Accounting Quality and Debt Contracting

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Abstract

We study the impact of accounting quality on financial contracting by examining the price and non-price features of loan contracts at the time of loan origination. Borrower accounting quality, measured using standard models of unsigned abnormal accruals, has a significant economic impact on the loan contract terms. Lower accounting quality borrowers face substantially higher loan spreads (17 to 23 percent higher than the average interest cost). Simultaneously, lower accounting quality borrowers also face stricter non-price contract terms for loan maturity (6 percent lower) and collateral (11 percent higher probability). Loan transaction costs are significantly higher for lower accounting quality borrowers with higher upfront fees (16 to 37 percent higher) and higher annual fees (50 percent higher) for the lowest accounting quality borrowers. The results remain robust after controlling for a variety of known proxies for loan default risk and alternative econometric specifications. Additional tests show that loan terms exhibit a "U-shaped" pattern with respect to signed abnormal accruals, with firms having high positive or negative abnormal accruals facing the most stringent loan terms. We hypothesize that poor accounting quality reflects limited information about the borrowers' future operating cash flows. We find that this limited information risk is priced by the bank incremental to other known sources of credit risk. Our study provides unique evidence on how accounting quality influences the design of financial contracts and affects the cost of capital.

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1. Introduction

Commercial bank loans are a significant source of financing for firms, with syndicated loans accounting for 51% of new capital issuances.[1] Banks tailor loan contract terms for individual borrowers based on a detailed analysis of financial statements. The quality of information in financial statements could be affected by self-interested and opportunistic discretionary accounting choices of borrowers. Thus, poor accounting quality leads to problems in assessment of the true economic performance of borrowers and has important implications for loan contracting. In this study, we examine the impact of the accounting quality on the design of loan contract terms and cost of capital using a large sample of commercial bank loan contracts. We provide comprehensive evidence that poor accounting quality of borrowers has a substantial negative impact on both the price (interest cost of the loan, upfront and annual fees) as well as the non-price terms (loan maturity and collateral) of loan contracts.

Prior literature has focused on the design of loan features that address changes in credit risk of the borrower and accounting choices made subsequent to the loan grant. The contractual features studied are loan covenants (see, Press and Weinthrop (1990), Sweeny (1994), Begley and Feltham (1999), and Beatty and Weber (2003)) and performance pricing (see, Beatty, Dichev, and Weber (2000)). Performance pricing terms are typically designed from a perspective of credit improvements, while credit deteriorations are handled with covenant provisions. However, loan contracts are multifaceted and include other important contract terms such as interest, maturity and collateral that are also set based on an assessment

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[1] Source: Paine Webber Equity Research, May 14, 1999. The report provides a break up of sources of new capital issuances by US firms in 1997. The total new capital raised was $2157 billion of which, public bonds account for 26%, asset backed issuances are 14% and equity accounts for 9%.

of the borrower at the time of loan origination. Since banks rely on accounting information amongst other sources of information to set these terms, we investigate the impact of a firm's accounting quality on contracts terms, controlling for other known proxies of credit risk. To our knowledge this is the first large sample study to examine the link between accounting quality and design of price and non-price terms of debt contracts.[2]

In line with extant literature (see, Francis, LaFond, Olsson, and Schipper (2005); Aboody, Hughes and Liu (2004)) we measure accounting quality using the magnitude of abnormal operating accruals, i.e.: the difference between a firm's earnings and its operating cash flows, controlled for industry and normal level of activity (greater the magnitude of the abnormal operating accruals, lower is the accounting quality). This measure is intended to capture the degree of discretionary accounting choices made by the firm. Large abnormal operating accruals represent abnormal deviations between earnings and operating cash flows and make it harder for the bank to estimate the future operating cash flows of the borrowers using financial statements. Hence large abnormal operating accruals can result in large forecast errors on future cash flows estimates. It is critical for the bank to forecast future cash flows of the borrowers accurately because payments to loans will be serviced from future cash flows.

Our results are summarized as follows. Using three alternative metrics of accounting quality (absolute abnormal operating accruals), we find evidence that there are substantial

[2] Using a small sample of debt contracts Beatty, Ramesh and Weber (2002), study the impact of borrower accounting flexibility on the interest cost charged at the time of loan origination. Accounting choice allows flexibility in computing the compliance with loan covenant terms. Their study does not examine the non-price contractual terms. Francis, Olsson, LaFond and Schipper (2005) relate accounting quality to an aggregate imputed interest cost of debt (both public and private debt) paid by a firm rather than the actual contract rates. Also, they do not examine the impact of accounting quality on non-price terms of debt.

differences in bank loan contract terms relating to borrowers' accounting quality.[3] Borrowers with higher magnitudes of abnormal operating accruals face more unfavorable loan contract terms. In univariate tests, the interest spread charged by the bank between firms in the lowest versus the highest quintile of abnormal operating accruals increases by 80 to 87 basis points. In multivariate tests, controlling for various measures of firm and loan characteristics, we find that firms with high abnormal operating accruals face significantly higher cost of bank debt to the tune of 32 to 41 basis points. The additional cost is economically significant as it represents an incremental interest cost of 17 to 23 percent over the average interest charged on debt in the sample. With respect to loan transaction costs measured by Upfront fees (screening costs) and Annual fees (monitoring costs), we find that these are increasing across quintiles ranked in increasing order of abnormal accruals. Upfront fees for the highest quintile of abnormal accruals are 16 to 37 percent higher and annual fees are about 50 percent higher than for firms in the lowest quintile. Finally, with respect to non-price terms, we focus on two important dimensions of loan contracts: maturity and collateral. In univariate tests, firms in the highest versus lowest quintiles of abnormal operating accruals face 13 to 17 percent lower maturity and the likelihood of being required to provide collateral increases by 18 to 24 percentage points. Controlling for asset maturity in addition to other firm and loan characteristics, we find that moving from the lowest to the highest quintile of abnormal operating accruals reduces the maturity of the loans granted by about 6 percent. This translates into a reduction in maturity by 1 month on average. Since most short term funding

[3] These metrics described in detail in Section 2.2 are, the unsigned abnormal accruals computed using the modified-Jones model, unsigned abnormal current accruals using Teoh, Wong, and Welch (1998) and the unsigned abnormal accruals using the Dechow-Dichev model, respectively. We use abnormal accruals based metrics since they reflect the effect of firm's use of discretionary accounting choices over and above the normal level of accruals intrinsic to the firm's operations. In unreported results, using the firm's total accruals as a proxy for accounting quality, we find that the results in our study are materially unaffected.

from the markets is in the form of 90-day commercial paper, the lower quality borrowers would face a significantly higher economic cost in securing the funds to make up for shorter maturity. Similarly in multivariate tests we find that, a change in abnormal operating accruals from the minimum to the maximum increases the probability of collateralization by 11.3 percent.[4] In our sample on average 77 percent of loans are collateralized and so poorer accounting quality has a significant economic effect on borrowers by way of higher collateral being required. Since banks set all contract terms simultaneously, we also model the maturity and pricing decisions of the bank within a simultaneous equations framework. The results from the simultaneous estimation show similar economic and statistical results as compared to the single equation estimates.

Prior literature on debt contracts has proposed that income increasing or income decreasing accounting choices are optimal borrower responses in different situations (see, Dichev and Skinner (2003); Asquith, Beatty and Weber (2003)). In order to assess the impact of the nature of accounting discretion (income-increasing versus income-decreasing accruals) used by borrower firms in their financial statements, we extend our analysis using signed abnormal operating accruals. We segregate borrower firms with positive abnormal operating accruals (income-increasing accruals) and negative abnormal operating accruals (income-decreasing accruals) and examine the loan terms for each group. Interestingly, we find that the price and non-price terms of the loan contracts exhibit a "U" shaped pattern with the higher spreads and more stringent loan terms (shorter maturity and higher collateral) for borrowers with higher magnitude of abnormal operating accruals, irrespective of their sign.

[4] This computation is the change in predicted probability of collateralization when we change the UAA1 measure from its minimum to the maximum value holding all other variables constant at their mean.

This result emphasizes that borrowers with high absolute abnormal operating accruals face unfavorable loan terms and a higher cost of capital.

Why does accounting quality affect loan contract terms? We hypothesize that absolute abnormal operating accruals are associated with lower accuracy in forecasting a firm's future operating cash flows. Thus, absolute abnormal operating accruals could proxy for limited information about the borrower. If this limited information is a source of risk for the bank, in principle it should be diversifiable and need not be compensated for. However as Barry and Brown (1985) show in the context of the Capital Asset Pricing Model (CAPM), the systematic risk of securities is affected by the amount of available information and thus limited information is indeed a source of non-diversifiable risk. Hence, one interpretation of our results could be that the adverse price and non-price contract terms for high abnormal accrual borrowers reflects the bank's compensation for information risk arising from lower accounting quality.

To provide support for this interpretation, we conduct an additional test to see if abnormal accruals proxy for limited information. If abnormal operating accruals proxy for the relative lack of accuracy about future operating cash flows, the predictability of future cash flows should be decreasing in our measures of abnormal operating accruals (see, Dechow, Kothari and Watts (1998)). Using the entire Compustat data from 1982-2002, we classify all firms based on their abnormal operating accrual measures into quintiles. We find a pattern of decreasing R^2 across the accruals quintiles, for a regression of firm's cash flow from operations on past cash flow from operations and earnings. The lower predictability of future cash flows for high abnormal operating accruals firms provides support for our interpretation of the abnormal accrual metrics as a proxy for limited information.

To guard against the possibility that abnormal operating accruals could be proxying for an omitted default risk factor of the borrower, we check for the robustness of our results by explicitly controlling for a number of measures of default risk used in prior literature. In cross sectional regressions of loan rates, using four different default risk measures of the firm (Altman Z-score, S & P Credit rating, Ohlson O-Score, and Asset beta of the firm) we find that abnormal operating accrual measures continue to be significant predictors of loan rates. This suggests that the abnormal operating accrual metrics are not proxying for some other omitted risk factors and supports the notion that they represent limited information as a source of risk. This is consistent with Easley, Hvidkjaer and O'Hara (2002), Easley and O'Hara (2003), and Francis, LaFond, Olsson, and Schipper (2005) who find support empirically and theoretically in the asset pricing literature for information risk being a priced source of risk.

Our paper makes two main contributions. First, we provide evidence that accounting quality significantly impacts financial contracting.[5] Our results highlight the fact that poorer accounting quality leads to stringent contract terms that lead to a higher cost of capital to for a firm. Unlike prior literature, our study recognizes the joint role of price and non-price terms in the design of financial contracts. Second, we advance the explanation that our results support, and are consistent with, the notion of limited information as a source of risk.

The rest of the paper is as follows. Section 2 describes the data and the three distinct metrics of abnormal operating accruals used in the paper to measure deviations of cash flows from earnings. Section 3 presents the research design and results relating to the univariate and the multivariate analysis of the relationship between abnormal operating accruals and

[5] In fact, Sloan (2001) comments on the paucity of research on the role of accounting information in financial contracting especially in view of its importance in private placements of debt and private lending agreements.

contract terms of the loan. Section 4 provides an interpretation of our results, consistent with the notion of limited information as a source of risk. Section 5 concludes.

2. Data

2.1 Data on Firms

In order to identify the firms to be used in our study, we begin with a sample of bank loans from the Dealscan database provided by the Loan Pricing Corporation.[6] These loans are matched with the Compustat database in order to ensure that all firms have accounting data available. After matching with Compustat, we have a sample of 12,241 loans. We exclude 1878 loans for which we are unable to obtain information about the loan spread. We require the firm to have the Compustat annual data for the previous fiscal year, relative to the loan year so as to compute the firm specific controls as well as the accruals measures. The final sample contains 7334 loans obtained by 3082 firms over the period 1988-2001. Table 1 Panel A describes the characteristics of the sample loan-firms at the end of the fiscal year prior to the loan year.[7]

2.2 Measuring Accounting Quality

In order to measure accounting quality we use three approaches in a manner similar to Francis, et al. (2002) measures of earnings quality. Under all approaches, we rely on association between accruals and accounting fundamentals to separate the accruals measure (either total accruals or working capital accruals) into normal and abnormal components. In this framework, we interpret a large unsigned abnormal accrual as a high abnormal deviation

[6] Strahan (1999) provides a detailed description of the database and descriptive statistics of firms covered in the database and how they compare with the Compustat firms.
[7] The data characteristics reflect the fact that Dealscan contains data for larger profitable firms that tend to be syndicated loans. According to Strahan (1999) the data for Dealscan firms matched with Compustat are broadly similar to the firms from a non-Compustat matched sample.

between cash flows and earnings of a firm that makes it harder for outside investors to discern the true economic performance. Using these approaches, we compute three unsigned abnormal accruals (UAA) metrics labeled as UAA1, UAA2 and UAA3, which refer to the absolute value of the abnormal accruals.[8]

The first approach to measuring abnormal operating accruals relies on the Jones model (Jones (1991)) as modified by Dechow, Sloan and Sweeny (1995) to separate total accruals into normal and abnormal accruals. The absolute abnormal accrual derived from this model is our first abnormal operating accruals metric defined as UAA1. The second metric, UAA2, is the absolute abnormal current accruals estimated following Teoh, Wong, and Welch (1998). In the third approach we use the Dechow and Dichev (2002) method to define low accounting quality as the extent to which accruals do not map into cash flow realizations. In the Dechow-Dichev model, a poor match between accruals and cash flow signifies low accrual quality or large estimation errors in the accruals. We compute each of these metrics for the fiscal year (t) prior to the loan date as described below.

We define the accruals variables for firm i in year t as:

$$\text{Total Accruals}_{it} = TA_{it} = EBXI_{it} - CFO_{it}$$

where, EBXI is the earnings before extraordinary items and discontinued operations (annual Compustat data item 123) and CFO is the operating cash flows (from continuing operations) taken from the statement of cash flows (annual Compustat data item 308 – annual Compustat data item 124).[9]

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[8] We use the signed versions of these metrics, SAA1, SAA2, and SAA3, in our later analyses to explore whether it is the magnitude or the sign that matters for the determination of the cost of bank debt.

[9] We follow Hribar and Collins (2002) methodology for computing total accruals. This measure computes accruals directly from the statement of cash flows as opposed to changes in successive balance sheet accounts. While, the differences in balance sheet accounts approach has been used in prior studies, Hribar and Collins (2002) show that this approach results in biased measures of accruals especially for firms with mergers and acquisitions or discontinued operations. Additionally, our measure of accruals is comprehensive and includes

We compute total current accruals using the methodology in Dechow and Dichev (2002) using information from the statement of cash flow as follows,

Total Current Accruals $_{it}$ = TCA $_{it}$ = - (Δ AR $_{it}$ + ΔINV $_{it}$ + ΔAP $_{it}$ + ΔTAX $_{it}$ + ΔOCA $_{it}$),

where, ΔAR is the decrease (increase) in accounts receivable (annual Compustat data item 302), ΔINV is the decrease (increase) in inventory (annual Compustat data item 303), ΔAP is the increase (decrease) in accounts payable (annual Compustat data item 304), ΔTAX is the increase (decrease) in taxes payable (annual Compustat data item 305) and ΔOCA is the net change in other current assets (annual Compustat data item 307).

The basic approach that we follow is to estimate the normal level of accruals for each of our metrics and define abnormal accruals as the difference between actual level and the normal level of accruals. Thus to calculate UAA1 we first run the following cross-sectional regressions for each of the 48 Fama and French (1997) industry groups for each year based on the modified Jones model.

$$\frac{TA_{it}}{Assets_{i,t-1}} = k_{1t}\frac{1}{Assets_{i,t-1}} + k_2\frac{\Delta \mathrm{Re}v_{it}}{Assets_{i,t-1}} + k_3\frac{PPE_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \qquad (1)$$

where $Asset_{it-1}$ is firm i's total assets (annual Compustat data item 6) for year t-1, ΔREV_{it} is the change in firm i's revenues (annual Compustat data item 12) between year t-1 and t and PPE_{it} is the gross value of property, plant and equipment (annual Compustat data item 7) for firm i in year t. This regression is estimated for each industry-year and the coefficient estimates from equation (1) are used to estimate the firm-specific normal accruals (NA $_{it}$) for our sample firms.[10]

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accruals from deferred taxes, restructuring charges and special items besides the normal operating accruals and Hribar and Collins (2002) state that is the most appropriate measure.

[10] Following the methodology in the prior literature, we estimate the industry regressions using the change in reported revenues, implicitly assuming no discretionary choices with respect to revenue recognition. However,

$$NA_{it} = \hat{k}_{1t}\frac{1}{Assets_{i,t-1}} + \hat{k}_2\frac{(\Delta Rev_{it} - \Delta AR_{it})}{Assets_{i,t-1}} + \hat{k}_3\frac{PPE_{it}}{Assets_{i,t-1}} \tag{2}$$

where, ΔAR_{it} is the change in accounts receivable (annual Compustat data item 2) between year t-1 and t for firm i. Now the abnormal accruals are estimated as the difference between the total accruals and the fitted normal accruals as $SAA1_{it}$ = Signed Abnormal $Accruals_{it}$ = (TA_{it} / $Asset_{it-1}$) – NA_{it}. The absolute value of the abnormal accruals SAA1 is the first measure of abnormal operating accruals, $UAA1_{it}$ = Unsigned Abnormal $Accruals_{it}$ = $|SAA1_{it}|$.

For our second measure, we estimate the following regression for each industry-year based on Teoh, Wong and Welch (1998) for total current accruals:

$$\frac{TCA_{it}}{Assets_{i,t-1}} = \gamma_{1t}\frac{1}{Assets_{i,t-1}} + \gamma_2\frac{\Delta Rev_{it}}{Assets_{i,t-1}} + \eta_{it} \tag{3}$$

The coefficients estimated from this industry regression are used to compute the normal current accruals (NCA_{it}) for each sample firm as,

$$NCA_{it} = \hat{\gamma}_{1t}\frac{1}{Assets_{i,t-1}} + \hat{\gamma}_2\frac{(\Delta Rev_{it} - \Delta AR_{it})}{Assets_{i,t-1}} \tag{4}$$

We then compute the abnormal current accruals as $SAA2_{it}$ = Signed Abnormal $Accruals_{it}2$ = (TCA_{it} / $Asset_{it-1}$) – NCA_{it}. Our second metric for abnormal operating accruals is the absolute value of this abnormal current accruals, $UAA2_{it} = |SAA2_{it}|$.

Our third measure of abnormal operating accruals is based on Dechow and Dichev (2002) regression relating total accruals to cash flow of the firm. The following regression is estimated for each year for the each of the Fama and French (1997) industry groups:

$$\frac{TCA_{it}}{AvgAssets_{it}} = \theta_{0t} + \theta_{1t}\frac{CFO_{i,t-1}}{AvgAssets_{it}} + \theta_{2t}\frac{CFO_{i,t}}{AvgAssets_{it}} + \theta_{3t}\frac{CFO_{i,t+1}}{AvgAssets_{it}} + \nu_{it} \tag{5}$$

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while computing the normal accruals, we adjust the reported revenues of the sample firms for the change in accounts receivable to capture any potential accounting discretion arising from credit sales.

We define $SAA3_{it}$ as the residual ν_{it} from the regression. The third measure of abnormal operating accruals, $UAA3_{it}$, is the absolute value of the residual ($|SAA3_{it}|$). All three measures of UAA and SAA are winsorized at the top and bottom 1%.

We provide descriptive statistics for these three measures of abnormal operating accruals for our overall sample in Table 1 Panel B. In Table 1 Panel C, we provide some preliminary evidence that firm characteristics differ systematically as we move from the low accrual to the high accrual quintiles.

2.3 Data on Bank Loans

We use the Dealscan database that contains information on loans obtained by firms and provides details of both price and non-price terms. The database is compiled from SEC filings by firms and self-reporting on part of banks. The database covers loans and other financing arrangements that were originated globally since 1988.[11]

We select all loans for publicly traded US firms for which loan and financial data are available. Some loan packages or deals can have several facilities for the same borrower and with the same contract date. We include each facility as a separate sample observation since many loan characteristics as well as the spread over LIBOR, varies with each facility. Our sample of loans contains term loans, revolvers, and 364-day-facilities and excludes non-fund based facilities such as standby letters of credit and very short term bridge loans. All loans in our sample are senior in terms of the claim on the assets of the firm.

The cost of the bank borrowing is measured as the drawn all-in spread ("AIS Drawn") which is measured as a mark-up over LIBOR and is paid by the borrower on all drawn lines

[11] Other papers that have used this database include Carey, Post and Sharpe (1998), Hubbard, Kuttner and Palia (1998), Strahan (1999), Sunder (2002), Beatty and Weber (2003), and Dennis, Nandy, and Sharpe (2000).

of credit. Most of the bank loans are floating rate loans and therefore the cost of the loan is quoted as a spread over LIBOR.

Strahan (1999) shows that AIS Spread as well as other loan contract terms vary with borrower risk. Therefore, we analyze the effect of accruals on both the AIS spread as well as the non-price terms of loan contracts controlling for firm characteristics. In our analysis, we use the following non-price terms of contracts: facility size, maturity period of the loan, whether secured by collateral or not. Additionally, we control for the loan type, S&P debt rating and loan purpose while analyzing the cost of the borrowings since these have been identified in the literature as being related to loan spreads. According to Strahan (1999), riskier borrowers would face higher spreads, smaller facility size, shorter maturity period, and would be required to provide collateral.

Table 1 Panel D describes the characteristics of loans in our sample. The mean (median) AIS drawn is 192.5 basis points (175 basis points) and the maturity is 47 months (38 months) for a facility size of 177.5 million (50 million) and 77.4% of loans are secured. The mean facility size as a percentage of firm size is approximately 10% indicating that these loans are an important source of financing for the firms in our sample.

3. Methodology and Results

The main objective of the analysis is to study the impact of accounting quality (as measured by the accruals described in Section 2.2) on the price of bank debt, measured as AIS Drawn and other non price characteristics. We first report our results from a univariate analysis of price and non-price terms of loans across quintiles sorted on the three measures of abnormal operating accruals. Next, we report results from our multivariate analysis relating the AIS Drawn, Maturity and Collateral to measures of abnormal operating accruals, controlling for loan and firm characteristics that have been shown by the prior literature to affect the price and non price terms.

3.1 Univariate Results

In order to establish the relation between abnormal operating accruals and the price of bank debt and other contract terms, we first carry out a univariate analysis across sub-samples of firms sorted on the UAA metrics into quintiles. The results are reported in Table 2. The AIS Drawn over LIBOR is monotonically increasing across quintiles sorted by all the three metrics, i.e., UAA1, UAA2 and UAA3. The difference between the lowest and highest quintiles is economically and statistically significant. Firms moving from the lowest quintile of UAA to the highest quintile face a higher cost of bank debt of about 80 to 87 basis points.

If banks incorporate information about abnormal accruals into the pricing of loans, we expect to find a similar effect on other contract terms which are also set simultaneously. The size of the loan (Facility Size) is monotonically decreasing and firms moving from the lowest to highest quintiles of UAAs experience a decrease in facility size of more than 50%. The loan maturity for the lower UAA quintiles is greater than the loan maturity for the higher UAA quintiles by about 6–8 months. We find that banks are more likely to require collateral, and the fraction of loans secured by collateral is about 18 to 24 percentage points higher as we move from the lowest to the highest UAA quintile. For all these contract terms, the difference between the lowest and highest quintiles is also statistically significant at the 1% level (except for fraction with performance pricing). All these results are consistent with the hypothesis that banks alter their contract terms unfavorably, to partially mitigate the difficulty they face in discerning the true economic performance in the face of high abnormal accruals.

We also look at additional contract features of the loan. The fraction of firms with performance pricing is lower for high UAA firms relative to low UAA firms although this difference is significant only for UAA1.[12] The number of lenders is decreasing across UAA quintiles and is statistically and economically different between the lowest and highest quintile. One possible explanation is that banks find it harder to place the lower accounting quality firms (higher abnormal accruals firms) with more syndicate members since it may be harder to value these loans. Finally, we look at the initial upfront fees and the annual fees on the loan. Across all three accruals measures, the bank requires higher fees for higher UAA firms relative to lower UAA firms. This result is consistent with higher screening and monitoring costs for firms with higher accruals.

Therefore, the overall conclusion from the univariate analysis is that banks appear to consider the accruals of a firm while deciding the price (AIS Drawn) and non-price terms (Facility Size, Maturity and Security) of the loan. Firms with higher abnormal accruals (i.e. higher UAA Quintiles) face more adverse loan terms compared to firms with lower abnormal accruals (i.e. lower UAA Quintiles).

3.2 Multivariate Results – Price Terms (AIS Drawn)

We study the impact of abnormal accruals on the price of bank debt in a multivariate setting controlling for various measures that proxy for firm risk and firm profitability, in addition to loan characteristics. All of these controls have been shown by the prior literature

[12] Beatty, Dichev and Weber (2002) find that performance pricing in bank loan contracts is becoming a common feature and is an example of market pricing directly tied to accounting-based measures of performance.

to be important determinants of loan rates. The dependent variable in these regressions is the AIS Drawn which represents the floating interest rate spread charged over LIBOR by the lending bank. The list of control variables and their definitions are described in Appendix 1.

In addition to the variables reported by the existing literature, we also use a measure of Cash Flow Volatility of the firm scaled by Total Debt. Cash flow volatility is measured as the standard deviation of quarterly cash flow from operations computed over the past four fiscal years prior to the loan year scaled by the total debt. This measure can be interpreted as a relative magnitude of one standard deviation in cash flows to the total debt commitment of the firm.[13] We expect the cost of bank debt to be increasing in leverage and cash flow volatility and decreasing in firm size (Log Assets), interest coverage (Log Interest Coverage), tangibility, current ratio, and profitability. In case of high market-to-book firms, the cost of the debt is expected to be decreasing in the market-to-book

We control for loan characteristics that have been shown to be related to borrower risk and therefore loan spread. The variables used are "Log Facility Size" which is the log of the loan amount, and "Log Facility Maturity", which is the log of the maturity of the bank loan. If the loan characteristics proxy for risk factors then based on the evidence in Barclay and Smith (1995), we expect the coefficient on Log Facility and Log maturity to be negative, since riskier borrowers are granted smaller loans and for shorter periods. However in the presence of other controls for loan default risk, one could argue that higher loan size and longer maturity may be associated with higher loan spreads. Thus we do not place any expectation on the direction of relationship of these variables. The results from the regressions are presented in Table 3, Panels A and B.

[13] We also used the unscaled cash flow volatility and the results are qualitatively unchanged.

In Panel A, we include the firm specific UAA values. As the three specifications show, the coefficients on all the three measures of accruals, UAA1, UAA2 and UAA3 are positive and significant at the 1% level. Therefore firms with higher abnormal accruals face higher costs of bank debt after controlling for firm and loan characteristics. Moving from the lowest to the highest quintile of abnormal operating accruals increases the AIS Drawn by 32 to 41 basis points.[14]

We find that the coefficients on the firm control variables have the expected sign and are largely significantly associated with loan spreads, except for tangibility. The loan control variables have a positive significant coefficient indicating that in the presence of controls for default risk, a bigger facility size and longer maturity loans have higher spreads.

3.3 Multivariate Results – Non-price Terms (Maturity and Collateral)

Having established the effect of accruals on the price of the bank loan, we examine the effect of accruals on the non-price terms of the loan. Our sample provides a unique setting for examining this question relative to studies of standardized market securities such as equity or bonds. If the banks care about accounting quality, they can mitigate the effect of poor accounting quality by altering specific contract features besides the interest rate. We examine the effect of accruals on two specific non price contract terms – loan maturity and whether the loan is collateralized. Univariate results in Table 2 suggest that both these contract terms are adversely altered for firms with low accounting quality.

We model the relationship between loan maturity and UAA after controlling for variables, identified by Barclay and Smith (1995) and Barclay, Marx and Smith (2003) that are known determinants for debt maturity. We control for firm size, leverage, market-to-book

[14] The impact on AIS Spread is calculated for a change in UAA from the mean value in quintile 1 to quintile 5.

and two additional variables that are unique to the maturity regressions, following Barclay and Smith (1995). First, we use a measure of asset maturity measured as:

$$\text{Asset Maturity} = \frac{CA}{CA+PPE} * \frac{CA}{COGS} + \frac{PPE}{CA+PPE} * \frac{PPE}{Depreciation}$$

where, CA is the current asset, PP&E denotes net property, plant and equipment and COGS refers to cost of goods sold. The intuition behind this variable is that firms match their debt maturity to asset maturity. Second, we include a dummy variable for regulated industries, i.e. utilities in our sample. The results of these regressions are presented in Table 4, Panel A.

We find that controlling for other determinants of loan maturity, the coefficients on the UAA metrics are negative and significant (at the 1% level), implying that higher abnormal accrual firms face lower maturity on their loans. Moving from the lowest to the highest quintile of abnormal operating accruals reduces the maturity of the loans granted by about 6%.[15] We also find that the coefficient on the regulated dummy is negative and significant. This result is in sharp contrast to the results reported by Barclay and Smith (1995), who find a positive and significant coefficient.

To investigate this further, we hypothesize that the difference between our results and Barclay and Smith results could be due to differences in the nature of bank debt (studied in this paper) and market debt (studied in Barclay and Smith(1995)). We therefore use a dummy variable for capital market access (equals one if a firm had a debt rating assigned to it in the Compustat files) and interact this dummy variable with the regulated industry dummy variable.

The results of the next three regression specifications show that the negative coefficient on the regulated industry dummy is entirely restricted to firms with capital market

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[15] The impact on maturity is calculated for a change in UAA from the mean value in quintile 1 to quintile 5.

access. Our results suggest that firms with capital market access choose to obtain short maturity debt from banks and longer maturity debt from the markets, reconciling our evidence with that of Barclay and Smith (1995).

We then study the impact of accounting quality on the loan's likelihood of being secured. Based on the univariate results in Table 2, we expect a positive relationship between our UAA metrics and the likelihood of being secured. We model this decision using a probit model where the dependent variable is '1' if the loan is secured and '0' if the loan is unsecured. We control for leverage, tangibility of assets, market-to-book and loan concentration, measured as the fraction of the loan size to the sum of existing debt plus the loan size. [16] As reported in Table 4, Panel B, the coefficient on the UAA metrics is positive and significant implying that firms with lower accounting quality are more likely to be required to provide collateral against their loans. For example, a one standard deviation change around the mean value of UAA1, holding all other variables constant at their mean increases the likelihood of collateralization of loans by 9.71%.

3.4 Robustness Issues

We conduct a variety of robustness to support our base results reported in Section 3.3. The following sections describe the robustness checks that we performed with respect to the price and non-price loan terms.

[16] We use loan concentration because, if the loan is a significant portion of the firm's debt, it is more likely to be secured (Berger and Udell (1990) and Boot, Thakor and Udell (1991), Dennis, Nandy, and Sharpe (2000)).

3.4.1 Robustness Tests for AIS Drawn

Table 6, Panel A reports the results of additional robustness tests for the AIS Drawn regressions. The firms in the sample could have multiple loan facilities during the sample period, and sometimes in the same year. This could cause potential cross-sectional dependence in the error terms in our regressions reported in Table 3. In order to assess the impact of this cross-sectional dependence on the reported results, we run a number of checks and the results are reported in Table 6, Panel A. We include only one loan per firm year (specification (i)), consider the first loan transaction between the bank and the firm (specification (ii)) and also conduct a Fama – MacBeth style regression on the sample every year (specification (iii)) and report the time series average of the coefficients. In all cases we continue to find that the coefficient on the UAA1 metric is statistically and economically significant.[17]

In the final specification (iv) we control for whether the loan was secured (since higher risk borrowers face greater requirement to provide collateral (Berger and Udell (1990)), and dummy variables for the type and purpose of the loan (these include dummy variables for term loan, revolver greater than one year, revolver less than one year, and dummy for the purpose of the loan viz. acquisition, debt repayment, corporate purposes, working capital, etc.). The inclusion of the collateral information (whether the loan is collateralized or not) reduces our sample size by about 30%. We also include year dummies to control for year-fixed effects. The coefficients continue to be strongly significant at the 1% level. We also find that the coefficient on secured dummy is positive and significant. This is consistent with Berger and Udell (1990) who show that loans with collateral are associated with riskier firms and higher interest costs.

[17] Results for UAA2 and UAA3 metrics are similar for all the tests and hence omitted to conserve space.

3.4.2 Simultaneous Estimation of Price and Non-Price Terms

So far, we have estimated the impact of abnormal accruals on contract terms of the bank loan using a single equation framework. Focus on a single contract feature raises econometric issues about the treatment of other contract terms that are determined simultaneously and are related to a common set of exogenous explanatory factors. Thus the estimates from the single equation models might be biased and inconsistent. In order to address these issues, we estimate the regressions in a simultaneous equation framework. We jointly estimate the AIS Drawn and Log Maturity using a three-stage least squares (3SLS) approach. The method we use follows the approach in Dennis, Nandy and Sharpe (2000) who also model spreads, maturity and fees in a simultaneous system.

One of the critical issues in a simultaneous equation system is to use valid instruments in order to uniquely identify the system. For the AIS Drawn, we use loan size as an instrument as it is a measure of the riskiness of the loan. Following the evidence in Barclay and Smith (1995), we use asset maturity and a dummy for regulated industry in the maturity equation as instruments.

The results of the simultaneous equation estimation are reported in Table 6, Panel B for UAA1 (results are similar for UAA2 and UAA3 and not reported to conserve space). We find that the coefficient on UAA in the AIS Drawn equation is significant at the 1% level or higher for all three UAA metrics. The relationship between the UAA metrics and maturity continues to be significantly negative in all the three specifications. Overall the results of the simultaneous equation estimation continue to support the conclusions of the single equation estimations and this confirms the validity of the results based on single equation estimations.

3.5 Unsigned vs. Signed Accruals

In the results obtained so far, we have used the *unsigned* abnormal operating accruals as a proxy for the accounting quality of the firm. However, these UAA metrics include both income-increasing (positive) accruals and income-decreasing (negative) accruals. In this section, we ask the question: Does the *sign* of the abnormal operating accruals matter to the bank in setting the contract terms of the loan? An analysis of the abnormal accruals by sign would provide insight into whether the bank has an asymmetric reaction to positive abnormal accruals vis-à-vis negative abnormal accruals. In order to explore this we analyze the signed abnormal accruals, SAA. Using our three approaches to compute abnormal accruals (outlined in section 2.2), we compute three metrics of signed abnormal accruals. SAA1 corresponds to the abnormal accruals computed using the modified-Jones model (the estimated UAA1 measure with the sign), SAA2 corresponds to the abnormal accruals computed using the Teoh, Wong and Welch model, and SAA3 corresponds to the abnormal accruals computed using the Dechow-Dichev model. Table 5, Panel A contains the average SAA1 for all firm-loan years in our sample. Table 5, Panel B, analyzes the AIS drawn and loan terms across SAA quintiles. The lowest quintile (Quintile 1) contains firms with the most negative abnormal accruals (income decreasing abnormal accruals) and those in the highest quintile (Quintile 5) have the most positive abnormal accruals (income increasing abnormal accruals). We find that the firms in the extreme quintiles share similar spreads and loan features and the firms in the middle quintiles have lower AIS Drawn and relatively more favorable loan terms. This "U-shaped" pattern in loan terms implies that banks view significantly positive and negative abnormal accruals in an equally unfavorable light. Thus our results suggest that the negative relationship between accruals and AIS Drawn is largely driven by the magnitude of the abnormal accruals and not the sign. This is clear in Figure 1 where we plot the AIS Drawn for quintiles based on UAA1 and SAA1.[18] The plot for the UAA (solid line) is an increasing line whereas the SAA line is U-shaped (dashed line). This pattern is also borne out in the multivariate analysis reported in Table 5, Panel C. Controlling for firm risk, loan characteristics and time fixed effects, we find that the coefficients on positive SAA metrics are positive and significant while the coefficients on negative SAA metrics are negative and significant. This implies that irrespective of the direction of the abnormal accruals (income increasing or decreasing), a high magnitude of abnormal accruals increases the cost of bank debt.[19]

3.6 Loan Transaction Costs

Finally, we examine whether banks charge higher information processing/analysis costs (screening and monitoring costs) for borrowers with poorer accounting quality. Given the institutional structure of bank syndicates, the lead bank typically undertakes all or most of the information processing and monitoring effort. Thus, any compensation for these costs are expected to be made directly to the lead bank and not included in the overall spread that is earned by all non-lead banks as well. We therefore examine the association of abnormal accruals and the upfront fees and the annual fees paid on the loan. If the lead bank is compensated through higher fees, we would expect to see an increasing pattern of upfront fees

[18] The relation is similar between UAA2 and SAA2 and UAA3 and SAA3 and is not reported in the interest of brevity.

[19] In unreported results, we conduct a multivariate analysis using SAAs without separating the positive from the negative SAA. The coefficient on SAAs is largely insignificant, misleadingly suggesting that banks ignore the information in SAA. However, as the reported results show the decomposed SAAs are strongly associated with the AIS spread.

(compensation for screening) and annual fees (compensation for continued monitoring) across UAA quintiles.

Table 2 shows the trend in Upfront Fees and Annual Fees for quintiles formed using three alternative UAA measures. Both types of fees are increasing, though not strictly monotonic, for higher levels of absolute abnormal accruals. Our results show that, both types of fees are significantly higher for Quintile 5 (High UAA) relative to Quintile 1 (Low UAA). In univariate results, we find that upfront fees for the highest quintile of abnormal accruals are 16 to 37% higher and the annual fees are about 50% higher than for firms in the lowest quintile. This result suggests higher abnormal accruals are associated with higher transactions cost, as explicitly measured by the fees.

4. Limited Information as a Source of Risk

In this section we explore whether abnormal accruals can be interpreted as a measure of the relative lack of information (lack of accounting quality) about the firm's financial health and thus our results indicate a compensation for this limited information as a source of risk. As pointed out earlier, abnormal accruals can be interpreted as a measure of the relative lack of information (lack of accounting quality) about the firm's future profitability and cash flows. If the limited information is a source of risk for the bank, in principle it should be diversifiable and need not be compensated for. However as Barry and Brown (1985) show in the context of the Capital Asset Pricing Model (CAPM), the systematic risk of securities is affected by the amount of available information and thus limited information is indeed a source of non-diversifiable risk. Thus, one interpretation of our results is that the bank is being compensated for the information risk. We investigate the validity of this interpretation in two different ways.

First, we hypothesize that abnormal accruals are indeed a measure of lack of information about the firm's cash flows, and expect that the predictability of future cash flows will be decreasing in the level of the firm's abnormal accruals. Dechow, Kothari and Watts (1998) show that future cash flows can be predicted using current cash flow from operations and current net income. Since higher abnormal accruals reflect abnormal deviations between current net income and current cash flows, we expect that the predictability of future cash flows will be lower for firms with high abnormal accruals. In Table 7 Panel A, we report results from a regression of current cash flows on lagged cash flows and net income, controlling for firm fixed effects. Therefore we can interpret the coefficients as the within-firm effects for cash flow predictability. Using the entire Compustat data from 1982-2002, we classify each firm into a UAA quintile based on its median UAA rank over the sample period. We then run the regression separately for each quintile. We find that the fit of the regression is lower for higher abnormal accrual firms, Q5, than the low abnormal accrual firms, Q1. This pattern of decreasing R^2 holds across quintiles for UAA2 and UAA3 (results not reported). The lower predictability of future cash flows for high UAA firms provides support for our interpretation of UAA metrics as a proxy for the limited information as a source of risk.[20]

[20] A potential area for further research based on these results, would be to explore if banks are not subject to the "accruals anomaly" documented by Sloan (1996). Bhojraj and Swaminathan (2004) in a recent study show that sophisticated investors such as bond market investors seem to exhibit the anomaly despite the expectation that they would be investing in technologies to understand the persistence of accruals. In the context of commercial banks, realized returns on bank loans subsequent to loan grant could provide additional evidence on the accruals anomaly for sophisticated investors.

Second, having verified that our UAA metrics proxy for limited information, we examine if our measures of abnormal accruals show up significant in our tests, simply because of some omitted risk factors that predict the default probability of the loan. Even though our firm specific controls in the tests are designed to precisely pick up this effect, we explicitly compute and use four different measures of default risk as risk controls in the cross sectional regressions – the Altman Z-score[21], the squared Altman Z-score (to take care of any non-linearity in the specification), the Ohlson O-Score[22], the asset beta of the firm and dummies for the credit rating of the firm. The results of these tests are provided in Table 7, Panel B. The coefficients on the risk metrics take on the expected sign and are all statistically significant. Further, it can be seen that the UAA1 metric continues to be strongly significant even after explicitly controlling for default risk in all the five specifications. These results strongly support the notion that the UAA metrics are not a proxy for some omitted risk factor.

Based on the results from the different types of tests, one interpretation of our results is that that the UAA metrics which proxy for limited information about cash flows is a source of risk that is explicitly compensated for. Thus, we advance the explanation that our results support, and are consistent with, the notion of limited information as a source of risk – a view increasingly gaining currency in the asset pricing literature (Easley, Hvidkjaer and O'Hara (2002), Easley and O'Hara (2003), and Francis, LaFond, Olsson, and Schipper (2002)).

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[21] Since the Altman Z-score uses profitability and interest coverage information in its computation, we exclude those variables in the first two specifications. The Altman Z-score has been computed using the specification in Altman (1968) model: Z = 1.2 (Working Capital/Total Assets) + 1.4 (Retained Earnings/Total Assets) + 3.3 (EBIT/Total Assets) + 0.6 (Market Value of equity/Book Value of Total Liabilities) + (Sales/Total Assets)

[22] The O-score is computed following the implementation of Ohlson (1980) by Griffin and Lemmon (2002). The O-score = -1.32 – 0.407 (Log Total Assets) + 6.03 (Total Liabilites/ Total Assets) – 1.43 (Working Capital/ Total Assets) + 0.076 (Current Liabilities/ Current Assets) – 1.72 (1 if Total Liabilities > Total Assets, 0 otherwise) – 0.521 ((Net Income$_t$ - Net Income$_{t-1}$)/(| Net Income$_t$| + | Net Income$_{t-1}$|))

5. Conclusion

We study the impact of accounting quality on financial contracting by examining a large sample of commercial bank loan contracts. While prior literature in this area has examined the role of accounting quality in enforcement of covenants and performance pricing, we focus on the price and non-price terms of the loan contracts at the time of loan origination. Our setting provides a unique insight about how accounting quality reflected in the financial statements leads to setting of contract terms and affects cost of capital.

We find that borrower accounting quality, measured using standard models of abnormal accruals, has a significant economic impact on the loan contract terms. Lower accounting quality of borrowers is associated with a higher loan spread of 32 to 41 basis points. The additional interest cost is economically significant as it represents an incremental cost of 17 to 23 percent over the average interest charged on debt in the sample. Lower accounting quality borrowers also face stricter non-price contract terms for loan maturity and collateral. The results remain robust after controlling for a variety of known proxies for loan default risk and alternative econometric specifications. In additional analysis we also find that loan transaction costs reflected are significantly higher for lower accounting quality borrowers reflecting the recovery of higher information processing costs of the bank. Thus Upfront fees are 16 to 37 percent higher and Annual fees are 50 percent higher for the lowest accounting quality borrowers. Finally, we provide conjecture and provide evidence to support the notion that poorer accounting quality is a measure of the limited information about the predictability of future cash flows. The stringent contract terms reflect the bank's compensation for the risk on account of this limited information about the borrower.

Our paper makes two main contributions. First, we provide evidence that accounting quality significantly impacts financial contracting and cost of capital. Our results highlight the fact that poorer accounting quality leads to more stringent contract terms that in turn leads to a higher cost for a firm. Unlike prior literature, our study recognizes the joint role of price and non-price terms in the design of financial contracts. Second, we advance the explanation that our results support, and are consistent with, the notion of limited information of a firm being a source of priced risk.

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Appendix I: Definition of Variables

UAA1	Unsigned Abnormal Accruals computed using the Modifed-Jones model from Dechow, Sloan, and Sweeny (1995)
UAA2	Unsigned Abnormal Accuals computed using the methodology in Teoh, Wong, and Welch (1998)
UAA3	Unsigned Abnormal Accruals computed as the absolute residual from the regression of changes in working capital accruals on past present and future cash flow realizations as per Dechow and Dichev (2002) model
SAA1	Signed Abnormal Accruals computed using the Modifed-Jones model from Dechow, Sloan, and Sweeny (1995)
SAA2	Signed Abnormal Accuals computed using the methodology in Teoh, Wong, and Welch (1998)
SAA3	Signed Abnormal Accruals computed as the residual from the regression of changes in working capital accruals on past present and future cash flow realizations as per Dechow and Dichev (2002) model
Book Leverage	Long Term Debt (Compustat data item 9) divided by Total Assets (Compustat data item 6)
Log Assets	Log of Total Assets (Compustat data item 6)
Log Interest Coverage	Log of (1+ interest coverage), where interest coverage is measured as EBITDA (Compustat data item 13) divided by interest expense (Compustat data item 15)
Tangibility	Net PP&E (Compustat data item 8) divided by Total Assets (Compustat data item 6)
Current Ratio	Current Assets (Compustat data item 4) divided by Current Liabilities (Compustat data item 5)
Profitability	EBITDA (Compustat data item 13) divided by Total Assets (Compustat data item 6)
Market-to-Book	Market value of equity plus the book value of debt (Compustat data item 6 – Compustat data item 60 + Compustat data item 24 * Compustat data item25) divided by Total Assets (Compustat data item 6)
CFO volatility	Standard deviation of quarterly cash flow from operations (Δ Quarterly Compustat data item 108) over the 4 fiscal years prior to the loan year scaled by the total debt (Annual Compustat Data item 9 + data item 34)
Log Facility Size	Log of the loan amount obtained from the LPC database
Log Facility Maturity	Log of the maturity period of the bank loan obtained from the LPC database
AIS Drawn over LIBOR	All-in-Drawn Spread charged by the bank over LIBOR for the drawn portion of the loan facility obtained from the LPC database
Fraction Secured	Proportion of loans in the sample which were secured with collateral obtained from the LPC database
Fraction with Performance Pricing	Proportion of loans in the sample for which interest rates are determined using performance pricing obtained from the LPC database

Number of Lenders	Number of banks that are part of the loan syndicate for a given loan facility obtained from the LPC database
Number of facilities	Total number of loan facilities granted to each firm during our sample period obtained from the LPC database
Upfront Fees	One time fee, expressed as basis points of the loan, collected at the closing of the deal
Annual Fees	An annual charge, expressed in basis points of the loan, against the entire commitment amount
Secured Dummy	Dummy variable that takes on the value '1' if loan facility is secured with collateral and '0' otherwise
Loan Type Dummies	Dummy variable for each loan type - Term Loan, Revolver greater than 1 year, revolver less than 1 year, 364 day facility
Loan Purpose Dummies	Dummy variable for each loan purpose, including Debt repayment, Corporate Purposes, Working Capital
Year Dummies	Dummy variable for each year in the sample period.
Asset Maturity	$\frac{CA}{CA+PPE} * \frac{CA}{COGS} + \frac{PPE}{CA+PPE} * \frac{PPE}{Depreciation}$, as defined in Barclay and Smith (1995). CA = Current assets; PPE = Property, Plant and Equipment; COGS = Cost of goods sold;
Dummy for Regulated Industry	Dummy variable that takes on the value '1' for firms in the Utilities,…, industries and '0' otherwise
Capital Market Access	Dummy variable that measures access to public bond markets and takes on the value '1' if the firm has a credit rating and '0' otherwise
Loan Concentration	Dollar amount of the loan/(existing debt of the firm+dollar amount of the loan)
CFO	Annual cash flow from operations (Compustat data item 308)
Net Income before Extraordinary Items	Net Income (Compustat data item 18)
Shares	Shares outstanding (Compustat data item 25)
Z-score	Altman's (1968) Z-Score computed as Z = 1.2 (working capital/total assets) + 1.4 (retained earnings/total assets) + 3.3 (EBIT/Total Assets) + 0.6 (Market value of equity/Book value of total liabilities)+ (Sales/Total Assets)
O-Score	Ohlson's (1980) O-Score is computed as O = -1.32 – 0.407 (Log Total Assets) + 6.03 (Total Liabilites/ Total Assets) – 1.43 (Working Capital/ Total Assets) + 0.076 (Current Liabilities/ Current Assets) – 1.72 (1 if Total Liabilities > Total Assets, 0 otherwise) – 0.521 ((Net $Income_t$ - Net $Income_{t-1}$)/(| Net $Income_t$| + | Net $Income_{t-1}$|))

Asset Beta	Unlevered beta for the firm computed as $\beta_A = ((1-\tau)(D/E)/(1+(1-\tau)(D/E))) * \beta_d + (1/ /(1+(1-\tau)(D/E))) * \beta_e$ Where D/E is total debt divided by market value of equity, β_d is estimated using the interest cost of the firm, and β_e is estimated using monthly stock returns of the prior 3 years
Rating Dummies	Dummy variable for each of the S&P debt ratings categories, including a dummy for firms that are not rated.

Table 1

The overall sample contains 7334 loans obtained by 3082 firms over the period 1988-2001. The firm characteristics are obtained from Compustat and denote the firm variables from the fiscal year prior to the fiscal year in which the loan was obtained. The loan characteristics are from the Dealscan database provided by the Loan Pricing Corporation. Refer to Appendix I for definition of variables. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

Panel A: Loan-firm Characteristics

	N	Mean	Median	Std. Deviation
Book Leverage (Long Term Debt/ Assets)	7330	0.267	0.242	0.242
Log Assets	7334	5.676	5.587	1.899
Interest Coverage (EBITDA/Interest)	7236	23.8	4.2	420.2
Tangibility (Net PP&E/Assets)	7045	0.340	0.288	0.237
Current Ratio	6606	2.024	1.666	1.751
Profitability (EBITDA/Assets)	7038	0.111	0.123	0.147
Market-to-Book	6967	1.701	1.346	1.198
CFO Volatility/ Total Debt	5516	0.792	0.083	10.06

Panel B: Accounting Quality Metrics

	N	Mean	Median	Std. Deviation
UAA1	6961	0.139	0.067	0.226
UAA2	7197	0.080	0.038	0.118
UAA3	6151	0.066	0.035	0.090
SAA1	6961	0.004	0.000	0.224
SAA2	7197	0.030	0.009	0.126
SAA3	6151	0.018	0.004	0.102

Table 1 (continued)

Panel C: Mean Values by UAA1 Quintiles

	Low 1	2	3	4	High 5	T-test (1)-(5)
Book Leverage (Long Term Debt/ Assets)	0.276	0.277	0.255	0.249	0.249	2.57 ***
Log Assets	6.201	6.054	5.670	5.294	4.865	18.94 ***
Interest Coverage (EBITDA/Interest)	16.95	54.04	11.94	21.44	20.74	-0.61
Tangibility (Net PP&E/Assets)	0.366	0.360	0.347	0.318	0.314	5.71 ***
Current Ratio	1.916	1.951	2.019	1.996	2.247	-4.17 ***
Profitability (EBITDA/Assets)	0.126	0.125	0.124	0.109	0.072	7.81 ***
Market-to-Book	1.551	1.626	1.644	1.735	2.091	-9.78 ***
CFO Volatility/ Total Debt	0.388	0.550	0.657	1.749	0.815	-2.68 ***

Panel D: Loan Characteristics

	N	Mean	Median	Std. Deviation
Facility Size ($ mil.)	7334	177.5	50.0	449.3
Facility Maturity (months)	7070	46.7	38.0	144.2
AIS Drawn over LIBOR (b.p.)	7334	192.5	175.0	131.7
Fraction Secured	4853	0.774	1	0.42
Fraction with Performance Pricing	7202	0.350	0	0.48
Number of Lenders	7202	5.8	3.0	8.0
Number of Facilities per firm	3082	2.38	2.00	1.66
Upfront Fees	2259	53.7	37.5	55.9
Annual Fees	1960	19.4	12.5	23.2

Table 2: Mean Loan Terms across UAA Quintiles

The overall sample contains 7334 loans obtained by 3082 firms over the period 1988-2001. The loan characteristics are from the Dealscan database provided by the Loan Pricing Corporation. Refer to Appendix I for definition of variables.

	Low 1	2	3	4	High 5	T-test (1)-(5)
UAA1 Quintiles	0.010	0.034	0.068	0.131	0.453	-46.72 ***
Loan Terms						
AIS Drawn over LIBOR (Basis points)	160.4	173.2	182.7	215.4	240.3	-16.34 ***
Facility Size ($ mil.)	237.8	222.3	186.9	130.3	103.3	8.59 ***
Facility Maturity (months)	47.8	57.0	46.1	43.4	41.7	6.85 ***
Fraction Secured	0.690	0.732	0.777	0.828	0.870	-9.74 ***
Fraction with Performance Pricing	0.342	0.374	0.357	0.347	0.302	2.27 **
Number of Lenders	6.9	6.7	6.0	5.0	4.2	9.48 ***
Upfront Fees	45.8	48.7	54.3	57.1	63.3	-4.66 ***
Annual Fees	16.2	17.1	19.7	21.0	25.7	-5.72 ***
UAA2 Quintiles	0.005	0.019	0.039	0.079	0.258	-59.5 ***
Loan Terms						
AIS Drawn over LIBOR (Basis points)	155.3	178.2	185.9	199.1	242.2	-18.2 ***
Facility Size ($ mil.)	273.6	213.9	206.6	111.9	82.8	10.7 ***
Facility Maturity (months)	46.9	47.9	47.5	52.2	38.9	9.7 ***
Fraction Secured	0.643	0.756	0.763	0.786	0.878	-12.8 ***
Fraction with Performance Pricing	0.360	0.343	0.363	0.345	0.349	0.6
Number of Lenders	7.7	6.6	6.5	4.4	3.9	12.6 ***
Upfront Fees	49.3	51.3	51.7	50.8	62.1	-3.3 ***
Annual Fees	17.5	18.8	17.4	20.4	24.6	-4.9 ***
UAA3 Quintiles	0.005	0.018	0.036	0.067	0.205	-58.62 ***
Loan Terms						
AIS Drawn over LIBOR (Basis points)	152.8	157.9	173.3	204.1	237.7	-16.41 ***
Facility Size ($ mil.)	242.9	282.7	206.8	154.4	80.6	12.15 ***
Facility Maturity (months)	46.2	47.8	47.2	53.9	40.2	6.49 ***
Fraction Secured	0.664	0.690	0.727	0.798	0.860	-9.68 ***
Fraction with Performance Pricing	0.354	0.369	0.376	0.362	0.355	-0.08
Number of Lenders	7.5	7.4	6.6	5.4	3.9	11.74 ***
Upfront Fees	48.9	41.5	47.1	59.3	57.3	-2.1 **
Annual Fees	16.1	17.6	17.2	21.9	26.3	-6.44 ***

Table 3

Regression of All-in-Spread Drawn on UAA and Loan Terms

The sample consists of 7334 loans for which data was available on Compustat and Dealscan database and for which at least one of the UAA measures could be computed. The dependent variable is the All-in-Spread Drawn over LIBOR charged on the loan represented in basis points. Refer to Appendix I for definition of variables. The firm specific control variables are computed at the end of the fiscal year prior to the year in which the loan was obtained. The t-statistics are computed using heteroskedasticity adjusted robust standard errors. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Dependent Variable = AIS Drawn (in basis points)								
	(i)			(ii)			(iii)		
	Coefficient	t-stat		Coefficient	t-stat		Coefficient	t-stat	
Accounting Quality Variables									
UAA1	72.71	5.8	***						
UAA2				162.89	6.5	***			
UAA3							189.26	7.6	***
Firm Variables									
Book Leverage	52.21	2.4	**	52.54	2.6	**	49.56	2.2	**
Log Assets	-50.58	-31.5	***	-50.02	-30.8	***	-48.95	-30.3	***
Log Interest Coverage	-24.05	-8.3	***	-25.05	-8.7	***	-22.85	-7.6	***
Tangibility	-7.78	-0.9		11.25	1.3		3.57	0.4	
Current Ratio	-5.96	-4.6	***	-6.06	-4.6	***	-5.99	-4.3	***
Profitability	-104.30	-4.4	***	-105.52	-4.3	***	-116.62	-4.4	***
Market-to-Book	-5.90	-2.7	***	-5.98	-2.8	***	-7.32	-3.3	**
CFO Volatility/ Debt	0.37	3.0	***	0.31	2.8	***	0.18	1.6	
Loan Variables									
Log Facility Size	22.71	16.4	***	22.51	16.5	***	22.19	15.8	***
Log Facility Maturity	12.21	3.9	***	12.57	4.0	***	12.37	3.8	***
Year Dummies	Yes			Yes			Yes		
N	4592			4552			4373		
Adjusted R^2	0.773			0.773			0.770		

Table 4

Panel A: Regression of Log Maturity on UAA

The sample consists of 7334 loans for which data was available on Compustat and Dealscan database and for which at least one of the UAA measures could be computed. The dependent variable is the log of the maturity of the loan. Refer to Appendix I for definition of variables. The firm specific control variables are computed at the end of the fiscal year prior to the year in which the loan was obtained. The t-statistics are computed using heteroskedasticity adjusted robust standard errors. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Dependent Variable = Log maturity											
	(i)		(ii)		(iii)		(iv)		(v)		(vi)	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Accounting Quality												
UAA1	-0.14	-3.8 ***					-0.14	-3.75 ***				
UAA2			-0.40	-5.6 ***					-0.40	-5.5 ***		
UAA3					-0.41	-4.0 ***					-0.41	-4.0 ***
Firm Variables												
Log Assets	0.06	12.9 ***	0.06	12.2 ***	0.06	11.0 ***	0.06	11.1 ***	0.06	10.6 ***	0.06	9.7 ***
Market-to-Book	-0.02	-2.7 ***	-0.01	-2.1 **	-0.01	-0.7	-0.02	-2.7 **	-0.02	-2.2 **	-0.01	-0.8
Asset Maturity	0.01	4.0 ***	0.004	3.2 ***	0.004	2.8 ***	0.006	4.1 ***	0.004	3.3 ***	0.005	2.9 ***
Dummy for Regulated Industry	-0.15	-3.8 ***	-0.15	-3.7 ***	-0.14	-3.3 ***	-0.02	-0.3	-0.02	-0.4	-0.01	-0.2
Capital Market Access							0.01	0.7	0.01	0.6	0.01	0.4
Regulated * Capital Mkt Access							-0.30	-3.9 ***	-0.29	-3.7 ***	-0.26	-3.4 ***
Intercept	3.46	57.6 ***	3.50	57.3 ***	3.54	33.2 ***	3.45	56.8 ***	3.49	56.6 ***	3.54	32.9 ***
Year Dummies	Yes		Yes		Yes		Yes		Yes		Yes	
N	5969		5916		5156		5969		5916		5156	
Adjusted R^2	0.060		0.063		0.055		0.062		0.065		0.057	

Table 4 (continued)

Panel B: Probit of the Likelihood of being a Secured loan on UAA

The sample consists of 7334 loans for which data was available on Compustat and Dealscan database and for which at least one of the UAA measures could be computed. The dependent variable is '1' when the loan is secured and '0' when unsecured. Refer to Appendix I for definition of variables. The firm specific control variables are computed at the end of the fiscal year prior to the year in which the loan was obtained. The t-statistics are computed using heteroskedasticity adjusted robust standard errors. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Dependent Variable = 1 if Loan is Secured, 0 if Unsecured					
	(i)		(ii)		(iii)	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Accounting Quality						
UAA1	0.39	2.6 ***				
UAA2			1.40	5.2 ***		
UAA3					2.02	5.7 ***
Firm Variables						
Book Leverage	1.89	7.7 ***	1.90	7.9 ***	1.90	7.4 ***
Tangibility	-0.17	-1.6	-0.04	-0.4	-0.11	-1.0
Market-to-Book	-0.13	-6.2 ***	-0.13	-6.4 ***	-0.16	-6.7 ***
Loan Concentration	0.58	4.5 ***	0.53	4.1 ***	0.54	3.9 ***
Loan Variables						
Log Facility Size	-0.44	-22.1 ***	-0.43	-21.7 ***	-0.44	-20.6 ***
Intercept	8.28	19.8 ***	8.07	19.0 ***	8.17	14.5 ***
Year Dummies	Yes		Yes		Yes	
N	4339		4305		3711	
Pseudo R^2	0.226		0.229		0.243	

Table 5

Panel A: Mean Values by Signed Abnormal Accruals (SAA1) Quintiles

The overall sample contains 7334 loans obtained by 3082 firms over the period 1988-2001. The loan characteristics are from the Dealscan database provided by the Loan Pricing Corporation. Refer to Appendix I for definition of variables. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Low 1	**2**	**3**	**4**	**High 5**	**T-test (1)-(5)**
Book Leverage (Long Term Debt/ Assets)	0.273	0.276	0.277	0.255	0.226	4.35 ***
Log Assets	5.106	5.987	6.204	5.728	5.058	0.7
Interest Coverage (EBITDA/Interest)	15.133	47.292	16.899	19.993	25.973	-2.28 **
Tangibility (Net PP&E/Assets)	0.342	0.353	0.367	0.353	0.289	6.08 ***
Current Ratio	1.764	1.914	1.923	2.081	2.437	-9.08 ***
Profitability (EBITDA/Assets)	0.056	0.126	0.126	0.123	0.125	-9.87 ***
Market-to-Book	1.783	1.592	1.549	1.700	2.012	-3.92 ***
CFO Volatility/ Total Debt	1.518	0.392	0.387	0.809	1.120	0.56

Table 5 (continued)

Panel B: Loan Terms across SAA Quintiles

The overall sample contains 7334 loans obtained by 3082 firms over the period 1988-2001. The loan characteristics are from the Dealscan database provided by the Loan Pricing Corporation. Refer to Appendix I for definition of variables. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Low 1	2	3	4	High 5	T-test (1)-(5)
SAA1 Quintiles	-0.261	-0.049	0.000	0.053	0.278	-63.55 ***
Loan Terms						
AIS Drawn over LIBOR (Basis points)	241.8	181.1	160.3	172.4	216.3	4.97 ***
Facility Size ($ mil.)	125.8	217.5	237.7	185.0	114.4	0.96
Facility Maturity (months)	42.5	47.3	47.9	56.1	42.1	0.45
Fraction Secured	0.869	0.752	0.689	0.762	0.828	2.59 ***
Fraction with Performance Pricing	0.271	0.335	0.344	0.394	0.378	-6.04 ***
Number of Lenders	5.0	6.5	6.9	6.0	4.3	2.34 **
Upfront Fees	66.7	54.8	45.8	48.1	53.4	3.78 ***
Annual Fees	26.0	19.3	16.0	17.0	20.1	2.23 **
SAA2 Quintiles	-0.102	-0.015	0.010	0.045	0.212	-73.04 ***
Loan Terms						
AIS Drawn over LIBOR (Basis points)	225.7	172.1	159.9	183.3	219.7	1.19
Facility Size ($ mil.)	114.6	228.9	259.1	202.7	83.3	3.77 ***
Facility Maturity (months)	43.2	47.2	47.8	46.6	48.9	-0.65
Fraction Secured	0.834	0.712	0.676	0.770	0.842	-0.49
Fraction with Performance Pricing	0.307	0.363	0.346	0.379	0.366	-3.35 ***
Number of Lenders	4.6	6.7	7.4	6.4	3.9	3.00 ***
Upfront Fees	63.6	48.4	51.1	48.0	53.3	2.84 ***
Annual Fees	23.1	18.1	18.2	16.9	21.5	0.96
SAA3 Quintiles	-0.096	-0.020	0.004	0.036	0.164	-71.12 ***
Loan Terms						
AIS Drawn over LIBOR (Basis points)	226.3	165.4	152.2	170.8	211.4	2.69 ***
Facility Size ($ mil.)	159.7	269.9	249.2	190.2	98.1	4.63 ***
Facility Maturity (months)	42.2	49.4	45.5	45.5	52.8	-1.04
Fraction Secured	0.846	0.732	0.650	0.699	0.823	1.27
Fraction with Performance Pricing	0.309	0.363	0.357	0.385	0.403	-4.86 ***
Number of Lenders	5.1	7.4	7.6	6.1	4.6	1.46
Upfront Fees	67.4	46.4	47.7	43.0	49.6	4.14 ***
Annual Fees	23.9	16.9	15.5	18.5	23.3	0.27

Table 5 (continued)

Panel C: Regression of All-in-Spread Drawn on SAA

The sample consists of 7334 loans for which data was available on Compustat and Dealscan database and for which at least one of the SAA measures could be computed. The dependent variable is the All-in-Spread Drawn over LIBOR charged on the loan represented in basis points. Refer to Appendix I for definition of variables. The firm specific control variables are computed at the end of the fiscal year prior to the year in which the loan was obtained. The t-statistics are computed using heteroskedasticity adjusted robust standard errors. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Dependent Variable = AIS Drawn Spread (in basis points)								
	(i)			(ii)			(iii)		
	Coefficient	t-stat		Coefficient	t-stat		Coefficient	t-stat	
Accounting Quality Variables									
Positive SAA1	92.61	6.0	***						
Negative SAA1	-102.74	-5.2	***						
Positive SAA2				162.98	5.9	***			
Negative SAA2				-211.30	-5.0	***			
Positive SAA3							191.98	6.7	***
Negative SAA3							-312.23	-7.0	***
Firm Variables									
Book Leverage	51.81	2.4	**	52.90	2.6	**	52.91	2.3	**
Log Assets	-50.24	-31.8	***	-50.19	-31.4	***	-48.76	-30.9	***
Log Interest Coverage	-24.03	-8.2	***	-24.98	-8.6	***	-22.21	-7.2	***
Tangibility	-7.34	-0.9		11.56	1.3		4.51	0.5	
Current Ratio	-5.64	-4.4	***	-5.95	-4.5	***	-5.54	-4.0	***
Profitability	-102.11	-4.4	***	-102.45	-4.2	***	-108.79	-4.1	***
Market-to-Book	-6.24	-2.8	***	-5.78	-2.7	***	-7.14	-3.2	***
CFO Volatility/ Debt	0.37	3.0		0.31	2.8	***	0.19	1.8	*
Loan Variables									
Log Facility Size	22.60	16.9	***	22.66	17.0	***	22.05	16.4	***
Log Facility Maturity	12.51	4.0	***	12.65	4.0	***	12.48	3.8	***
Year Dummies	Yes			Yes			Yes		
N	4592			4552			4373		
Adjusted R^2	0.774			0.773			0.771		

Table 6

Panel A: Robustness Tests for AIS Drawn

The sample consists of 7334 loans with financial and loan data available. The dependent variable is the All-in-Spread Drawn over LIBOR charged on the loan represented in basis points. In (i) the sample contains only one loan per firm year, specification (ii) includes only the first loans for all firms, specification (iii) reports the coefficients from a Fama-MacBeth style regression run annually on the sub-sample used in (i), and specification (iv) includes controls for collateral, loan type and loan purpose. Refer to Appendix I for definition of variables. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

Dependent Variable = AIS Drawn (in basis points)								
	(i) One Deal/ Firm year		(ii) First Deal for each firm		(iii) Fama-MacBeth Annual Regressions		(iv) Secured, Loan Purpose and Loan Type	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Accounting Quality Variables								
UAA1	66.66	4.8 ***	89.37	3.9 ***	46.22	3.4 ***	61.55	4.59 ***
Firm Variables								
Book Leverage	37.83	1.8 *	20.74	1.0	69.72	3.7 **	15.26	0.90
Log Assets	-55.66	-31.0 ***	-56.85	-21.5 ***	-20.69	-8.9 ***	-24.53	-10.88 ***
Log Interest Coverage	-23.64	-7.8 ***	-26.04	-7.8 ***	-31.99	-6.0 ***	-16.68	-6.36 ***
Tangibility	-3.34	-0.4	-9.80	-0.7	-29.78	-2.3 **	-2.84	-0.33
Current Ratio	-4.85	-3.4 ***	-6.00	-3.4 ***	-11.92	-7.2 ***	-8.17	-6.08 ***
Profitability	-126.83	-4.6 ***	-84.71	-2.8 ***	-68.80	-1.7 *	-102.49	-5.10 ***
Market-to-Book	-5.36	-2.1 **	-6.57	-2.0 **	-6.18	-3.7 ***	-3.37	-1.56 *
CFO Volatility/ Debt	0.35	1.8 *	0.46	1.9 *	1.77	0.8	0.20	2.10 *
Loan Variables								
Log Facility Size	29.63	19.7 ***	28.31	12.1 ***	-24.01	-7.8 ***	7.34	3.66 ***
Log Facility Maturity	-7.49	-1.9 *	-4.30	-0.8	-14.22	-3.7 ***	-10.09	-2.38 *
Secured Dummy							120.69	28.19 ***
Loan Type Dummies							Yes	
Loan Purpose Dummies							Yes	
Year Dummies	Yes		Yes				Yes	
N	3306		1638				3160	
Adjusted R^2	0.781		0.797				0.854	
Average N					299.5			
Average Adjusted R^2					0.521			

Table 6 (continued)

Panel B: Simultaneous Estimation of AIS Drawn and Log Maturity

The sample consists of 7334 loans for which data was available on Compustat and Dealscan. The equation for AIS Drawn and Log Maturity are simultaneously estimated using a 3-stage least squares approach (3SLS). Refer to Appendix I for definition of variables. The t-statistics are computed using heteroskedasticity adjusted robust standard errors. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Dependent Variables					
	AIS Drawn			Log Maturity		
	(i)			(ii)		
	Coefficient	t-stat		Coefficien	t-stat	
Accounting Quality						
UAA1	52.90	3.0	***	-0.14	-3.7	***
Firm Variables						
Book Leverage	67.56	1.8	*			
Log Assets	-34.70	-5.8	***	0.06	14.4	***
Log Interest Coverage	-22.02	-13.9	***			
Tangibility	-11.27	-0.5				
Current Ratio	-6.08	-2.4	**			
Profitability	-51.41	-1.4				
Market-to-Book	-5.49	-1.8	*	-0.02	-2.7	***
Asset Maturity				0.004	4.0	**
Dummy for Regulated Industry				-0.14	-3.6	***
Loan Variables						
Log Facility Size	-16.44	-1.2				
Log Facility Maturity	103.52	0.9				
Intercept	330.79	1.7	*	3.46	70.1	***
Year Dummies	Yes			Yes		
N	5898			5898		
Adjusted R^2	0.223			0.058		

Table 7

Panel A: Predictability of Cash Flow from Operations (CFO) across UAA Quintiles

Regression coefficients and the Adjusted R^2 are reported from the following regression that is run separately for each UAA quintile.

$$\mathbf{(CFO/share)_t = \beta_1 (CFO/share)_{t-1} + \beta_2 (Net\ Income\ before\ Extraordinary\ Items/share)_{t-1} + Firm\ fixed\ effects}$$

	b_1	t-stat	b_2	t-stat	Adjusted R^2
Quintile 1 (Low)	-0.05	-1.64	1.48	21.86	0.90
Quintile 2	-0.31	-15.64	0.52	13.57	0.61
Quintile 3	-0.55	-17.18	0.11	3.78	0.43
Quintile 4	-0.04	-5.99	-0.08	-4.71	-0.17
Quintile 5 (High)	-0.00001	-0.27	0.00001	0.210	0.11

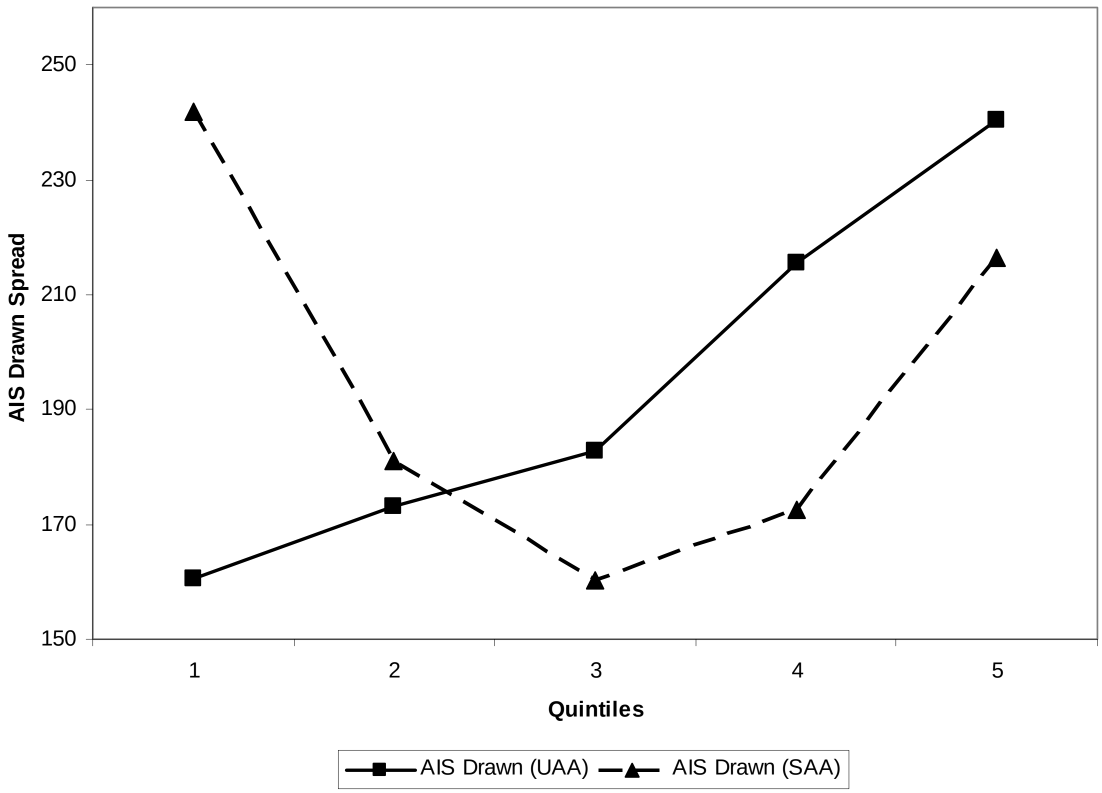
Table 7 (continued)
Panel B: Regression of All-in-Spread (AIS) Controlling for Alternate Measures of Loan Default Risk

The sample consists of 7334 loans for which data was available on Compustat and Dealscan. Refer to Appendix I for a description of variables. The t-statistics are computed using heteroskedasticity adjusted robust standard errors. Significance at the 1% level is denoted as ***, 5% level as ** and 10% level as *.

	Dependent Variable = AIS Drawn (in basis points)														
	(i)			(ii)			(iii)			(iv)			(v)		
	Coefficient	t-stat		Coefficient	t-stat		Coefficient	t-stat		Coefficient	t-stat		Coefficient	t-stat	
Accounting Quality Variables															
UAA1	74.32	5.7	***	72.47	5.7	***	67.62	5.3	***	67.62	5.9	***	72.00	6.0	***
Firm Variables															
Z-Score	-10.19	-5.6	***	-15.45	-10.8	***									
Z-Score Squared				-1.48	-7.8	***									
O-Score							15.95	9.4	***						
Asset Beta										11.14	3.9	***			
Rating Dummies													Yes		
Book Leverage	75.10	2.6	**	79.49	4.7	***	3.99	0.1		99.38	8.6	***	36.59	1.9	*
Log Assets	-53.04	-32.8	***	-56.05	-35.3	***	-44.24	-27.2	***	-51.88	-30.7	***	-36.08	-17.4	***
Interest Coverage										-20.05	-6.8	***	-25.68	-9.8	***
Tangibility	-26.82	-2.8	***	-42.19	-5.1	***	3.75	0.4		-19.41	-2.3	**	-9.11	-1.1	
Current Ratio	-6.30	-4.4	***	-6.84	-5.0	***	1.21	0.8		-8.15	-5.3	***	-8.88	-6.8	***
Profitability										-131.25	-4.3	***	-94.63	-4.3	***
Market-to-Book	-13.74	-5.7	***	-9.72	-4.7	***	-12.10	-5.3	***	-5.88	-2.3	**	-5.15	-2.5	**
CFO Volatility/ Debt	0.45	3.8	***	0.52	4.9	***	0.28	2.3	**	0.38	2.9	***	0.36	3.0	***
Loan Variables															
Log Facility Size	22.75	16.0	***	24.90	18.0	***	18.96	14.2	***	23.49	16.8	***	12.88	5.9	***
Log Facility Maturity	9.84	2.9	***	8.81	2.8	***	11.73	3.5	***	8.41	2.7	***	6.55	2.2	**
Year Dummies	Yes			Yes			Yes			Yes			Yes		
N	4556			4556			4601			3892			4592		
Adjusted R^2	0.758			0.767			0.769			0.769			0.779		

Figure 1

Loan Spreads across Quintiles of Signed Abnormal Accruals (SAA) and Unsigned Abnormal Accruals (UAA)



Refer to Appendix I for a description of the variables