Accrual Quality and Borrowing Costs in the Syndicated Loans Market

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We investigate the role of accrual quality in influencing borrowing costs in the syndicated loan market. Using a large sample of syndicated loans, and controlling for issue, and issuer characteristics that could influence borrowing costs, we show that lower accrual quality can exacerbate conditions of information asymmetry and lead to higher borrowing costs. Our results suggest that this may be more predominant in loans with multiple-arrangers. Additionally, we also show that accrual quality influences the syndicate structure and whether a loan has a single- or multiple-arrangers.

INTRODUCTION

The purpose of this study is to examine the association between accounting accruals and the cost of debt in a market that is relatively new, important, and growing. Specifically, we investigate the role that accrual quality plays in influencing the cost of debt in the syndicated loan market. While there exists a large body of research relating to the pricing and cost of capital implications of accruals (Sloan 1996, Subramanyam 1996, Collins and Hribar 2000, Xie 2001, Balsam et al. 2002, Beneish and Vargus 2002, Collins et al. 2003, Francis et. al. 2005, Lev and Nissim 2006, Zhang and Cready 2010), surprisingly, little research examines the role of accruals in the syndicated loan market. Our study attempts to fill this void and shows that poor accrual quality exacerbates information asymmetry in this market resulting in increased borrowing costs for syndicated loans.

The syndicated loan market has evolved over the last few years as a major source of financing for U.S. companies (Yago and McCarthy, 2004, Bushman and Moerman, 2009). The volume of these syndicated loans has been growing and U.S. firms have obtained over $1 trillion in new syndicated loans each year since 1999. Weidner (2000), and Sufi (2007) report that syndicated lending represents more than fifty percent of corporate financing originated in the U.S., and that a significant number of the top 500 non-financial public firms rely on syndicated loan financing.

Given the growing size and importance of the syndicated loan market, researchers have started analyzing important issues associated with this innovation. For example, Dennis and Mullineaux (2000), Lee and Mullineaux (2004), Jones et al. (2005), Ball et al. (2008), Wittenberg-Moerman (2008) and Ivashina (2009) examine the role of various loan contract structures in this market in mitigating moral

hazard and adverse selection agency issues. Studies such as Keys et al. (2009, 2010), Mian and Sufi (2008), Purnanandam (2008), Demyanyk and Van Hemert (2008), and Benmelech et al. (2009) examine lenders' incentives associated with the securitization of loans.

There exists, as discussed above, a substantial and growing body of research in finance on various issues related to syndicated loans. However, it is only recently that research in accounting has started addressing the role of accounting information in this domain. Not surprisingly, the findings so far indicate that accounting information is value relevant in the syndication loan market also. Allen, Guo, and Weintrop (2008) find that bank loan returns experience no significant response on earnings announcement dates. However, they find significant price movements in the secondary loan market four weeks prior to earnings announcement dates and that the information content in syndicated bank loan prices is most pronounced for borrowers with predominantly intangible assets that experience declining earnings. Altunbas, Kara, and Marques-Ibanez (2010) find that large firms, with greater financial leverage, more (verifiable) profits and higher liquidation values tend to prefer syndicated loans. In contrast, firms with larger levels of short-term debt and those perceived by markets as having more growth opportunities favor financing through corporate bonds. Ball, Bushman, and Vasvari (2008) show that loan deals are shaped by the debt-contracting value (DCV) of borrowers' accounting information. They show that when a borrower's accounting information possesses higher DCV, information asymmetry between the lead arranger and other syndicate participants is lower. Bushman and Wittenberg-Moerman (2009), using accounting measures of performance, investigate whether secondary market trading of syndicated loans compromises the quality of bank lending practices. Wittenberg-Moerman (2009a) documents in one of her findings that conservative reporting decreases information asymmetry regarding a borrower and increases the efficiency of secondary trading of the debt securities. Wittenberg-Moerman (2009b) shows that increased information asymmetry, measured using the bid-ask spread for traded loans for a borrower, translates to increased borrowing costs for subsequent loans.

One of the few papers that examines the relationship between accounting information quality and debt contracting in the syndicated loan market is Bharath, Sunder, and Sunder (2008). They examine how accounting quality influences the choice of public versus private debt. They show that poorer accounting quality measured using an accrual based measure leads to the choice of issuing private debt. In addition, they show that accounting quality is inversely related to borrowing costs and directly related to debt maturity.

Our study adds and contributes to the limited literature in accounting dealing with syndicated loans. Using a large sample of syndicated loans, and an accounting accruals quality measure, different from that used in Bharath, Sunder, and Sunder (2008), we show that the quality of accruals influences borrowing costs and syndicate structure in the syndicated loan market. Studies on the market response to accruals suggest that accruals are differently interpreted across investors. Whereas, investors at large fail to comprehend the pricing implications of accruals (Sloan 1996, Xies 2001), certain selected investors such as insiders, institutional investors and short sellers execute trades to benefit from their advanced knowledge of pricing consequences of accruals (Beneish and Vargus 2002, Lev and Nissim 2006, and Zhang and Cready 2010). Hence, we argue firms with lower accrual quality experience higher level of information asymmetry and thus, higher borrowing costs in the syndicated loan market. Consistent with our argument, we find that firms with poor accrual quality experience high loan syndication spreads. We also document that accruals play a role in the number of arrangers (single versus multiple arrangers) that constitute the syndicate for the loan. Specifically, low accrual quality firms tend to have more arrangers than high accrual quality firms. Presumably, arrangers are not inclined to solely bear the increased firm and credit risks associated with lower accrual quality firms, and seek to protect themselves by spreading the associated risk with more arrangers included. This is an interesting and important finding and shows that accounting information is value relevant in the context of innovations in the financial markets. In addition to contributing to the accounting literature on syndicated loans, our results are also consistent with and add to the growing body of work in both the finance and accounting literature that examines syndicated loans.

The rest of the paper is organized as follows. Section 1 discusses relevant literature and the theoretical motivations for the study. Section 2 presents our hypotheses and inferences for our analysis. Section 3 describes our data and tests and discusses the results while section 4 concludes the paper.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Syndicated Loans

A syndicated loan is a private debt security that also has the features of public debt, such as credit ratings and an active secondary market Bushman and Moerman, (2009, p.10). The loan is typically priced at a specified interest rate spread above a reference rate, such as Prime, LIBOR or Certificate of Deposit. The syndicated loan is provided by a group of lenders and it is structured and managed by one or several banks known as arrangers (Standard & Poor's, 2007). Each syndicate lender is responsible for only a portion of the total loan, but the loan is governed by a common contract with unanimity of all syndicate members required to change the principal terms of the contract (Bushman and Moerman, 2009). Syndicated loan arrangers, who are selected by the borrower, originate and negotiate contract terms. They also participate in loan placement by a best effort or firm commitment of underwriting to other lenders called participants. Subsequently, these lead arrangers have the responsibility to screen, monitor and coordinate activities on behalf of loan participants. Arrangers are responsible for loan documentation, collateral administration and covenant enforcement. For these services arrangers earn additional fees, some of which they share with lenders that become co-arrangers. Funding for syndicated loans may be supplied by one or more participants. Arrangers also function as liquidity insurer in situations of unexpected deterioration and lead negotiator if borrowers become financially distressed. These requirements are best fulfilled by well capitalized lenders who have strong reputations. Several studies (for example, Bushman and Moerman 2009, Ball, Bushman, and Vasvari 2009, Wittenberg-Moerman 2009a, 2009b, and Dennis and Mullineaux 2000) show that the reputation of the lead manager influences primary and secondary market pricing, whether the loans are retained by the syndicate or sold, and the proportion of the loans that are subsequently traded on the secondary market. An inherent argument in these studies is that lead manager reputation tends to mitigate problems of information asymmetry and moral hazard. Ball, Bushman, and Vasvari (2009), demonstrate that accounting information that has greater DCV reduces information asymmetry between borrowers and lenders.

Several important inferences can be drawn from these studies that are relevant to motivating our predictions and analyses. First, these studies show that the players in the market for syndicated loans have a large proportion of sophisticated investors. At the syndicate level, most lead managers are banks with vast experience in credit markets with enough resources to undertake extensive information gathering and financial analyses roles. This role exists not just at the initial stages but almost throughout term of the loan, with the syndicate managers obtaining and being privy to private and public information from the lenders. Second, reducing information asymmetries benefits not just the borrower but also the syndicate in that this allows them to effectively sell all or a portion of these loans in the secondary market at attractive prices. Third, several of these studies show the importance of accounting information, primarily the role that accounting information plays in reducing information asymmetries and leading to better market prices both for issuers and subsequently for the syndicate when it offloads the loans in the secondary market. The fact that players in these markets are sophisticated investors who can interpret and use financial information effectively may perhaps be an additional contributing factor for the importance of accounting information in this market.

Accruals, Accrual Quality and Cost of Capital

Accounting accruals represent the non-cash portion of earnings that are adjusted to cash earnings to match expenses with revenues to determine the net reported income for a year. Since accruals are mostly made of estimates of managements' expectations of uncertain future events, they may contain intentional and unintentional errors. They may contain an element of bias if managers intentionally misrepresent their expectations to achieve their economic motives of managing earnings in their interest (Dechow and

Dichev 2002). Hence, accrual management provides an opportunity for managers to adjust reported earnings to their economic advantage.

Henry (2004) argues that it should take investors significant time, effort and/or money to understand the pricing consequences of accruals because accounting accruals are mostly made up of judgments and estimates. Lev (1998) argues that this knowledge acquisition on the part of investors may be beneficial only at a large scale owing to the increasing returns associated with it. Hence, only a subset of investors will find it financially viable to uncover the accrual mask, thus, causing heterogeneous comprehension of accruals among investors. This heterogeneous comprehension of accruals should aggravate the level of information asymmetry in the market. Leuz and Verrecchia (2000) argue that investors demand a higher return for firms with high levels of information asymmetry to be compensated for the cost incurred by them in acquiring the necessary information about a firm. Thus, level of information asymmetry should raise the cost of capital of firms. Hence, we argue that if accruals exacerbate the level of information asymmetry in the market, firms with poor accrual quality should experience relatively high cost of capital. We test this argument by examining if there is a positive association between loan syndication spreads and poor accrual quality.

Empirical evidence on the investor response to accruals also suggests that accruals are heterogeneously interpreted among investors. Sloan (1996) demonstrates that the market, failing to anticipate the lack of persistence of accruals, tends to over-value (under-value) stocks with high (low) accruals. This mispricing of accruals that occurs in the current year corrects itself in the subsequent years resulting in a negative association between current period accruals and future period stock price returns. This evidence of mispricing first documented by Sloan (1996) raised a considerable amount of research on the pricing implications of accruals.

Xie (2001) demonstrates that a significant portion of the mispricing documented by Sloan (1996) is ascribed to abnormal accruals. Collins and Hribar (2000) find that accrual mispricing holds for the quarterly data as well. They also document that accrual mispricing is not associated with the post-earnings announcement drift documented by Bernard and Thomas (1989).[1]

Henry (2004) provides anecdotal evidence of the how some investment firms like Goldman Sachs Asset Management, Barclays Global Investors, Jefferson Research and Management and Susquehanna Financial Group, among others, take into consideration the magnitude of accruals while making portfolio investment decisions and profit from their knowledge of pricing consequences of accruals. Empirical research on investor response to accruals also confirms this anecdotal evidence. Specifically, Zhang and Cready (2010) document that short sellers go short for firms with high income-increasing abnormal accruals and profit when the mispricing is corrected.[2] Insiders engage in significantly more buying when accruals are under-priced and significantly more selling when the accruals are over-priced (Beneish and Vargus 2002). Institutional investors execute trades on the information related to future stock price decline contained in accruals (Balsam et al. 2002, Collins et al. 2003, Lev and Nissim 2006).

Hence, studies have shown that accruals (primarily abnormal accruals) are mispriced, and a subset of informed investors exploit this mispricing to earn trading profits. Some, but not all, investors tend to comprehend the accrual mispricing and make superior judgments about the firms and benefit from the mispricing of accruals. We argue that the poorer the accrual quality, greater will be the heterogeneous interpretation of accruals among investors, thus, resulting in higher cost of capital that should also manifest in loan syndication spreads.

Several studies have demonstrated that firms with high abnormal accruals or poor accrual quality experience relatively high cost of capital. Dechow et al. (1996) find that firms that undergo SEC enforcement action for the charge of manipulation of earnings experience an increase in bid-ask spreads after the enforcement action is made public. Francis et al. (2004) investigate the association between earnings attributes and cost of equity capital of firms. They find that, of all the seven earnings attributes employed by them in the study, accrual quality has the strongest association with cost of equity. Francis et al. (2005) demonstrate that low accrual quality firms tend to have higher cost of debt and equity. Wasan and Boone (2010) document a significant positive association between the magnitude of abnormal

accruals and the level of information symmetry as measured by the adverse selection component of the bid ask spread.

In our study, we investigate if low accrual quality is associated with high cost of capital as reflected in loan syndication spreads. In contrast to prior studies (for example, Bharath, Sunder, and Sunder (2008), Francis et. al (2005), that use accrual levels-based measures as a proxy for accounting quality, we employ the variability in residuals (abnormal accruals) obtained from the modified Jones (1991) model as an inverse measure of accrual quality.[3] The residual obtained from the Jones (1991) model represents the extent which accruals are left unexplained by the factors that normally drive accruals. We believe that variability in the abnormal accruals is conceptually a better and more suitable measure in capturing accrual quality than the level of abnormal accruals. Variability in abnormal accruals suggests that firms have greater inconsistency in the magnitude of accruals. This indicates that perhaps managers more actively manipulate accruals from year to year with a view to managing earnings to meet their ends. Or it may indicate poor estimation or greater uncertainty on the part of managers with regard to the measurement of accruals.

Based on the discussion above, our first hypothesis is as follows:

> *Hypothesis 1: Syndicated loans that are relatively more informational complex as indicated by poor accrual quality warrant less favorable loan pricing in the syndicated loan market.*

Single vs. Multi-Arrangers

Our analysis also investigates the consequences of exacerbated information asymmetry on the number of arrangers in the syndicate. We believe that poor accruals quality influences whether a loan has a single or multiple arranger structure. The syndicated-loan structure allows for more complex transactions to consummate since syndication facilitates asset diversification and the ability to utilize the secondary market. Multiple arrangers are able to combine their expertise in the syndicated loan market along with their informational processing capabilities to complete more complex deals. In addition, using multiple arrangers promotes risk sharing among a larger group of arrangers, a factor that needs to be seriously considered, since loans with poor accrual quality may be perceived to have both greater informational asymmetries and greater risk. Using multiple arrangers can provide a signal to market participants that given the larger number of arrangers, the likelihood of severe information asymmetries continuing to exist may be lower. This is because, for the multiple arrangers involved in the syndication, it is in their own interest to obtain as much information as possible about the transaction to reduce any likelihood of unexpected ex-post transaction liabilities. This leads to our second hypothesis for analysis.

> *Hypothesis 2: Syndicated loans with poor accrual quality are more likely to be multi-arranger loan syndicates rather than single arranger syndicates.*

We test for these expectations and analyze these issues using large samples of both single and multiple arranger syndicated loans. The next section describes the data and some preliminary results obtained in our analysis.

DATA, RESEARCH DESIGN AND EMPIRICAL RESULTS

Syndicated Loans

We obtain data relating to syndicated loans and their characteristics from the Loanware data base for the period 1991-2002.[4] We merge the syndicated loan data with borrower firm data from Compustat to enable us to calculate accrual quality, and obtain other firm specific measures such as total assets, leverage, and bond ratings. We exclude financial firms and firms having less than five consecutive years of data needed to calculate abnormal accruals. Our final sample consists of 2235 loans for which data relating to all relevant loan characteristics, and accounting information are available.

Table 1 provides some details regarding the loans in our sample.

TABLE 1
LOAN CHARACTERISTICS (1991-2002)

This table represents the loan characteristics of the loans borrowed over the year 1991-2002. Spread is the Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points. Sponsored indicates that the borrower has a financial sponsor. Single arranger indicates loans that have one arranger.

				Dollar Volume			Spread	
Year	# of Loans	% Sponsored	% Single Arranger	Mean	Median	Total	Mean	Median
1991	6	0.00%	50%	95.83	77.50	575.00	130.95	131.25
1992	78	0.00%	87%	334.55	187.50	26095.28	115.67	77.64
1993	92	0.00%	83%	303.05	180.00	27880.51	124.36	75.00
1994	133	0.00%	83%	438.74	250.00	58352.62	89.81	52.50
1995	120	0.00%	80%	536.11	250.00	64332.71	75.84	45.00
1996	162	0.00%	64%	500.48	255.00	81077.79	89.91	50.00
1997	175	0.00%	55%	656.81	300.00	114942.57	68.39	35.00
1998	158	4.43%	38%	418.64	250.00	66145.50	110.18	62.50
1999	236	5.08%	24%	529.66	300.00	124999.97	127.18	100.00
2000	305	1.97%	22%	505.39	321.00	154143.92	129.54	106.25
2001	415	0.00%	17%	538.55	300.00	223498.00	150.56	125.00
2002	355	0.85%	11%	465.09	300.00	165107.05	170.94	125.00

The table shows that our sample is well distributed over time, with both the number of, and total dollar volume of the loans tending to increase in the later years, with the maximum number of loans in the sample being 415 totaling $223.498 billion in 2002. The mean values of the loans are also fairly large, ranging from $334.55 million in 1992 to a maximum of $656.81 million in 1997. Table 1 also shows that the mean borrowing costs for the loans (spread) range from about 76 basis points over LIBOR in 1995 to 171 basis points over LIBOR in 2002. Also, table 1 shows wide variation over time in the percentage of loans arranged by single versus multiple arrangers for the loans in our sample. From a maximum of 87% of loans being arranged by a single arranger in 1992, the table shows that only 11% of loans were arranged by a single arranger in 2002 with the data showing an almost monotonic decrease over time in the number of loans being arranged by single arrangers. This may partly reflect the growing size and sophistication of the market, and also loan sizes increasing over time leading perhaps to risk diversification on the part of both issuers and syndicate participants. Our data in table 1 also shows that a very small percentage of the loans are sponsored loans, that is, loans issued by firms that have a financial sponsor.[5]

Accrual Quality

As stated previously, we employ the variability in residuals (abnormal accruals) obtained from the modified Jones (1991) model as an inverse measure of accrual quality. We use the cross-sectional modified Jones (1991) model to first obtain the abnormal accruals (residual) for year *t* for each of the two-digit Standard Industrial Classification (SIC) codes. The cross-sectional model removes the problem of survivorship bias and improves the precision of the estimates due to a larger sample size (DeFond and Jiambalvo 1994, and Subramanyam 1996). However, a major criticism of the Jones (1991) model is the omitted variables problem particularly with regard to growth and performance (McNichols 2000, McNichols 2002, Kothari et al. 2005). To address this issue, we augment the Jones (1991) model to

include return on assets (ROA) as a measure of performance and book-to-market ratio (B/M) to capture growth-related effects in the model as recommended by the aforementioned studies.

We calculate total accruals as the difference between earnings before extraordinary items and cash flow from operations scaled by total assets at the beginning of the period.[6] We use the following regression model to first estimate the residual for each year as the difference between the total accruals and the expected accruals:

$$TAC_{it}/TA_{it-1} = \alpha_1(1/TA_{it-1}) + \alpha_2[(\Delta REV_{it})/TA_{it-1}] + \alpha_3(PPE_{it}/TA_{it-1}) + \alpha_4(ROA_{it-1}) + \alpha_5(B/M_{it}) + \varepsilon_{it} \quad (1)$$

Where,

TAC_{it} = Earnings before extraordinary items and discontinued operations less operating cash flow (from continuing operations) for firm *i* for period *t*;[7]

TA_{it-1} = Total assets for firm *i* at the beginning of period *t* (Compustat data item # 6);

ΔREV_{it} = Change in revenue (Compustat data item # 12) from the last period for firm *i* for period *t*;

PPE_{it} = Gross property, plant and equipment for firm *i* for the period *t*;[8]

ROA_{it-1} = Income before extraordinary items scaled by total assets at the beginning of the period for firm *i* for period *t-1*;

B/M_{it} = Ratio of book value of common equity to market value of common equity for firm *i* for period *t*;[9]

Accrual quality for year *t* is then estimated as the standard deviation of the residuals obtained from for the previous five years, i.e., for the years *t-5* to *t-1*. The higher the magnitude of the standard deviation of the error term, the *lower* is the accrual quality.

Descriptive Statistics

Table 2 provides the descriptive statistics for the variables used in our analyses. Refer to Appendix A for the variable descriptions.

The average borrowing cost for the loan, proxied by SPREAD, the number of basis points by which the borrowing costs are greater than the Libor rate, is 124.79. SPREAD also has a standard deviation of 105.84 basis points. It appears that these loans are not cheap for borrowers. The mean value for DONEARR, a dummy variable that takes on a value of 1 if the loan has a single arranger, and 0 for multiple arrangers, is 0.379 indicating that approximately 38% of the loans have a single arranger. The firms issuing these loans appear to be large firms as evidenced by the mean value for SIZE ($ 6.55 billion approx.) representing total assets for the issuer. DTERM, an indicator variable that takes on a value of 1 if the loan is a term loan has a mean value of 0.157 indicating that only 16 % (approx.) of the loans are term loans, with the rest of the loans being revolving facilities. The average maturity (MATURITY) for the loans is 3.44 years with the loans ranging in maturity from a minimum of 1 year to a maximum of about 13.75 years. About 38 % of the loans are of investment grade as evidenced by the mean value for DINV a variable that has a value of 1 if the loan is of investment grade quality (has a Standard and Poor's rating of BBB or above). About 24 % of the loans are secured loans (mean value of 0. 242 for DSEC an indicator variable that takes a value of 1 if the loan is secured, 0 otherwise) and only about 1.3 % of the loans are associated with a sponsor for the firm (mean value of 0. 013 for DSPON an indicator variable that takes a value of 1 if the loan is issued by a firm having a financial sponsor, 0 otherwise). The mean leverage for the issuer firms in the sample (LEVERAGE) as measured by the ratio of long term debt to total assets is 0.31. The mean value for AMOUNT representing the size of the loan facility is $ 495.37 million indicating that these syndicated loans are typically of large dollar volume.

TABLE 2
DESCRIPTIVE STATISTICS OF THE VARIABLES EMPLOYED IN THE STUDY

Variable	Maximum	Mean	Median	Std Dev	Minimum
SPREAD	800.000	124.799	87.500	105.842	9.500
DONEARR	1.000	0.379	0.000	0.485	0.000
SIZE	208504.000	6548.370	2850.500	10894.290	54.545
AQ	0.343	0.051	0.040	0.038	0.002
DTERM	1.000	0.157	0.000	0.364	0.000
MATURITY	13.759	3.440	3.005	2.089	1.000
DINV	1.000	0.384	0.000	0.486	0.000
DSEC	1.000	0.242	0.000	0.428	0.000
DSPON	1.000	0.013	0.000	0.111	0.000
LEVERAGE	1.467	0.311	0.295	0.172	0.000
AMOUNT	7000.000	495.370	300.000	678.928	1.000
RATING	14.000	5.458	6.000	3.299	0.000
DCLUB	1.000	0.004	0.000	0.060	0.000

This table represents the descriptive statistics of the variables employed in the study for the full sample of 2,235 firm-year observations. SPREAD is the Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points. DONEARR is a dummy variable that takes the value of 1 if the loan is arranged by one arranger and 0 if the loan is arranged by more than one arranger. SIZE is the log of total assets of the borrower. AQ is the inverse measure of accrual quality of the borrower measured using the modified Jones (1991) model. DTERM is a dummy variable that takes the value of 1 if the loan is a term loan and 0 otherwise. MATURITY represents the maturity period of the loan. DINV is a dummy variable that takes the value of 1 if the loan is investment grade and 0 otherwise. DSEC is a dummy variable that takes the value of 1 if the loan is secured and zero otherwise. DSPON is a dummy variable that takes the value of 1 if the loan is sponsored and 0 otherwise. LEVERAGE is measured as long term debt divided by total assets of the borrower. AMOUNT is the total facility size. RATING is an ordinal number indicating the S&P rating of the borrower. Higher numbers indicate superior ratings. DCLUB is a dummy variable that takes the value of 1 if the syndicated loan is a club deal and 0 otherwise.

We expect that accrual quality influences borrowing costs. We examine descriptive statistics for our variables based on partitioning our samples on the basis of accruals quality quartiles. The results are presented in table 3.

Table 3 shows that there is a monotonic increase in SPREAD as AQ increase supporting *Hypothesis 1*. As AQ is an inverse measure of accrual quality implying that higher values of AQ represent lower accrual quality, the descriptive statistics are consistent with our expectation that as accrual quality decreases, borrowing costs increase. In addition, table 3 shows that the percentage of investment grade issues, and ratings quality decreases monotonically as accrual quality declines.

TABLE 3
DESCRIPTIVE STATISTICS BY ACCRUAL QUALITY QUARTILES

This table represents the mean and median of all the variables used in the study by quartiles of accrual quality. Note that since AQ is an inverse measure of accrual quality, the higher the magnitude of the variable AQ, the lower is the accrual quality. Also note that Libor spread (SPREAD) systematically increases with the decline in accrual quality.

AQ:	First Quartile		Second Quartile		Third Quartile		Fourth Quartile	
Variable	Mean	Median	Mean	Median	Mean	Median	Mean	Median
SPREAD	99.97	62.50	112.28	75.00	134.07	100.00	152.90	125.00
DONEARR	0.38	0.00	0.46	0.00	0.38	0.00	0.31	0.00
SIZE	8288	4037	5918	2986	6235	2718	5749	2085
DTERM	0.14	0.00	0.14	0.00	0.17	0.00	0.18	0.00
MATURITY	3.34	3.00	3.40	3.01	3.58	3.53	3.45	3.00
DINV	0.51	1.00	0.43	0.00	0.35	0.00	0.24	0.00
DSEC	0.21	0.00	0.16	0.00	0.02	0.00	0.01	0.00
DSPON	0.02	0.00	0.01	0.00	0.02	0.00	0.01	0.00
LEVERAGE	0.32	0.31	0.31	0.28	0.31	0.29	0.31	0.30
AMOUNT	622	350	481	300	475	250	403	250
RATING	6.42	7.00	5.97	6.00	5.24	5.00	4.19	4.00
DCLUB	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00

SPREAD is the Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points. DONEARR is a dummy variable that takes the value of 1 if the loan is arranged by one arranger and 0 if the loan is arranged by more than one arranger. SIZE is the log of total assets of the borrower. AQ is the inverse measure of accrual quality of the borrower measured using the modified Jones (1991) model. DTERM is a dummy variable that takes the value of 1 if the loan is a term loan and 0 otherwise. MATURITY represents the maturity period of the loan. DINV is a dummy variable that takes the value of 1 if the loan is investment grade and 0 otherwise. DSEC is a dummy variable that takes the value of 1 if the loan is secured and zero otherwise. DSPON is a dummy variable that takes the value of 1 if the loan is sponsored and 0 otherwise. LEVERAGE is measured as long term debt divided by total assets of the borrower. AMOUNT is the total facility size. RATING is an ordinal number indicating the S&P rating of the borrower. Higher numbers indicate superior ratings. DCLUB is a dummy variable that takes the value of 1 if the syndicated loan is a club deal and 0 otherwise.

Table 4 shows mean and median values for the variables in our analyses based on whether the loan has multiple arrangers (DONEARR = 0) or a single arranger (DONEARR = 1).

As is to be expected, loans with multiple arrangers are associated with larger borrowers (SIZE mean value of $7,640 million for multiple arrangers versus $4,762 million for single arranger), and have greater borrowing costs with mean SPREAD for multi-arranger loans being 137.417 as against 104.161 for single-arranger loans. The accrual quality for multi-arranger loans is also poorer (AQ = 0.052) than that of single-arranger loans (AQ = 0.048), with more term loans having multi-arrangers (DTERM = 0.188 for multi-arranger; DTERM = 0.107 for single arranger), and fewer investment grade loans being arranged by multi-arrangers (DINV = 0.369 for multi-arranger and 0.408 for single-arranger loans). The statistics also indicate that more of multi-arranger loans are secured with the mean value of the facility size also being larger for multi-arranger loans (mean value for AMT being $588.505 million for multi-arranger loans and $343.05 million for single-arranger loans). Overall these statistics indicate that the characteristics of loans that have multiple arrangers are different from those that are arranged by single arrangers in that multi-arranger loans are associated with higher spreads and poorer accrual quality, supporting *Hypothesis 2*.

TABLE 4
DESCRIPTIVE STATISTICS - SINGLE VS. MULTI ARRANGER

This table represents the descriptive statistics of the variables used in the study for the sub-samples of loans that are arranged by one arranger and for the loans that are arranged by more than one arranger. See table 2 for variable descriptions.

Variable	Full Sample	Multi-Arranger (DONEARR = 0)		One- Arranger (DONEARR = 1)	
	Mean	Mean	Median	Mean	Median
SPREAD	124.799	137.417	100.000	104.161	65.000
SIZE	6548.37	7640.530	3247.430	4762.030	1986.200
AQ	0.051	0.052	0.042	0.048	0.038
DTERM	0.157	0.188	0.000	0.107	0.000
MAT	3.44	3.412	3.003	3.485	3.249
DINV	0.384	0.369	0.000	0.408	0.000
DSEC	0.242	0.260	0.000	0.212	0.000
DSPON	0.013	0.020	0.000	0.000	0.000
LEVERAGE	0.311	0.327	0.316	0.285	0.266
AMT	495.37	588.505	350.000	343.035	200.000
RATING	5.458	5.565	6.000	5.284	6.000
DCLUB	0.004	0.001	0.000	0.007	0.000
# OF LOANS	2235	1387		848	

SPREAD is the Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points. DONEARR is a dummy variable that takes the value of 1 if the loan is arranged by one arranger and 0 if the loan is arranged by more than one arranger. SIZE is the log of total assets of the borrower. AQ is the inverse measure of accrual quality of the borrower measured using the modified Jones (1991) model. DTERM is a dummy variable that takes the value of 1 if the loan is a term loan and 0 otherwise. MATURITY represents the maturity period of the loan. DINV is a dummy variable that takes the value of 1 if the loan is investment grade and 0 otherwise. DSEC is a dummy variable that takes the value of 1 if the loan is secured and zero otherwise. DSPON is a dummy variable that takes the value of 1 if the loan is sponsored and 0 otherwise. LEVERAGE is measured as long term debt divided by total assets of the borrower. AMOUNT is the total facility size. RATING is an ordinal number indicating the S&P rating of the borrower. Higher numbers indicate superior ratings. DCLUB is a dummy variable that takes the value of 1 if the syndicated loan is a club deal and 0 otherwise.

We examine this relationship more rigorously in the next section using analyses controlling for other factors that may influence this relationship.

Multivariate Tests and Results

Firms as borrowers may participate in structuring of the loan and choose to use the services of arrangers such that the perceived benefits exceed the costs. Perceived benefits accrue to the firm in the form of cost of capital benefits such as a lower SPREAD. The type of arranger is not exogenous but is endogenously determined by several factors. If there is a correlation between factors such as for example, issue size and the type of arranger, the coefficient on the arranger variable (DONEARR) in an ordinary least squares estimation with SPREAD as the dependent variable may be biased. This selectivity bias may also be generated by other issue specific characteristics such as rating, and maturity features. Moreover, this selectivity bias may also be enhanced by firm specific characteristics. Hence, using ordinary least

squares estimation under these conditions may not be appropriate. To avoid this selectivity bias problem, we estimate the following two-equation model:

$$\mathbf{a_i^* = \gamma' z_i + \varepsilon_i} \quad \text{(type of arranger model)}$$
$$\mathbf{c_i = \beta' x_i + \delta f_i + \mu_i} \quad \text{(cost of capital benefits model)}$$

with $a_i = 1$ if $a_i^* > 0$ and $a_i = 0$ otherwise, a_i^* as the firms unobservable benefits from choosing type of arranger , a_i as the issuers observed arranger choice, z_i as vector of variables determining the decision to choose a type of arranger, c_i the observed component of the issuers cost of capital, and x_i as vector of exogenous variables determining this component, ε_i and μ_i as normally distributed disturbances.[10] Given that table 3 shows that there are differences in characteristics between multi-arranger and single-arranger loans, the selection bias would arise if firms have essentially self-selected themselves to issuing loans using multiple- or single-arrangers. If so, the results from ordinary least squares (OLS) regressions would lead to biased coefficient estimates. To correct for this potential self-selection bias, we use a two-stage technique as specified in Heckman (1979).

In the first stage we estimate the following probit model:

$$DONEARR = \alpha_1 + \alpha_2 SIZE + \alpha_3 AQ + \alpha_4 DTERM + \alpha_5 MATURITY + \alpha_6 DINV + \alpha_7 DSEC + \alpha_8 DSPON + \alpha_{9\text{-}19}(Y91\text{-}Y01) + \alpha_{20\text{-}39}(D1\text{-}D20) + \varepsilon_{it} \quad (1)$$

We include year fixed effects (Y91-Y01) and also dummy variables based on 2-digit SIC codes (D1-D20) to control for industry effects in our analyses. Table 5 shows the results of the probit estimation. All other variables are as defined earlier.

TABLE 5
PROBIT REGRESSION OF THE CHOICE OF NUMBER OF ARRANGERS (N = 2235)

This table presents the regressions results of the following regression model:

$$DONEARR = \alpha_1 + \alpha_2 SIZE + \alpha_3 AQ + \alpha_4 DTERM + \alpha_5 MATURITY + \alpha_6 DINV + \alpha_7 DSEC + \alpha_8 DSPON + \alpha_{9\text{-}19}(Y91\text{-}Y01) + \alpha_{20\text{-}39}(D1\text{-}D20) + \varepsilon_{it}$$

Variable	Estimate	Wald Chi-Square	P-value
Intercept	3.19	0.0001	0.9907
SIZE	-0.00001	8.6338	0.0033***
AQ	-1.4892	2.7175	0.0993*
DTERM	-0.2512	6.3172	0.012**
MATURITY	-0.0464	6.83	0.009***
DINV	-0.0124	0.0284	0.8661
DSEC	0.0436	0.2733	0.6012
DSPON	-4.6495	0.0023	0.9617
Year Effects	INCLUDED		
Industry Effects	INCLUDED		
Pseudo R-Square = 0.4318			

*, ** and *** denote significance at p-value = 0.10, 0.05 and 0.01 respectively. The regression estimates of the dummy variables for year and industry are not reported to save space. SPREAD is the Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points. DONEARR is a dummy variable that takes the value of 1 if the loan is arranged by one arranger

and 0 if the loan is arranged by more than one arranger. SIZE is the log of total assets of the borrower. AQ is the inverse measure of accrual quality of the borrower measured using the modified Jones (1991) model. DTERM is a dummy variable that takes the value of 1 if the loan is a term loan and 0 otherwise. MATURITY represents the maturity period of the loan. DINV is a dummy variable that takes the value of 1 if the loan is investment grade and 0 otherwise. DSEC is a dummy variable that takes the value of 1 if the loan is secured and zero otherwise. DSPON is a dummy variable that takes the value of 1 if the loan is sponsored and 0 otherwise. LEVERAGE is measured as long term debt divided by total assets of the borrower. AMOUNT is the total facility size. RATING is an ordinal number indicating the S&P rating of the borrower. Higher numbers indicate superior ratings. DCLUB is a dummy variable that takes the value of 1 if the syndicated loan is a club deal and 0 otherwise.

The R-square for the model is a robust 0.43 showing that the model has reasonable explanatory power. The results show that smaller size issuers, loans with smaller maturities, and fewer term loans are associated with single-arrangers. The coefficient of AQ is negative and significant at $p < 0.10$. This implies that lower values of AQ are associated with single arrangers. Note that lower values of AQ imply higher accrual quality. Therefore, the results show that single-arranger loans are associated with better accrual quality or, multi-arranger loans have lower accrual quality consistent with our second hypothesis. Presumably, multiple arrangers may be better at sharing the risks associated with the lower accrual quality. Bushman and Wittenberg-Moerman (2009) indirectly support our findings by emphasizing the impact of the arranger reputation and also noting the distinct way that arrangers share confidential information.

To examine the association between borrowing costs and accrual quality, we estimate the following model in the second stage:

$$SPREAD = \alpha_1 + \alpha_2 MILLS + \alpha_3 SIZE + \alpha_4 AQ + \alpha_5 LEVERAGE + \alpha_6 DINV + \alpha_7 MATURITY + \alpha_8 AMOUNT + \alpha_9 RATING + \alpha_{10} DTERM + \alpha_{11} DCLUB + \alpha_{12\text{-}22}(Y91\text{-}Y01) + \alpha_{23\text{-}42}(D1\text{-}D20) + \varepsilon_{it} \quad (2)$$

We include in the second stage the inverse mills ratio (MILLS) from the first stage regression to control for potential self selection bias. While AQ is our variable of interest, other variables that could also influence borrowing costs are included as control variables. Table 6 presents the results of this estimation.

The results show that the model appears well specified with an R-square of 0.63. The coefficients of most variables are statistically significant at conventional levels. The coefficient of our variable of interest AQ is positive and significant at $p < 0.05$. Since AQ is an inverse measure of accrual quality, this result shows that after controlling for self selection bias and for other factors that could potentially influence borrowing costs, lower accrual quality leads to higher borrowing costs. This result supports *Hypothesis 1* and is consistent with our expectation that lower accrual quality may potentially exacerbate problems of information asymmetry in the syndicated loan market, leading to higher borrowing costs.

Examining other coefficients, we observe that the coefficient of SIZE is positive and significant at $p < 0.01$, showing that larger issuers have greater borrowing costs. The results also show that issuers with greater leverage, issues with longer maturities, and lower ratings all tend to have greater borrowing costs. These results are consistent with prior studies examining debt borrowing costs. Interestingly, term loans are also seen to have greater borrowing costs relative to revolving loans. The coefficient of DCLUB is negative and significant at $p < 0.01$. Loans with the club feature represent loans arranged by a selective group of arrangers. Also, club loans are typically retained by the arrangers as opposed to being reoffered later in the secondary market. The market may perceive this as implying that these loans are of better quality and hence price them accordingly. This result is also consistent with Ball, Bushman, and Vasvari

(2008) who show that accounting quality is positively associated with the proportion of the loans retained by the lead arrangers.

TABLE 6
SECOND STAGE REGRESSION OF LBO LOAN PRICING (N = 2235)

This table represents the regression results of the following regression model that includes the inverse Mills Ratio estimated from the probit regression model.

$$SPREAD = \alpha 1 + \alpha_2 MILLS + \alpha_3 SIZE + \alpha_4 AQ + \alpha_5 LEVERAGE + \alpha_6 DINV + \alpha_7 MATURITY + \alpha_8 AMOUNT + \alpha_9 RATING + \alpha_{10} DTERM + \alpha_{11} DCLUB + \alpha_{12\text{-}22}(Y91\text{-}Y01) + \alpha_{23\text{-}42}(D1\text{-}D20) + \varepsilon it$$

Variable	Estimate	T-Stat	P-Value
Intercept	63.801	1.900	0.057*
MILLS	9.062	3.000	0.003***
SIZE	0.000	2.870	0.004***
AQ	95.950	2.430	0.015**
LEVERAGE	105.083	10.670	0.0001***
MATURITY	4.095	5.260	0.0001***
AMOUNT	-0.008	3.080	0.002***
RATING	-16.443	29.520	0.0001***
DTERM	59.012	13.590	0.0001***
DCLUB	-74.321	3.160	0.002***
Year Effects	INCLUDED		
Industry Effects	INCLUDED		
Pseudo R-Square = 0.6248			

*, ** and *** denote significance at p-value = 0.10, 0.05 and 0.01 respectively. The regression estimates of the dummy variables for year and industry are not reported to save space. SPREAD is the Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points. DONEARR is a dummy variable that takes the value of 1 if the loan is arranged by one arranger and 0 if the loan is arranged by more than one arranger. SIZE is the log of total assets of the borrower. AQ is the inverse measure of accrual quality of the borrower measured using the modified Jones (1991) model. DTERM is a dummy variable that takes the value of 1 if the loan is a term loan and 0 otherwise. MATURITY represents the maturity period of the loan. DINV is a dummy variable that takes the value of 1 if the loan is investment grade and 0 otherwise. DSEC is a dummy variable that takes the value of 1 if the loan is secured and zero otherwise. DSPON is a dummy variable that takes the value of 1 if the loan is sponsored and 0 otherwise. LEVERAGE is measured as long term debt divided by total assets of the borrower. AMOUNT is the total facility size. RATING is an ordinal number indicating the S&P rating of the borrower. Higher numbers indicate superior ratings. DCLUB is a dummy variable that takes the value of 1 if the syndicated loan is a club deal and 0 otherwise.

We also estimate OLS regressions separately for loans having multiple and single arrangers given the differences observed earlier. Table 7 shows the results of these estimations.

TABLE 7
OLS REGRESSION - ONE ARRANGER VS. MULTI-ARRANGER

This table represents the regression results of the following regression model for one-arranger (DONEARR = 1) versus multi-arranger (DONEARR = 0).

$$SPREAD = \alpha_1 + \alpha_2 SIZE + \alpha_3 AQ + \alpha_4 LEVERAGE + \alpha_5 DINV + \alpha_6 MATURITY + \alpha_7 AMOUNT + \alpha_8 RATING + \alpha_9 DTERM + \alpha_{10} DCLUB + \alpha_{11\text{-}21}(Y91\text{-}Y01) + \alpha_{22\text{-}41}(D1\text{-}D20) + \varepsilon_{it}$$

	DONEARR = 0			DONEARR = 1		
Variable	Estimate	T-Stat	P-Value	Estimate	T-Stat	P-Value
Intercept	180.892	16.460	0.0001***	193.476	12.440	0.0001***
SIZE	0.001	2.74	0.006***	0.001	2.49	0.01**
AQ	118.782	2.39	0.017**	37.517	0.57	0.57
LEVERAGE	102.313	7.76	0.0001***	102.876	6.99	0.0001***
MATURITY	5.902	5.880	0.0001***	0.838	0.690	0.491
AMOUNT	-0.007	2.13	0.034**	-0.012	2.230	0.026**
RATING	-18.489	22.750	0.0001***	-14.673	19.020	0.0001***
DTERM	65.211	12.670	0.0001***	39.214	5.150	0.0001***
DCLUB	-40.493	0.870	0.383	-80.699	3.030	0.003***
Year Effects	INCLUDED			Year Effects	INCLUDED	
Industry Effects	INCLUDED			Industry Effects	INCLUDED	
Adjusted R-Square =	0.6562			Adjusted R-Square =	0.5578	
N = 848				N = 1387		

*, ** and *** denote significance at p-value = 0.10, 0.05 and 0.01 respectively. The regression estimates of the dummy variables for year and industry are not reported to save space. SPREAD is the Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points. DONEARR is a dummy variable that takes the value of 1 if the loan is arranged by one arranger and 0 if the loan is arranged by more than one arranger. SIZE is the log of total assets of the borrower. AQ is the inverse measure of accrual quality of the borrower measured using the modified Jones (1991) model. DTERM is a dummy variable that takes the value of 1 if the loan is a term loan and 0 otherwise. MATURITY represents the maturity period of the loan. DINV is a dummy variable that takes the value of 1 if the loan is investment grade and 0 otherwise. DSEC is a dummy variable that takes the value of 1 if the loan is secured and zero otherwise. DSPON is a dummy variable that takes the value of 1 if the loan is sponsored and 0 otherwise. LEVERAGE is measured as long term debt divided by total assets of the borrower. AMOUNT is the total facility size. RATING is an ordinal number indicating the S&P rating of the borrower. Higher numbers indicate superior ratings. DCLUB is a dummy variable that takes the value of 1 if the syndicated loan is a club deal and 0 otherwise.

Again, results show that both models are well specified. The adjusted R-square for the multiple-arranger regression is 0.66 while that for the single-arranger regression is 0.56. The sign and statistical significance of the coefficients of most variables are similar to those discussed earlier. However, the coefficient of AQ is not statistically significant at conventional levels in the single-arranger regression. It is positive and significant at $p < 0.05$ in the multiple arranger regression. Our descriptive statistics show that multiple-arranger loans are generally of lower credit quality than single-arranger loans. This may further compound the information asymmetry problem for these loans, with poor accrual quality further exacerbating the information asymmetry problem, leading to greater borrowing costs.[11]

One other interesting result relates to the coefficient of DCLUB. It is negative and significant at $p < 0.01$ for the single-arranger regression, but negative and not significant at conventional levels for the multi-arranger regression. Given that credit quality for loans with single-arrangers is better (better credit ratings), it appears that even within this subset of single-arranger loans, the market views that club loans are of better quality relative to non-club loans. The club feature does not appear to have any impact on borrowing costs for multi-arranger loans.

DISCUSSION AND CONCLUSIONS

We examine the association between accrual quality and borrowing costs in the syndicated loan market using a large sample of loans. We argue, and show that lower accrual quality for firms borrowing using syndicated loans may exacerbate information asymmetry and lead to higher borrowing costs for issuers. Our results provide support for, and are consistent with this expectation.

The syndicated loan market has grown significantly over the decade of the 1990's and the past few years to almost match the markets for conventional debt securities, in size and importance. While prior studies examine several aspects and issues relating to this market, there exist relatively few studies in accounting examining the role of accounting information in this market. We believe that our study extends the literature and makes a contribution in this regard.

Our finding that accrual quality influences borrowing costs in the syndicated loans market is in our view, important and interesting. It is important in that among other reasons, it validates the relevance and significance of accounting information in a relatively new and large market for corporate borrowings. It is interesting because the market for syndicated loans is predominantly institutional. The players in this market are large banks, investment houses, and institutional investors. The market thus consists of sophisticated players and investors. The fact that accounting information is value relevant in this market is an interesting and relevant finding. An additional feature is that not all loans are sold in the secondary market, and even if they are, often, only a portion of the debt is offered for sale with the rest being held by the arrangers themselves. Our result regarding accrual quality and borrowing costs when viewed in the context of these characteristics of the syndicated loan market clearly demonstrates the importance of accounting information for a large group of sophisticated investors.

Our results also show that accrual quality is different for loans arranged by single- and multiple-arrangers. Specifically, accrual quality is lower for loans with multiple-arrangers and accrual quality is seen to influence borrowing costs for multiple-arrangers. Analyses of the differences in loan characteristics between single- and multiple-arrangers show that larger, longer, and therefore perhaps more risky loans are associated with multiple-arrangers. The fact that accrual quality is seen to influence borrowing costs more for these types of loans suggest that accounting information has a more important role for these types of issues. Overall, our results suggest that the role of accounting and accounting information needs to be paid more attention to and examined more by researchers in newer and growing markets such as those represented by syndicated loans.

ENDNOTES

1. It is important to understand that stock price reflects the average beliefs of investors (Kim and Verrecchia 1991). Therefore, mispricing indicates that investors, on average, are not able to comprehend the economic information underlying accruals. Mispricing should not be construed to mean that the *all* the players in the market fail to understand the information in accruals.
2. However, Richardson (2003) finds no evidence that short-sellers exploit the accrual anomaly.
3. While we do calculate abnormal accruals using the cross- sectional version of the modified Jones model, our variability measure is calculated using abnormal accruals for a 5-year time period. Our measure is thus a better indication of a firm's accounting quality in that it captures firm behavior over a significant time period as opposed to just behavior in one year which can result when abnormal accrual levels are used.

4. Data from the Loanware data base was unavailable to us after 2002. The Loanware database was acquired by another firm and the format of loanware database has been changed by the new firm, which did not allow us to update the data.
5. Typically, the sponsors for the firms issuing the loans are private equity or venture capital firms.
6. For the general (non-event) study, the period refers to the fiscal year and for the event study, it refers to the fiscal quarter.
7. Compustat data item #123 – (Compustat data item # 308 – Compustat data item # 124).
8. Compustat data item # 7.
9. (Compustat data item # 60) / (Compustat data item # 25) * (Compustat data item # 199).
10. The approach described above follows Leuz and Verrecchia (2000) and is being increasingly used to examine a variety of problems where selection bias is an issue. For specific applications see Leuz and Verrecchia (2000), and Covitz, Hancock, and Kwast (2003).
11. Our arguments in examining the role of number of arrangers posited that more arrangers led to greater risk sharing and also, reduction in information asymmetries. Our risk sharing arguments are supported in that we see that multiple arrangers are more associated with larger loans and with loans of poorer accounting quality. Our results for the relationship between multiple arrangers and borrowing costs show that borrowing costs are higher for loans with multiple arrangers. Presumably, in the absence of multiple arrangers, borrowing costs for these loans may be even more (we do not however, directly test for this).

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APPENDIX A

Variable Descriptions

SPREAD	: Libor spread or difference between borrowing cost for the loan and the Libor rate on date of loan issue, in basis points.
DONEARR	: A dummy variable that takes the value of 1 if the loan is arranged by one arranger and 0 if the loan is arranged by more than one arranger.
SIZE	: Total assets of the borrower in $ million. Log form used in regressions.
AQ	: Std. deviation of abnormal accruals calculated using the modified Jones (1991) model for the issuer over the previous 5 years from year of issue.
DTERM	: a dummy variable that takes the value of 1 if the loan is a term loan and 0 otherwise.
MATURITY	: The maturity period of the loan expressed in years.
DINV	: A dummy variable that takes the value of 1 if the loan is investment grade, and 0 otherwise.
DSEC	: A dummy variable that takes the value of 1 if the loan is secured and zero otherwise.
DSPON	: A dummy variable that takes the value of 1 if the firm issuing the loan has a sponsor, and 0 otherwise.
LEVERAGE	: Long term debt divided by total assets of the borrower (Compustat data item # 9/Compustat data item # 6)
AMOUNT	: The total facility size of the issue in $ million.
RATING	: An ordinal number indicating the S&P rating of the borrower. Higher numbers indicate superior ratings.
DCLUB	: A dummy variable that takes the value of 1 if the syndicated loan is a club deal and 0 otherwise.