1,287 different firms. I delete firms that lack earnings or returns data for the deal year (year *t*) or for the years before and after (years *t–1* and *t+1*, respectively) to ensure available data to compute the change in conservatism. I also exclude outliers, specifically the top and bottom 0.5% in market return and earnings distributions at year *t*. I require the loan term to be 24 months or greater so that a covenant breach in the year after borrowing has the potential to shorten the life of the loan. I eliminate observations with non-positive covenant slack at deal year, a phenomenon also encountered by Dichev and Skinner (2002) and Chava and Roberts (2008). Finally, if a firm has several loans in the same year with different levels of net-worth covenant slack, I select the loan with the lowest net-worth covenant for the sample, because cross-default provisions can lead to technical

[5] In the case of debt-to-cash-flow covenants, debt can mean total debt, funded debt, or funded debt less cash, while cash flow can be cash from operations, EBIT, EBITDA, etc. (Dichev and Skinner, 2002).

default of the covenants of the other loans. The final sample for asymmetric-timeliness measure of conservatism comprises 1,150 loans from 778 different firms. I use a similar process for accruals measure and obtain 1,207 loans from 824 different firms. Table 1 summarizes the sample selection process.

3.2 Research Design

3.2.1 Conservatism Measures

I measure conservatism using two methods. One is the Basu's (1997) cross-sectional asymmetric-timeliness measure[6], and the other is signed nonoperating accruals before depreciation and amortization, deflated by total assets. Givoly and Hayn (2000), and Watts (2003b) suggest that "the rate of accumulation of negative accruals is an indication of the shift in the degree of conservatism over time." Rather than providing a measure of conservatism based on the timeliness of recognition, this accruals measure proxies for a firm's willingness to record negative accruals regardless of news. I measure conservatism before the deal, year *t*, using financial data available at the time of contract. Therefore, conservatism at *t* is pre-borrowing level of conservatism and conservatism at *t+1* is post-borrowing level of conservatism. The deal year is determined via the loan active date. I assume annual financial statements are available three months after the fiscal-year end.

[6] I do not use time-series Basu asymmetric timeliness measure because time series measure will be not be effective to capture conservatism change from year *t* to *t+1* due to common use of prior year observations in estimation of conservatism for year *t* and year *t+1*.

3.2.2 Covenant Slack Measure

I define slack as the difference between firms' reported accounting measure and the corresponding covenant threshold (Dichev and Skinner, 2002). In this study, I calculate net-worth slack as the difference between the net-worth covenant threshold and actual net worth [COMPUSTAT data #216] using financial data available at the time of contract, proxied by the deal date. I assume annual financial statements are available after three months of fiscal year end. I standardize slack by dividing it by total assets. Some of net-worth covenants have an adjustment clause, known as build-up or income-escalator, which makes net-worth covenant threshold in the contract to vary over the life of the loan depending on earnings after contracts. Since my study investigates conservatism change right after loan contracts, I do not adjust covenant slack for the adjustment clause.

3.2.3 Test of H1

3.2.3.1 Asymmetric Timeliness Measure

To test whether firms' change in asymmetric-timeliness after borrowing is related to covenant slack, I divide the sample into three groups based on initial debt-covenant slack. The low-slack group is closer to breaching covenants than is the high-slack group. Using pooled data from the low and high-slack groups at *t* and *t* +1, I run the following regression.

$$E/P_{i,t} = \alpha_0 + \alpha_1 DR_{i,t} + \alpha_2 R_{i,t} + \alpha_3 DP_i + \beta_1 DR_{i,t} * R_{i,t} + \beta_2 DP_i * R_{i,t} + \beta_3 DP_i * DR_{i,t} * R_{i,t} + \delta\, Controls \quad (1)$$

where *E/P* is the earnings per share of a firm in the fiscal year, divided by the price per share at the beginning of the fiscal year [COMPUSTAT data #18/(lag (COMPUSTAT data #199)*COMPUSTAT data #25)]; *R* is stock return over the 12 months beginning nine months prior to the end of the fiscal year; *DR* is an indicator variable set equal to 1 if *R* is negative and 0 otherwise; *DP* is an indicator variable set equal to 1 if observations belong to $t + 1$ and 0 otherwise. I also include variables to control cross-sectional difference in asymmetric timeliness following literature. Previous research shows that asymmetric timeliness is negatively associated with the beginning market-to-book-value ratio (*MTB*) (Roychowdhury and Watts, 2007) because the high proportion of unrecorded rents in the equity values of high *MTB* firms limits future asymmetric timeliness. *MTB* is defined as the market value of equity divided by book value of equity [COMPUSTAT data#199*data#25 / data#216]. *SIZE* is included because larger firms are likely to exhibit less asymmetric timeliness. Kahn and Watts (2009) argue larger firms have lower demand of asymmetric timeliness because of richer information environments[7]. The natural log of the market value of equity measures size. Leverage (*LEV*) is used as an indication of agency conflicts between lenders and shareholders. As conservatism is demanded to ameliorate this problem, it should be positively related to leverage (Watts, 2003a; Roychowdhury and Watts, 2007; Khan and Watts, 2009). LEV is defined as the sum of long-term debt and debt in current liabilities divided by market value of equity [(COMPUSTAT data#9 + data#34) / (data#199*data#25)].

β_3 shows conservatism change from pre-borrowing level to post-borrowing level. H1 predicts β_3 will be smaller in the low slack group than in the high slack group because

[7] Givoly, Hayn, and Natarajan (2007) argue that larger firms have lower asymmetric timeliness because of the information environment where news arrive more frequently reducing dominance of the news.

stronger incentives to avoid breaching covenants will mitigate incentives to meet demand for higher conservatism after borrowing. I also interact *DP*DR*R* with *SL* to test the statistical significance of positive association between debt-covenant slack and asymmetric timeliness change after borrowing. *SL* is defined as actual net worth at *t* less net worth covenant threshold divided by total assets [(COMPUSTAT data #216 – net worth covenant threshold) / COMPUSTAT data #6].

Another way to test the relation between asymmetric timeliness after borrowing and debt covenant slack is to simply examine the association between initial debt-covenant slack and asymmetric timeliness at *t+1*, assuming there is no association between initial covenant slack and asymmetric timeliness at *t*[8]. If managers in low-slack firms have incentives to reduce post-borrowing conservatism to avoid breaching covenants, I should find a positive association between initial covenant slack (in year *t*) and asymmetric timeliness in year *t+1*. Specifically, I estimate following regression and predict β_4 will be positive.

$$E/P_{i,t+1} = \alpha_0 + \alpha_1 SL_{i,t} + \alpha_2 DR_{i,t+1} + \alpha_3 R_{i,t+1} + \beta_1 DR_{i,t+1}{*}R_{i,t+1} + \beta_2 SL_{i,t,}{*}DR_{i,t+1}$$
$$+ \beta_3 SL_{i,t,}{*}R_{i,t+1} + \beta_4 SL_{i,t}{*}DR_{i,t+1}{*}R_{i,t+1} + \delta\ Controls \qquad (2)$$

3.2.3.2 Accruals Measure

H1 predicts that change in nonoperating accruals of low-slack firms from *t* to *t+1* will be more positive than that of high-slack firms. I examine this by testing for the difference between low-slack and high-slack groups in changes of nonoperating accruals from *t* to *t+1* using the following equation.

[8] This assumption is tested in section 4.3. and supported by evidence.

$$\Delta Accrual_{i,t,t+1} = \alpha_0 + \alpha_1 SL_{i,t} + \alpha_2 \Delta CFO_{i,t,t+1} + \alpha_3 \Delta Sale_{i,t,t+1} + \alpha_4 MTB_{i,t} + \alpha_5 SIZE_{i,t} + \alpha_6 LEV_{i,t}, \quad (3)$$

where $\Delta Accrual_{i,t,t+1}$ is the change in nonoperating accruals from t to $t+1$ for a firm i. Nonoperating accruals are defined as total accruals minus operating accruals where total accruals are defined as net income, plus depreciation, minus cash flow from operations, deflated by lagged assets [(COMPUSTAT data #172 + data #14 – data #308)/lag (data #6)] and operating accruals are measured as change in non-cash current assets [COMPUSTAT data #4 – data # 1] minus change in current liabilities excluding short term debt [COMPUSTAT data #5 – data # 34], deflated by lagged assets (Givoly and Hayn, 2000); $\Delta CFO_{i,t,t+1}$ is the change in cash flow from operations from t to $t+1$, deflated by lagged assets [COMPUSTAT data #308/ lag (data #6)]; $\Delta Sale_{i,t,t+1}$ is the change in sales from t to $t+1$, deflated by lagged assets [COMPUSTAT data #12/ lag (data #6)]. *MTB*, *SIZE*, and *LEV* are defined the same way as in the prior test. H1 predicts that α_1 will be negative suggesting low-slack firms report a more positive change in accruals than high-slack firms.

3.2.4 Test of H2

To test whether the positive relation between conservatism change after borrowing and covenant slack is more pronounced when borrowers' credit ratings have been downgraded after borrowing, I divide sample into two sub-groups, a group of firms whose ratings are downgraded after borrowing and a group of firms whose ratings are upgraded after borrowing. Then, I compare the magnitude of coefficients of association between change in conservatism after borrowing and debt covenant slack.

To further test H2, I add change in crediting ratings into eq. (2) and estimate the following regression.

$$E/P_{i,t+1} = \alpha_0 + \alpha_1 SL_{i,t} + \alpha_2 DR_{i,t+1} + \alpha_3 R_{i,t+1} + \alpha_4 \Delta Rating_{t,t+1} + \beta_1 DR_{i,t+1} * R_{i,t+1}$$
$$+ \beta_2 SL_{i,t,} * DR_{i,t+1} + \beta_3 SL_{i,t} * R_{i,t+1} + \beta_4 \Delta Rating_{t,t+1} * DR_{i,t+1} + \beta_5 \Delta Rating_{t,t+1} * R_{i,t+1}$$
$$+ \beta_6 SL_{i,t} * \Delta Rating_{t,t+1} + \beta_7 SL_{i,t+1} * DR_{i,t+1} * R_{i,t+1} + \beta_8 \Delta Rating_{t,t+1} * DR_{i,t+1} * R_{i,t+1}$$
$$+ \gamma \Delta Rating_{t,t+1\ 1} * R_{i,t+1} * DR_{i,t+1} * SL_{i,t} + \delta\ Controls \quad (4)$$

where $\Delta Rating_{t,\ t+1}$ is defined as change in the S&P long-term domestic issuer credit rating from t to $t+1$ [COMPUSTAT data #280 at t+1 - data #280 at t]. Data #280 in COMPUSTAT assigns a number to each S&P long-term domestic issuer credit rating, with lower numbers representing better ratings (e.g., 2 for AAA and 12 for BBB–). Therefore, a positive $\Delta Rating_{t,\ t+1}$ means the firm has been downgraded from t to t+1. H2 predicts that γ will be positive because it predicts that the positive association between conservatism change after borrowing and debt-covenant slack will be stronger when the credit rating of a firm is downgraded.

To test H2 with accruals measure of conservatism, I estimate the following regression:

$$\Delta Accrual_{i,t,t+1} = \alpha_0 + \alpha_1 SL_{i,t} + \alpha_2 \Delta Rating_{t,\ t+1} + \alpha_3 \Delta CFO_{i,t,t+1} + \alpha_4 \Delta Sale_{i,t,t+1} + \alpha_5 MTB_{i,t}$$
$$+ \alpha_6 SIZE_{i,t} + \alpha_7 LEV_{i,t} + \beta \Delta Rating_{t,\ t+1} * SL_{i,t} \quad (5)$$

In this regression, H2 predicts that positive rating change, i.e. rating downgrade, will strengthen the negative association between accruals change from *t* to *t+1* and debt covenant slack because higher costs of breaching a covenant will strengthen managers' incentives to reduce conservatism to avoid breaching covenants. Because β indicates additional effect of rating downgrade on the negative relation between accruals change from *t* to *t+1* and debt covenant slack, I predict β will be negative.

3.2.5 Test of H3

I use two proxies for the monitoring incentives of lenders, the loan portion of lead arrangers and the number of lenders. Because covenant information is available for the deal level, I use weighted average loan portion of lead arrangers and number of lenders among facilities using the facility amount as weight[9].

To compare the difference of the positive association between conservatism change after borrowing and covenant slack across lenders' monitoring incentives using the asymmetric timeliness measure, I divide the sample into two sub-groups based on the proxies for monitoring incentives. H3 predicts the coefficient of the association between change in conservatism and the debt covenant slack will be lower for the group of borrowers with the smaller number of lenders and greater loan portion of lead arranger because lenders' stronger monitoring incentives will reduce the positive association between the slack and conservatism change after borrowing.

To test H3 using accruals measure of conservatism measure, I estimate the following regression.

$\Delta Accrual_{i,t,t+1} = \alpha_0 + \alpha_1 SL_{i,t} + \alpha_2 Monitor_t + \alpha_3 \Delta CFO_{i,t,t+1} + \alpha_4 \Delta Sale_{i,t,t+1} + \alpha_5 MTB_{i,t}$

[9] I use average loan portion among lead arrangers when there are more than one lead arranger in a facility.

$$+ \alpha_6 SIZE_{i,t} + \alpha_7 LEV_{i,t} + \beta\ Monitor_t * SL_{i,t} \quad (6)$$

where $Monitor_t$ is either the loan portion of lead arrangers or the number of lenders.

I conjecture β will be negative when $Monitor_t$ is number of lenders because smaller number of lenders will increase the monitoring incentives among lenders. H3 predicts that lenders with stronger monitoring incentives will reduce the positive association between conservatism change and the covenant slack. Hence, the negative β suggests that the negative association between accrual change and slack will be greater when the number of lenders increases, or monitoring incentives decrease. I conjecture β will be positive when $Monitor_t$ is the portion of lead arrangers because the high portion of lead arrangers will increase the monitoring incentives, which will decrease the negative association between the slack and accruals change.

4. Empirical Results

4.1 Descriptive Statistics and Simple Correlations

Panel A of table 2 reports descriptive statistics for the three subsample groups based on covenant slack at time *t*, borrowing year. Low slack group firms tend to have shorter tenure, higher spread, higher leverage, and a lower credit rating than high-slack group firms. This suggests that debt covenant slack be set up to monitor risky firms more closely because tight slack increases the likelihood that borrowers breach debt covenants. However, there is no distinct trend in loan amount, sales, market-to-book ratio and nonoperating accruals among three subsamples. I also compare the frequencies of negative stock returns in the borrower year and one year after borrowing year because they may affect asymmetric timeliness measure (Givoly, Hayn, and Natarajan, 2007). However, I do not find any difference among three groups.

The Spearman correlations for the variables (table 2, panel B) again indicate that net-worth slack exhibits a negative correlation with leverage and credit rating, implying that lenders set up a tight debt covenant slack for risky firms. One may argue that lenders may set up a tight covenant slack for an ex-ante conservative borrower because this borrower has more accounting slack that can be used to increase earnings after borrowing and hence reduces level of conservatism ex-post[10]. This argument suggests that the negative relation between the debt covenant slack and ex-ante conservatism may drive a positive association between debt covenant slack and conservatism change after borrowing. However, the result here shows that covenant slack has no association with nonoperating accruals at the time of borrowing. On the contrary, net worth covenant slack has a positive association with market-to-book ratio, which is sometimes used as measure of conservatism although magnitude is small. Hence, I do not find evidence that the relation between debt covenant slack and ex-ante conservatism level drives the main result that is discussed in the next section.

Tenure of loans tends to be longer when firms are larger and becomes shorter when leverage is higher or credit rating is lower. This suggests that lenders are likely to adjust tenure of the loan to reduce exposure to risky borrowers.

[10] I use ex-ante to mean before borrowing and ex-post to mean after borrowing.

4.2 Multivariate Test Results

4.2.1 Change of Conservatism after Borrowing

Before I test the hypotheses, I test whether firms on average change conservatism after borrowing. The debt-covenant hypothesis predicts that firms that are close to breaching covenants will reduce conservatism to increase earnings and hence to avoid breaching covenants. Zhang (2008), however, argues that firms will not reduce ex-ante level of conservatism because borrowing is a repeated game. Firms also have incentives to increase conservatism given benefits of higher conservatism such as lower interest rates. Roberts and Sufi (2008) show that 90% of loans that are longer than 1 year tenure are renegotiated before less than half of the original stated maturity has elapsed. This implies that firms will have incentives to increase conservatism even after borrowing for better terms in future renegotiation because borrowing is not a one time contract but a continuous process. Therefore, whether on average firms increase or decrease conservatism after borrowing is an empirical question. To my knowledge, the only evidence on this question is one by Beatty, Weber, and Yu (2008) who find on average firms increase conservatism after borrowing.

I test this empirical question to better anticipate direction of cross sectional difference of conservatism change after borrowing across debt-covenant-slack subgroups. If firms on average increase conservatism after borrowing, H1 should predict the magnitude of increase will be smaller in low-slack group compared to high-slack group. If, however, firms on average decrease conservatism after borrowing, H1 should predict magnitude of decrease will be larger in low-slack group. I estimate equation (1) to test conservatism change after borrowing using the full sample.

The result provides evidence that the level of conservatism increases from *t* to *t+1* in asymmetric timeliness measure (see table 3). In model (1), firms are on average conservative, which is consistent with contract demand of conservatism (*R*DR*: 0.15). The main coefficient of interest is *DP*R*DR*, which shows conservatism change after borrowing. The coefficient is positive and significant at 1% level. In model (2) and (3), I include control variables of *MTB*, *SIZE*, and *LEV* and firm and year fixed effects. *DP*R*DR* is still positive and significant. This result is consistent with Beatty, Weber, and Yu (2008), suggesting on average firms increase conservatism after borrowing.

I have a similar result using nonoperating accruals measure. In year *t*, mean of *Accrual*, defined as total accruals minus operating accruals, is -0.025. It grows to -0.033 in year *t+1*. Therefore, on average, nonoperating accruals become more negative after borrowing and this change is significant at 5% level (p-value: 0.015). This evidence shows that on average firms tend to increase conservatism level after borrowing. Therefore, I test whether closeness to covenant breach diminishes incentives to increase conservatism after borrowing in the next section.

4.2.2 Results of the Test of H1

To test H1, I divide the full sample into three groups based on debt-covenant slack at time *t* and estimate eq. (1) with all control variables and interactions. Panel A of table 4 shows that conservatism change after borrowing increases with covenant slack suggesting incentives to avoid violation of covenants mitigate demand for higher conservatism from lenders. Conservatism change in high slack group after borrowing is more than double of that in low slack group (0.23 vs. 0.10) and the difference is statistically significant at 1% level (t-stat: 4.37) supporting H1. This also shows that in all subgroups, firms increase conservatism after borrowing suggesting conservatism is an effective tool in enhancing contracting efficiency because it does not decrease after contracts. For a decrease of net worth slack of 0.18 moving from high-slack group to low-slack group, asymmetric timeliness decreases by 0.13. This implies that a one-standard-deviation decrease in slack is associated with a decrease of 0.07 in the asymmetric timeliness change after borrowing. This effect is economically significant as it represents a 43.8% decrease below the mean asymmetric timeliness change of 0.16. This evidence suggests that the cost of breaching a covenant affects conservatism level after borrowing[11].

Because debt-covenant slack is a continuous variable, I further test whether conservatism change after borrowing has a positive association with covenant slack. I interact *SL* with variables of conservatism change after borrowing (*DP*R*DR*). If firms with low slack increase conservatism after borrowing less than firms with high slack, the interaction term should be positive. Panel B shows that the interaction term (*DP*R*DR*SL*) is positive and significant in all specifications. This provides evidence that there is a positive association between covenant slack and conservatism change after borrowing.

I further examine the relation between conservatism change after borrowing and debt-covenant slack by testing association between conservatism level at $t+1$ and debt covenant slack at t (eq. (2)). Panel C shows that *SL*R*DR* is positive, at a significance level of one percent as H1 predicts. This lends support to evidence that the conservatism

[11] Excluding firm and year fixed effects do not change the results. I only report results with and without firm and year fixed effects when necessary and space permits.

of lower-slack firms in the year after the loan issuance is lower than that of higher-slack firms thanks to the cost of covenant breach. In model (2), I include market-to-book ratio, size, and leverage ratio as control variables. *SL*R*DR* continues to be positive and significant at one percent level. As expected, *SIZE* has a negative relation to conservatism, and *LEV* is positively related with conservatism, supporting debt-contract demand of conservatism. *MTB* is positively related to conservatism, contrary to my expectation, but the coefficient is not statistically significant, possibly because a one-year horizon is too short to allow for a statistically significant negative result.[12] The results are robust even after taking year and firm fixed effects into account (see model (3)). Overall these results suggest that although managers tend to increase conservatism after borrowing, they seem to consider level of conservatism as one of income-increasing accounting choice when facing debt covenant breach. Those managers trade off the benefits from conservatism with the cost of covenant breach.

H1 is supported by the results of the tests with accruals measure. In this test, I again split sample into three sub-groups based on debt-covenant slack at year *t* as I do with asymmetric timeliness measure. The change in accruals from *t* to *t+1* in the low-slack group is larger (less negative) than in the high-slack group (see table 5, difference of 0.020 with statistical significance of 5% level): while at year *t* low-slack group is more conservative than high-slack group (t-stat: -2.29), conservatism level of the low-slack group is slightly lower than the high-slack group at year *t*+1. While conservatism change after contracts is not statistically significant for low and medium slack subgroups,

[12] Over a long time horizon, beginning market-to-book ratio (M/B) is expected to be negatively correlated with conservatism, while ending M/B is expected to be positively correlated with M/B. Empirically, these predictions may not be borne out over short horizons such as one year, since M/B is highly persistent (Kahn and Watts, 2009).

an increase in conservatism after loan initiation is observed in high slack subgroup: accruals become more negative in high slack subgroup, and the change is statistically significant at one percent level. Post-borrowing conservatism change of high slack subgroup is greater than that of low slack subgroup (t-stat: 2.25). The result supports H1, as high-slack firms increase conservatism more compared to low-slack firms. In addition, this shows that conservatism does not decrease in any of subgroups after borrowing, suggesting conservatism is an effective mechanism for contracting efficiency as pre-borrowing conservatism is maintained after borrowing.

Panel A, however, is univariate analysis without any control variables that may affect conservatism change after borrowing. In panel B, I further test H1 using accrual measure with control variables and provide evidence that debt-covenant slack is positively related to ex-post conservatism change in the full sample. In model (1), *SL* is negative and significant at one percent level. This suggests that the change of nonoperating accruals in low-slack firms is larger than that in high-slack firms, suggesting managers have incentives to book fewer negative nonoperating accruals facing the risk of covenant breach. In model (2), I further include *MTB*, *SIZE*, and *LEV* to control for cross-sectional difference in conservatism level. These control variables as well as firm and year fixed effects (model 3) do not affect the result. These results support a positive association between debt-covenant slack and conservatism change after borrowing. The coefficient on *SL* implies that a one-standard-deviation decrease in *SL* is associated with 19.7% (40%) of increase above the mean (median) nonoperating accruals change from year *t* to year *t+1*.

4.2.3 Results of the Test of H2

In table 6, I provide evidence that the positive relation between conservatism change after borrowing and closeness to debt-covenant breach becomes more pronounced when the cost of covenant breach is high. Column 1 of panel A shows that a positive association between debt covenant slack and ex-post conservatism change exists for a group of firms whose credit ratings are downgraded (coefficient of *DP*R*DR*SL*: 5.45 with t-stat of 1.91). For these firms, breaching covenants will be costly in the form of either higher refinancing costs or renegotiation costs. Column 2 of panel A, however, shows that this positive association disappears in the group of firms whose credit ratings are upgraded since the origination of borrowing. For these firms, breaching covenants is not as costly as for firms with downgraded credit ratings and even provides opportunities to refinance at lower interest rates without paying early repayment fee[13]. Hence, for those firms, debt covenant slack should not have any association with ex-post change in conservatism. The difference of the coefficient between two groups is significant at 1% level (t-stat: 8.0).

In panel B, I estimate equation (4) to provide further evidence on H2 using the full sample. In equation (4), γ (*ΔRating*SL*R*DR*) shows an incremental effect on the relationship between post-borrowing conservatism and the closeness to debt-covenant breach when a firm's credit rating changes from t to $t+1$. In model (1) of panel B, *ΔRating*SL*R*DR* is positive and significant at one percent level (coeff: 2.98 with t-stat of 3.36). This suggests that there is an additional positive effect on the positive relation between debt-covenant slack and conservatism at $t+1$ when the credit rating of a firm is

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[13] Early repayment incurs a penalty normally in debt contracts. However, lender's recall of loan due to covenant breach does not enforce any fee on borrowers. Prepayment penalty is normally set on a sliding scale; for example, 2% in year one, 1% in year 2 (Standard and Poor's, 2006).

downgraded after borrowing, i.e. when $\Delta Rating_{t,\,t+1}$ is positive. This suggests that when a firm's credit rating is downgraded after borrowing, a low-slack firm has stronger incentives to decrease conservatism because of the higher cost of covenant breach. The result is continuously significant with control variables of *MTB*, *SIZE*, and *LEV*, and with firm and year fixed effects (model 2; model 3). Overall, these results support H2, which predicts positive relation between ex-post change in conservatism and debt covenant slack is more pronounced when breaching covenant is costly.

H2 is supported by the accrual measure (eq. 5; see table 7). $\Delta Rating_{t,t+1}*SL_{i,t}$ shows that an additional negative relationship exists between level of slack and change in nonoperating accruals when a firm's credit rating is downgraded after borrowing. In model (1), $\Delta Rating_{t,t+1}*SL_{i,t}$ is negative and significant implying that a positive association between conservatism change after borrowing and debt-covenant slack is stronger when credit rating of a firm is downgraded after borrowing. In model (2) and (3), $\Delta Rating_{t,t+1}*SL_{i,t}$ is negative and significant at 5% or lower level with control variables of *MTB*, *SIZE*, and *LEV*, and with firm and year fixed effects. The coefficient on $\Delta Rating_{t,t+1}*SL_{i,t}$ suggests that one-notch downgrade after borrowing increases the effect of covenant slack on the changes of nonoperating accruals by 1.9 times.

4.2.4 Results of the Test of H3

Table 8 provides evidence that the positive association between conservatism change and the covenant slack is less pronounced when lenders have stronger monitoring incentives. In column 1 of panel A, the coefficient of interest (*DP*R*DR*SL*) is negative and not significant for the firms that have loans of which lead arranger's portion is larger (coeff: -0.09 with t-stat of -0.16). For these groups, strong monitoring by lenders is expected to restrain the incentives to reduce conservatism for the tighter slack firms, which reduces the positive association between conservatism change after borrowing and covenant slack. However, the positive association is significant for the group of low lead arranger's portion (coeff: 0.34 with t-stat of 1.77). This suggests that monitoring by banks mitigates firms' incentives to reduce conservatism after borrowing.

In panel B, the positive association between conservatism change and covenant slack is not existent for the group of firms whose loans have smaller number of lenders (coeff: 0.09 with t-stat of 0.20). For the group of firms whose loans have large number of lenders, where I predict the monitoring by banks will be weaker, the positive association is much stronger compared to the group of small number of lenders but is only significant at 10% level in a one-tailed test (coeff: 0.49 with t-stat of 1.31). This provides weak evidence for H3.

Evidence for H3 is much stronger when the accruals measure is used (see table 9). When the number of lenders is used as proxy for monitoring incentives, *Monitor*SL* is negative and significant at 5 % level, suggesting the positive association between conservatism change and the slack is more pronounced when lenders have weaker monitoring incentives, or the number of lenders is greater. The coefficient implies that one more lender in syndicated loans increases the effect of covenant slack on the changes of nonoperating accruals by 27%.

When the lead arranger's portion is used as proxy for monitoring incentives, *Monitor*SL* is positive and significant at 10 % level. H3 predicts that higher portion of lead arranger's loan portion will decrease the negative association between the accruals change after borrowing and the covenant slack because of higher monitoring incentives of lenders. The coefficient suggests that 10% increase in lead arrangers' loan portion reduces the effect of covenant slack on the changes of nonoperating accruals by 7.2%. Overall, the results provide evidence that a positive association between conservatism change after borrowing and covenant slack is more pronounced when monitoring incentives of lenders are weak.

4.2.5 Special Items after Borrowing

One way to lower conservatism level and, in consequence, to avoid breaching covenants is to delay or reduce negative special items. I test whether firms with tighter slack have fewer negative special items after borrowing. I estimate the following regression to test the relation between covenant slack and special items.

$$SP_{t+1} = \alpha_0 + \alpha_1 SL_t + \alpha_2 SP_t + \alpha_3 MTB_t + \alpha_4 SIZE_t + + \alpha_5 LEV_t + \alpha_6 R_{t+1} \quad (7)$$

where *SP* is special items at either *t* or *t*+1, deflated by lagged assets [(COMPUSTAT data #17) / lag (data #6)]. Other control variables are defined as before. *MTB* is included because higher MTB may increase future negative special items such as asset write off or restructuring charges in pursuing high growth. I also include stock return (*R*) to control for a relation between news over the period and special items. *SIZE* and *LEV* are included to control for cross sectional difference in recognizing special items. Table 10 provides evidence that lower-slack firms have fewer negative special items. *SL* is significantly negative in all three models. *MTB* has a negative association with special items, suggesting high growth firms have more unusual or non recurring expenses in pursuit of high growth. As expected, news proxied by stock return is positively associated with special items, suggesting firms on average recognize the news timely. These results imply that firms with tighter slacks have fewer negative special items to reduce the likelihood of breaching covenants.

5. Robustness Checks and Endogeneity of Covenant Slack

5.1 Relation between Conservatism and Covenant Slack in Borrowing Year

An alternative explanation for the result of eq. 2 that shows a positive relation between covenant slack at year *t* and conservatism level at year *t+1* (panel D of table 4) is that the result is inherited from a positive relation between covenant slack at *t* and conservatism level at *t*. This explanation is based on the argument that lenders allow higher debt-covenant slack for more conservative firms because lenders believe that conservative firms are less risky. This implies a positive relationship between slack and conservatism level at *t*.

I test this explanation by estimating a regression over covenant slack at *t* and conservatism level at *t* (eq. 2, with asymmetric timeliness level at *t*). Results (table 11) show that there is a negative relation (*SL*R*DR*) between slack and conservatism at year *t*, contrary to the prior argument. Despite sizable samples, this negative relationship is not statistically significant when firm and year fixed effects are included. In equation (2) and table 4, I assume that there is no association between conservatism level and debt-covenant slack at year *t*. The result here supports that the assumption is warranted.

5.2 Endogeneity of Covenant Slack

In this study, I use the tightness of the covenant slack as proxy for the probability to breach covenants. However, there is still the concern that the tightness of covenant can be a consequence of other factors in debt contracts. If the tightness of covenant slack is affected by other factors, the validity of covenant slack as proxy for the probability to breach covenants can be confounded by those factors. To address this concern, I first set up a following model for the determination of the covenant slack following extant literature.

$$SL = \beta_1 Volatility + \beta_2 N\_Cov + \beta_3 Maturity + \beta_4 Spread + \beta_5 Perf + \beta_6 Profitability \qquad (8)$$

where *SL* is net worth slack as defined earlier; *Volatility* is standard deviation of the net worth of borrowers for prior three years before the contracts; *N_Cov* is the log of the number of covenants in the contract; *Maturity* is the log of the tenure of the loan in months; *Spread* is the log of the amount the borrower pays in basis points over LIBOR for each dollar drawn down; *Perf* is 1 if the deal has a performance pricing scheme in the contract and 0 otherwise; *Profitabilty* is income before extraordinary items (data #18) scaled by asset (data #6) before the contract.

Dichev and Skinner (2002) argue that lenders build in more slack for firms with more variable net worth to set up the slack optimally. Hence I expect the volatility of net worth has a positive relation with the slack. Literature also shows that the tight slack reflects the agency costs of borrowers. Lenders may set up tighter slacks for the borrowers that have higher agency costs to better protect themselves because the tighter slacks increase the likelihood that borrowers breach covenants. I include couple of proxies for the agency costs of debt contracts; number of covenants, maturity of loans, the spread of loan, and performance pricing scheme. Smith and Warner (1979) argue that covenants are included in the contract to reduce agency costs. This suggests that firms with greater number of covenants will have higher agency costs. In fact, El-Gazzar and Pastena (1991) find a positive relation between covenant tightness and the number of covenants. Flannery (1986) argues that the debt with longer maturity will have higher agency costs. Beatty, Weber and Yu (2008) argue that firms with greater agency problem may obtain higher slack by paying higher interest rates. Alternately, if high interest rates are an indication of agency problem, I should observe a positive relation between *Spread* and *SL*. They also show that the existence of performance pricing scheme in the debt contract is an indication of high agency costs. Finally, due to the direct link between profitability and net worth, profitability may be considered in setting up the initial slack.

In panel A of table 12, the signs of coefficients are consistent with my predictions in general. *Volatility* has a positive association with the slack, suggesting borrowers with higher volatile net worth have more slacks. *N_COV*, *Maturity*, and *Perf* have a negative association with slack suggesting lenders tend to set up a tighter slack when borrowers have higher agency costs.

In the next step, I use a residual from this regression to replace the slack in the main tests. I note the residual as ε. The residual from this regression can be seen as the probability of covenant violation orthogonal to other determinants of the debt covenant slack. For brevity, I only report the results using asymmetric timeliness measure[14]. Panel B shows that asymmetric timeliness change for high residual (ε) group is much greater than low residual group. In an untabulated test, the positive association between

[14] The results using accruals measure also support all the hypotheses.

asymmetric timeliness change and the residual (ε) (*DP*R*DR*SL*) is 1.00 with t-stat of 3.34. In Panel C, the positive association between asymmetric timeliness change and the residual is much greater for rating-downgrade group compared to rating-upgrade group. Panel D shows that the positive association between asymmetric timeliness change and the residual (ε) exists only when monitoring incentives of lenders are weak[15].

5.3 Other Robustness Checks

5.3.1 Selection Bias

While there is no evidence on the association between initial debt-covenant and conservatism before borrowing (see table 11), one may argue that lenders somehow forecast future change of conservatism based on pre-borrowing conservatism and set debt-covenant slack accordingly. For example, if lenders set a tighter slack for a borrower that is expected to increase conservatism in a smaller magnitude after borrowing[16], the positive association between post-borrowing conservatism change and initial debt-covenant slack can result from this self-selection. Following Dichev and Skinner (2002) I calculate covenant slack at *t+1* and see whether conservatism change from *t+1* to *t+2* is positively associated with covenant slack at *t+1* to address this concern. Debt-covenant slack at *t+1* is less likely affected by the lender's selection and correlation between slack at *t* and *t+1* is 0.14 in my sample. I estimate eq. (1) for high slack and low slack group based on slack at *t+1*. Conservatism change from *t+1* and *t+2* (*DP*R*DR*) is significantly positive for high slack group (coeff: 0.09, t-stat: 2.01) but not

[15] The coefficient (*DP*R*DR*ε*) for the group of large number of lenders is significant at 10% level in a one-tailed test.

[16] For example, lenders may believe future conservatism increase will be limited if pre-borrowing conservatism is high.

significant for low slack group (coeff: 0.11, t-stat: 0.96). This suggests that a positive association between debt-covenant slack and conservatism change is less likely to be driven by selection bias. *DP*R*DR*SL* is also positive and significant (coeff: 0.07, t-stat: 3.90) suggesting a positive association between debt-covenant slack and conservatism change continues to hold from *t+1* to *t+2*.

I also include debt-covenant slack (*SL*) as a control variable to alleviate concerns that lenders may set initial covenant slack based on expectations of future change in borrowers' conservatism. All my results are not affected by this additional control variable.

5.3.2 Repeated Borrowers

One may argue that the inclusion of repeated borrowers in my sample can compound the result. If a borrower has multiple loans in my sample, the borrower's incentives to reduce conservatism to avoid breaching covenants will be different from a borrower with one loan because a borrower with multiple loans repeatedly taps debt market for funding needs. I thus limit the observations to 510 firms that have only one loan in my sample. The difference between the low-slack and the high-slack covenant group in post-borrowing conservatism increase (*DP*R*DR*) is more distinct. The coefficient is 0.18 (t-stat: 1.82) for low-slack group and 0.60 (t-stat: 3.70) for high-slack group. *DP*R*DR*SL* is 0.18 (t-stat: 12.86).

5.3.3 Extraordinary Items and Gains or Losses from Discontinued Operations

I test whether the results using an accrual measure are purely driven by extraordinary items and gains or losses from discontinued operations. I recalculate nonoperating accruals using income before extraordinary items (COMPUSTAT data # 18) instead of net income and re-do the tests. The results are qualitatively the same as ones with nonoperating accruals including extraordinary items and gains or losses from discontinued operations (untabulated). This suggests that extraordinary items and gains or losses from discontinued operations are not the only accounts for managers to utilize to adjust level of conservatism facing the risk of breaching covenants.

5.3.4 Alternative measure of credit risk

Instead of credit rating change, I use the change of Merton (1974)'s distance to default to proxy change of credit risk. This alternative measure of risk change has advantage of increasing sample size. I have 1,066 observations with Merton's distance to default compared to 442 observations with credit rating change. All the results are robust to this measure. For example, the group of high credit risk change has a higher coefficient of *DP*R*DR*SL* (1.09 with t-stat of 1.85) than the group of low credit risk change (0.48 with t-stat of 1.03).

6. Conclusion

I find that firms increase a level of conservatism after undertaking loans with net worth covenants; however, firms with tighter slack increase this level to a lesser degree than do firms with higher slack. This positive relation between covenant slack and conservatism change after borrowing becomes more pronounced when the cost of breaching covenants is high or banks' monitoring is weak. This suggests while firms have incentives to increase conservatism after borrowing, the cost of covenant breach diminishes them. This is consistent with the debt covenant hypothesis predicting managers make income increasing accounting choices when facing breaching covenants.

Although conservatism has been widely viewed as a mechanism to enhance debt contract efficiency, we know little about whether a firm commit to its pre-contracting level of conservatism and the factors that affect this commitment. My paper provides evidence that firms are, on average, committed to their pre-borrowing conservatism level and, therefore, that conservatism is indeed an effective tool to enhance debt-contract efficiency. This research also provides debt holders with implication that firms with a high expected cost of breaching covenants will have incentives to deviate from the pre-contracting level of conservatism after borrowing.

Like other studies, this study has a couple of limitations. First, my sample is limited to bank loans with net worth covenants, and the results may not be generalized to bank loans with other types of financial covenants. However, I believe that the results should be fairly representative, as net worth is one of the most common covenants in debt contracts. Second, the measurement of conservatism is limited to the asymmetric timeliness and accruals measure[17]. A potential avenue for future research would be to examine whether other measures of conservatism support the debt-covenant hypothesis.

[17] There are critics about asymmetric timeliness measure (Dietrich, Muller, and Riedl, 2007; Givoly, Hayn, and Natarajan, 2007)

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Table 1. Sample Selection Process

The sample is drawn from Dealscan, provided by LPC. I extracted all private loans with net worth covenants and loan active dates between 1990 and 2005. Financial statement information was obtained from COMPUSTAT, and stock return information was obtained from CRSP.

Panel A. Sample for Asymmetric Timeliness Measure

	Number of firms	Number of firm-years
Loans with net worth covenants		5,385
After matching with COMPUSTAT/CRSP	1,287	3,252
After excluding firms with no earnings or returns data at *t*	1,183	3,003
After excluding firms with no earnings or return data at $t - 1$ or $t + 1$	1,061	2,716
After excluding outliers (top and bottom 0.5% of firms)	1,042	2,666
After excluding firms with tenure of less than 24 months	945	2,092
After excluding firms with slack less than or equal to 0	778	1,582
After including only the loan with the lowest net worth covenant in the same year for the same firm	778	1,150
Final sample	778	1,150

Panel B. Sample for Accruals Measure

	Number of firms	Number of firm-years
Loans with net worth covenants		5,385
After matching with COMPUSTAT/CRSP	1,387	3,586
After excluding firms with no nonoperating accruals data at *t*	1,182	3,068
After excluding firms with no nonoperating accruals data at $t + 1$	1,153	3,004
After excluding outliers (top and bottom 0.5% of firms)	1,143	2,975
After excluding firms with tenure of less than 24 months	1,040	2,412
After excluding firms with slack less than or equal to 0	824	1,731
After including only the loan with the lowest net worth covenant in the same year for the same firm	824	1,207
Final sample	824	1,207

Table 2. Descriptive Statistics

Sample is composed of 1,150 firm-year observations between 1990 and 2005. *Tenure* is the anticipated maturity of the loan. *Spread* is the amount the borrower pays in basis points over LIBOR for each dollar drawn down. *Net Worth Covenant* is the net worth threshold set up at the time of borrowing. *Net Worth Slack* is actual net worth minus net worth covenant, deflated by asset. *Total Asset* is book value of asset. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *Rating* is S&P long-term domestic issuer credit rating [data #280]. *Accrual* is nonoperating accruals defined as total accruals minus operating accruals where total accruals are defined as net income, plus depreciation, minus cash flow from operations, deflated by lagged assets [(data #172 + data #14 – data #308)/lag (data #6)] and operating accruals are measured as change in non-cash current assets [COMPUSTAT data #4 – data # 1] minus change in current liabilities excluding short term debt [COMPUSTAT data #5 – data # 34], deflated by lagged assets. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. Bad News is 1 if return is negative and 0 otherwise. Subscripts *t*, and *t*+1 indicate borrowing year, and one year after borrowing year, respectively. Panel A presents descriptive statistics for the subsamples that are divided into three based on the amount of slack in borrowing year. Panel B presents Spearman correlations for the variables. I use natural logs of *Tenure, Total Asset, Sales,* and *Rating* in estimating correlations. Figures in bold indicate correlations that are significant at a 5% or lower level.

Panel A. Descriptive Statistics

	Low Slack			Medium Slack			High Slack		
	Mean	Median	Std.	Mean	Median	Std.	Mean	Median	Std.
Tenure (Month)	48.8	48.0	16.1	50.1	50.0	17.4	52.0	58.0	21.1
Spread	176.8	175.0	94.2	146.7	125.0	95.6	147.4	112.2	124.2
Net Worth Covenant (MM$)	576.3	174.0	1769.4	540.6	220.0	1416.0	469.3	175.0	1249.1
Net Worth Slack	0.027	0.026	0.015	0.077	0.076	0.015	0.205	0.168	0.105
Loan amount (MM$)	298.4	150.0	531.8	340.8	177.5	675.1	308.9	150.0	507.3
Total $Asset_t$ (MM$)	5,150.9	552.0	29,223.5	2,382.0	608.1	7,499.3	2,124.0	574.7	5,128.1
$Sales_t$ (MM$)	1,633.2	487.4	4,438.4	1,539.3	587.4	3,155.3	1,952.3	536.3	5,407.1
LEV_t	0.83	0.45	1.16	0.55	0.30	1.05	0.34	0.18	0.54
MTB_t	2.35	1.69	3.70	2.21	1.81	1.53	2.42	2.03	1.80
$Rating_t$	12.82	13.00	2.66	11.97	12.00	2.37	10.91	11.00	3.18
$Accrual_t$	-0.027	-0.012	0.083	-0.031	-0.016	0.079	-0.015	-0.011	0.070
R_t	0.21	0.11	0.63	0.20	0.13	0.52	0.12	0.08	0.42
Bad $News_t$	0.40	0.00	0.49	0.36	0.00	0.48	0.42	0.00	0.05
Bad $News_{t+1}$	0.35	0.00	0.48	0.41	0.00	0.49	0.38	0.00	0.49

Panel B. Correlation Matrix of Variables

	Loan amount	Tenure	Total $Asset_t$	$Sales_t$	LEV_t	MTB_t	$Rating_t$	$Accrual_t$	R_t
Net Worth Slack	-0.0266	0.0379	-0.0006	0.0338	**-0.2995**	**0.0879**	**-0.2635**	-0.0106	-0.0425
Loan amount		**0.2338**	**0.7527**	**0.6979**	**0.1338**	**0.2060**	**-0.4520**	-0.0449	**0.0964**
Tenure			**0.1116**	**0.1299**	**-0.1070**	**0.1828**	**-0.1413**	-0.0279	**0.1442**
Total $Asset_t$				**0.8229**	**0.1960**	**0.0834**	**-0.6424**	0.0295	**0.0700**
$Sales_t$					**0.0785**	**0.1325**	**-0.4614**	0.0318	**0.0610**
LEV_t						**-0.5020**	**0.3335**	0.0048	**-0.1471**
MTB_t							**-0.1546**	**-0.0722**	**0.2211**
$Rating_t$								-0.0157	-0.0009
$Accrual_t$									-0.0213

Table 3: Changes in Conservatism after Borrowing (Asymmetric Timeliness Measure)

This table presents results from OLS regression estimates for change in asymmetric timeliness from the borrowing year to the following year. (*E/P*) is earnings per share in the fiscal year divided by the price per share at the beginning of the fiscal year [COMPUSTAT data #18/(lag(COMPUSTAT data #199)*COMPUSTAT data #25)]. *DR* is dummy variable set equal to 1 if *R* is negative and 0 otherwise. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. *DP* is dummy variable set equal to 1 if *R* belongs to t + 1 and 0 otherwise. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable : (E/P)									
	Model 1			Model 2			Model 3		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.0434	***	6.46	0.0465	**	2.13	0.0426		0.53
DR	0.0339	***	3.58	-0.0843	***	-2.61	-0.0413		-1.10
R	0.0407	***	3.90	0.0787	***	3.05	0.0869	***	2.78
R*DR	0.1568	***	4.49	0.1425	*	1.87	-0.1298		-1.38
DP	0.0129		1.50	0.0082		0.37	0.0401	*	1.93
DP*R	-0.0189		-1.39	-0.0130		-1.17	-0.0028		-0.22
DP*R*DR	0.2752	***	6.57	0.0788	**	2.22	0.1672	***	4.35
MTB				-0.0020		-0.70	-0.0020		-0.53
MTB*DR				0.0000		0.00	0.0020		0.43
MTB*R				-0.0081	**	-2.17	-0.0075		-1.60
MTB*DP				0.0006		0.25	-0.0034		-1.32
MTB*R*DR				0.0063		0.75	0.0028		0.24
SIZE				-0.0007		-0.20	0.0030		0.33
SIZE*DR				0.0082		1.64	0.0008		0.14
SIZE*R				-0.0013		-0.31	-0.0044		-0.85
SIZE*DP				0.0029		0.87	0.0006		0.19
SIZE*R*DR				-0.0448	***	-3.64	-0.0122		-0.81
LEV				0.0236	***	3.28	0.0019		0.17
LEV*DR				0.0529	***	5.68	0.0479	***	4.42
LEV*R				-0.0251	***	-2.76	-0.0231	**	-2.41
LEV*DP				-0.0535	***	-11.00	-0.0569	***	-12.12
LEV*R*DR				0.2064	***	14.46	0.1468	***	7.98
Number of Observations	2300			2300			2300		
Firm Fixed Effects	No			No			Yes		
Year Fixed Effects	No			No			Yes		
Adjusted R^2	0.17			0.48			0.74		

Table 4: Debt Covenant Slack and Conservatism Change after Borrowing (Asymmetric Timeliness Measure)

(*E/P*) is earnings per share in the fiscal year divided by the price per share at the beginning of the fiscal year [COMPUSTAT data #18/(lag (COMPUSTAT data #199)*COMPUSTAT data #25)]. *DR* is dummy variable set equal to 1 if *R* is negative and 0 otherwise. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. *DP* is dummy variable set equal to 1 if *R* belongs to t + 1 and 0 otherwise. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. Panel A presents results from OLS regression estimates for post-borrowing change in conservatism for the firms in low, medium, and high slack subgroups. The low-slack (high-slack) group is the group with the tightest (least tight) slack among the three subgroups that are divided based on slack at borrowing year. Panel B presents results from OLS regression estimates for association between debt-covenant slack and conservatism change after borrowing. Panel C presents results from OLS regression estimates for association between debt-covenant slack at borrowing year and conservatism level one year after borrowing. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Asymmetric Timeliness Change in three subgroups

Dependent Variable : (E/P)									
	Low Slack Group			Medium Slack Group			High Slack Group		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.3293	**	2.52	0.0797		0.53	0.1134		0.68
DR	0.0040		0.07	-0.1220	*	-1.90	0.1075		1.52
R	0.0141		0.28	0.1691	***	4.13	0.0857		1.01
R*DR	0.2611	*	1.71	-0.4095		-0.50	0.0576		0.30
DP	-0.0074		-0.24	0.1078	***	3.38	0.0175		0.43
DP*R	0.0069		0.38	0.0065		0.27	-0.0113		-0.35
DP*R*DR	0.1005	*	1.71	0.1552	**	2.40	0.2389	***	3.09
MTB	-0.0037		-0.67	0.0103		1.20	-0.0066		-0.70
MTB*DR	-0.0026		-0.29	0.0056		0.71	0.0075		0.69
MTB*R	-0.0024		-0.41	-0.0301	***	-3.28	-0.0102		-0.84
MTB*DP	-0.0040		-0.88	-0.0116	**	-2.53	0.0044		0.93
MTB*R*DR	-0.0188		-0.88	0.0498	*	1.67	0.0343		1.31
SIZE	-0.0045		-0.25	0.0008		0.04	-0.0113		-0.54
SIZE*DR	0.0007		0.08	0.0077		0.79	-0.0158		-1.47
SIZE*R	0.0019		0.24	-0.0033		-0.42	-0.0027		-0.20
SIZE*DP	0.0062		1.38	-0.0049		-1.06	0.0014		0.26
SIZE*R*DR	-0.0337		-1.41	-0.0134		-0.48	-0.0443		-1.44
LEV	-0.0305	**	-2.18	0.0714	***	3.12	-0.0382		-0.94
LEV*DR	-0.0143		-0.94	0.0950	***	5.42	-0.0773	*	-1.91
LEV*R	-0.0121		-1.03	-0.0725	***	-4.22	-0.0293		-0.57
LEV*DP	-0.0180	***	-2.92	-0.1022	***	-15.75	-0.0766	***	-3.94
LEV*R*DR	-0.0383		-1.34	0.3604	***	12.76	-0.0859		-1.24
Number of Observations	766			768			766		
Firm Fixed Effects	Yes			Yes			Yes		
Year Fixed Effects	Yes			Yes			Yes		
Adjusted R^2	0.69			0.89			0.80		

Panel B. Debt Covenant Slack and Asymmetric Timeliness Change after Borrowing

Dependent Variable : (E/P)									
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.048	***	5.61	0.049	**	2.26	0.035		0.45
DR	0.038	***	2.74	-0.102	***	-3.10	-0.061		-1.62
R	0.041	***	3.65	0.089	***	3.43	0.104	***	3.30
R*DR	0.168	***	3.63	-0.023		-0.25	-0.133		-1.16
DP	0.011		1.23	0.003		0.13	0.028		1.37
DP*R	-0.015		-1.12	-0.008		-0.70	-0.001		-0.12
DP*R*DR	0.166	***	3.25	-0.022		-0.52	0.026		0.57
SL	-0.028		-0.54	-0.026		-0.64	-0.045		-0.69
SL*DR	-0.061		-0.65	-0.020		-0.26	0.025		0.29
SL*R	-0.031		-0.52	-0.067		-1.43	-0.037		-0.63
SL*R*DR	-0.116		-0.36	0.723		1.62	-1.087	*	-1.86
MTB				-0.002		-0.73	-0.001		-0.27
MTB*DR				0.002		0.47	0.004		0.75
MTB*R				-0.009	**	-2.43	-0.009	*	-1.94
MTB*DP				0.001		0.51	-0.003		-0.95
MTB*R*DR				0.010		1.27	0.007		0.66
SIZE				0.000		0.00	0.004		0.44
SIZE*DR				0.010	**	2.02	0.003		0.52
SIZE*R				-0.002		-0.50	-0.006		-1.19
SIZE*DP				0.003		0.79	0.002		0.55
SIZE*R*DR				-0.015		-1.06	0.000		0.01
LEV				0.020	***	2.88	0.008		0.77
LEV*DR				0.056	***	6.10	0.044	***	4.13
LEV*R				-0.026	***	-2.97	-0.026	***	-2.70
LEV*DP				-0.049	***	-10.19	-0.053	***	-11.40
LEV*R*DR				0.188	***	13.03	0.120	***	6.33
DP*R*DR*SL	0.826	***	2.89	0.616	***	2.65	1.203	***	4.40
MTB*R*DR*SL				0.042		0.81	0.082		1.41
SIZE*R*DR*SL				-0.162	**	-2.24	0.017		0.18
LEV*R*DR*SL				0.296	***	7.36	0.436	***	6.21
Number of Observations		2300			2300			2300	
Firm Fixed Effects		No			No			Yes	
Year Fixed Effects		No			No			Yes	
Adjusted R^2		0.18			0.52			0.76	

Panel C. Debt Covenant Slack and Asymmetric Timeliness one year after Borrowing

Dependent Variable : $(E/P)_{t+1}$									
	Model 1			Model 2			Model 3		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.0505	***	3.73	0.0603	**	2.05	0.0376	*	1.78
DR	0.0451	*	1.82	-0.1423	**	-2.50	-0.1502	**	-2.40
R	0.0343	**	2.15	0.0800	**	2.00	0.0746		1.50
R*DR	0.3297	***	5.64	0.0106		0.08	0.0119		0.06
SL	-0.0088		-0.09	-0.0540		-0.76	-0.0426		-0.98
SL*DR	0.0544		0.32	0.2575	**	2.10	0.2671	***	2.67
SL*R	-0.0591		-0.68	-0.0600		-0.97	-0.0717	*	-1.78
SL*R*DR	0.9722	***	2.88	1.7189	***	7.06	1.7734	***	5.19
MTB				-0.0044	**	-2.19	-0.0044	***	-4.44
MTB*DR				0.0126	*	1.72	0.0142	***	2.72
MTB*R				-0.0006		-0.14	-0.0001		-0.01
MTB*R*DR				0.0184		1.21	0.0182		1.21
SIZE				0.0033		0.74	0.0016		0.59
SIZE*DR				0.0056		0.67	0.0056		0.68
SIZE*R				-0.0089		-1.24	-0.0074		-0.86
SIZE*R*DR				-0.0388	**	-1.97	-0.0385		-1.26
LEV				-0.0252	***	-2.84	-0.0264	*	-1.83
LEV*DR				0.1194	***	7.36	0.1188	***	3.65
LEV*R				0.0047		0.44	0.0063		0.47
LEV*R*DR				0.4387	***	17.23	0.4352	***	7.73
Number of Observations	1150			1150			1150		
Firm Fixed Effects	No			No			Yes		
Year Fixed Effects	No			No			Yes		
Adjusted R^2	0.18			0.59			0.60		

Table 5: Debt Covenant Slack and Conservatism Change after Borrowing (Accruals Measure)

Accrual is nonoperating accruals defined as total accruals minus operating accruals where total accruals are defined as net income, plus depreciation, minus cash flow from operations, deflated by lagged assets [(data #172 + data #14 – data #308)/lag (data #6)] and operating accruals are measured as change in non-cash current assets [COMPUSTAT data #4 – data # 1] minus change in current liabilities excluding short term debt [COMPUSTAT data #5 – data # 34], deflated by lagged assets. $\Delta Accrual_{t,t+1}$ is the change in accrual from t to t + 1. Subscripts t and t+1 indicate borrowing year and one year after borrowing year, respectively. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. $\Delta CFO_{t,\, t+1}$ is change in cash flow from operations from t to t + 1, deflated by lagged assets [COMPUSTAT data #308/ lag (data #6)]. $\Delta Sale_{t,t+1}$ is change in sales from t to t + 1, deflated by lagged assets [COMPUSTAT data #12/ lag (data #6)]. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. Panel A presents the mean and standard deviation values of nonoperating accruals for three subgroups that are divided based on debt covenant slack at borrowing year. It also shows t-test results on the difference of accruals between low slack and high slack subgroups. The low-slack (high-slack) group is the group with the tightest (least tight) slack among the three subgroups. Panel B presents results from OLS regression estimates for the relation between net worth slack at borrowing year and change in accruals from borrowing year to the following year. t-statistics are in parentheses. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Nonoperating Accruals Change after Borrowing in Subgroup

	Low Slack (A)		Medium Slack (B)		High Slack (C)		Test of difference [(A)-(C)]
	Mean	Std	Mean	Std	Mean	Std	Mean
$Accrual_t$ (a)	-0.027	0.083	-0.031	0.080	-0.015	0.070	-0.012 **
							(-2.29)
$Accrual_{t+1}$ (b)	-0.033	0.082	-0.026	0.073	-0.041	0.143	0.008
							(0.97)
Test of difference [(b)-(a)]							
$\Delta Accrual_{t,\, t+1}$	-0.005	0.112	0.006	0.102	-0.026 ***	0.143	0.020 **
	(-0.97)		(1.12)		(-3.62)		(2.25)
Number of Observations	402		403		402		

Panel B. Debt Covenant Slack and Nonoperating Accruals Change

Dependent Variable : $\Delta Accrual_{t,\ t+1}$									
	Model 1			Model 2			Model 3		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.0125	**	2.41	0.0164		1.19	0.0079		0.50
SL	-0.1226	***	-3.84	-0.1364	***	-4.21	-0.1406	**	-2.04
$\Delta CFO_{t,\ t+1}$	-0.0835	**	-2.11	-0.0940	**	-2.35	-0.0864	*	-1.71
$\Delta Sale_{t,\ t+1}$	-0.0337	***	-4.27	-0.0372	***	-4.58	-0.0382	***	-2.69
MTB_t				-0.0037	***	-2.88	-0.0036	*	-1.72
$Size_t$				0.0017		0.76	0.0010		0.41
LEV_t				-0.0023		-1.37	-0.0024		-1.46
Number of Observations	1207			1207			1207		
Firm Fixed Effects	No			No			Yes		
Year Fixed Effects	No			No			Yes		
Adjusted R^2	0.03			0.04			0.05		

Table 6: Conservatism Change after Borrowing and Changes in Credit Rating (Asymmetric Timeliness Measure)

(*E/P*) is earnings per share in the fiscal year divided by the price per share at the beginning of the fiscal year [COMPUSTAT data #18/(lag (COMPUSTAT data #199)*COMPUSTAT data #25)]. *DR* is dummy variable set equal to 1 if *R* is negative and 0 otherwise. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. *DP* is dummy variable set equal to 1 if *R* belongs to t + 1 and 0 otherwise. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. $\Delta Rating_{t,\,t+1}$ is Change in S&P long-term domestic issuer credit rating from *t* to *t* + 1 [COMPUSTAT data #280 at *t* + 1, less data #280 at *t*]. Panel A presents results from OLS regression estimated for association between debt-covenant slack and conservatism change after borrowing in a Rating-Downgrade group and Rating-Upgrade group. A Rating-Downgrade (Upgrade) group is composed of firms whose credit ratings are downgraded (upgraded) after borrowing. Panel B presents results from OLS regression estimates for association between rating change after borrowing and a positive relation between conservatism and debt-covenant slack. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Debt Covenant Slack and Conservatism Change after Borrowing in Rating-Downgrade and Rating-Upgrade Subgroup

	Dependent Variable : (E/P)			
	Rating-Downgrade (1)		Rating-Upgrade (2)	
Ind. Variable	Coeff	t-stat	Coeff	t-stat
Intercept	0.330	1.42	0.199	1.18
DR	-0.197	-0.83	0.279	1.23
R	-0.742 *	-1.96	0.222	1.08
R*DR	0.761	1.14	0.127	0.29
DP	0.012	0.06	-0.217	-1.16
DP*R	-0.146	-1.00	0.080	1.11
DP*R*DR	-0.092 ***	-0.26	-0.331 **	-2.10
SL	1.535 **	2.90	0.089	0.42
SL*DR	-1.498 ***	-2.57	-0.102	-0.42
SL*R	-5.262	-2.82	-0.160	-0.34
SL*R*DR	4.085	1.26	3.986	0.61
MTB	0.010	0.27	0.005	0.53
MTB*DR	-0.019	-0.47	-0.032 *	-1.77
MTB*R	-0.148	-1.36	-0.014	-1.02
MTB*DP	0.008	0.31	-0.004	-0.56
MTB*R*DR	0.082	0.58	0.020	0.34
SIZE	-0.052 *	-1.66	-0.015	-0.71
SIZE*DR	0.039	1.14	-0.022	-0.76
SIZE*R	0.201 ***	2.64	-0.019	-0.70
SIZE*DP	0.000	-0.02	0.026	0.99
SIZE*R*DR	-0.181 *	-1.83	0.003	0.05
LEV	-0.075	-0.99	-0.024	-0.49
LEV*DR	0.106	1.39	-0.090	-0.98
LEV*R	0.061	0.49	-0.055	-1.28
LEV*DP	-0.037	-1.41	0.025	0.67
LEV*R*DR	0.008	0.05	0.090	0.69
DP*R*DR*SL	5.450 *	1.91	0.744	0.63
MTB*R*DR*SL	0.666	1.18	-1.264	-1.16
SIZE*R*DR*SL	-0.151	-0.43	-0.183	-0.19
LEV*R*DR*SL	0.503 **	2.48	-1.385	-1.42
Number of Observations	124		143	
Firm Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Adjusted R^2	0.86		0.47	

Panel B. Credit Rating Change and Positive Relation between Conservatism Change and Debt Covenant Slack

Dependent Variable : $(E/P)_{t+1}$									
	Model 1			Model 2			Model 3		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.0535	***	6.24	0.0586		1.43	0.0669		1.50
DR	-0.0043		-0.18	-0.0255		-0.25	-0.0056		-0.06
R	0.0316	**	2.26	0.0893		0.62	0.0670		0.44
R*DR	0.0291		0.32	0.2968		0.61	0.3733		0.79
SL	-0.0232		-0.36	-0.1311	*	-1.85	-0.1116		-1.53
SL*DR	0.3829	*	1.89	0.4064	**	2.48	0.4103	**	2.42
SL*R	-0.0583		-0.51	-0.0666		-0.59	-0.0691		-0.61
SL*R*DR	2.7148	**	2.45	2.7959	***	3.01	2.8802	***	3.08
ΔRating $_{t,\ t+1}$	-0.0197	*	-1.69	-0.0074		-0.63	-0.0080		-0.64
ΔRating $_{t,\ t+1}$*DR	0.0610	**	2.35	0.0399		1.29	0.0450		1.46
ΔRating $_{t,\ t+1}$*R	-0.0074		-0.29	-0.0051		-0.22	-0.0055		-0.23
ΔRating $_{t,\ t+1}$*SL	0.0807		0.83	-0.0597		-0.65	-0.0545		-0.56
ΔRating $_{t,\ t+1}$*R*DR	0.0245		0.25	0.0377		0.36	0.0532		0.50
MTB				-0.0083	*	-1.83	-0.0074		-1.48
MTB*DR				0.0053		0.72	0.0037		0.46
MTB*R				0.0031		0.49	0.0026		0.39
MTB*R*DR				-0.0063		-0.23	-0.0073		-0.25
SIZE				0.0065		1.19	0.0034		0.60
SIZE*DR				-0.0027		-0.23	-0.0046		-0.39
SIZE*R				-0.0067		-0.35	-0.0027		-0.13
SIZE*R*DR				-0.0574		-0.92	-0.0671		-1.14
LEV				-0.0381	*	-1.96	-0.0384	**	-2.02
LEV*DR				0.0304		0.76	0.0200		0.51
LEV*R				-0.0042		-0.14	-0.0023		-0.07
LEV*R*DR				0.1106		0.85	0.0909		0.71
ΔRating $_{t,\ t+1}$*SL*R*DR	2.9832	***	3.36	1.8913	**	1.98	1.8798	**	1.97
Number of Observations	442			442			442		
Firm Fixed Effects	No			No			Yes		
Year Fixed Effects	No			No			Yes		
Adjusted R^2	0.48			0.59			0.60		

Table 7: Conservatism Change after Borrowing and Changes in Credit Rating (Accruals Measure)

This table presents results from OLS regression estimates for the relation between change in accruals and change in credit rating from the borrowing year to the following year. $\Delta Accrual_{t, t+1}$ is change of *Accrual* from *t* to *t+1*. *Accrual* is nonoperating accruals defined as total accruals minus operating accruals where total accruals are defined as net income, plus depreciation, minus cash flow from operations, deflated by lagged assets [(data #172 + data #14 – data #308)/lag (data #6)] and operating accruals are measured as change in non-cash current assets [COMPUSTAT data #4 – data # 1] minus change in current liabilities excluding short term debt [COMPUSTAT data #5 – data # 34], deflated by lagged assets. Subscripts *t*, and *t*+1 indicate borrowing year, and one year after borrowing year, respectively. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. $\Delta CFO_{t, t+1}$ is change in cash flow from operations from *t* to *t* + 1, deflated by lagged assets [COMPUSTAT data #308/ lag (data #6)]. $\Delta Sale_{t, t+1}$ is change in sales from *t* to *t* + 1, deflated by lagged assets [COMPUSTAT data #12/ lag (data #6)]. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. $\Delta Rating_{t, t+1}$ is Change in S&P long-term domestic issuer credit rating from *t* to *t* + 1 [COMPUSTAT data #280 at *t* + 1, less data #280 at *t*]. Subscripts *t*, and *t*+1 indicate borrowing year, and one year after borrowing year, respectively. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable : $\Delta Accrual_{t, t+1}$									
	Model 1			Model 2			Model 3		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.0119		1.51	0.0149		0.44	-0.0006		-0.01
SL	-0.0722		-1.24	-0.0613		-1.06	-0.0690		-1.09
$\Delta CFO_{t, t+1}$	-0.2781	***	-3.54	-0.2598	***	-2.76	-0.2742	***	-3.05
$\Delta Sale_{t, t+1}$	-0.0145		-0.91	-0.0205		-1.24	-0.0223		-1.37
$\Delta Rating_{t, t+1}$	-0.0006		-0.09	0.0010		0.14	0.0032		0.44
MTB_t							-0.0023		-1.22
$Size_t$							0.0031		0.71
LEV_t							0.0018		0.35
$\Delta Rating_{t, t+1}$*SL	-0.1495	***	-3.11	-0.1590	***	-2.95	-0.1337	**	-2.31
Number of Observations	393			393			393		
Firm Fixed Effects	No			Yes			Yes		
Year Fixed Effects	No			Yes			Yes		
Adjusted R^2	0.09			0.14			0.12		

Table 8: Conservatism Change after Borrowing and Bank Monitoring (Asymmetric Timeliness Measure)

(*E/P*) is earnings per share in the fiscal year divided by the price per share at the beginning of the fiscal year [COMPUSTAT data #18/(lag (COMPUSTAT data #199)*COMPUSTAT data #25)]. *DR* is dummy variable set equal to 1 if *R* is negative and 0 otherwise. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. *DP* is dummy variable set equal to 1 if *R* belongs to t + 1 and 0 otherwise. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. Panel A presents results from OLS regression estimated for association between debt-covenant slack and conservatism change after borrowing in High/Low lead arranger portion. The High (Low) lead arranger portion group consists of firms whose loans have above (below) median lead arranger portion. Panel B presents results from OLS regression estimated for association between debt-covenant slack and conservatism change after borrowing in Small/Large number of lenders group. The Small (Large) number of lenders group consists of firms whose loans have above (below) median number of lenders. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. High and Low Loan Portion of Lead Arranger Subgroup

Dependent Variable : (E/P)						
	High Lead Arranger Portion (1)			Low Lead Arranger Portion (2)		
Ind. Variable	Coeff		t-stat	Coeff		t-stat
Intercept	0.058		1.19	0.085	**	2.34
DR	-0.115	*	-1.72	0.058		0.64
R	0.067		1.08	0.208	**	2.33
R*DR	0.189		0.85	0.243		0.72
DP	0.023		0.53	-0.005		-0.25
DP*R	-0.015		-0.53	0.016		1.06
DP*R*DR	0.095		1.09	-0.055		-1.36
SL	-0.082		-1.48	0.065		1.24
SL*DR	-0.056		-0.59	-0.069		-0.76
SL*R	-0.123	*	-1.75	-0.236	*	-1.81
SL*R*DR	-0.440		-0.33	0.140		0.45
MTB	-0.006		-0.60	-0.003		-1.30
MTB*DR	-0.016		-0.92	0.000		0.00
MTB*R	-0.017		-1.54	-0.005		-1.23
MTB*DP	0.012		1.22	-0.001		-0.35
MTB*R*DR	-0.019		-0.74	-0.005		-0.34
SIZE	0.004		0.53	-0.004		-0.97
SIZE*DR	0.024	**	2.09	-0.002		-0.26
SIZE*R	0.003		0.28	-0.010		-1.08
SIZE*DP	-0.004		-0.49	0.001		0.32
SIZE*R*DR	-0.032		-0.78	-0.020		-0.58
LEV	0.031		1.51	0.008		0.74
LEV*DR	0.006		0.29	0.003		0.17
LEV*R	-0.071	*	-1.73	-0.039	**	-2.13
LEV*DP	-0.051	**	-2.44	-0.010		-1.30
LEV*R*DR	0.106		1.62	0.003		0.04
DP*R*DR*SL	-0.089		-0.16	0.336	*	1.77
MTB*R*DR*SL	0.058		0.26	-0.042		-0.30
SIZE*R*DR*SL	0.042		0.20	-0.047		-0.74
LEV*R*DR*SL	0.774	*	1.79	0.598	**	1.98
Number of Observations	732			743		
Firm Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Adjusted R^2	0.41			0.25		

Panel B. Small and Large Number of Lenders Subgroup

Dependent Variable : (E/P)						
	Small # of Lenders (1)			Large # of Lenders (2)		
Ind. Variable	Coeff		t-stat	Coeff		t-stat
Intercept	0.051	*	1.65	0.089	***	3.20
DR	-0.183	***	-2.77	0.003		0.06
R	0.126	***	3.83	-0.026		-0.38
R*DR	-0.299		-1.32	0.111		0.67
DP	0.018		0.47	0.030		1.16
DP*R	-0.006		-0.29	0.006		0.35
DP*R*DR	0.059		0.77	-0.027		-0.49
SL	-0.061		-1.27	0.025		0.80
SL*DR	-0.001		-0.01	-0.280	***	-2.71
SL*R	-0.142	**	-2.07	-0.051		-1.06
SL*R*DR	1.535		1.46	-1.289	**	-2.37
MTB	-0.006		-0.98	0.002		0.52
MTB*DR	-0.008		-0.61	0.000		0.10
MTB*R	-0.006		-0.97	-0.012	**	-2.31
MTB*DP	0.006		1.09	-0.002		-0.93
MTB*R*DR	-0.016		-0.75	0.036	*	1.83
SIZE	0.000		0.06	-0.002		-0.46
SIZE*DR	0.032	***	2.77	0.004		0.55
SIZE*R	-0.004		-0.63	-0.006		-0.60
SIZE*DP	-0.001		-0.17	-0.002		-0.68
SIZE*R*DR	0.037		0.89	-0.021		-0.57
LEV	0.040	**	2.17	0.016		1.47
LEV*DR	0.063	**	2.09	-0.024		-0.93
LEV*R	-0.081	*	-1.92	-0.014		-1.05
LEV*DP	-0.065	***	-3.43	-0.016		-1.18
LEV*R*DR	0.313	***	4.17	-0.014		-0.22
DP*R*DR*SL	0.089		0.20	0.486		1.31
MTB*R*DR*SL	-0.007		-0.03	0.092		0.65
SIZE*R*DR*SL	-0.211		-1.06	0.171		0.82
LEV*R*DR*SL	0.026		0.20	0.856	***	3.33
Number of Observations	1132			1087		
Firm Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Adjusted R^2	0.61			0.54		

Table 9: Conservatism Change after Borrowing and Bank Monitoring (Accruals Measure)

This table presents results from OLS regression estimates for the relation between change in accruals and monitoring incentives of lenders. $\Delta Accrual_{t,t+1}$ is change of *Accrual* from *t* to *t+1*. *Accrual* is nonoperating accruals defined as total accruals minus operating accruals where total accruals are defined as net income, plus depreciation, minus cash flow from operations, deflated by lagged assets [(data #172 + data #14 – data #308)/lag (data #6)] and operating accruals are measured as change in non-cash current assets [COMPUSTAT data #4 – data # 1] minus change in current liabilities excluding short term debt [COMPUSTAT data #5 – data # 34], deflated by lagged assets. Subscripts *t*, and *t*+1 indicate borrowing year, and one year after borrowing year, respectively. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. $\Delta CFO_{t, t+1}$ is change in cash flow from operations from *t* to *t* + 1, deflated by lagged assets [COMPUSTAT data #308/ lag (data #6)]. $\Delta Sale_{t, t+1}$ is change in sales from *t* to *t* + 1, deflated by lagged assets [COMPUSTAT data #12/ lag (data #6)]. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. *Monitor* is either the number of lenders in the loans or the loan portion of lead arranger. Subscripts *t*, and *t*+1 indicate borrowing year, and one year after borrowing year, respectively. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable : ΔAccrual $_{t, t+1}$						
	Number of Lenders			Lead Arranger's Portion		
Ind. Variable	Coeff		t-stat	Coeff		t-stat
Intercept	-0.4548	***	-3.18	-0.0258		-1.19
SL	0.0750		0.67	-0.1934	***	-3.28
$\Delta CFO_{t, t+1}$	-0.2559	***	-3.03	0.0229		0.35
$\Delta Sale_{t, t+1}$	-0.0232		-1.06	-0.0825	***	-4.41
Monitor	0.0016		1.23	0.0000		0.59
MTB_t	-0.0054		-1.61	-0.0045	*	-1.72
$Size_t$	0.0204		1.43	0.0039		1.33
LEV_t	0.0090		0.79	0.0029		0.60
Monitor*SL	-0.0203	**	-2.36	0.0014	*	1.87
Number of Observations	1079			578		
Firm Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Adjusted R^2	0.82			0.15		

Table 10: Debt Covenant Slack and Special Items

This table presents results from OLS regression estimates for the relation between net worth slack in borrowing year and special items in the following year. *SP* is special items at either *t* or *t*+1, deflated by lagged assets [(COMPUSTAT data #17) / lag (data #6)]. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. Subscripts *t*, and *t*+1 indicate borrowing year, and one year after borrowing year, respectively. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable : SP_{t+1}									
	Model 1			Model 2			Model 3		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	-0.0142	*	-1.85	-0.0185	**	-2.39	0.0028		0.27
SL	-0.0628	***	-3.67	-0.0607	***	-3.53	-0.0590	**	-2.52
SP_t	0.0884	**	2.38	0.0768	**	2.07	0.0761	*	1.70
MTB_t	-0.0043	***	-6.94	-0.0042	***	-6.74	-0.0041	**	-2.30
$SIZE_t$	0.0026	**	2.21	0.0028	**	2.37	0.0023		1.43
LEV_t	-0.0015		-0.84	-0.0010		-0.58	-0.0010		-0.66
R_{t+1}				0.0112	***	4.19	0.0110	***	3.38
Number of Observations	1015			1015			1015		
Firm Fixed Effects	No			No			Yes		
Year Fixed Effects	No			No			Yes		
Adjusted R^2	0.06			0.07			0.08		

Table 11: Conservatism and Debt Covenant Slack in Borrowing Year (Asymmetric Timeliness Measure)

This table presents results from OLS regression estimates for the relation between asymmetric timeliness level and covenant slack in borrowing year. (*E/P*) is earnings per share in the fiscal year divided by the price per share at the beginning of the fiscal year [COMPUSTAT data #18/(lag (COMPUSTAT data #199)*COMPUSTAT data #25)]. *DR* is dummy variable set equal to 1 if *R* is negative and 0 otherwise. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. *MTB* is market value of equity deflated by book value of equity [data #199 * data #25/data #216]. *SIZE* is natural log of the market value of equity [log (COMPUSTAT data #199 * data #25)]. *LEV* is sum of long-term debt and debt in current liabilities deflated by market value of equity [(COMPUSTAT data #9 + data #34)/(data #199 * data #25)]. Subscripts *t*, and *t*+1 indicate borrowing year, and one year after borrowing year, respectively. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable : $(E/P)_t$									
	Model 1			Model 2			Model 3		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
Intercept	0.0574	***	9.69	0.0515	***	2.84	0.0749	***	4.44
DR	0.0298	***	2.65	-0.0236		-0.73	-0.0238		-0.75
R	0.0271	***	3.17	0.0715	***	3.05	0.0743	**	2.54
R*DR	0.1885	***	6.12	0.1817	**	2.17	0.1658		1.54
SL	-0.0756	*	-1.67	-0.0583		-1.26	-0.0601		-1.25
SL*DR	-0.1666	**	-2.10	-0.1495	*	-1.87	-0.1444		-1.14
SL*R	0.0856		1.01	0.0608		0.69	0.0594		0.55
SL*R*DR	-0.6569	***	-2.81	-0.3928	*	-1.68	-0.3614		-1.06
MTB				-0.0041		-1.51	-0.0041		-1.61
MTB*DR				-0.0032		-0.74	-0.0026		-0.46
MTB*R				-0.0040		-1.03	-0.0038		-0.89
MTB*R*DR				-0.0072		-0.97	-0.0068		-0.71
SIZE				0.0018		0.66	0.0013		0.51
SIZE*DR				0.0085	*	1.75	0.0082		1.42
SIZE*R				-0.0042		-1.11	-0.0042		-0.97
SIZE*R*DR				-0.0133		-0.99	-0.0095		-0.55
LEV				0.0057		0.87	0.0073		1.23
LEV*DR				-0.0018		-0.18	-0.0040		-0.36
LEV*R				-0.0104		-1.28	-0.0120		-1.32
LEV*R*DR				0.0348	**	2.07	0.0354	*	1.76
Number of Observations	1150			1150			1150		
Firm Fixed Effects	No			No			Yes		
Year Fixed Effects	No			No			Yes		
Adjusted R^2	0.14			0.18			0.22		

Table 12: Endogeneity of Debt Covenant Slack

This table presents results from OLS regression estimates for the determination of covenant slack and robustness check results of asymmetric timeliness measure using residual from the determination model of covenant slack. Panel A presents OLS regression estimates of the determination model of covenant slack. *SL* is net-worth slack defined as actual net worth minus net worth covenant, deflated by asset. *Volatility* is standard deviation of the net worth of borrowers for prior three years before the contracts. *N_Cov* is the log of the number of covenants in the contract. *Maturity* is the log of the tenure of the loan in months. *Spread* is the log of the amount the borrower pays in basis points over LIBOR for each dollar drawn down. *Perf* is 1 if the deal has a performance pricing scheme in the contract and 0 otherwise. *Profitabilty* is income before extraordinary items (data #18) scaled by asset (data #6) before the contract. Panel B presents robustness check of H1. ε is residual from the determination model of covenant slack. Low ε group consists of firms with above (below) median ε. *DR* is dummy variable set equal to 1 if *R* is negative and 0 otherwise. *R* is return of individual firm over the 12 months beginning nine months prior to the end of the fiscal year. *DP* is dummy variable set equal to 1 if *R* belongs to t + 1 and 0 otherwise. Panel C presents robustness check of H2. A Rating-Downgrade (Upgrade) group is composed of firms whose credit ratings are downgraded (upgraded) after borrowing. Panel D presents robustness check of H4. The High (Low) lead arranger portion group consists of firms whose loans have above (below) median lead arranger portion. The Small (Large) number of lenders group consists of firms whose loans have above (below) median number of lenders. The standard errors are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Determination of Debt Covenant Slack

Dependent Variable : SL			
Ind. Variable	Coeff		t-stat
Intercept	0.2309	**	2.23
Volatility	0.0052	**	2.29
N_Cov	-0.0214	**	-2.56
Maturity	-0.0231	**	-2.22
Spread	-0.0090		-1.62
Perf	-0.0234	***	-2.84
Profitability	-0.0486		-1.32
Number of Observations	977		
Firm Fixed Effects	Yes		
Year Fixed Effects	Yes		
Adjusted R^2	0.04		

Panel B. Robustness check of H1

Dependent Variable : (E/P)						
	Low ε Group			High ε Group		
Ind. Variable	Coeff		t-stat	Coeff		t-stat
DP*R*DR	0.178	*	1.92	0.312	***	3.91
Number of Observations	646			648		
Firm Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Adjusted R^2	0.81			0.79		

Panel C. Robustness check of H2

Dependent Variable : (E/P)						
	Rating-Downgrade			Rating-Upgrade		
Ind. Variable	Coeff		t-stat	Coeff		t-stat
DP*R*DR*$_{\varepsilon}$	5.303	*	1.96	2.970		1.01
Number of Observations	109			120		
Firm Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes			Yes		
Adjusted R^2	0.87			0.50		

Panel D. Robustness check of H3

Dependent Variable : (E/P)												
	High Lead Arranger Portion			Low Lead Arranger Portion			Small Number of Lenders			Large Number of Lenders		
Ind. Variable	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat	Coeff		t-stat
DP*R*DR*$_{\varepsilon}$	0.197		0.30	0.255	*	1.69	0.309		0.50	0.306		1.01
Number of Observations	613			692			982			963		
Firm Fixed Effects	Yes			Yes			Yes			Yes		
Year Fixed Effects	Yes			Yes			Yes			Yes		
Adjusted R^2	0.45			0.26			0.61			0.54		

Chapter III

Can Firms Adjust Their Opaqueness to Lenders? Evidence from Foreign Bank Entry into India*

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Abstract

This paper investigates the impact of financial market competition on a firm's choice regarding accounting quality. In particular, this paper uses the entry of foreign banks into India during the 1990s—analyzing variation in both the timing of the new foreign banks' entries and in their location—to estimate the effect of increased banking competition on firms' timely recognition of economic losses, an important aspect of accounting quality to lenders. The estimates indicate that foreign bank entry is associated with improved accounting quality among firms, and this improvement is positively related to a firm's subsequent debt level. The change in accounting quality appears driven by a shift in firms' incentives to supply higher quality information to lenders and lenders seem to value this information. The increase in accounting quality is also greatest among private firms, smaller firms, less profitable firms, and firms more dependent on external financing. Overall, our evidence suggests that a firm's opaqueness is not static, and that a firm's choice regarding accounting quality is a function of credit market competition.

Keywords: Banking Competition, Opaqueness, Accounting Quality, India
JEL Classification: D82, G21, O16, M41

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Whether increased financial market competition improves credit access for all firms has been an open question in finance for many years. Theories that incorporate information asymmetries demonstrate that greater competition among lenders has the potential to reduce credit access for informationally-opaque firms (Petersen and Rajan, 1995), and evidence from the deregulation of U.S. banking markets seems to support this possibility (Zarutskie, 2006). The welfare of such opaque firms in competitive lending environments, however, may depend on a number of factors. The source of competition (Boot and Thakor, 2000) and the response of existing lenders to increased competition (Dell'Ariccia and Marquez, 2004; Sengupta, 2007) may each affect whether opaque firms are adversely affected by an increase in financial competition.

Another, less explored, factor that might affect the impact of increased financial competition on opaque firms is the extent to which firms' opaqueness is fixed. By providing lenders with higher quality financial reports, firms can reduce their opaqueness when the cost of being opaque increases. One way firms could accomplish this is through a more timely accounting recognition of economic losses. While timely loss recognition can be costly for firms by lowering stated earnings, which may then reduce outsiders' valuation of the company and constrain dividend payments, it can benefit firms by enhancing the efficiency of debt contracting and improving a firm's ability to obtain debt-financing (Ahmed, Billings, Morton, and Harris, 2002; Ball and Shivakumar, 2005; Leuz, Nanda and Wysocki, 2003).[4] This enhanced efficiency occurs because timely loss recognition, which is easily verified by a lender using a firm's historic accounting statements, reduces the likelihood of a borrower's current financial position being

[4] The costs and benefits of timely loss recognition have been extensively studied in the accounting literature. For more details, see Watts and Zimmerman (1990) and Watts (2003a).

overstated. This enables lenders to better screen borrowers' creditworthiness, to construct financial covenants more effectively, and to mitigate agency conflicts pertaining to dividend policy.

The possibility that a firm's opaqueness may not be static is the focus of our paper. In particular, we ask the following questions: Does a firm's accounting quality change when credit market competition and the cost of being opaque increases? And if so, for which firms are these changes most prominent, and do lenders appear to value these changes? To answer these questions, we study firms' accounting choices during the entry of foreign banks into India in the 1990s.

The entry of foreign banks into India provides two key advantages in analyzing whether firms adjust their accounting quality to reflect changes in lending environments. First, theory suggests that the costs of being opaque may be particularly high following an increase in financial competition. Foreign bank's entry into India leads to an increase in financial competition, which may directly increase the cost of being opaque (Petersen and Rajan, 1995). Additionally, foreign banks may also be less able to acquire soft information about local firms (Stein, 2002). This limited information may lead foreign banks to only finance firms that are less informationally opaque, larger, or extremely profitable (Dell'Arricia and Marquez, 2004; Segupta, 2007), and this 'cream-skimming' by foreign banks can reduce opaque firms' access to domestic lenders (Detragiache, Gupta, and Tressal, 2008; Gormley, 2007).

Second, geographical variation in foreign bank locations over time facilitates the use of novel identification techniques. We make use of the staggered entry of foreign banks into India following the country's 1994 commitment to the World Trade

Organization (WTO). Some districts of India received a foreign bank branch as early as 1994, while others did not receive such a branch until 2001, and as of today, many districts have yet to receive a foreign bank. Matching this information to a large panel dataset of firms' audited financial statements, we compare changes in accounting quality between domestic firms located geographically near the new foreign banks and domestic firms located further from the new foreign banks. The variation *both* in the timing of the new foreign banks' entries *and* in their location within the country reduces potential confounding effects that might arise from other country-wide changes in financial market competitiveness or accounting standards. Such country-wide changes would affect all firms in India and therefore unlikely explain differential changes in accounting quality for firms located geographically near foreign banks versus those that are not. By using firm-level data, we can also test for heterogeneous effect across firms as well as control for any differences in the types of firms located in areas with a new foreign bank.

To measure a firms' timely recognition of economic losses, we rely on established methodologies in the accounting literature. In particular, we follow the research design by Ball and Shivakumar (2005) and apply an accrual-cash flow non-linear regression technique. Since this measure of accounting timeliness only relies on the information in firms' historical financial statements, we are able to calculate it for both public and private firms in India. This is particularly important since the cost of being opaque is likely more acute for private firms after foreign bank entry. Following Basu (1997), we also adopt another measure of timely loss recognition using earnings time-series regression, and our main results are robust to this alternative measure.

Using the aforementioned framework, we find evidence that firms' accounting choices are associated with changes in the lending environment. The overall level of accounting quality, as measured by the timely loss recognition, increases for firms located in the vicinity of new foreign banks following their entry. Firms located in districts without any foreign bank entry do not change their financial reporting policies, and there is no evidence of timely loss recognition prior to foreign bank entry. The increases in accounting quality are concentrated among firms with the strongest incentives to adjust their accounting procedures so as to reduce information asymmetries and alleviate financing constraints. We find that smaller, less profitable, and private firms, particularly private firms with greater dependence on external financing, increase their timely loss recognition the most. The findings are robust to the use of different samples, control variables, and model specifications.

The evidence also indicates that lenders value this change in accounting quality. Within districts that experience a foreign bank entry, we find the largest accounting quality improvements occur, on average, among firms that maintain or increase their level of borrowings following foreign bank entry, whereas firms that experience declines in their debt levels exhibit a smaller average increase in accounting quality.

The evidence in this study provides a new perspective to the potential effects of greater financial market competition on lending relationships and the supply of credit to informationally-opaque firms (Berger, Saunders, Scalise, and Udell, 1998; Degryse and Ongena, 2007; Sapienza, 2002; Rice and Strahan, 2009; and Zarutskie, 2006). Contrary to analyzing whether the credit access or performance of opaque firms decline, our paper looks at whether these firms reduce their opaqueness to lenders following an increase in financial competition. Our evidence suggests that firms' opaqueness may not be completely fixed and that firms attempt to furnish additional and easily verifiable information to lenders to mitigate the potential adverse outcomes of greater financial market competition. This possible adjustment by firms has been overlooked in the existing literature that studies the potential effects of greater bank competition.

This paper is also related to the empirical literature that studies the relationships between foreign bank entry, domestic bank performance, interest rates, and firms' debt usage.[5] This paper compliments this literature by analyzing the changes in firms' accounting practices following foreign bank entry and showing that these changes may be related to a firm's demand for credit. In the extant literature, there is a void in investigating how firms adapt their behavior in response to foreign lenders' entry, with the exception of Berger, Klapper, Peria, and Zaidi (2008). They document that firms may choose to have multiple bank relationships as an insurance against the 'fragility' of foreign bank relationships. Our study provides evidence that domestic firms may also resort to improving accounting quality to alleviate information asymmetries and the potential adverse effects of foreign bank entry. The observed increase is consistent with theories suggesting that competition from foreign lenders may affect the importance of firms' opaqueness (Dell'Arricia and Marquez, 2004; Gormley, 2007; Sengupta, 2007).

Finally, our paper is related to the accounting literature that analyzes the importance of timely loss recognition and its impact on debt contracts (Ahmed, Billings, Morton, and Harris, 2002; Zhang, 2008; Moerman, 2008; Beatty, Weber, and Yu, 2008;

[5] Claessens, Demirguc-Kunt, and Huizinga (2001) uncover evidence that foreign bank entry is associated with lower profit margins among domestic banks, while Berger, Klapper, and Udell (2001), Haber and Musacchio (2004), and Mian (2006) provide evidence that foreign banks tend to finance only larger, more established firms. Clarke, Cull, and Martinez Peria (2006) find that entrepreneurs in countries with high levels of foreign bank ownership perceive interest rates and access to loans as smaller constraints to their operations. Detragiache, Gupta, and Tressal (2008) and Gormley (2008) find that foreign ownership is negatively related to aggregate and firm-level measures of debt-usage, while within Eastern European countries, Giannetti and Ongena (2009a) find the share of foreign lending to be positively related to firm-level sales and overall debt usage, particularly for larger firms. Giannetti and Ongena (2009b) also find that foreign bank entry may make bank relationships more stable and enhance financial access.

Guay 2008). Rather than analyze the importance of timely reporting of losses in a static credit market, however, our paper tests whether changes in lending market competition are correlated to changes in firms' accounting choices.[6] Our paper provides supporting evidence to the arguments of Ball (2001) and Kothari (2001) that institutional mechanisms are important in shaping a country's accounting quality. Our paper also corroborates Ball, Robin, and Sadka (2008), who show that the debt market rather than the equity market drives timely loss recognition among firms.

The remainder of the paper proceeds as follows. Section 1 provides a review of India's policy change. Section 2 develops testable hypotheses. Section 3 describes the data and research design. Section 4 presents empirical results, and Section 5 concludes.

1. Description of Policy Change in India

Prior to 1991, India's economy and financial system was heavily regulated and dominated by the public sector. Following a balance of payments crisis in 1991, however, a number of structural reforms were implemented that greatly deregulated many economic activities. In November 1991, a broad financial reform agenda was established in India by the Committee on the Financial System (CFS). One of the committee's recommendations to meet this goal was to introduce greater competition into the banking system by allowing more foreign banks to enter India.

However, no significant action was taken by the Government of India regarding the CFS recommendation on foreign banks until April 1994 when the government agreed to allow for an expansion of foreign banks under the General Agreement on Trades in Services (GATS). In the initial GATS agreement, India committed to issue five additional branch licenses to both new and existing foreign banks each year. In a subsequent

[6] One exception to the completely static analysis is Ball, Kothari, and Ashok (2000), which examines differences in firms' timely loss recognition using cross-country variation in debt market development.

supplemental agreement in July 1995, India increased the limit to eight licenses per year, and in February 1998, the limit was increased to 12. While there were no restrictions on where foreign banks could choose to establish new branches, the expansion of foreign banks in India was allowed by de novo branches only.[7]

In the years preceding the signing of the GATS agreement, very few licenses for new foreign bank branches were granted, and the presence of foreign banks in India was limited. On March 31, 1994 there were 24 foreign banks with 156 branches in India. Most of these banks, however, had begun operations before India's first nationalization of private banks in April 1969, and only seven new branches had opened since 1990. Moreover, most of India's 575 districts did not have a foreign bank, as roughly 75 percent of these foreign bank branches were concentrated in districts encompassing India's three largest cities: Delhi, Mumbai, and Kolkata.

In the eight years following the acceptance of GATS, however, 17 new foreign banks and 89 new foreign bank branches were opened in India bringing the total number foreign banks to 41 with 212 branches as of March 2002.[8] The expansion of foreign banks also increased their representation outside of India's most populous cities, as the number of districts with a foreign bank increased from 18 to 26, and foreign banks' share of total long-term loans increased as well. In March 1994, foreign banks accounted for 5 percent of all outstanding long-term loans, but with their expansion of branches, their share of long-term loans increased and averaged roughly 8 percent from 1996 to 1998,

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[7] Foreign banks were not allowed to own controlling stakes in domestic banks, and foreign banks wishing to establish new branches needed to seek Reserve Bank of India approval, as do all banks under Section 23 of the Banking Regulation Act, 1949. Requests for new branches are evaluated on the "merits of each case and taking into consideration overall financial position of the bank, quality of its management, efficacy of the internal control system, profitability, and other relevant factors". See "Master Circular on Branch Licensing," DBOD.No. BL.BC. 5/22.01.001/2004, Reserve Bank of India, Mumbai, pp. 4.

[8] 33 foreign bank branches closed during this time period, so the net change was only 56. 17 of these closures were from ANZ Grindlays Bank Ltd. and five from Standard Chartered Bank in 1998 and 1999.

and 10 percent from 1999 to 2001. Moreover, some back of the envelope calculations suggest foreign bank entry was sizeable in the eight districts receiving their first foreign bank. By 2003, foreign banks accounted for roughly 5.5 percent of long-term loans in these districts, and their share of loans is about 10 percent in districts that experienced entry between 1994 and 1996, suggesting foreign banks' share of loans grows with time.

The entry of foreign banks into India appears to have reduced credit access for opaque firms. Gormley (2008) finds that while average bank borrowings increased for large, profitable firms following foreign bank entry into India, the average domestic firm located in the vicinity of a new foreign bank experienced a drop in bank borrowings. These declines were larger on average among firms generally considered more opaque, such as smaller firms and firms with fewer tangible assets. The drop in credit also appears to adversely affect the performance of smaller firms with greater dependence on external financing. The experience of India is consistent with the cross-country evidence of Detragiache, Gupta, and Tressal (2008), which also finds evidence that foreign bank entry is associated with reduced bank credit among opaque firms.

The reduced use of debt for many opaque firms in India would seem to suggest that the cost of being opaque increased following foreign bank entry. We now turn to exploring why this might occur and how firms might be expected to respond.

2. Hypotheses Development

In making lending decisions, banks face ex-ante information asymmetry and ex-post moral hazard problems. To overcome these frictions, banks can adopt stringent screening standards (Ramakrishnan and Thakor, 1984) and/or monitor borrowers (Diamond, 1984). Each requires information about the creditworthiness of borrowers. While some information on credit quality can be obtained from credit agencies, suppliers, and customers of a firm, a large share of the information used by lenders will be contained in the firms' financial statements. The quality of these financial statements will hence affect lending decisions.

One particular accounting quality that may affect lending decisions is the timely accounting recognition of economic losses (Watts and Zimmerman, 1986; Ahmed, Billings, Morton, and Harris, 2002; Watts, 2003a, 2003b; Beatty, Weber, and Yu, 2008).[9] Because of lenders' asymmetric payoff from firms' net assets (lenders incur loss when the net assets of borrower are below the principal but are not compensated when net assets exceed the principal), lenders are concerned with the lower bound of a borrower's net asset value. Timely loss recognition ensures, however, that expected losses are reflected in the financial statements earlier and that the borrowers' true net asset value is not overstated (Watts, 2003a). This lower bound is informative to the lenders in making lending decisions and in specifying financial covenants.[10] Timely loss recognition also increases the effectiveness of ex-post monitoring because it better informs lenders about a borrower's ability to repay, and the decreased reported earnings help constrain dividends, thus alleviating the ex-post moral hazard problems (Watts and Zimmerman, 1986).

Several studies find evidence consistent with timely loss recognition having a positive effect on lending decisions. Ahmed, Billings, Morton, and Harris (2002) find evidence that timely loss recognition plays an important role in mitigating bondholder and shareholder conflicts over dividend policy and in reducing firms' borrowing costs.

[9] More specifically, timely accounting recognition of economic losses is also termed as asymmetric timeliness or *conditional conservatism*. Ball and Shivakumar (2005, pp. 88-92) explain the role of conditional conservatism in efficient contracting, and contrast it with *unconditional conservatism* which is argued to have no positive effect on efficient contracting.

[10] There is evidence that banks in India use covenants to monitor borrowers. For example, on February 11, 2001, the *Financial Times* reported that Indian banks "have been asked by the Reserve Bank of India to make bill finance one of the covenants for sanction of working capital credit limits".

Zhang (2008) shows that timely loss recognition benefits lenders through a timely signaling of default risk, and in return, benefits borrowers through a lower cost of debt. Beatty, Weber and Yu (2008) find evidence that debt covenants and conservative financial reports are complementary in meeting lenders' demand.

On the other hand, timely loss recognition can be costly for firms. Earlier recognition of losses lowers stated earnings, which may reduce outsiders' valuation of the company and constrain dividend payment to shareholders (Ahmed, Billings, Morton, and Harris, 2002). Firms also violate debt covenants earlier when they are timely in recognition of losses (Zhang, 2008), and such violations can be costly for firms (Roberts and Sufi, 2009). Timely loss recognition may also reduce a manager's private benefits, particularly in countries with weak investor protections (Leuz, Nanda and Wysocki, 2003).

Given these costs, firms face a trade-off when choosing how timely to recognize economic losses. Holding all else equal, loss recognition is expected to be more timely when the potential benefits of doing so increase, and vice versa, loss recognition should be less timely when the potential costs increase.

By increasing both the cost of being opaque and the reliance on 'hard' information in making lending decisions, the entry of foreign banks is likely to affect this tradeoff in increasing the benefits of timely loss recognition. First, foreign bank entry will increase banking competition, which has the potential to reduce credit access for opaque firms (Petersen and Rajan, 1995). Second, foreign banks' higher cost of acquiring information about local firms (Berger, Klapper, and Udell, 2001; Stein, 2002; Mian, 2006) may limit their willingness to finance opaque, smaller, or less profitable firms (Dell'Arricia and Marquez, 2004; Segupta, 2007; Gormley, 2007). Third, foreign banks' use of largely arm-length transactions that rely more heavily on hard information will increase the importance of a firm's accounting quality in making lending decisions. Domestic lenders may also adopt these 'best practices' of foreign banks, further increasing the importance of a firm's accounting quality in the lending process (Lensink and Hermes, 2004).

The increased cost of being opaque and potential change in lenders' demand for accounting quality following foreign bank entry provides firms with an incentive to reduce their opaqueness to lenders. Since timely loss recognition may help accomplish this, we conjecture it will increase after foreign bank entry. Therefore, our first hypothesis is stated as follows:

HYPOTHESIS 1 (H1): The level of timely loss recognition will increase in districts where foreign bank entry occurs.

A rejection of this hypothesis would indicate that foreign bank entry has no impact on timely loss recognition. This might occur if lending competition, as captured by foreign bank entry, does not increase the cost of being opaque, or if lenders do not value this particular change in accounting quality.

The increased cost of being opaque following foreign bank entry is also likely to vary across firms. More opaque firms will be at a larger disadvantage if lenders place greater emphasis on hard information when making lending decisions. Additionally, firms that are more dependent on external financing may find it more beneficial to increase accounting quality if doing so can increase the odds of maintaining credit access. As a result, small and private firms, which are typically more informationally-opaque and dependent on external financing, may have the greatest incentive to adjust accounting quality `following foreign bank entry. Less profitable firms may also have a greater incentive to improve their accounting quality. Bernanke and Gertler (1989) argue that less profitable firms may have greater agency costs of debt arising from information asymmetries between lenders and borrowers. Our second hypothesis is stated as follows:

HYPOTHESIS 2 (H2): The change in timely loss recognition will be more pronounced among less profitable, small and private firms, and firms with greater external financing dependence.

Finally, if increased timely loss recognition reduces firms' opaqueness and the risk born by lenders in assessing firms' creditworthiness, we expect lenders to reward firms who increase the supply of accounting quality by granting more credit to these firms. Therefore, our third hypothesis is stated as follows:

HYPOTHESIS 3 (H3): The change in timely loss recognition after foreign bank entry will be positively associated with firms' access to credit.

3. Data and Research Design

3.1. Data

The data used to identify the location and opening date for each foreign bank in India is the *Directory of Bank Offices* published by the Reserve Bank of India. Providing the location, name, opening date, and closing date for every bank office in India, the data is used to construct a complete annual directory of all banks in India from 1988 to 2004.

With this data, it is possible to map out the timing and location of arrival for the new foreign banks. Table 1 shows the number of foreign banks by district and year from 1990 to 2002. In the top half of the table are the 18 districts that already had a foreign bank before 1991. These include the three districts with very large metropolitan centers:

Delhi, Greater Mumbai, and Kolkata. In the bottom half are the eight districts that received their first foreign bank during the 1990s. As can be quickly seen, the overall increase in foreign bank branches largely coincides with the signing of the GATS in 1994, but the actual timing of entry across these eight districts is staggered across years. The district location of new foreign banks is mapped in Figure 1 which highlights the eight districts that receive their first foreign bank between 1991 and 2002. The eight districts are relatively dispersed across India, spanning seven of India's 35 states.[11]

[Insert Table 1 here]

[Insert Figure 1 here]

The bank location data are matched up to the Prowess data set compiled by the Centre for Monitoring Indian Economy (CMIE). Prowess is a panel data set of firms from 1988 to 2002 where both listed and unlisted publicly limited Indian and foreign firms with assets plus sales greater than 40 million Rupees (approx. $900,000) are included in the data set.[12] The data set provides the annual financial and accounting data of each firm along with descriptive variables including the ownership, year of incorporation, and registered address. Using each firm's address, it is possible to track their financial status at the district level and to merge this data to the district location of the new foreign banks in India. We exclude firm-year observations for firms located in the districts that already have foreign banks prior to 1991 because these banks are usually located in the big metropolitan areas and firms in these areas are different in many ways,

[11] Citibank and Hong Kong & Shanghai Banking (HSBC) were responsible for half of the new foreign bank branches in the eight districts. Other banks opening branches in these districts were ABN AMRO, American Express Bank Ltd., ANZ Grindlays, BNP Paribas, Crédit Lyonnais, Deutsche Bank (Asia), Société Générale, and Standard Chartered. Each had pre-existing branches elsewhere in India at the time of entry in the eight districts.

[12] CMIE compiles the financial data using the audited annual accounts that all registered companies in India must submit to the Registrar of Companies. The cutoff level of firm size in the Prowess dataset seems to be an arbitrary point chosen to limit the size of the database.

which can be seen in Appendix Table 1.[13] Because of fewer data points and the heavy regulation of the Indian banking system and economy prior to 1992, we also exclude observations prior to 1992 from our main analysis. Our final sample consists of 20,438 firm-year observations for 2,547 unique firms over the period 1992-2002.

While foreign banks only entered eight new Indian districts after 1992, the financial data provided by Prowess indicates that a large number of Indian firms were likely affected by this entry. Within our sample, these eight districts account for 25 percent of the observed firms and 24 percent of total sales in 1992. These high numbers reflect foreign banks' tendency to locate in heavily populated districts.

3.2. Measuring timely loss recognition

3.2.1. Accruals-cash flows model

Following Ball and Shivakumar (2005), we measure timely loss recognition using a non-linear relation between operating cash flows and accruals. The model is as follows:

$$ACC_{it} = \beta_1 DCFO_{it} + \beta_2 CFO_{it} + \beta_3 DCFO_{it} \times CFO_{it} + \varepsilon_{it} \quad (1)$$

The dependent variable ACC_{it} is accruals computed as $[(\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STD_{it}) - DEP_{it}]$ scaled by total assets for firm *i* in year *t*, where ΔCA is the change in current assets, $\Delta Cash$ is the change in cash and bank balances, ΔCL is the change in current liabilities, ΔSTD is the change in short term debt, and *DEP* is depreciation expense. *CFO* represents the operating cash flows (scaled by total assets), measured as the difference between *ROA* and *ACC*, where *ROA* is the profit after tax

[13] Comparing the summary statistics in the appendix with those in Table 2 suggests that firms located in the areas with foreign banks entry prior to 1991 are much larger in size than firms in our sample. They are also more profitable as measured by their return on assets (ROA), and have higher cash flow from operations.

charges (*PAT*) scaled by total assets. Accruals are subtracted from ROA to undo the accrual accounting methods used to calculate firms' cash flows and to better reflect the true level of current operating cash flows generated by the firm.[14] *DCFO* is an indicator variable equal to 1 if *CFO* is negative, and 0 otherwise.

Firms that engage in a timely recognition of economic gains and losses will exhibit a positive correlation between accruals, *ACC*, and contemporaneous cash flows, *CFO*. The positive correlation comes from the fact that cash flows generated from individual durable assets (such as plant and equipment) tend to be correlated over time (Ball and Shivakumar 2005). For example, a piece of equipment that generates less cash today due to changes in product market conditions is also likely to experience a downward revision in its expected future cash flows. If these revisions of future cash flow expectations are incorporated into current-period accruals by a firm in a timely fashion, a positive correlation between accruals, *ACC*, and contemporaneous cash flows, *CFO*, will occur. In this example, a decline in expected future cash flows may be accounted for in accruals through a markdown in the value of assets or inventory.

The more timely firms are in their recognition of expected losses, the stronger the positive correlation between accruals, *ACC*, and operating cash flows, *CFO*, will be when cash flows are negative. Thus, the level of timely loss recognition is increasing in the coefficient, β_3. This will be our primary coefficient of interest throughout the paper. A timely recognition of gains would instead be captured by a positive correlation between

[14] Firms use accrual accounting to mitigate the transitory variation in operating cash flows and to produce a better matching of expenses against revenues. For example, accrual accounting attempts to eliminate the transitory variations in cash flow by matching the cost of inventory sold, rather than current-period payments for inventory purchased, against sales revenue. An implication of the noise-reduction role of accruals is that accruals and the cash flow from operations are contemporaneously negatively correlated (Dechow, 1994; Dechow, Kothari, and Watts, 1998).

cash flows and accruals when current cash flows are positive (i.e. β_2>0). However, because standard accounting practices generally do not allow firms to account for expected future gains in cash flows until those gains are actually realized, there is little positive correlation between positive cash flows and accruals on average. This asymmetry in the correlation between accruals and cash flows is why 'timely loss recognition' is often referred to as 'asymmetric timeliness'.

3.2.2 Basu's (1997) earnings time-series model

To corroborate results based on accruals-cash flow measure of timely loss recognition, we also use the Basu's (1997) earnings time-series model as another measure. The model specification is as follows:

$$\Delta NI_{it} = \beta_1 D_{it-1} + \beta_2 \Delta NI_{it-1} + \beta_3 \Delta NI_{it-1} \times D_{it-1} + \varepsilon_{it} \qquad (2)$$

In model (2), the dependent variable ΔNI_t is the change in *ROA* from fiscal year *t-1* to *t*. The explanatory variable D_{it-1} is a dummy equal to 1 if ΔNI_{t-1} is negative, and 0 otherwise. To the extent that the recognition of expected economic *gains* is subject to realization requirements, a positive shock to earnings will only be gradually incorporated into a firm's earnings over time. This will imply that an increase in earnings this period will have persistence and a positive ΔNI_{t-1} will be associated with a positive ΔNI_t (i.e., $\beta_2 > 0$). If firms recognize economic losses on a timelier basis than economic gains, then a negative shock to expected earnings is recognized immediately and fully rather than waiting for actual realization. Therefore, timely loss recognition implies a decrease in earnings this period is likely to be transitory. This asymmetry in the persistence of earning changes predicts β_3 (which captures the *incremental* timeliness in the recognition of economic losses) to be negative, (i.e., $\beta_3 < 0$).

3.3 Research design

3.3.1. Regression using accruals and cash flows model

To test whether foreign bank entry is correlated with timely loss recognition, we expand model (1) by introducing a dummy variable, *Bank*, to capture foreign bank entry, and interact it with other explanatory variables in model (1). In particular, the model we estimate is specified as follows:

$$\begin{aligned} ACC_{idt} &= \beta_1 DCFO_{idt} + \beta_2 CFO_{idt} + \beta_3 DCFO_{idt} \times CFO_{idt} \\ &+ \beta_4 Bank_{dt} + \beta_5 Bank_{dt} \times DCFO_{idt} + \beta_6 Bank_{dt} \times CFO_{idt} \\ &\beta_7 Bank_{dt} \times DCFO_{idt} \times CFO_{idt} + \alpha_i + \delta_t + \varepsilon_{it} \end{aligned} \qquad (3)$$

where $Bank_{dt}$ is equal to 1 if a foreign bank is present in district d in year t, and 0 otherwise. The regression also includes firm fixed effects, α_i, to control for time-invariant differences across firms, and year fixed effect, δ_t, to control for non-secular time trends in average accounting quality across India. Since foreign entry occurs at the district level, standard errors are clustered at the district-level.

By interacting $Bank_{dt}$ with the main specification of Ball and Shivakumar (2005) and including year and firm fixed effects, this new specification will make use of variation *both* in the location and timing of foreign bank entry to identify the impact of foreign bank entry on timely loss recognition. The main coefficient of interest, β_7, will test the changes in timely loss recognition for firms located in a district with a new foreign bank after its entry relative to changes for firms located elsewhere in India. A positive β_7 would support Hypothesis 1 (H1) and indicate that timely loss recognition increased for firms located near a new foreign bank after entry relative to other firms located elsewhere in India.

The use of variation in both the location and timing of foreign bank entry reduces potential confounding effects that might arise from country-wide changes in accounting quality or fixed differences in accounting quality across firms. Changes in average accounting quality over time, which might arise from other country-level reforms or changes in financial competitiveness, would be absorbed by the year dummies. Likewise, fixed differences in average accounting quality or the opaqueness of firms located in districts experiencing entry will be captured by the firm-level fixed effects.

This difference-in-difference estimation relies on two identification assumptions. First, it implicitly assumes that the effect of foreign bank entry is localized and realized predominately by firms headquartered in the district with a foreign bank. In general, we expect this to hold as empirical work in other countries has demonstrated the average distance between firms and their bank is usually quite small.[15] However, even if this assumption is not fully true, this would only bias the results against finding an effect of foreign bank entry on accounting quality because some firms affected by foreign bank entry would be wrongly classified as control firms in the estimation.[16]

The second identification assumption is that foreign banks did not select into districts that were already trending differently or going to trend differently in the future,

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[15] Analyzing small firms in the U.S., Petersen and Rajan (2002) finds that the average distance between a firm and its main bank was 67.8 miles in 1993, and the median distance was five miles. The Indian districts included in this sample had an average size of 2,457 square miles. While the U.S. firms sampled were on average six times smaller than the firms found in the Prowess data, it is likely the Indian firms also borrow locally as the positive relation between distance and borrowing costs are likely greater in a developing country such as India. Recent work on lending relationships and loan prices in Belgium and the U.S. also suggest that greater lending distances are associated with increased transportation and informational costs (Agarwal and Hauswald, 2007; Degryse and Ongena, 2005).

[16] As a robustness check, we also examine the relation between foreign bank entry and timely loss recognition for firms located in the neighborhood of the districts with foreign bank entry. Results suggest that timely loss recognition does not change for these firms after foreign bank entry, which lends empirical support to our identification assumption.

with respect to average accounting quality, for reasons unrelated to the actual entry. Consistent with this assumption, it is shown later that there is no evidence of differences in accounting quality across Indian districts prior to foreign bank entry. There is also little reason to expect that foreign banks' location choices would be directly related to expectations of future changes in firms' average accounting quality. We come back to elaborate on this issue later in section 4.3.1.

Another related concern, however, may be that foreign banks selected into districts with differential trends in growth opportunities, which may itself be directly related to timely loss recognition.[17] To account for this possibility, we also include controls for growth opportunities and other time-varying variables throughout the empirical analyses. In particular, we include *SIZE*, *LEV*, and *SG*, where *SIZE* is natural log of total assets, *LEV* is bank borrowings scaled by total assets, and *SG* is sales growth, which is equal to $((sales_t - sales_{t-1}) / sales_{t-1})$.[18] Each of the three controls is also interacted with *DCFO*, *CFO*, and *DCFO*CFO*.

3.3.2. Regression using earnings time-series model

Similarly, we can expand model (2) by introducing a dummy variable, *Bank*, to capture foreign bank entry, and interact it with other explanatory variables in model (2) to test our hypothesis. The model below is used as a robustness check:

$$\begin{aligned}\Delta NI_{idt} &= \beta_1 D_{idt-1} + \beta_2 \Delta NI_{idt-1} + \beta_3 D_{idt-1} \times \Delta NI_{idt-1} \\ &+ \beta_4 Bank_{dt} + \beta_5 Bank_{dt} \times D_{idt-1} + \beta_6 Bank_{dt} \times \Delta NI_{idt-1} \\ &\beta_7 Bank_{dt} \times D_{idt-1} \times \Delta NI_{idt-1} + \alpha_i + \delta_t + \varepsilon_{it}\end{aligned} \qquad (4)$$

[17] Growth opportunities, leverage and size have each been linked to timely loss recognition (Roychowdhury and Watts, 2007; LaFond and Watts, 2007).

[18] Market-to-book ratio is frequently used in the accounting literature as a factor related with timely loss recognition. Due to the presence of unlisted public limited firms in our sample, we are unable to obtain market-to-book ratio for all firms. Instead we use sales growth as an alternative proxy for growth opportunities.

All variables are as defined previously. The regression also includes firm fixed effects, α_i, to control for time-invariant differences across firms, and year fixed effect, δ_t, to control for non-secular time trends in accounting practice across India. Since foreign entry occurs at the district level, standard errors are clustered at the district-level. Based on H1, we expect the coefficient, β_7, to be negative. This would indicate that timely loss recognition increases for firms located near a new foreign bank after its entry relative to other firms located elsewhere in India.

4. Empirical Results

4.1. Descriptive statistics

Table 2 reports descriptive statistics for our sample of firms. The average total assets of firms in our sample is 2.5 billion Rupee (approximately $60 million) and the median is 320 million Rp (approximately $7.4 million). ROA (net income/assets) has a mean of -0.4 percent and a median of 1.2 percent, suggesting that on average, Indian firms incur losses. Accruals has a mean of -0.005, indicating that accruals decrease income on average in India, and cash flows has a mean of 0.

Profitability and cash flows of firms in districts where foreign bank entry occurs are similar to the profitability and cash flows of firms in districts with no foreign bank entry. Panel B presents separately the summary statistics for firms located in the districts with foreign bank entry (N=3,450), and Panel C presents summary statistics for firms located in districts with no foreign bank entry (N=16,988). On average, firms located in districts with foreign bank entry are slightly less profitable, and have lower accruals and cash flows compared to firms located in districts where foreign bank entry does not occur, but the differences are small and not statistically different.

[Insert Table 2 here]

4.2. Regression results

4.2.1. Timely loss recognition prior to foreign bank entry

Before we test our hypotheses, we first investigate whether timely loss recognition is present in India prior to foreign banks' entry beginning in 1994 and whether it varies across districts in a way that may raise concerns about our identification strategy. We do this by separately estimating equation (1), using only financial data from 1990-1993, for both districts that eventually receive a foreign bank and those that do not. We also include the time-varying controls for size, leverage, and growth along with their interactions as described earlier. The results are reported in Table 3.

Prior to foreign bank entry, there does not appear to be any evidence of timely loss recognition among Indian firms, and there is no evidence to indicate that the timely loss recognition was significantly different in districts that later experience foreign bank entry relative to districts that do not experience entry. The coefficient, β_3, is neither significantly positive for firms located in districts that eventually experience foreign bank entry [Table 3, Column (i)] nor among firms located in districts that do not experience entry [Table 3, Column (ii)]. This finding lends support to our identification assumption that accounting quality in the districts with foreign bank entry is not significantly different from that in other districts prior to foreign bank entry.

[Insert Table 3 here]

4.2.2. Timely loss recognition following foreign bank entry

Based on the first hypothesis, we predict that firms located in the foreign bank entry districts will increase timely loss recognition after foreign bank entry. The OLS estimates of equation (3) are reported in Table 4. Consistent with our hypothesis, the coefficient on the variable of interest, β_7, is positive and statistically significant at the one percent significance level [Table 4, Column (i)].

[Insert Table 4 here]

This increase in timely loss recognition following foreign bank entry is robust to controlling for other important factors that are known to affect timely loss recognition (e.g., Zhang, 2008; Beatty, Weber, and Yu, 2008). In column (ii), we re-estimate equation (3) after controlling for size, leverage, and growth, and their interactions with *DCFO*, *CFO*, and *DCFO*CFO*. The coefficient, β_7, continues to be positive and statistically significant at the one percent significance level, indicating that differential trends in growth or leverage across districts are not driving the results.[19]

The increase in accounting quality after foreign bank entry is not only statistically significant, but is also economically significant. In column (i) the incidence of foreign bank entry increases timeliness of loss recognition by about six times from 0.017 to 0.098. For the model with time-varying controls, column (ii), the timeliness increases by about four times from 0.035 to 0.141. Overall, the evidence is consistent with increases in lending market competition driving increases in average accounting quality among firms.

4.2.3 Cross-sectional changes in timely loss recognition

Our second hypothesis predicts that certain firms – those that are informationally opaque, less profitable or more dependent on external financing – are more likely to increase timely loss recognition than their counterparts when changes in the lending environment increase the cost of being opaque. We analyze this possibility by re-

[19] Unless noted otherwise, all subsequent regressions include these additional controls.

estimating equation (3) on subsamples of firms broken down by size, ownership, profitability, and need for external financing. These estimates are reported in Tables 5-8.

Splitting the full sample into two groups based on the median of ROA, we find that the increase in the timely loss recognition is greater, on average, among less profitable firms. This is seen in Table 5, where the coefficient on the variable of interest, β_7, is positive and statistically significant at the one percent level for less profitable firms but not for more profitable firms. This result suggests that less profitable firms disproportionally increased accounting quality after foreign bank entry. This may reflect an attempt by less profitable firms to mitigate the increased importance of agency costs arising from information asymmetries between lenders and borrowers. We also find the coefficient on *DCFO*CFO* is positive and significant for low profit firms but negative and significant for high profit firms. A possible explanation could be that the agency cost of debt for profitable firms is low, and banks do not demand high quality financial reports for the ex-ante screening or ex-post monitoring of these firms.

[Insert Table 5 here]

Consistent with the argument that smaller firms are more informationally-opaque and that foreign bank entry increases the cost of being opaque, we find the increase in accounting quality is more pronounced among smaller firms. This is shown in Table 6 where the results are reported separately based on firms' size. Timely loss recognition increases among firms with assets below the median sample value [Table 6, Column (ii)], but for firms with assets above the median value, we do not observe any average increase in accounting quality [Table 6, Column (i)].

[Insert Table 6 here]

The increase in accounting quality also appears larger, on average, among private firms. This is seen in Table 7, where we split between public and private firms. While we find a statistically significant increase in timely loss recognition for public firms [Column (i)], the average increase among private firms [Column (ii)] is more than twice as large. This evidence is consistent with the hypothesis that private firms may be more informationally-opaque or dependent on bank financing than public firms.

[Insert Table 7 here]

We next test whether the change in accounting quality varies by a firm's external financing dependence. Following Rajan and Zingales (1998), we assume that industry-level external financing needs are persistent across countries, and we measure external financing dependence at the industry level for Indian firms using data from U.S. firms.[20] We then split the sample into firms with above median external financing dependence, and those with below median dependence. The estimates are reported in Table 8.

While we do not find any difference between high and low external financing dependence firms in the full sample, we do find that private firms with more external dependence increase accounting quality more than private firms with less dependence after foreign bank entry. As seen in columns (i) and (ii), where we report the estimates using the full sample, β_7 is not statistically significant for either high or low dependence firms. When we restrict the sample to private firms, as done in columns (iii) and (iv), we find that high external dependence firms increase timely loss recognition significantly

[20] Since Rajan and Zingales's external financing measure is only available for manufacturing industries, we lose about one third of our observations in these regressions. Rajan and Zingales (1998) measure industry external financing needs using international standard industries classification and data for U.S. public firms from Compustat. Specifically, they calculate the portion of capital expenditure (Item #128) that is not financed by the cash flows generated from business operations ((Item #110) + decrease in inventory (Item #3) + decrease in accounts receivable (Item #2) + increase in accounts payable (Item #70)) and scaled by capital expenditure. See Rajan and Zingales (1998) for more details on how this measure is constructed.

after foreign bank entry but low external financing dependence firms do not. The result is consistent with the hypothesis that increased cost of being opaque is greater among private firms with more dependence on external financing.

[Insert Table 8 here]

Taken together, the results in Tables 5-8 suggest that certain firms -- those that are informationally opaque, less profitable, or more dependent on external funding -- are more likely to increase their accounting quality when lending competition increases.

This evidence provides a new perspective to the potential effects of greater financial market competition on lending relationships and the supply of credit to informationally-opaque firms (Berger, Saunders, Scalise, and Udell, 1998; Degryse and Ongena, 2007; Sapienza, 2002; and Zarutskie, 2006). The evidence suggests that firms' opaqueness may not be completely fixed and that firms may actually be able to furnish additional and easily verifiable information to lenders when lending market conditions change. This possible adjustment by firms has been overlooked in the existing theoretical literature that studies the potential effects of greater competition on the lending relationships that firms may rely on (Boot and Thakor, 2000; Petersen and Rajan, 1995).

4.2.4. Timely loss recognition and access to credit

In this section, we test our third hypothesis of whether the increase in timely loss recognition is correlated with firms' access to credit markets. An underlying assumption of the previous analyses is that lenders value timely loss recognition when making lending decisions. Absent this, it would be difficult to understand why firms' timely loss recognition increases after foreign bank entry.

To test this underlying assumption, we analyze whether the increase in timely loss recognition is accompanied by an increase in credit access among firms in districts that experience foreign bank entry. To do this, we first re-estimate equation (3) using only the firm-year observations of firms located in the eight districts that experience foreign bank entry over the sample period. The estimates from using this more restrictive sample, which are reported in column (i) of Table 9, confirm our earlier findings. The increase of timely loss recognition after foreign entry is still positive and statistically significant at the one percent level.

[Insert Table 9 here]

To test whether the increase in accounting quality is associated with better access to credit for firms, we then divide the sample into firms that experience an increase in debt levels after foreign entry and those that do not. This is done based on whether a firms' overall amount of bank borrowings increases or declines following foreign bank entry. If a firm experiences a decline in bank borrowings after foreign bank entry, we include it in the 'debt-reduction' group, otherwise we include it in the 'no debt-reduction' group. In total there are 1,672 firm-year observations that do not experience credit declines, and 7,250 firm-year observations that do. If the increase in accounting quality brings economic benefits to firms by alleviating credit constraints, then we expect that the increase in timely loss recognition to be more pronounced for firms in the 'no debt-reduction' group than firms in the 'debt-reduction' group.

In fact, this is exactly what the evidence appears to indicate. While firms in both subsamples increased their timely loss recognition after foreign bank entry, the increase is more pronounced among firms not experiencing a drop in overall credit. This is seen in Table 9, columns (ii) and (iii), where the coefficient, β_7, is almost twice the magnitude

(0.319 vs. 0.165) for the non-debt reduction subsample as for the debt reduction subsample. The difference in β_7 between the two groups of firms is statistically significant at the one percent level (t=2.88). The result suggests more timely loss recognition was associated with better access to credit markets following foreign bank entry and that lenders value timely loss recognition when making lending decisions. The improved accounting quality, however, may not be sufficient for opaque firms to completely avoid the potential adverse outcomes of increased financial competition. As seen in column (ii), many firms still exhibited a decline in overall bank borrowings following foreign entry despite an average improvement in accounting quality.

4.3. Robustness tests

4.3.1 Selection bias

While there is no evidence in Table 3 that the levels of timely loss recognition looked different across districts in India prior to foreign bank entry, one concern with the above identification strategy is that foreign banks selectively entered districts where levels of timely loss recognition were already trending upward or going to trend upward in the future for reasons unrelated to foreign bank entry. For example, a selection bias might occur if foreign banks choose to locate in regions of India in anticipation of future improvements in accounting quality. If this occurred, the observed correlation between accounting quality and foreign bank entry could be driven by foreign banks' location choice rather than an increase in financial competition.

The observed increases in accounting quality, however, do not appear to be driven by foreign banks' expectations of future accounting changes or some other selection bias. First, accounting standards are set at the national level in India, which makes a foreign bank's choice of location based on expectations about regional changes in accounting quality unlikely. It is also unclear why any changes in accounting regulation would affect firms heterogeneously. Second, our earlier analysis in Table 9 suggests that selection bias is not driving our results. In those estimates, the sample is restricted to only firms located in the eight districts that experience foreign bank entry during the sample time period. In doing this, we exclude the possibility that differential trends between firms located in the districts with foreign bank entry and those that never experience such entry are driving our earlier findings. As note earlier, foreign bank entry is still positively associated with an increase in timely loss recognition in this restricted sample [Table 9, column (i)]. Third, as shown in Dell'Arricia and Marquez (2004) and Sengupta (2007), foreign banks are more likely to finance profitable domestic borrowers due to their informational disadvantage. If foreign banks' expectations of future accounting changes drive our results, we would expect the increase in timely loss recognition to be more pronounced for profitable firms than for less profitable firms. However, this is in the opposite direction to what we find in Table 5.

4.3.2 Earnings time-series model

In this section, we conduct a sensitivity test by using equation (4) to test our first hypothesis instead. Table 10 reports results of this exercise. Consistent with the results reported in Table 4, the coefficient on the main variable of interest, β_7, is negative and statistically significant at the 5 percent level [column (i), Table 10] , suggesting that firms increase timely loss recognition after foreign bank entry. The results are also robust to including time-varying controls for firm size, leverage, and growth opportunities, and their interactions with $D\Delta NI_{t-1}$, ΔNI_{t-1}, and $D\Delta NI_{t-1} \times \Delta NI_{t-1}$ as shown in Column (ii).

[Insert Table 10 here]

5. Conclusion

Overall, we find evidence that firms attempt to reduce their opaqueness following changes in the lending environment that may make such opaqueness more costly to the firm. In particular, we find that the average level of accounting quality, as measured by timely loss recognition, increases for firms located in the vicinity of new foreign banks following their entry into India. The increases in accounting quality are also concentrated among firms that may have a stronger incentive to alleviate financing constraints by reducing information asymmetries and agency costs of debt. Specifically, we find that smaller, less profitable, and private firms appear to respond to changes in the lending environment the most. Private firms with greater dependence on external financing also appear to respond more than the average firm, and lenders seem to value these changes. Specifically, firms that improve the accounting quality the most were, on average, more likely to experience an increase in their debt level after foreign bank entry.

This evidence provides a new perspective to the potential effects of greater credit market competition on lending relationships and the supply of credit to informationally-opaque firms. Our evidence suggests that firms' inherent opaqueness may not be completely fixed. Instead, firms potentially disadvantaged by the greater lending competition seem to furnish additional, easily verifiable information to lenders to mitigate the adverse impact on their credit access. To the authors' knowledge, this possible adjustment by firms has been overlooked in the existing literature and provides an interesting avenue for future empirical work. The evidence also supports the argument that greater financial competition can increase the cost of being opaque, particularly among small, private, and less profitable firms.

Finally, our evidence suggests the financial market reforms may be another channel through which countries may influence firms' financial reporting. Contrary to changes in regulations regarding disclosure and auditing rules, which directly affect firms' accounting quality, our evidence suggests that an increase in lending market competition may indirectly affect financial reporting by improving firms' incentive to produce higher quality statements.

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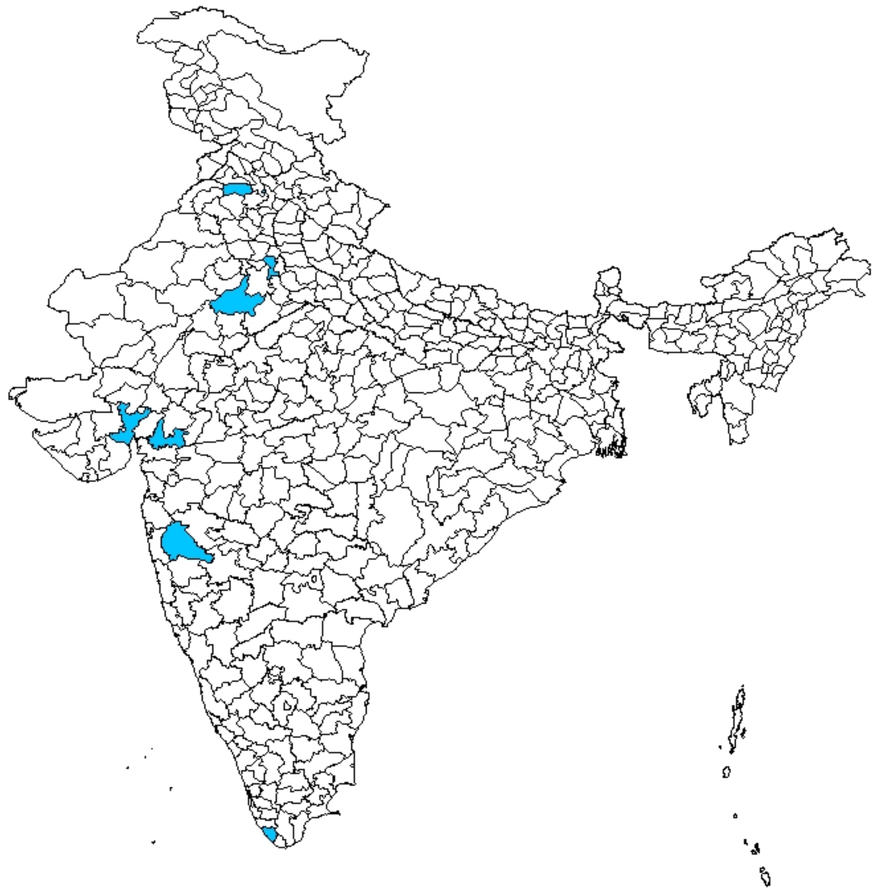

Figure 1 – Indian Districts with First Foreign Bank Entry between 1991-2001

Table 1
Number of Foreign Bank Branches in India by District and Year

District Name	State Name	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Districts with Pre-Existing Foreign Bank Branches														
Amritsar	Punjab	3	3	3	3	3	3	3	3	3	2	1	1	1
Bangalore Urban	Kanrataka	2	2	2	3	3	5	6	7	7	10	11	11	12
Coimbatore	Tamil Nadu	1	1	1	1	1	1	1	1	2	2	2	3	4
Darjiling	West Bengal	1	1	1	1	1	1	1	1	1	1	1	1	1
Delhi	Delhi	22	23	24	24	26	28	28	31	35	36	37	38	37
Ernakulam	Kerala	3	3	3	3	4	4	4	4	4	3	3	3	4
Greater Mumbai	Maharashtra	51	52	52	51	51	55	58	63	65	63	64	64	63
Haora	West Bengal	2	2	2	2	2	2	2	2	2	2	2	2	2
Hyderabad	Andhra Pradesh	1	1	1	1	1	2	2	2	2	4	6	8	8
Kamrup	Assam	1	1	1	1	1	1	1	1	1	1	1	1	1
Kanpur City	Uttar Pradesh	3	3	3	3	3	3	3	3	3	3	3	3	3
Kolkata	West Bengal	43	43	42	42	42	42	42	43	43	34	34	34	34
Kozhikode	Kerala	1	1	1	1	1	1	1	1	1	1			
Chennai	Tamil Nadu	11	11	11	12	12	12	14	15	16	16	16	16	16
Simla	Himachal Pradesh	1	1	1	1	1	1	1	1	1	1	1	1	1
South Goa	Goa	1	1	1	1	1	1	1	1	1	1			
Srinagar	Jammu & Kashmir	1	1	1	1	1	1	1	1	1	1	1	1	1
Vishakhapatnam	Andhra Pradesh	1	1	1	1	1	1	1	1	1	1	1	1	1
Districts Receiving First Foreign Bank														
Thiruvananthapuram	Kerala					1	1	1	1	1	1	1	1	1
Ahmedabad	Gujarat						2	2	3	3	5	5	8	8
Pune	Maharashtra							1	1	4	5	5	5	6
Chandigarh	Chandigarh								1	1	1	1	2	2
Gurgaon	Haryana										1	1	1	2
Vadodara	Gujarat										1	1	2	2
Jaipur	Rajasthan												1	1
Ludhiana	Punjab												1	1
Total Foreign Bank Branches		**149**	**151**	**151**	**152**	**156**	**167**	**174**	**187**	**198**	**196**	**198**	**209**	**212**

Notes: Number of foreign bank branches calculated using the *Directory of Bank Offices*. Bank numbers represent total branches as of March 31 each year.

Table 2
Summary statistics

This table provides summary statistics for the samples used in the study. Data is obtained from Prowess data set complied by the Center for Monitoring Indian Economy (CMIE). ACC is accruals computed as [(?CA–?Cash)–(?CL -?STD)–DEP]/Average total assets, where ?CA is the change in non-cash current assets, ?Cash is the change in cash and bank balance, ?CL is the change in current liabilities, ?STD is the change in short term debt, and DEP is depreciation expense, which is computed as the difference between the profit before depreciation, interest and tax charges/provisioning (PBIDT) and the profit before interest charges and tax provisioning (PBIT). CFO is operating cash flows (scaled by average total assets), measured as the difference between ROA and ACC, where ROA is the profit after tax charges (PAT) scaled by average total assets. Debt is measured using total borrowings from banks.

	Mean	Std Dev	Lower Quartile	Median	Upper Quartile
			Panel A: Full Sample (N=20,438)		
ROA	-0.004	0.104	-0.013	0.012	0.041
ACC/Assets	-0.005	0.198	-0.074	0.000	0.059
CFO/Assets	0.000	0.186	-0.053	0.000	0.064
Total Assets (10 mn. Rp)	250.142	1281.880	11.448	31.982	107.956
Debt/Assets	0.167	0.330	0.039	0.127	0.225
			Panel B: Districts where foreign bank entry occurs (N=3,450)		
ROA	-0.006	0.111	-0.022	0.009	0.045
ACC/Assets	-0.007	0.213	-0.085	0.000	0.061
CFO/Assets	-0.001	0.204	-0.057	0.000	0.076
Total Assets (10 mn. Rp)	276.231	2024.720	8.161	24.974	94.040
Debt/Assets	0.132	0.165	0.002	0.090	0.194
			Panel C: Districts with no foreign bank entry (N=16,988)		
ROA	-0.004	0.103	-0.011	0.013	0.041
ACC/Assets	-0.005	0.195	-0.071	0.000	0.058
CFO/Assets	0.000	0.182	-0.053	0.000	0.062
Total Assets (10 mn. Rp)	244.844	1069.780	12.278	33.092	110.748
Debt/Assets	0.174	0.354	0.047	0.133	0.230

Table 3
Timely recognition of economics losses prior to foreign bank entry

This table shows OLS estimate of accruals onto operating cash flows (CFO), an indicator for whether operating cash flows are negative (DCFO), and the interaction of these two variables (DCFO*CFO). Firm and year fixed effects are included along with time-varying controls for sales, leverage, and sales growth interacted with each of these variables. Accruals are computed as $[(\Delta CA_t - \Delta Cash_t) - (\Delta CL_t - \Delta STD_t) - DEP_t]$ /Average total assets, where ΔCA is the change in non-cash current assets, $\Delta Cash$ is the change in cash and bank balance, ΔCL is the change in current liabilities, ΔSTD is the change in short term debt, and DEP is depreciation expense, which is computed as the difference between the profit before depreciation, interest and tax charges/provisioning (PBIDT) and the profit before interest charges and tax provisioning (PBIT). CFO is operating cash flows (scaled by average total assets), measured as the difference between ROA and ACC , where ROA is the profit after tax charges (PAT) scaled by average total assets. Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

	Bank Entry District		**Non-Bank Entry District**	
	Coeff	**t-stat**	**Coeff**	**t-stat**
	(i)		(ii)	
$DCFO_t$	0.008	0.47	0.014	0.30
CFO_t	-0.992	-18.72	-0.988	0.00
$DCFO_t$ * CFO_t	**-0.047**	**-1.04**	**-0.027**	**0.73**
Firm fixed effects	X		X	
Year fixed effects	X		X	
Additional controls	X		X	
Adj-R^2 (%)	84.88		80.25	
N	657		2070	

Table 4
Foreign bank entry and timely recognition of losses

This table shows OLS estimate of accruals onto operating cash flows as done in Table 3, but also includes a control for whether a foreign bank is present in the district, BANK, and the interaction of this variable with operating cash flows (CFO), an indicator for negative operating cash flows (DCFO), and the interaction CFO*DCFO. Firm and year fixed effects are included in all specifications, and in column (ii), time-varying controls for sales, leverage, and sales growth along with their interaction with CFO, DCFO, and CFO*DCFO are included. Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

	Coeff	**t-stat**	**Coeff**	**t-stat**
	(i)		(ii)	
$DCFO_t$	-0.008	-3.01	-0.021	-2.71
CFO_t	-0.948	-54.67	-0.943	-20.34
$DCFO_t$ * CFO_t	0.017	0.70	0.035	0.52
$BANK_t$	0.012	1.26	0.008	0.93
$BANK_t$ * $DCFO_t$	0.001	0.13	0.004	0.74
$BANK_t$ * CFO_t	-0.026	-1.55	-0.033	-1.75
$BANK_t$ *$DCFO_t$ * CFO_t	**0.081**	**2.92**	**0.106**	**3.49**
Firm fixed effects	X		X	
Year fixed effects	X		X	
Additional controls			X	
Adj-R^2 (%)	77.07		81.72	
N	20438		20438	

Table 5

Firm profitability, foreign bank entry, and timely recognition of losses

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls as done in Table 4, but also divides the sample between low and high profit firms. The estimates for firms with above median ROA, measured as net income/assets, are reported in column (i), and estimates for firms with below median ROA are reported in column (ii). Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

	High Profit Firms *[ROA > median]*		**Low Profit Firms** *[ROA < median]*	
	Coeff	**t-stat**	**Coeff**	**t-stat**
	(i)		(ii)	
$DCFO_t$	0.035	5.16	-0.050	-4.85
CFO_t	-0.770	-9.97	-1.119	-49.45
$DCFO_t$ * CFO_t	-0.226	-2.72	0.235	2.73
$BANK_t$	0.005	1.38	-0.006	-0.47
$BANK_t$ * $DCFO_t$	0.001	0.25	0.006	0.73
$BANK_t$ * CFO_t	-0.013	-0.55	-0.029	-1.40
$BANK_t$ *$DCFO_t$ * CFO_t	**0.022**	**0.94**	**0.120**	**2.62**
Firm fixed effects	X		X	
Year fixed effects	X		X	
Additional controls	X		X	
Adj-R^2 (%)	92.36		79.36	
N	10223		10215	

Table 6

Firm size, foreign bank entry, and timely recognition of losses

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls as done in Table 4, but also divides the sample between small and large firms. The estimates for firms with above median assets are reported in column (i), and estimates for firms with below median assets are reported in column (ii) . Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

	Large Firms *[Assets > median]*		**Small Firms** *[Assets < median]*	
	Coeff	**t-stat**	**Coeff**	**t-stat**
	(i)		(ii)	
$DCFO_t$	0.011	0.90	-0.039	-3.06
CFO_t	-0.942	-24.38	-0.919	-8.93
$DCFO_t$ * CFO_t	-0.023	-0.17	0.147	1.00
$BANK_t$	0.011	1.43	0.001	0.10
$BANK_t$ * $DCFO_t$	-0.001	-0.20	0.002	0.25
$BANK_t$ * CFO_t	0.019	0.75	-0.092	-2.04
$BANK_t$ *$DCFO_t$ * CFO_t	**-0.052**	**-1.04**	**0.126**	**2.33**
Firm fixed effects	X		X	
Year fixed effects	X		X	
Additional controls	X		X	
Adj-R^2 (%)	83.56		77.31	
N	10223		10215	

Table 7
Ownership, foreign bank entry, and timely recognition of losses

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls as done in Table 4, but also divides the sample between public and private firms. The estimates for public firms are reported in column (i), and estimates for private firms are reported in column (ii) . Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

	Public Firms		**Private Firms**	
	Coeff	**t-stat**	**Coeff**	**t-stat**
	(i)		(ii)	
$DCFO_t$	-0.011	-1.60	-0.004	-0.35
CFO_t	-0.904	-22.22	-0.953	-13.29
$DCFO_t$ * CFO_t	-0.055	-1.00	0.157	1.17
$BANK_t$	0.013	1.53	-0.001	-0.14
$BANK_t$ * $DCFO_t$	-0.002	-0.51	0.021	2.05
$BANK_t$ * CFO_t	-0.036	-1.69	-0.068	-1.76
$BANK_t$ * $DCFO_t$ * CFO_t	**0.086**	**2.85**	**0.212**	**2.16**
Firm fixed effects	X		X	
Year fixed effects	X		X	
Additional controls	X		X	
Adj-R^2 (%)	79.01		64.52	
N	7070		13368	

Table 8
External financing depedence, foreign bank entry, and timely recognition of losses

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls as done in Table 4, but also divides the sample based on their level of external financing needs. Following Rajan and Zingales (1998), we measure external financing dependence at the industry level for Indian firms using data from U.S. firms. If a firm belongs to an industry that is above median in external financing dependence among all the industries in the sample, we classify it as in high external dependence group, otherwise as in low external dependence group. The estimates for the full sample of firms are reported in columns (i) and (ii), and estimates for private firms are reported in columns (iii) and (iv). Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

	Full Sample				**Private Firms Only**			
	High Dependence		*Low Dependence*		*High Dependence*		*Low Dependence*	
	Coeff	**t-stat**	**Coeff**	**t-stat**	**Coeff**	**t-stat**	**Coeff**	**t-stat**
	(i)		(ii)		(iii)		(iv)	
$DCFO_t$	0.011	1.10	-0.034	-3.22	0.017	0.83	-0.025	-1.15
CFO_t	-0.907	-11.09	-1.038	-26.61	-0.871	-6.03	-1.053	-20.76
$DCFO_t$ * CFO_t	-0.030	-0.32	0.152	1.62	-0.048	-0.27	0.209	1.18
$BANK_t$	0.018	2.54	0.016	1.32	0.037	2.88	0.014	0.80
$BANK_t$ * $DCFO_t$	-0.003	-0.47	-0.007	-0.86	0.006	0.32	0.016	1.01
$BANK_t$ * CFO_t	-0.009	-0.20	-0.052	-2.42	-0.144	-1.88	-0.067	-1.10
$BANK_t$ * $DCFO_t$ * CFO_t	**0.067**	**1.27**	**0.074**	**1.45**	**0.266**	**3.21**	**0.180**	**1.61**
Firm fixed effects	X		X		X		X	
Year fixed effects	X		X		X		X	
Additional controls	X		X		X		X	
Adj-R^2 (%)	72.68		62.35		70.92		67.72	
N	6641		6761		1864		2412	

Table 9

Credit access and timely loss recognition after foreign bank entry

This table shows OLS estimate of accruals onto operating cash flows, foreign bank indicators, firm and year fixed effects, and additional time-varying controls as done in Table 4, but instead restricts the sample to only include observations from districts that experience foreign bank entry during the sample time period. In column (i), estimates for the full sample of firms are presented. Columns (ii) and (iii) divide the sample between firms that experience a decline in total bank loans during the sample period and those without a decline. The estimates for firms that experience a drop in bank loans are reported in column (ii), and estimates for all other firms are reported in column (iii). Standard errors are clustered at the district level.

Dependent Variable = Accruals (ACC)

	Only Firms in District with Foreign Entry		**Firms with Debt Reduction**		**Firms with no Debt Reduction**	
	Coeff	**t-stat**	**Coeff**	**t-stat**	**Coeff**	**t-stat**
	(i)		(ii)		(iii)	
$DCFO_t$	-0.024	-2.85	-0.041	-4.85	-0.024	-1.44
CFO_t	-1.000	-22.24	-0.979	-32.98	-1.042	-18.35
$DCFO_t$ * CFO_t	0.031	0.75	0.008	0.16	0.022	0.25
$BANK_t$	0.006	0.79	0.008	1.74	0.013	1.49
$BANK_t$ * $DCFO_t$	0.005	0.98	0.012	1.83	0.011	0.93
$BANK_t$ * CFO_t	-0.016	-0.55	0.002	0.09	0.151	3.02
$BANK_t$ *$DCFO_t$ * CFO_t	**0.140**	**4.38**	**0.165**	**4.89**	**0.319**	**3.74**
Firm fixed effects	X		X		X	
Year fixed effects	X		X		X	
Additional controls	X		X		X	
Adj-R^2 (%)	84.24		71.31		78.94	
N	8922		7250		1672	

Table 10

Robustness test using earnings time-series approach

This table shows OLS estimate of the change in net income over assets (ΔNI_t), onto the lagged change in net income over assets (ΔNI_{t-1}), an indicator for whether the lagged change in net income over assets is negative ($D\Delta NI_{t-1}$), the interaction of these two variables ($\Delta NI_{t-1} * D\Delta NI_{t-1}$), a control for whether a foreign bank is present in the district, BANK, and the interaction of BANK with ΔNI_t, $D\Delta NI_{t-1}$, and $\Delta NI_{t-1} * D\Delta NI_{t-1}$. Firm and year fixed effects are included in all specifications, and in column (ii), time-varying controls for sales, leverage, and sales growth along with their interaction with ΔNI_t, $D\Delta NI_{t-1}$, and $\Delta NI_{t-1} * D\Delta NI_{t-1}$ are included. Standard errors are clustered at the district level.

Dependent Variable = Change in Net Income/Assets (ΔNI_t)

	Coeff	t-stat	Coeff	t-stat
	(i)		(ii)	
$D\Delta NI_{t-1}$	-0.015	-7.41	-0.012	-2.24
ΔNI_{t-1}	-0.294	-6.15	-0.291	-2.78
$\Delta NI_{t-1} * D\Delta NI_{t-1}$	-0.193	-2.80	-0.234	-1.48
$BANK_t$	0.002	0.43	0.002	0.43
$BANK_t * D\Delta NI_{t-1}$	-0.008	-2.18	-0.007	-1.81
$BANK_t * \Delta NI_{t-1}$	0.136	1.35	0.144	1.40
$BANK_t * \Delta NI_{t-1} * D\Delta NI_{t-1}$	**-0.334**	**-2.39**	**-0.307**	**-1.95**
Firm fixed effects	X		X	
Year fixed effects	X		X	
Additional controls			X	
Adj-R^2 (%)	6.69		8.61	
N	15340		15340	

Appendix Table 1
Summary Statistics for Firms Located in Districts with Previous Foreign Bank Entry

This table provides summary statistics for the observations dropped from the analysis, which are all firms located in districts that already had a foreign bank present prior to 1991. Data is obtained from Prowess data set complied by the Center for Monitoring Indian Economy (CMIE). ACC is accruals computed as [(ΔCA–ΔCash)–(ΔCL -ΔSTD)–DEP]/Average total assets, where ΔCA is the change in non-cash current assets, ΔCash is the change in cash and bank balance, ΔCL is the change in current liabilities, ΔSTD is the change in short term debt, and DEP is depreciation expense, which is computed as the difference between the profit before depreciation, interest and tax charges/provisioning (PBIDT) and the profit before interest charges and tax provisioning (PBIT). CFO is operating cash flows (scaled by average total assets), measured as the difference between ROA and ACC, where ROA is the profit after tax charges (PAT) scaled by average total assets. Debt is measured using total borrowings from banks.

	Observations in districts with previous foreign bank entry (N=36,957)				
	Mean	**Std Dev**	**Lower Quartile**	**Median**	**Upper Quartile**
ROA	0.004	0.113	-0.003	0.016	0.047
ACC/Assets	-0.005	0.212	-0.071	0.000	0.060
CFO/Assets	0.006	0.200	-0.049	0.000	0.075
Total Assets (10 mn. Rp)	553.918	4929.810	10.397	30.852	110.520
Debt/Assets	0.157	0.762	0.005	0.103	0.207

Chapter IV

Conditional Accounting Conservatism and Future Negative Surprises: An Empirical Investigation

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Abstract: We investigate whether conditional accounting conservatism has informational benefits to shareholders. We find some evidence that higher current conditional conservatism is associated with lower probability of future bad news, proxied by missing analyst forecasts, earnings decreases, and dividend decreases. Second, we find weak evidence that the stock market reacts stronger (weaker) to good (bad) earnings news of more conditionally conservative firms. Thus, we provide additional evidence that conditional conservatism affects stock prices.

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1. Introduction

We examine whether conditional accounting conservatism (hereafter conditional conservatism) has benefits to stockholders, an issue with important public policy implications. Conditional conservatism is reflected in the firms' policies of timely recognition of bad news and delayed recognition of good news, i.e., conditional conservatism places higher verifiability standard on good earnings news recognition, as opposed to bad earnings news recognition.

Conditional conservatism has influenced accounting rules for a very long time and is arguably one of the most fundamental principles in accounting (Watts, 2003). However, recently both the U.S. GAAP and International Financial Reporting Standards (IFRS) have been making a strong push for "fair value" accounting. The fair value principle essentially demands symmetric timeliness: both good news and bad news are recognized, and recognition of good news is not deferred. In other words, the fair value principle is an opposite of the conditional conservatism in accounting, which requires deferred recognition of good news.

Fair value principle introduces earlier recognition of unrealized gains, and, if fair values subsequently decrease, recognition of unrealized losses. One reason for adopting the fair value principle is an assumption that it improves transparency of the accounting information. However, it could be argued that earlier recognition of unrealized gains distorts the true economic picture of a firm because application of fair value could lead to contracting inefficiencies, stronger earnings volatility, and, when fair values decrease, firms' having to record future losses of greater magnitude. In contrast, the application of conditional conservatism potentially results in lower volatility of earnings, contracting benefits, which protect lenders (Watts, 2003), reductions in firms' litigation risk (Khan and Watts, 2007), and limiting of wealth transfers to larger shareholders (LaFond and Roychowdhury, 2008).

The examination of merits of accounting conservatism is especially important because fair value application also has some potential drawbacks. First, because the application of fair value also requires discretion, especially in the situations when no quoted market prices are available, it could be opportunistic (Ramanna and Watts, 2007). In addition, some critics blame the severity of the recent sub-prime mortgage crisis on fair value (Katz, 2008) because fair value application resulted in massive write-downs of mortgage-backed securities to "fire sale" prices. The application of conditional conservatism could have prevented such massive write-downs because it would not have allowed earlier recognition of unrealized gains. In light of these claims, it is important to examine whether conditional conservatism has benefits for stockholders.

Thus, we examine whether 1) higher levels of conditional conservatism are associated with lower levels of future bad news, and 2) whether cross-sectional variation in levels of conditional conservatism affects the stock market's reactions to firms' good news and bad news earnings announcements. Our goal is to provide evidence of whether greater levels of conditional conservatism worsen or improve firms' information asymmetry by forcing the earlier recognition of the bad earnings news in accounting earnings. Such early bad news recognition implies that conditional conservatism is associated with less future bad news. In addition, if conditional conservatism is associated with lower levels of future bad news and the market perceives such association to be economically significant, we could also expect that the market rewards more conservative firms with more positive (less negative) reaction to good (bad) news earnings announcements.

To address whether conservatism leads to lower likelihood of future bad news, we examine the association of several proxies of conservatism with a) likelihood of firms' missing analyst forecasts, 2) likelihood of future earnings decreases, and 3) likelihood of future dividend decreases. We find evidence that several proxies of conservatism are associated with lower likelihoods of future bad news.

To address whether the stock market values conservatism, we run short-window stock market response to earnings news (ERC) regressions, with added interactions of conservatism and earnings surprises. We find weak evidence that the market rewards more conservative firms with more positive (less negative) reaction to good (bad) news earnings announcements.

Our study proceeds as follows. Section 2 develops our hypotheses. Section 3 describes our sample and research design. Section 4 describes our results, and Section 5 concludes.

2. Motivation

2.1 Literature Review

The empirical accounting literature provides evidence that debt-holders demand higher levels of conditional conservatism in order to reduce potentially negative impact of agency conflicts arising between borrowers and lenders.[38] However, whether greater levels

[38] Zhang (2008) shows that more conservative firms experience faster debt covenant violations, thus faster "triggering lenders' alarm". Kim (2007) shows that borrowers' conservatism level does not decrease after borrowing. Ahmed et al. (2002) show that debt-holders view conservatism as means of minimizing wealth transfers from debt-holders to shareholders and thus reward more conservative

of conditional conservatism have impact on equity market is an open empirical question. Two opposing explanations of the role of conservatism (conditional or unconditional) in the equity markets exist: 1) conservatism is beneficial to shareholders, and 2) conservatism is potentially harmful to shareholders because it decreases firms' information quality.

Positive role of conservatism: conservatism increases the amount of information in the market. Theory suggests several informational benefits of conservatism, such as reducing benefits of earnings management (Chen et al., 2007), improving information quality (Fan and Zhang, 2007), and signaling of managerial private information (Bagnoli and Watts, 2005). The unifying underlying theme of these studies is that conservatism improves information quality and thus should reduce information asymmetry between informed and uninformed investors. Several empirical studies test this theoretical prediction. LaFond and Watts (2008) and Khan and Watts (2007) examine the associations between conditional conservatism and firm liquidity levels. These studies provide evidence showing that decreases in firm liquidity are followed by increases in firm conservatism. However, these papers cannot unambiguously conclude that conditional conservatism is beneficial to stockholders because liquidity proxies used in these studies, namely Probability of Informed Trade (PIN) and bid-ask spread, have been criticized as having no stock price impact.[39] Absent such significant price impact, the value of conservatism to stockholders is questionable.

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borrowers with lower cost of debt. Moerman (2009) shows that more conditionally conservative firms are rewarded with lower bid-ask spreads on the secondary loan markets. Ball et al. (2008) show that conservatism leads under-writers to hold lower stake in issued loans. Altogether, these studies provide strong evidence that conservatism is an effective tool in reducing information asymmetry between borrowers and lenders.

[39] In particular, Mohanram and Rajgopal (2009) show that the negative association of PIN and realized return only exists in small firms. More importantly, Duarte and Yong (2009) show that the negative association of PIN and expected returns is not driven by information risk, but by stocks' illiquidity. Easley et al (2003) show that PIN subsumes bid-ask spread as the determinant of expected returns.

Balachandran and Mohanram (2008) find no negative impact of unconditional conservatism on value-relevance of earnings. For firms with *decreasing* unconditional conservatism levels, they find that value relevance of book values declines, suggesting that the market views book values of such firms as weak predictors of firms' values. Balachandran and Mohanram's results are still important from the policy-setting perspective because they show that greater conservatism results in a stronger market response to the accounting numbers. Specifically, to the extent that conservatism reduces perceived variance of future expected cash flows (because conservatism makes estimates of such cash flows more reliable), the market should reward more conservative firms with higher valuation multiples. Thus, following the logic of Barth et al. (2001) and extant value relevance literature, standard setters should adopt more conservative accounting policies, which will result in better valuations. However, Balachandran and Mohanram's paper relies on long window association study research design approach, making it more difficult to identify the exact channel by which unconditional conservatism makes information more transparent. In addition, Holthausen and Watts (2001) question standard setting implications of more value relevant accounting numbers, suggesting that the objectives of standard setters need not be based on whether something is more or less value relevant, but rather on the contracting, regulatory, and other implications of the accounting policies. Hence, more research in this area is needed.

Following Balachandran and Mohanram (2008), Li (2007) shows that unconditional conservatism reduces uncertainty in analyst forecasts. Li shows that unconditional conservatism, measured by the Beaver and Ryan (2000) model, is negatively associated with analyst forecast errors for good news and mild bad news cases, but is positively associated with extreme bad news forecast errors. These results suggest that unconditional conservatism results in greater analyst forecast accuracy with respect to mild bad news and may reduce analyst forecast optimism with respect to good news. Li also finds that the level of overall analyst uncertainty is negatively associated with ex-ante levels of unconditional conservatism. However, because this study is focused only on un-conditional conservatism, it is unclear whether similar results hold for conditional conservatism measures.

Negative view of conservatism: conservatism reduces information quality and hurts investors. Several papers document the association of higher conservatism levels with lower earnings persistence. Paek et al. (2007) show that firms with more conditionally conservative reported earnings have lower earnings multiples because conditional conservatism reduces earnings persistence. Their result suggests that conditional conservatism introduces noise in the earnings process, making earnings less value-relevant. Such a result is also consistent with Financial Accounting Standards Boards (FASB)'s statements, suggesting that conservatism increases information asymmetry (LaFond and Watts, 2008). However, the implications of this result for usefulness of conservatism are not necessarily clear. More persistent earnings numbers are associated with lower uncertainty about firms' future performance, and make it easier for investors to correctly estimate earnings multiples and forecast stock prices. At the same time, given well documented results that bad news in general is less persistent, lower earnings multiples are expected for bad news firms in general, and for conservative firms in particular.[40] The latter implication suggests that conservatism does not necessarily hurt users of financial information.

In addition, conservatism (whether conditional or unconditional) could also be used to shield excessive profits from regulation (Mensah et al., 1994). As such, conservatism has

[40] Basu (1997)

both desirable and un-desirable properties for shareholders. On the one hand, it garbles true profits of firms and results in increased information asymmetry with respect to good news because uninformed investors lose money by selling potentially more profitable stocks. On the other hand, such an application of conservatism reduces firms' regulatory costs. Hence, depending on whether costs of additional information asymmetry exceed benefits of lower taxes and regulatory oversight, conservatism could either hurt or benefit shareholders.

Another potentially negative effect of conservatism on firms' information environment has to do with firms' propensity to disclose information early. Gigler and Hemmer (2001) show that more conservative firms are less likely to provide early voluntary disclosures because greater levels of conservatism impose additional risk on managers. Consistent with this prediction, Hui et al. (2009) show that more conservative firms issue less management earnings forecasts. Hui et al. (2009) interpret their result to suggest that conservatism and voluntary disclosure are substitute tools of resolving adverse selection problems. However, a possible consequence of this result is that the overall level of firm disclosure of more conservative firms is lower, thus possibly hurting uninformed shareholders. However, this prediction need not hold true. Recent studies in disclosure literature point out that greater levels of firms' voluntary disclosure have a limited positive effect on firms' cost of capital (Francis et al., 2008), and liquidity (Pevzner, 2007). This argument is supported by LaFond and Watts (2008), who do not find evidence that higher conservatism is associated with future stock liquidity declines.

Consequently, the net effect of conditional conservatism on shareholders is unclear. On the one hand, conservatism is beneficial to debt-holders, is a product of auditor-client relationships (Jenkins and Velury, 2008), and has a potentially positive effect on liquidity

(LaFond and Watts, 2008; Khan and Watts, 2007; Balachandran and Mohanram, 2008). On the other hand, conservatism is associated with reduced earnings persistence (Paek et al., 2007) and potentially reduces regulatory oversight (Mensah et al., 1994). The net benefit or cost of conservatism to shareholders should be reflected in security prices. In our proposed set of tests that follow, we evaluate whether conservatism is viewed by shareholders as beneficial.

2.2. Hypotheses development

Conditional conservatism is characterized by lower verification requirements for accounting recognition of economic losses as opposed to economic gains. Thus, conditional conservatism forces firm managers to reveal their private information about negative economic shocks in a more timely fashion. Because managers have incentives to delay disclosure and recognition of bad news due to their career and compensation concerns (Kothari et al., 2009), conditional conservatism could be beneficial to shareholders who are concerned with losses and are less informed about impending bad news. The undisclosed bad news, however, must eventually be revealed as soon as further withholding bad news becomes too expensive or difficult (Kothari et al., 2009).[41] Therefore, we expect that conditional conservatism is associated with lower likelihood of future bad news. Thus, our first hypothesis is as follows:

[41] This reasoning implies that high conservative firms are less likely to surprise investors with negative news in the future because all the current and past bad news has already been revealed. We note that this effect of conservatism on future bad news is not mechanical. Such a mechanical relation might exist, for instance, in applying more conservative depreciation rules. Assuming that the total amount of depreciation to be recorded over the life-time of an asset is limited by the depreciable cost of an asset, recording more depreciation today results in recording less depreciation tomorrow. However, such mechanical effects are more likely to be associated with unconditional conservatism. On the other hand, conditional conservatism is "news-driven," i.e., more conditionally conservative accounting policies are based on arrival of new information, not on accounting policies set ex-ante.

H1: Greater levels of conditional conservatism are associated with lower likelihood of future negative news.

Because conservatism forces earlier recognition of economic bad news, in the presence of such economic bad news, the stock price of a more conservative firm is likely to be closer to its fundamental value than a stock price of non-conservative firm, ceteris paribus.[42] The information from less conservative firms' financial statements is more likely to be in the upper end of the distribution of fundamental values of the firms. Therefore, the market will perceive the information delivered by conservative financial statements as less biased and more accurate, while information delivered to the market by less conservative firms could be perceived as more optimistically biased.

We thus expect that market response to earnings surprises varies with levels of conditional conservatism. Investors perceive earnings announcements from more conservative firms as more informative and correct, while for less conservative firms investors have to discount possible optimistic bias in the form of undisclosed bad news in earnings announcements. In other words, for more (less) conservative firms, the market will be faced with lower (higher) level uncertainty about the arrival of future bad news (Guay and Verrecchia, 2007). Guay and Verrecchia (2007) show that ex-ante commitment to the policy of timely recognition of bad news and deferral of good news is rewarded by the

[42] In the one hand, it could be argued that conservatism should not affect value of a firm because all news is eventually revealed, and timing of news recognition is irrelevant. However, this argument assumes that investors are able to predict future bad news, and thus correctly value the non-conservative firm's stock. It could be true in cases of highly sophisticated investors, but is unlikely to be true for non-sophisticated investors. Moreover, given the large body of evidence that investors tend to over-value firms with high accruals (e.g. Bradshaw et al., 2002) or otherwise earnings management, it is unlikely that investors on average could correctly discount anti-conservative behavior. As a result, it is possible that investors could over-estimate future earnings of non-conservative firms and over-value them.

market. As a result, when bad news is announced, for less conservative firms, the market is concerned that the revelation of bad news is not complete, and it might react stronger. Conversely, the market's reaction to good earnings news of less conservative firms will be more subdued than the market reaction to good earnings news of more conservative firms. For more conservative firms, such concern is lower, as the market is aware of conservative firms' reputation for being more forthcoming.[43] This reasoning leads us to our next hypothesis:

H2: For more conservative firms, stock market reaction to good (bad) news earnings surprises is stronger (weaker).

3. Research design and sample

3.1 Research design

3.1.1. Tests of Hypothesis 1

To test Hypothesis 1, we examine the association of conditional conservatism and the likelihood of three types of future bad earnings news: 1) missing analysts' earnings forecasts, 2) earnings decreases, and 3) dividend decreases.

We examine the association of conditional conservatism with missing earnings benchmarks because we believe that this setting is particularly powerful in capturing bad

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[43] One could make an argument that on an indefinitely long horizon when the "truth eventually comes out", timing of bad news disclosure is irrelevant for firm valuation and hence should not be rewarded. However, empirical evidence suggests that investor horizon matters in valuation decisions. For example, transient institutional ownership do not like negative surprises. Bushee (1998) shows that the higher is the transient institutional ownership of a firm, the higher is the likelihood that managers will take value-decreasing myopic actions to avoid earnings decreases, suggesting that if investor base is composed of predominantly transient institutional holders, managers will take *value decreasing long-term actions,* i.e., short horizon does influence managers' behavior. Evidence in the other studies shows that transient institutional holders are more likely to sell their stock if they expect the arrival of short term bad news, such as quarterly earnings decreases or restatements (see for example, Ke and Petroni, 2004)).

news within the firm. Firms have historically striven to meet analysts' earnings forecasts in order to avoid strong market punishment for missing this benchmark (Bartov et al., 2002; Graham et al., 2005). Firm managers have some discretion to manage earnings; therefore, they can use this ability to avoid missing analysts' forecasts (Matsumoto, 2000). Matsunaga and Park (2001) show that managerial compensation is very sensitive to missing analysts' forecasts. Thus, managers have particularly strong incentives to conceal bad news when they are close to missing this benchmark. As such, the very event of missing a forecast represents a particularly bad news event for a firm. In addition, this setting reduces the possibility that the observed lower probability of future bad news is driven by mechanical relation of conservatism and future bad news because any such mechanical relation should be captured in analysts' earnings forecasts.

We also examine the association of conditional conservatism and probabilities of future earnings decreases because avoiding earnings declines is an earnings benchmark, second in importance after meeting analysts' forecasts (DeGeorge et al., 1999). The stock market also views earnings changes as an additional benchmark of credibility of earnings news (Dopuch et al., 2008). Thus, managers have incentives to avoid earnings decreases as well, and conditional conservatism could serve as an additional device constraining managerial efforts in upward manipulation of earnings changes.

Our third dependent variable is the likelihood of future dividend decreases because literature shows that the market generally reacts very negatively to dividend decreases (Denis et al., 1994). Moreover, due to negative effects of dividend decreases on firms' stock prices, Daniel et al. (2007) show that firms manage earnings upward to avoid dividend decreases. Kothari, Wysocki and Shu (2009) show that the market reacts particularly negatively to the news of dividend decreases. They interpret this result as indicating that managers are more likely to withhold bad news releases relating to dividend cuts. Thus, it is interesting to see whether greater conservatism constrains managers' earnings management behavior and forces bad dividend news "out" earlier.

With respect to missing analysts' earnings forecasts, our dependent variable is a dummy variable equal 1 if a firm misses a consensus analyst forecast in any of the four quarters subsequent to the year end in which the firm's conservatism level is measured. For this type of bad news, we run the regression model based on Matsumoto (2000) and modify it by adding the conservatism level variable.[44] Thus, all variables originally identified by Matsumoto as determinants of negative earnings surprises have to be controlled for in our model. Thus our model is as follows:

$$Prob(Miss_{t+1}=1)= \beta_0+ \beta_1 * CONS_t+\sum \beta_i Controls_i +e_t \qquad \textbf{(1)}$$

where $CONS_t$ is one of the following conservatism measures previously employed in the literature. We run a LOGIT model with time-fixed effects and cluster-adjusted standard errors. H1 predicts that $\beta_1<0$, implying more conservative firms are less likely to miss analysts' earnings forecasts.

Our conservatism measures are as follows:

1) ***BASU_TS***- time-series Basu(1997) measure estimated over 12 year moving window, requiring at least 9 years with available data for each firm;

Two measures suggested by Ball and Shivakumar (2008):

2) ***CONS_OI***- Operating Income Change measure:

CONS_OI is a *negative* coefficient β_3 from the following regression,

[44] Matsumoto (2000) examines the firm incentives to avoid missing analysts' earnings forecasts.

$\Delta OI_t = \alpha_t + \beta_1 D + \beta_2 \Delta OI_{t-1} + \beta_3 D^*\Delta OI_{t-1} + e_t$

In this regression, ΔOI_t is change in operating income in year t deflated by beginning market value of equity, ΔOI_{t-1} is change in operating income in year t-1 deflated by beginning market value of equity, and D is 1 if ΔOI_{t-1} is negative and 0 otherwise.

3) ***CONS_BS***- Accurals Cash Flow measure:

Coefficient β_3 from the following regression:

$Accr_t = \alpha_t + \beta_1 D + \beta_2 CF_t + \beta_3 D^*CF_t + e_t$

where $Accr_t$ is operating accruals in year t, deflated by beginning-of-the-year market value of equity, CF_t is cash flow from operation in year t deflated by beginning-of-the-year market value of equity, and D is 1 if CF_t is negative and 0 otherwise.

We estimate both of these regressions, using Compustat quarterly data over moving window of 6 years, and requiring at least 5 years of available data.

Two measures proposed in Givoly and Hayn (2000):

3) ***NOPAC***-*Negative* cumulative non-operating accruals cumulated over last five years,

4) ***REL_SKEW*** (Relative Skewness of Earnings and Cash Flows)-*Negative* Difference between skewness of distribution of firm earnings and skewness of distribution of firm cash flows. Relative skewness measure is calculated over time-series of 28 quarters requiring at least 20 quarterly observations;

Control variables ($\sum\beta_i Controls_i$): Our control variables are based primarily on the model in Matsumoto (2000) who studies the incentives of firms to avoid missing analysts' forecasts.

ABSFERR is the average absolute analysts' forecast error for a firm in year t, and the model includes it to control for uncertainty in the forecasting environment. On the one hand, the higher the level of overall forecasting environment uncertainty, the greater-the chance that a firm might miss analysts' forecasts. This relation could lead to the higher likelihood of missed forecasts in the future. On the other hand, higher levels of ex-ante forecasting uncertainty generate additional incentives for firms to reduce such uncertainty because it is costly (King et al., 1990), leading to the lower likelihood of missed future forecasts. Hence, the regression coefficient on this variable could be positive or negative.

$MED\ ROA_t$ is the median industry ROA for a firm's 4 digit SIC code and is included to control for industry profitability effects. This variable is included to control for any negative macro-shocks which could result in missing analyst expectations. We expect the sign on this variable's regression coefficient to be negative.

$Inst_t$ is the average percentage institutional ownership in year *t* and is predicted to have a negative coefficient because managers of firms with higher institutional ownership likely perceive greater costs to missing analysts' forecasts.

RD_t is a firm's research and development expenditures (data#46) deflated by prior year assets. More R&D intensive firms have stronger incentives to avoid missing earnings benchmarks because it is likely to increase their cost of capital. Hence, we expect that the sign on this variable's regression coefficient is negative.

$Labor_t$ is 1 minus the ratio of firms' gross PP&E to total assets in year *t*. More labor-intensive firms also avoid missing analysts' forecasts because it might adversely affect their labor costs. Hence, the sign on this variable's regression coefficient is also predicted to be negative.

Dur_t is a dummy variable equal 1 if a firm is in the durable goods industry. Firms in durable goods industries are potentially more dependent on their suppliers, and thus avoid missing analysts' benchmarks. RD_t, $Labor_t$, and Dur_t are included as proxies for implicit claims of various stakeholders.

$Loss_t$ is a dummy variable equal 1 if a firm had negative earnings in year *t*. Analysts have greater difficulties forecasting earnings of loss firms; therefore, such firms are more likely to miss analyst forecasts in the future. Hence, we expect a positive regression coefficient on this variable.

Lit_t is a dummy variable equal 1 if a firm falls into a high litigation industry (Francis et al., 1993). Higher litigation risk firms seek to avoid negative earnings surprises, so we expect a negative coefficient on this variable.

$\Delta EARN_t$ is a firm's change in earnings during year *t*, deflated by assets in year *t-1*. This variable is included to control for earnings performance, as firms experiencing earnings declines are more likely to experience future analysts' forecast misses. For this reason, we expect a negative coefficient on this variable. MVE_t, MTB_t, LEV_t are firm market value of equity (size), market-to-book ratio (growth), and leverage (total liabilities/total assets) in year *t*, respectively. We control for size in order to capture additional differences in firms' information environments not already captured by the other variables, and we expect a negative sign on this variable's regression coefficient because larger firms have better information environments. Higher growth and more levered firms also have incentives to avoid missing analysts' forecasts; we expect negative regression coefficients here. In addition, these variables are related to conservatism, so we seek to separately control for their effects (Lafond and Watts, 2008).

ΔTA_{t+1} is change in next year's total accruals. We define accruals as the difference between earnings and cash flows, for firm years after 1988, and follow Sloan (1996) definition for years prior. This variable is deflated by prior total assets. We add this variable to control for any mechanical relation that conservatism might have with future news.

To model the likelihood of future earnings or dividend decreases, we run the following regression model:

$Prob(Earn\ Decr_{t+1}/Div\ Decr_{t+1}=1)= \gamma_0+ \gamma_1*CONS_t+ +\sum\gamma_i Controls_i +e_t$ ***(2)***

where $Earn\ Decr_{t+1}/Div\ Decr_{t+1}$ is a dummy variable equal 1 if a firm experienced a reduction in earnings before extraordinary items (Compustat data#18, deflated by prior year assets))/dividends per share adjusted for stock splits (data #26/data#27) in year *t+1* as compared to year *t*. $CONS_t$ is a set of conservatism measures used in equation (1).

H1 predicts that $\gamma_1<0$.

Control variables **(**$\sum\gamma_i Controls_i$**)**:

EDF_t is implied probability of bankruptcy based on KMV (Merton) bankruptcy model (Bharath and Shumway, 2008). We use it to control for financial distress. The coefficient on this variable could be either positive or negative, depending on whether, on average, firms tend to reverse their distress positions in the future.

ROA_t is year *t* return on assets, and $\Delta EARN_t$ is year *t* change in earnings before extraordinary items, deflated by prior assets. These variables are included in order to control for contemporaneous earnings performance. On the one hand, good performance tends to persist. On the other hand, firms experiencing unusually high earnings performance are more likely to have "mean reversion" in earnings in the future. Hence, the coefficients on these variables could be positive or negative.

$Beta_t$ is a firm's beta estimated using Four Factor Model using moving window over 72 months with minimum of 60 available months. $StdRet_t$ is a standard deviation of stock returns on the same window as beta. We include these two variables to control for general level of firm risk, as riskier firms could be more likely to have negative earnings changes. We expect regression coefficients on these variables to be positive.

$MED\ ROA_t$ is median industry ROA for a firm's 4 digit SIC code. $MED\ BHAR_t$ is a median industry buy-and-hold abnormal return cumulated over 12 months period from end of fiscal year *t-1* to the end of fiscal year *t*. These variables are included to control for macro-shocks to earnings. We expect the regression coefficients on these variables to be negative.

MVE_t, MTB_t, LEV_t are size, market-to-book and leverage ratios of a firm. ΔTA_{t+1} is change in next year's total accruals. The rationale for inclusion of these variables in the model, and expected signs on their regression coefficients are the same as in equation (1).

3.1.2. Tests of Hypothesis 2

We adopt an event study methodology to test Hypothesis 2. We run the following regression model:

$$AR_{(-3,3)} = \beta_0 + \beta_1 * SURP_t + \beta_2 * CONS_{t-1} + \beta_3 * CONS_{t-1} * SURP_t + \beta_4 * BAD\_NEWS_t + \beta_5 * CONS_{t-1} * SURP_t * BAD\_NEWS_t + \beta_6 * CONS_{t-1} * BAD\_NEWS_t + e_t \quad \textbf{(3)}$$

where $AR_{(-3,3)}$ is a three day size-adjusted abnormal return around a firm's quarterly earnings announcement; $CONS_{t-1}$ is one of the firm specific conservatism measures described in equation (1), except Basu time-series measure.[45] $SURP_t$ is ex-post analyst forecast error measured as follows $SURP_t = \frac{ACTUAL_t - FORECAST_t}{PRC_{t-1}}$. $ACTUAL_t$ is the actual reported earnings reported by IBES. $FORECAST_t$ is median of forecasted earnings during thirty days preceding quarter end. PRC_{t-1} is the firm's Compustat stock price in the end of the preceding fiscal quarter. *BAD_NEWS* is a dummy variable equal 1 if *SURP*<0. Hypothesis 2 predicts that $\beta_3>0$ *and* $\beta_5<0$.[46]

3.2 Sample Selection

Our sample consists of all firms[47] in the intersection of 2006 Compustat, IBES, CRSP, and CDA Spectrum databases with sufficient data to compute our conditional conservatism measures, earnings surprises, and control variables. Our sample selection procedures vary, depending on the tests we run and conservatism measures we employ. For each set of hypotheses tests, we report our results both for unrestricted sample, and for common sample, i.e., sample of equal size for all conservatism measures employed in a particular test.

The sample period in our tests is 1973-2005 for future earnings decreases and dividend decreases tests, and 1983-2005 for future analyst forecast misses and stock returns (Hypothesis 2) tests. In un-tabulated tests, we also check for industry clustering and find

[45] We do not include Basu time-series measure due to potential econometric issue when Basu measure is used in stock return regression.
[46] An alternative approach would be to use a long-window association study, as opposed to short-window earnings announcement tests. We believe that long-window association study would reduce the power of our tests because we focus on how conditional conservatism affects the market's perception of earnings *news.* As such it is important to isolate the event when the news is revealed; hence, we decide to focus on short-window tests. The downside of our approach is that we may be missing any *pre-announced* bad news.
[47] In robustness tests, we exclude financial firms with SIC codes between 6000 and 6999.Our results are not significantly affected.

that no industries are significantly over-represented, suggesting that industry clustering is not a concern.

For our future negative earnings surprises tests, sample size varies between 65,104 observations and 29,301 observations. The common sample size in this test is 14,170 observations. For our future earnings decreases tests, the sample size varies between 50,303 observations and 28,064 observations. The common sample size in this test is 11,756 observations. For our future dividend reduction tests, our sample size varies between 50,225 and 28,023 observations. The common sample size in this test is 11,744 observations. For our market reaction tests, our sample size varies between 64,904 firm quarters to 28,344 firm-quarters. The common sample size in this test is 15,715 firm quarters. The smaller sample size in some of our analyses is due to longer time series data availability requirements in estimating accrual-based conservatism measures (see Appendix for further details). To minimize any time series dependence concerns, we include time fixed effects in all our multivariate analyses. To control for any firm-level clustering, we use cluster-adjusted standard errors for our statistical significance tests (Petersen, 2009). To minimize influence of the outliers, we winsorize all of our continuous variables at 1st and 99th percentile.

3.3. Sample descriptive statistics

Panel A of Table 1 summarizes the descriptive statistics for all variables used in our analyses. Abnormal returns around earnings announcement dates are close to zero and earnings surprises are zero on average. All conservatism measures we used show firms are on average conservative, which is consistent with prior literature (Basu, 1997; Givoly and Hayn, 2000).

Panel B of Table 1 summarizes Pearson correlations among variables in our sample. Correlations between conservatism measures are positive, but low. Low magnitude of these correlations suggests the potential noisy nature of conservatism variables. Excluding the CONS_OI, all conservatism measures have statistically significant and positive correlation with LEV, supporting the prior arguments in the literature that debt contracts demand conservatism to enhance contract efficiency.

Insert Table 1 here

4. Empirical analyses

4.1 Empirical results of Tests of Hypothesis 1

Missing Analysts' Forecasts. Panel A of Table 2 summarizes the results of the estimation of LOGIT equation (1) for each of the measures of conservatism used in our study. Only BASU_TS is weakly significantly associated with lower probability of future negative earnings surprises. In addition, the magnitude of the coefficient on this variable is quite small, and the un-tabulated odds ratio is slightly less than 1, suggesting that the odds of missing analysts' forecasts are slightly less than the odds of not missing analysts' forecasts for more conservative firms. However, because this odds ratio is so close to 1, this suggests that the economic significance of the reduction of probability in bad news is very small. Other conservatism measures' coefficients are not significant. Thus, with respect to future negative earnings surprises, the benefits of conditional conservatism appear to be weak. The lack of a significant relation here could be explained by both our control for reversal of accruals (to control for any mechanical effects), and, more importantly, the requirement that all firms used in this test have analyst following. The latter requirement significantly reduces the power of our tests. In addition, it is possible that missing an analysts' forecast captures extreme bad news about *earnings levels*[48], which normally is not reflected in more conservative accounting policies. In other words, it is possible that more conservative firms tend to be timelier in reflecting low or moderate bad news, but an extreme shock is more difficult to reflect, especially if such a shock is unexpected. If such an unexpected shock is captured by the higher likelihood of missing analysts' expectations, it is a possible reason why we do not find an effect of conservatism on bad earnings news as reflected by missing analyst forecasts.[49]

In these regressions, signs of control variables are generally in line with expectations. Coefficient on ΔTA_{t+1} is negative and significant in all specifications, suggesting that firms with future accruals increases are less likely to miss forecasts. The significance of the coefficient on this variable also underscores the importance of controlling for mechanical effects of accrual reversal. The sign on regression coefficient of ABSFERR is negative and significant, suggesting that firms in more uncertain analyst operating environments have incentives to reduce their future analyst forecast errors. The sign on regression coefficient on INST is negative and significant, suggesting that firms with higher institutional ownership have incentives to avoid negative earnings surprises. The sign on LABOR is negative and significant, suggesting that firms with more implicit claims from employees seek to avoid negative earnings surprises. The sign on LOSS is positive and significant,

[48] When we speak about bad news, we imply a negative shock to earnings, not the fact that a firm missed analyst forecasts. Missing analyst forecasts is an outcome or a consequence of such bad earnings news.
[49] We further note that our un-tabulated tests show that multi-collinearity is not a concern in these tests. In all specifications multi-collinearity condition indexes are always well below 30 (maximum is 21).

suggesting that firms that experience losses tend to have earnings which are difficult to forecast; thus, these firms are more likely to experience negative future earnings surprises. The sign on ΔEarn is negative and significant, suggesting that firms that experience earnings increases are less likely to miss analysts' forecasts. Other significant control variables in some specifications are LIT, suggesting that firms in more litigious industries have incentives to avoid negative earnings surprises, and MVE, showing that larger firms avoid negative earnings surprises.

Earnings Decreases. Panel B of Table 2 summarizes our results of estimation of equation (2) for the earnings decrease dependent variable. Consistent with our predictions, BASU_TS, NOPAC, REL_SKEW, and CONS_OI conservatism measures are all negatively associated with the probability of future earnings declines. In this model, only the prior year's earnings serve as an earnings expectation. Hence, no mechanism of incorporating bad news through other channels, such as analysts' forecasts, is present. Therefore, it is not surprising that we find significant results in these specifications. In addition, the un-tabulated results show that the odds ratio on NOPAC is 0.75 (un-tabulated). The odds ratios on REL_SKEW and CONS_OI are slightly higher 0.96. All of these odds ratios are less than 1, suggesting that the odds of experiencing future bad news for more conservative firms are exceeded by the odds of not experiencing future bad news. However, since the magnitudes of these odds ratios are not very far away from 1, these results suggest that the economic reduction of the odds of future bad news for more conservative firms is not very high.[50]

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[50] The closer odds ratio is to zero, the lower are the odds that more conservative firms will experience future bad news. The odds ratio of 1 suggests that the odds of reporting and not reporting future bad news are equal.

With respect to control variables, ΔTA_{t+1} is negative and significant in all specifications, suggesting that future accrual increases are negatively correlated with future earnings declines. Interestingly, in some specifications, the probability of bankruptcy, *EDF*, is negatively associated with future earnings declines. This result is likely due to the fact that firms with higher EDFs have already experienced significant earnings declines and are probably in loss reversal mode. Higher levels of ROA are associated with higher chances of future earnings declines, reflecting the general mean reverting nature of earnings stochastic process. Similarly, firms that experience earnings increases, and firms in industries with higher positive stock returns (*MED BHAR*) are more likely to experience future negative earnings declines. Larger firms (MVE) and growth firms (MTB) are less likely to experience earnings declines. As predicted, higher stock volatility firms (STDRET) experience higher probabilities of earnings declines.

Dividend Decreases. Panel C of Table 2 shows Hypothesis 1 is generally supported when a dummy variable for future dividend decreases is used as dependent variable. NOPAC, CONS_OI, and CONS_BS measures of conservatism show negative coefficient at a statistically significant level. However, contrary to our expectations, REL_SKEW shows significant and positive association with likelihoods of future dividend decreases. Signs of control variables are in line with expectations and are similar to those reported in Panel B of Table 2. The sign on the coefficient of EDF is now positive and significant, suggesting that dividend declines are more pronounced for firms in financial distress. The sign on ΔEarn is negative and significant, suggesting that firms that experience earnings increases are less likely to reduce dividends in the future. This result could be explained by prior evidence in Koch and Sun (2004) which shows that dividend changes are correlated with prior earnings changes. Firms with higher levels of leverage (LEV) and higher risky firms (BETA) are more likely to experience dividend decreases, suggesting that riskier firms are more likely to experience dividend declines. Interestingly, controlling for BETA, higher stock volatility firms experience lower probabilities of dividend decreases. This opposite to our expectations result could perhaps be explained by the fact that we are already controlling for BETA, EDF, and LEV. Hence, it is possible that STDRET picks up the effects of earnings volatility as a result of good news, and not downside risk.

Thus, Table 2 provides support for Hypothesis 1 for majority of conservatism measures used in case of earnings and dividend decreases as proxies of future bad news, but only provides weak support for Hypothesis 1 when missing future analysts' forecasts is used as a proxy for future bad news. One possible explanation for such results (or non-results) is that informational benefits of conservatism are not very important when a firm is followed by analysts since analysts had already incorporated any impending future bad news into their forecasts.

Insert Table 2 here.

Additional analysis: Controlling for Unconditional Conservatism. Because our primary interest is in the effect of conditional conservatism on the likelihood of future bad news, it is important to properly control for the effects of unconditional conservatism in our analyses. Unconditional conservatism is characterized by *unconditional (news-independent)* downward bias in earnings and book values. For example, choosing an accelerated depreciation method over straight line method results in unconditionally conservative earnings. In our preceding analyses, we include market-to-book ratio, which is a common unconditional conservatism proxy. However, to ensure the robustness of our results, we also run separate sets of tests on our full sample incorporating Penman and Zhang (2002) C-Score unconditional conservatism measure. Our results are essentially un-changed with the following important exceptions: In model 1, the coefficient on BASU_TS is no longer statistically significant, while coefficient on NOPAC is significant and negative, and coefficient on REL_SKEW becomes significant and negative at one-tail test. The other results remain similar. Thus, some evidence exists that higher conditional conservatism results in lower likelihood of missing analysts' forecasts in the future year.

4.2 Empirical results of Tests of Hypothesis 2

Table 3 summarizes the results of the estimation of OLS equation (3). Our results only weakly support the prediction of Hypothesis 2 across four conservatism measures used in this table. The average coefficient on variable $CONS_{t-1}*SURP_t$ is significant and positive for REL_SKEW and CONS_OI measures, suggesting that, on average, the stock market reacts more strongly to the good earnings news of more conservative firms than to the good earnings news of less conservative firms. However, the sign on coefficient CONS_BS is *negative*, contrary to our expectations. With respect to the second prediction of our Hypothesis 2, coefficient on the interaction term $CONS_{t-1}*SURP_t*BAD\_NEWS_t$ is negative and significant only for REL_SKEW measure. Taken together with positive coefficient on $CONS_{t-1}*SURP_{t,}$, this result provides some evidence that the stock market reacts less negatively to bad earnings news of more conservative firms. These results are broadly consistent with also controlling for variations in earnings surprises by size, market-to-book-ratio, and leverage. We omit these results for brevity. We also run tests while controlling for

Penman and Zhang (2003) C-Score, and our results remain un-affected. Hence, we cannot report significant informational benefits of conditional conservatism.

Insert Table 3 here.

5. Conclusion

Our study contributes to the growing literature investigating the role of conditional conservatism in equity markets. We test 1) whether greater conditional conservatism levels are associated with lower the likelihood of future bad earnings and dividend news, and 2) whether conditional conservatism levels affect the general stock market response to firms' good and bad earnings news. We find supporting evidence for the prediction that conditional conservatism reduces the likelihood of future bad earnings news and dividend decreases, and consistently with that result, we find some weak evidence that the stock market reacts stronger to good news of more conditionally conservative firms, and weaker to bad news of these firms. However, we also find no evidence that reductions in likelihood of future bad news are very significant in size. As such, we demonstrate some evidence that conditional conservatism somewhat improves information flow to the uninformed investors; however, the magnitude of these benefits to the users of financial information appears to be small. Because the average informational benefits of conditional conservatism appear to be small, future research could focus on identifying situations when such benefits might be larger.

Our findings have important implications for accounting regulators and policy-makers. First, we explicitly establish that conditional conservatism has some, albeit small, informational benefits in the form of reduced probability of future bad accounting news.

Our finding of some positive valuation effects for conservatism suggests that the market rewards these properties of conservatism somewhat, albeit not in great degree. Thus, considering these effects is also important in the process of convergence of the U.S. GAAP to IFRS. IFRS is also influenced by the fair value principle (Leone, 2007), and some have argued that abolishing conservatism will result in the loss of important benefits of conservatism (Watts, 2003).

Future research could focus on how adoption of IFRS in the European Union, Canada and other countries affects informational benefits of conditional conservatism. Understanding this relation would be particularly important in light of recent strong moves to adopt IFRS in the United States, such as the recent decision to accept IFRS-based foreign financial statements in the U.S. without reconciliation to GAAP[51] and the proposed SEC Roadmap to adoption of IFRS in the US.[52]

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[51] See Final Rule: Acceptance From Foreign Private Issuers of Financial Statements Prepared in Accordance With International Financial Reporting Standards Without Reconciliation to U.S. GAAP. Available at http://sec.gov/rules/final/2008/33-8879fr.pdf

[52] See Proposed rule: Roadmap for the potential use of financial statements prepared in accordance with International Financial Reporting Standards by U.S. Issuers available at http://www.sec.gov/rules/proposed/2008/33-8982.pdf

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Appendix:
Variables Definitions

Variable Name	Description
Conservatism measures:	
BASU_TS	Measure of asymmetric timeliness of earnings from Basu (1997) regression (coefficient a_3) $Ret_t=a0+a_1*Earn_t+a_2*D_t+a_3*D_t*Earn_t+e_t$. The regression is estimated annually over twelve years moving window, and requiring at least 9 available observations.
NOPAC	Non-operating accruals cumulated over four years, multiplied by negative 1.
CONS_BS	Measure of asymmetric timeliness of accruals and cash flows. Coefficient β_3 from the following regression $Accr_t= \alpha_t + \beta_1 D_t+ \beta_2 CF_t + \beta_3 D*CF_t+e_t$ used in Ball and Shivakumar (2008). Regression is estimated using quarterly data over the period of 6 years, and requiring at least 20 available quarterly observations.
CONS_OI	Negative earnings persistence measure (coefficient β_3 multiplied by -1) from the following regression: $\Delta OI_t = \alpha_t + \beta_1 D_t+ \beta_2 \Delta OI_{t-1} + \beta_3 D*\Delta OI_{t-1} +e_t$. Regression is estimated using quarterly data over the period of 6 years, and requiring at least 20 available quarterly observations.
REL_SKEW	Difference between skewness of earnings and cash flows multiplied by -1. To compute these skewness measures, at least five years of data is required. Cash flows are computed the same way as in variance of earnings and cash flows metric.

Other variables:

AR(-3,3)	Three-day cumulative size-adjusted abnormal return around a firm's quarterly earnings announcement date (Compustat).
SURP	Firms' earnings forecast error, defined as the difference between actual IBES earnings and median analyst earnings forecast for all forecasts issued within 30 days of the quarter end. The difference is deflated by the Compustat stock price in the end of the preceding fiscal quarter.
BAD_ NEWS	A dummy variable equal 1 if SURP<0
Miss	A dummy variable equal 1 if a firm misses a consensus analyst forecast in any quarter. Consensus forecast is defined as an average of all forecasts reported in IBES for a particular firm within 30 days of the firm earnings announcement date. If more than one forecast is issued by the same analyst, the latest forecast is taken.
Earn Decr	A dummy variable equal 1 if a firm experiences an annual decline in earnings before extraordinary items (data #18).
Div Decr	A dummy variable equal 1 if a firm experiences an annual decline in dividends per share, adjusted by the split adjustment factor (data #26/data #27)
ROA	Firms' earnings before extraordinary items (data #18) deflated by prior period assets (data #6)
ABSFERR	Average analyst forecast error for all forecasts issued during the period.

MED ROA	Median industry ROA in a particular year for a 4 digit SIC code
MED BHAR	Median industry buy-and-hold size-adjusted abnormal return in a particular year for a 4 digit SIC code.
INST	Average percentage institutional ownership from CDA spectrum database.
RD	Firm's research development expenditures (data #46) deflated by prior period assets (set to zero if no RD is reported).
Labor	1-Fixed Assets (data # 7)/Total Assets (data #6)
Loss	A dummy equal 1 if ROA<0
Lit	A dummy equal 1 if a firm falls into highly litigious industry (Matsumoto, 2002).
Dur	A dummy equal 1 if a firm is in durable goods industry (Matsumoto, 2002)
ΔEarn	Change in firm's earnings before extraordinary items (data #18)
EDF	Estimated default frequency based on KMV model of bankruptcy (Bharath and Shumway, 2008)
Beta	Firm beta from four factor model estimated using over moving window of 6 years, requiring at least 60 months of data
Stdret	Standard deviation of firm stock returns over 6 years, requiring at least 60 months of data
MB	Market-to-book ratio (data #25*data #199/data #60)

MVE	Natural log of market value of equity (log(data #25*data #199+1))
LEV	Ratio of firms' total liabilities to total assets (data #181/data #6)

Table 1
Sample Descriptive Statistics

The table reports the descriptive statistics of the key variables in our analysis. The sample consists of all firms in 2006 CRSP/COMPUSTAT/IBES merged dataset with sufficiently available data.

Panel A: Univariate Statistics

Variable	N	Mean	Std Dev	Lower Quartile	Median	Upper Quartile
BASU_TS	55275	3.060	30.364	-1.903	0.408	3.902
CONS_OI	48539	0.107	9.923	-0.416	0.180	0.917
CONS_BS	68114	0.080	1.710	0.000	0.000	0.340
NOPAC	43458	0.367	0.260	0.218	0.319	0.460
REL_SKEW	104701	0.871	1.780	-0.240	0.687	1.935
AR(-3, 3)	114885	0.003	0.103	-0.046	0.000	0.049
SURP	70951	0.000	0.017	-0.001	0.000	0.002
MVE	114710	6.027	1.603	4.845	5.890	7.050
MTB	114700	3.172	3.785	1.438	2.221	3.661
LEV	114585	0.471	0.224	0.292	0.476	0.629

Variable Definitions:
All variables are defined in the Appendix.

Table 1
Sample Descriptive Statistics

The table reports the descriptive statistics of the key variables in our analysis. The sample is non-financial firms in 2006 CRSP/COMPUSTAT/IBES merged dataset with sufficiently available data. *, ** and *** indicate significance at the 10%, 5% and 1% level respectively.

Panel B: Pearson Correlations

	CONS_OI	NOPAC	REL_SKEW	AR(-3, 3)	SURP	MVE	MTB	LEV	ROA
BASU_TS	0.002	0.037 ***	0.033 ***	-0.011 ***	0.002	0.085 ***	0.008 *	0.066 ***	-0.014 ***
CONS_OI		0.054 ***	0.019 ***	0.003	0.002	-0.007	-0.002	0.002	0.004
NOPAC			0.209 ***	0.005	-0.004	0.012 **	0.129 ***	0.008 *	-0.055 ***
REL_SKEW				0.012 ***	-0.010 **	0.090 ***	-0.018 ***	0.117 ***	0.004
AR(-3, 3)					0.057 ***	-0.002	-0.023 ***	0.009 ***	0.070 ***
SURP						0.029 ***	0.006	-0.003	0.135 ***
MVE							0.203 ***	0.176 ***	0.107 ***
MTB								-0.104 ***	-0.046 ***
LEV									0.031 ***

Variable Definitions:
All variables are defined in the Appendix.

Table 2

Conditional conservatism and future negative performance

Panel A: Future negative earnings surprises

The table reports the results of the LOGIT regressions whose dependent variable is a dummy variable equal 1 of a quarterly earnings surprise in year t+1 is negative (for any available quarter in the subsequent year). The sample is composed of all firms in 2006 CRSP/COMPUSTAT/IBES/CDA merged dataset with sufficiently available data. The model is estimated using time fixed effects and cluster-adjusted standard errors, following Petersen (2009). *, ** and *** indicate significance at the 10%, 5% and 1% level respectively.

DEPVAR: $MISS_{t+1}$	**$BASU\_TS_t$**						**$NOPAC_t$**						**REL_SKEW_t**					
	Full Sample			Common Sample			Full Sample			Common Sample			Full Sample			Common Sample		
	Coef.	**z**		**Coef.**	**z**		**Coef.**	**z**		**Coef.**	**z**		**Coef.**	**z**		**Coef.**	**z**	
$CONS_t$	***-0.0007***	***-1.67***	*	-0.0010	-1.59		-0.1132	-1.57		-0.1073	-0.93		-0.0091	-1.39		-0.0184	-1.37	
ΔTA_{t+1}	-1.37	-9.24	***	-1.71	-6.66	***	-1.44	-8.92	***	-1.70	-6.56	***	-1.13	-11.69	***	-1.69	-6.55	***
ROA_t	-0.32	-1.48		-0.09	-0.26		-0.17	-0.81		-0.11	-0.31		0.03	0.25		-0.12	-0.35	
$ABSFERR_t$	-5.69	-3.61	***	-6.04	-2.86	**	-5.27	-3.37	***	-6.04	-2.87	**	-3.10	-2.93	***	-6.07	-2.87	***
MED ROA_t	0.17	0.8		0.15	0.41		0.28	1.22		0.14	0.38		-0.01	-0.06		0.13	0.36	
$INST_t$	-0.40	-4.43	***	-0.49	-3.38	***	-0.37	-4.02	***	-0.48	-3.3	***	-0.23	-3.91	***	-0.47	-3.22	***
RD_t	-0.37	-1.31		-0.37	-0.76		0.13	0.49		-0.28	-0.58		-0.17	-1.23		-0.36	-0.75	
$LABOR_t$	-0.24	-5.5	***	-0.24	-3.53	***	-0.25	-4.85	***	-0.26	-3.67	***	-0.28	-8.18	***	-0.25	-3.57	***
$LOSS_t$	0.51	6.99	***	0.63	5.39	***	0.49	6.41	**	0.63	5.33	***	0.47	10.2	**	0.62	5.28	***
LIT_t	-0.05	-1.15		0.01	0.23		-0.06	-1.33		0.01	0.2		-0.11	-3.76	***	0.01	0.09	
DUR_t	-0.05	-1.38		-0.03	-0.5		-0.05	-1.42		-0.03	-0.53		0.01	0.3		-0.02	-0.32	
$\Delta EARN_t$	-0.84	-3.81	***	-1.28	-3.32	***	-0.59	-2.47	**	-1.26	-3.25	***	-0.74	-6.00	**	-1.26	-3.27	***
MVE_t	-0.01	-0.85		-0.03	-1.52		-0.02	-1.41		-0.03	-1.79		-0.02	-2.82	***	-0.03	-1.76	
MTB_t	-0.01	-1.93	*	0.00	-0.06		0.00	-0.69		0.00	0.21		-0.01	-3.92		0.00	0.16	
LEV_t	-0.14	-1.66	*	-0.14	-1.02		-0.13	-1.36		-0.15	-1.05		0.02	0.38		-0.13	-0.94	
N		39,104			14,170			29,301			14,170			65,104			14,170	
Pseudo R^2		0.03			0.03			0.03			0.03			0.03			0.03	

Table 2:

Conditional conservatism and future negative performance

Panel A: Future negative earnings surprises (continued)

DEPVAR: $MISS_{t+1}$	**$CONS\_OI_t$**						**$CONS\_BS_t$**					
	Full Sample			Common Sample			Full Sample			Common Sample		
	Coef.	**z**		**Coef.**	**z**		**Coef.**	**z**		**Coef.**	**z**	
$CONS_t$	0.0013	0.1		-0.0088	-0.43		-0.0109	-1.11		-0.02	-0.96	
ΔTA_{t+1}	-1.58	-10.02	***	-1.72	-6.68	***	-1.37	-10.1	***	-1.72	-6.7	***
ROA_t	-0.21	-1.03		-0.10	-0.28		-0.16	-0.96		-0.12	-0.35	
$ABSFERR_t$	-3.42	-2.34	**	-6.04	-2.87	**	-2.94	-2.43	**	-6.02	-2.84	**
MED ROA_t	0.06	0.26		0.14	0.39		-0.07	-0.4		0.14	0.37	
$INST_t$	-0.37	-4.23	***	-0.48	-3.33	***	-0.36	-4.65	***	-0.48	-3.37	***
RD_t	-0.52	-1.75	*	-0.37	-0.78		-0.28	-1.31		-0.35	-0.73	
$LABOR_t$	-0.26	-5.81	***	-0.24	-3.47	***	-0.27	-6.88	***	-0.24	-3.52	***
$LOSS_t$	0.49	6.91	***	0.63	5.32	***	0.47	7.7	***	0.62	5.31	***
LIT_t	-0.10	-2.55	**	0.01	0.2		-0.11	-3.07	***	0.01	0.17	
DUR_t	-0.02	-0.47		-0.03	-0.52		-0.03	-1.03		-0.03	-0.54	
$\Delta EARN_t$	-1.08	-5.1	***	-1.27	-3.3	***	-0.85	-4.87	***	-1.26	-3.27	***
MVE_t	-0.03	-2.14	**	-0.03	-1.74		-0.03	-2.68	**	-0.03	-1.7	
MTB_t	0.00	-0.87		0.00	0.07		-0.01	-1.79	*	0.00	0.1	
LEV_t	-0.09	-1.00		-0.14	-1.03		-0.09	-1.21		-0.15	-1.07	
N		33,793			14,170			42,246			14,170	
Pseudo R^2		0.03			0.03			0.03			0.03	

Variable Definitions: All variables are defined in the Appendix.

Table 2

Conditional conservatism and future negative performance

Panel B: Future earnings decreases

The table reports the results of the LOGIT regressions whose dependent variable is a dummy variable equal 1 if a firm experiences a decrease in earnings before extraordinary items in year t+1. The sample is composed of all firms in 2006 CRSP/COMPUSTAT merged dataset with sufficiently available data. The model is estimated using time fixed effects and cluster-adjusted standard errors, following Petersen (2009). *, ** and *** indicate significance at the 10%, 5% and 1% level respectively.

EARN DECR$_{t+1}$	**BASU_TS$_t$**				**NOPAC$_t$**				**REL_SKEW$_t$**			
	Full Sample		Common Sample		Full Sample		Common Sample		Full Sample		Common Sample	
	Coef.	**z**	**Coef.**	**z**	**Coef.**	**z**	**Coef.**	**z**	**Coef.**	**z**	**Coef.**	**z**
CONS$_t$	0.00	-0.38	***-0.0014***	***-1.76*** *	***-0.29***	***-5.41*** ***	***-0.33***	***-3.71*** ***	***-0.04***	***-7.32*** ***	***-0.04***	***-3.49*** ***
ΔTA$_{t+1}$	-5.00	-45.80 ***	-5.54	-18.61 ***	-4.83	-38.48 ***	-5.53	-18.49 ***	-5.15	-54.35 ***	-5.50	-18.45 ***
EDF	-0.17	-1.93 **	-0.79	-4.11 ***	-0.46	-4.34 ***	-0.81	-4.22 ***	-0.20	-2.70 ***	-0.79	-4.10 ***
ROA$_t$	0.80	6.90 ***	0.62	2.14 **	0.32	2.61 **	0.51	1.73 *	0.52	6.24 ***	0.60	2.09 **
ΔEARN$_t$	0.82	6.65 ***	0.86	3.17 ***	0.93	6.79 ***	0.97	3.47 ***	0.73	7.88 ***	0.89	3.27 ***
BETA$_t$	-0.02	-1.03	-0.06	-1.35	-0.04	-1.29	-0.06	-1.33	-0.01	-0.66	-0.06	-1.22
STDRET$_t$	1.76	7.76 ***	2.51	5.05 ***	1.98	7.36 ***	2.67	5.32 ***	1.52	8.28 ***	2.52	5.11 ***
MED ROA$_t$	-0.45	-2.67 **	-0.56	-1.63	-0.45	-2.26 **	-0.60	-1.71 *	-0.38	-2.75 ***	-0.58	-1.66
MED BHAR$_t$	3.91	3.84 ***	2.64	1.47	4.01	2.97 ***	2.62	1.45	3.79	4.28 ***	2.66	1.48
MVE$_t$	-0.06	-8.27 ***	-0.04	-2.87 ***	-0.04	-4.74 ***	-0.03	-2.59 **	-0.05	-8.58 ***	-0.04	-2.98 ***
MTB$_t$	-0.02	-6.00 ***	-0.03	-2.83 ***	-0.02	-3.94 ***	-0.03	-2.64 **	-0.02	-5.07 ***	-0.03	-2.80 ***
LEV$_t$	-0.04	-0.72	0.15	1.29	-0.10	-1.41	0.14	1.21	-0.13	-2.69 ***	0.17	1.48
N		45,350		11,756		28,064		11,756		50,303		11,756
Pseudo R^2		0.03		0.08		0.08		0.08		0.09		0.08

Table 2

Conditional conservatism and future negative performance

Panel B: Future earnings decreases (continued)

DEPVAR: EARN DECR$_{t+1}$	**CONS_OI$_t$**						**CONS_BS$_t$**					
	Full Sample			Common Sample			Full Sample			Common Sample		
	Coef.	**z**		**Coef.**	**z**		**Coef.**	**z**		**Coef.**	**z**	
CONS$_t$	***-0.03***	***-2.89***	*********	***-0.04***	***-2.04***	********	-0.01	-1.4		-0.02	-1.16	
ΔTA$_{t+1}$	-5.86	-41.61	***	-5.55	-18.59	***	-5.73	-50.03	***	-5.54	-18.59	***
EDF	-0.28	-2.62	**	-0.80	-4.17	***	-0.27	-2.99	***	-0.79	-4.11	***
ROA$_t$	0.49	4.04	***	0.63	2.18	**	0.45	4.87	***	0.60	2.08	**
ΔEARN$_t$	0.83	6.28	***	0.88	3.25	***	0.63	6.05	***	0.87	3.19	***
BETA$_t$	-0.01	-0.39		-0.07	-1.39		-0.03	-1.48		-0.07	-1.41	
STDRET$_t$	1.57	6.13	***	2.50	5.03	***	1.37	6.6	***	2.47	4.96	***
MED ROA$_t$	-0.20	-1.08		-0.55	-1.60		-0.35	-2.33		-0.58	-1.66	
MED BHAR$_t$	4.09	3.78	***	2.61	1.45		3.23	3.47	***	2.59	1.44	
MVE$_t$	-0.05	-6.44	***	-0.04	-3.11	***	-0.05	-7.05	***	-0.04	-3.01	***
MTB$_t$	-0.02	-4.96	***	-0.03	-2.83	***	-0.02	-4.29	***	-0.03	-2.78	***
LEV$_t$	-0.05	-0.82		0.16	1.36		-0.15	-2.66	**	0.15	1.29	
N		29,190			11,756			38,676			11,756	
Pseudo R^2		0.09			0.08			0.1			0.08	

Variable Definitions: All variables are defined in the Appendix.

Table 2

Conditional conservatism and future negative performance

Panel C: Future dividend decreases

The table reports the results of the LOGIT regressions whose dependent variable is a dummy variable equal 1 if a firm experiences a dividend per share decrease in year t+1. The sample is composed of all firms in 2006 CRSP/COMPUSTAT merged dataset with sufficiently available data. The model is estimated using time fixed effects and cluster-adjusted standard errors, following Petersen (2009). *, ** and *** indicate significance at the 10%, 5% and 1% level respectively.

DEPVAR: DIV DECREASE$_{t+1}$	**BASU_TS$_t$**				**NOPAC$_t$**				**REL_SKEW$_t$**			
	Full Sample		Common Sample		Full Sample		Common Sample		Full Sample		Common Sample	
	Coef.	**z**	**Coef.**	**z**	**Coef.**	**z**	**Coef.**	**z**	**Coef.**	**z**	**Coef.**	**z**
CONS$_t$	0.00	0.50	-0.0016	-0.84	***-0.72***	***-4.91*** ***	***-0.73***	***-3.15*** ***	***0.05***	***3.57*** ***	***0.04***	***1.77*** *
ΔTA$_{t+1}$	-1.06	-7.25 ***	-1.39	-4.73 ***	-1.12	-6.56 ***	-1.30	-4.45 ***	-1.07	-7.94 ***	-1.45	-4.98 ***
EDF	0.64	3.90 ***	0.16	0.45	0.62	3.26 ***	0.12	0.35	0.77	5.38 ***	0.12	0.34
ROA$_t$	0.95	3.03 ***	1.18	2.07 **	0.88	2.39 ***	0.96	1.62	1.21	4.21 ***	1.27	2.19 **
ΔEARN$_t$	-4.11	-11.64 ***	-4.80	-6.47 ***	-4.09	-10.11 ***	-4.73	-6.38 ***	-3.79	-11.75 ***	-4.85	-6.60 ***
BETA$_t$	0.33	4.92 ***	0.36	2.98 ***	0.32	4.26 ***	0.35	2.96 **	0.35	5.54 ***	0.35	2.89 ***
STDRET$_t$	-14.23	-16.14 ***	-14.54	-8.91 ***	-14.83	-14.21 ***	-13.89	-8.67 ***	-15.37	-18.25 ***	-14.67	-8.95 ***
MED ROA$_t$	-0.36	-0.83	-1.44	-2.19 **	-0.98	-1.96 **	-1.49	-2.27 **	-0.02	-0.06	-1.44	-2.21 **
MED BHAR$_t$	-1.10	-9.37 ***	-0.62	-2.89 ***	-0.92	-6.43 ***	-0.66	-3.04 ***	-0.96	-8.63 ***	-0.61	-2.86 ***
MVE$_t$	-0.16	-8.59 ***	-0.16	-4.7 ***	-0.14	-6.26 ***	-0.15	-4.33 ***	-0.14	-8.13 ***	-0.16	-4.79 ***
MTB$_t$	-0.04	-3.33 ***	-0.07	-3.37 ***	-0.06	-4.59 ***	-0.07	-3.19 ***	-0.04	-3.76 ***	-0.07	-3.39 ***
LEV$_t$	0.78	5.95 ***	0.91	3.5 ***	0.74	4.6 ***	0.90	3.46 ***	0.62	4.95 ***	0.90	3.45 ***
N		41,509		11,744		28,023		11,744		50,225		11,744
Pseudo R^2		0.07		0.07		0.08		0.07		0.08		0.07

Table 2:

Conditional conservatism and future negative performance

Panel C: Future dividend decreases (continued)

DEPVAR: DIV DECREASE$_{t+1}$	**CONS_OI$_t$**						**CONS_BS$_t$**					
	Full Sample			Common Sample			Full Sample			Common Sample		
	Coef.	**z**		**Coef.**	**z**		**Coef.**	**z**		**Coef.**	**z**	
CONS$_t$	***-0.06***	***-2.33***	*******	-0.06	-1.43		***-0.05***	***-2.18***	**	***-0.10***	***-2.46***	**
ΔTA$_{t+1}$	-1.17	-6.49	***	-1.38	-4.71	***	-0.98	-6.15	***	-1.37	-4.74	***
EDF	0.74	3.69	***	0.14	0.39		0.80	4.54	***	0.16	0.46	
ROA$_t$	0.77	2.13	**	1.19	2.08	**	1.04	3.17	***	1.18	2.08	***
ΔEARN$_t$	-3.93	-8.75	***	-4.74	-6.37	***	-3.58	-9.5	***	-4.80	-6.55	***
BETA$_t$	0.39	4.78	***	0.36	2.96	***	0.35	4.73	***	0.35	2.92	**
STDRET$_t$	-16.44	-14.31	***	-14.46	-8.85	***	-15.65	-15.45	***	-14.63	-8.97	***
MED ROA$_t$	-0.26	-0.54		-1.43	-2.17	**	-0.10	-0.22		-1.49	-2.27	***
MED BHAR$_t$	-0.84	-5.92	***	-0.62	-2.89	***	-0.88	-6.7	***	-0.63	-2.94	***
MVE$_t$	-0.16	-7.06	***	-0.16	-4.81	***	-0.14	-7.09	***	-0.16	-4.77	***
MTB$_t$	-0.04	-2.69	**	-0.07	-3.36	***	-0.03	-2.96	***	-0.07	-3.3	***
LEV$_t$	0.71	4.29	***	0.92	3.54	***	0.81	5.56	***	0.93	3.56	***
N		29,144			11,744			38,610			11,744	
Pseudo R^2		0.08			0.07			0.08			0.08	

Variable Definitions: All variables are defined in the Appendix.

Table 3

Conservatism and market reaction to bad news at quarterly earnings announcements

The table reports the results of the OLS regressions whose dependent variable is three-day size-adjusted abnormal return around a quarterly earnings announcement date. The sample is non-financial firms in 2006 CRSP/COMPUSTAT/IBES merged dataset with sufficiently available data. The model is estimated using time fixed effects and cluster-adjusted standard errors, following Petersen (2009). *, ** and *** indicate significance at the 10%, 5% and 1% level respectively.

DEPVAR: AR_t	**$NOPAC_{t-1}$**						**$REL\ SKEW_{t-1}$**					
	FULL SAMPLE			**COMMON SAMPLE**			**FULL SAMPLE**			**COMMON SAMPLE**		
Parameter	Estimate	t Value		Estimate	t Value		Estimate	t Value		Estimate	t Value	
Intercept	0.01	5.14	***	0.01	4.25	***	0.01	12.84	***	0.01	6.99	***
$SUPR_t$	0.00	0.09		0.15	1.33		0.09	3.13	***	0.10	2.15	**
$CONS_{t-1}$	0.01	2.36	**	0.01	1.74	*	0.00	1.09		0.00	1.68	*
$SURP_t * CONS_{t-1}$	0.17	0.86		-0.02	-0.06		***0.14***	***4.29***	***	***0.18***	***2.73***	***
BAD_NEWS_t	-0.02	-9.36	***	-0.02	-7.93	***	-0.03	-31.00	***	-0.03	-15.2	***
$SURP_t * CONS_{t-1} * BAD\_NEWS_t$	-0.07	-0.44		-0.31	-1.16		***-0.18***	***-3.97***	***	***-0.21***	***-2.6***	**
$CONS_{t-1}*BAD\_NEWS_t$	-0.02	-3.75	***	-0.01	-1.67	*	0.00	-1.53		0.00	-2.38	**
N		28,344			15,715			64,904			15,715	
R^2		0.03			0.03			0.03			0.04	

DEPVAR: AR_t	**$CONS\_Oi_{t-1}$**						**$CONS\_BS_{t-1}$**					
	FULL SAMPLE			**COMMON SAMPLE**			**FULL SAMPLE**			**COMMON SAMPLE**		
Parameter	Estimate	t Value		Estimate	t Value		Estimate	t Value		Estimate	t Value	
Intercept	0.01	12.21	***	0.01	8.01	***	0.02	13.65	***	0.01	7.97	***
$SUPR_t$	0.12	3.07	***	0.11	2.34	**	0.17	3.82	***	0.10	2.23	**
$CONS_{t-1}$	0.00	0.42		0.00	-2.47	**	0.00	3.46	***	0.00	-1.08	
$SURP_t * CONS_{t-1}$	***0.07***	***2.38***	**	***0.10***	***1.85***	*	***-0.01***	***-4.02***	***	0.02	1.16	
BAD_NEWS_t	-0.03	-25.77	***	-0.03	-18.75	***	-0.03	-27.09	***	-0.03	-18.91	***
$SURP_t * CONS_{t-1} * BAD\_NEWS_t$	-0.05	-1.36		-0.08	-1.53		0.00	1.48		0.01	0.11	
$CONS_{t-1}*BAD\_NEWS_t$	0.00	-0.32		0.00	5.1	***	0.00	-3.44	***	0.00	0.84	
N		30,929			15,715			39,080			15,715	

Variable Definitions: All variables are defined in the Appendix.

Chapter V

Conclusions

Although conservatism has been widely viewed as a mechanism to enhance debt contract efficiency, we know little about whether a firm commit to its pre-contracting level of conservatism and the factors that affect this commitment. My first essay provides evidence that firms are, on average, committed to their pre-borrowing conservatism level and, therefore, that conservatism is indeed an effective tool to enhance debt-contract efficiency. This research also provides debt holders with implication that firms with a high expected cost of breaching covenants will have incentives to deviate from the pre-contracting level of conservatism after borrowing.

The evidence in the second essay suggests the financial market reforms may be another channel through which countries may influence firms' financial reporting. Contrary to changes in regulations regarding disclosure and auditing rules, which directly affect firms' accounting quality, our evidence suggests that an increase in lending market competition may indirectly affect financial reporting by improving firms' incentive to produce higher quality statements. The evidence also provides a new perspective to the potential effects of greater credit market competition on lending relationships and the supply of credit to informationally-opaque firms. Our evidence suggests that firms' inherent opaqueness may not be completely fixed.

Our findings from the third essay have important implications for accounting regulators and policy-makers. First, we explicitly establish that conditional conservatism has some, albeit small, informational benefits in the form of reduced probability of future bad accounting news. Our finding of some positive valuation effects for conservatism suggests that the market rewards these properties of conservatism somewhat, albeit not in great degree. Thus, considering these effects is also important in the process of convergence of the U.S. GAAP to IFRS. IFRS is also influenced by the fair value principle (Leone, 2007), and some have argued that abolishing conservatism will result in the loss of important benefits of conservatism (Watts, 2003).