

DOGS THAT BARK: WHY ARE BANK LOAN ANNOUNCEMENTS NEWSWORTHY?

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To my parents and Gaurav

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Virtually all publicly traded firms borrow from banks. However, despite their widespread use, the reporting of bank loan agreements in the financial press is associated with a positive share price reaction. In order to address this phenomenon, I empirically examine the frequency and determinants of bank loan reporting, and find that the credit risk and asymmetric information proxies behind incremental financing decisions determine loan reporting. In addition, loan restructurings following covenant violations, and larger loans -relative to firm size- are also more likely to be reported in the press. Moreover, and although all loans are disclosed, I find that the market reacts to reported loans only when the news precedes loan activation. Overall, the evidence suggests that reported loans are more noteworthy because they are more informative about the potential of the borrower than non-reported loans, and that the information content of the average reported bank loan decreases during the 1996 through 2004 period.

CHAPTER 1 INTRODUCTION

In a recent study, Sufi (2007) documents that 94% of publicly traded firms have bank lending relationships. In light of this fact, the reporting in the financial press of bank loan agreements should be a routine, predictable event. Nevertheless, a number of previous studies document a positive and statistically significant return associated to press articles on loan agreements. This evidence suggests that market participants view press-reported bank loans as material events (Mikkelson and Partch (1986), James (1987), Lummer and McConnell (1989), Best and Zhang (1993), James and Smith (2000)). Furthermore, the positive share price reaction to bank loan announcements (in contrast to the negative stock price reaction to most other financing events) has been widely interpreted as evidence that banks play a unique or special role in the capital acquisition process (Fama (1985) and Rajan (1992)). However, if all firms have banking relationships, and if most bank loans are not reported in the press, then the share price reaction may have more to do with the circumstances in which loan agreements are reported than with the uniqueness of bank borrowing as a financing source (Smith (1986), and James and Smith (2000)).

To further explore these issues, I begin by examining the frequency and determinants of bank loan reporting in Dow Jones during the 1996 through 2004 time period. It is important to note that the Loan Pricing Corporation (LPC) DealScan loans - from which the sample is drawn - are disclosed in some way, and consist of both press-reported and non-reported loan agreements. More specifically, DealScan cites as sources of loan information Securities and Exchange Commission (SEC) 8-K filings¹, other public SEC filings, and industry sources. In addition,

¹ The Securities and Exchange Commission (SEC) regulations require public firms to report any “material” event through a Form 8-K. This form is described in more detail in Section III.a. of this paper.

DealScan offers affordable real-time web access to agreed-upon but not-yet-active loans². Hence, the loans reported in Dow Jones that the financial press views as noteworthy are a subset of a pool of disclosed loans.

This distinction between “reported” and “disclosed” loans is subtle but nevertheless important. If there is disclosure about the deals but, as I find, no significant market reaction surrounding the activation of non-reported bank loans, and one assumes reported loans to be significant, it can be argued that the market views reported loans differently than non-reported loans.

SEC regulation requires firms to disclose any “material” event that can affect the stock price and shareholders should know about. Furthermore, the literature on discretionary disclosure describes how firms are more forthcoming when the news is good (Miller (2002)). Thus, given that banks are considered superior screeners (Diamond (1991) and Fama (1985)) and effective monitors (Nini et al. (2008)), and bank financing a credible signal of firm quality (Schenone (2004), and James and Wier (1990)), one would expect firms to try to disclose all bank loans. Accordingly, I find that the source of loan news is usually the borrower. On the other hand, the source of news for non-bank private debt issues is usually “market participants.”

Why would firms not report all of their bank loans? Bagnoli and Watts (2007) find that firms are more likely to disclose higher values of private information when financial reports do not contain sufficient good news and performance is significantly different than expected. In a related study, Verrecchia and Weber (2006) document that firms are less likely to withhold information in material contract filings when they issue long-term debt. Moreover, prior work shows that riskier more opaque firms are more likely to choose reported bank debt over public

² The subscription cost to the DealScan database and real-time website is \$2,000 per month for corporations with one user (\$330/month is more than one user) and \$7,304 per year for academic institutions.

debt (see, for, example, Hadlock and James (2002)). Thus, in light of these findings, one might argue that loans obtained by borrowers with relatively more costly access to financing - higher information asymmetries and credit risk - could be deemed more surprising and, therefore, be more newsworthy and likely to get reported. This is exactly what I find.

I find that only 22% of syndicated DealScan loans obtained by public firms are reported in the financial press, and that the borrowers whose loans are reported in the press are not representative of the entire sample of bank borrowers. Reported borrowers are more highly leveraged, present lower earnings, and higher surprise and dispersion of earnings forecasts. Press-reported loans are also different from non-reported loans. More specifically, I find that reported loans are larger, have longer maturities, higher covenant intensity indexes, and constitute more often loan restructurings following covenant violations. Consistent with these findings, I also find that information asymmetries, credit risk, loan size and maturity, and whether or not the loan is a restructured loan determine the likelihood of loan reporting.

Thus, the distinction between reported and non-reported loans provides new insight into the “specialness” of bank lending by documenting significant heterogeneity in the information content of loans depending on whether the loan is reported or not. The firm and loan characteristics that determine reporting require more lender access to private information about the potential of the firm, a task at which banks have a comparative advantage with respect to other lenders (Fama (1985) and Rajan (1992)). Thus, the reporting of a loan suggests the presence of positive private information, although I find a time trend in reporting that leads to a decrease in the information content of reported loans throughout the 1996 to 2004 period.

The higher likelihood of reporting among restructured loans complements recent work by Ivashina and Sun (2007), who find 8.8% annualized profits during the month following loan

renegotiations in trading by institutional investors that are members of loan syndicates. The profitability of this trading supports the argument that the private information revealed and produced during the renegotiations is not only good, but also highly valuable, which would give the borrower a particularly strong incentive to report it.

The disclosure literature documents how managers time voluntary disclosures in a manner that maximizes insider trading profits while minimizing potential litigation costs associated with disclosure (Cheng and Ko (2006). Additionally, the literature on the announcement effects of financing events - which spans for over two decades - reports a significant positive stock price reaction to announcements of bank loans, a negative reaction to non-bank private debt placements, and an insignificant reaction to straight public debt issues (James (1987), and Eckbo et al. (2007) for a recent review of this literature). Consistent with this evidence, I find a significant positive market reaction to reported loans, but only when the news precedes loan activation, and mainly driven by loan size and prior borrower stock performance with respect to the market. This suggests that reported loans are considered more informative when the news precedes the activation of the loan because it is arguably more surprising for reported borrowers to obtain financing and timing intensifies the surprise factor.

Denis and Mihov (2003) find that credit risk is a significant determinant of the choice between bank debt, public debt and non-bank private debt. However, their analysis considers only the subset of loans that are reported, like other previous studies on incremental financing decisions (Hadlock and James (2002)). In other words, the conclusions of previous work on incremental financing derive from comparing the subset of reported bank loans to full samples of other transactions such as public debt and non-bank private debt. Therefore, if reported loans are a non-representative subset of the loans in DealScan, the analysis of the incremental financing

decisions should also consider cases of non-reported loans. In this context, I find that although reported loans and borrowers differ significantly from non-reported loans and borrowers, the factors that determine the choice between bank debt, public debt and non-bank private debt do not change whether reported loans or all loans are considered. In consequence, one could argue that non-reported loans are somewhat special and different from public debt.

Besides a more effective screening, the “specialness” of bank loans relative to other types of financing also has to do with more intense monitoring, which would arguably be more important for loans with higher covenant intensity, i.e., the reported loans. Furthermore, the access to private information and contracting conditions that protect banks from the higher potential default on reported loans could arguably lead or not to an improvement in operating performance. In this context, I find that although reported borrowers present poorer measures of operating performance during the year prior to loan activation (relative to non-reported borrowers), there is relative improvement in the operating performance of reported borrowers with respect to non-reported borrowers two years following loan activation. This result is consistent with the recent literature on loan covenants (Roberts and Sufi (2007), Nini et al. (2008)) that studies the relation between loan covenant violations, loan restructurings, and subsequent performance³.

The remainder of the paper is organized as follows. Section II provides a description of the data sources for the unique samples of bank debt, public debt, and non-bank private debt. It also provides summary statistics of the deals and borrowers, as well as market reaction. Section III examines the determinants of bank loans, public debt, and non-bank private debt reporting in

³ Besides Nini et al. (2007), Brophy, Ouimet and Sialm (2004) show that the degree of protection granted to investors has a significant effect on subsequent performance, especially in the case of firms that borrow from institutional investors as opposed to hedge funds.

the press. Section IV studies the determinants of stock price reaction surrounding press reporting or activation of non-reported issues. Section V examines the relationship between the determinants of incremental financing options and loan reporting. Section VI studies long-term operating performance. Section VII presents a summary and the conclusions.

CHAPTER 2
SAMPLE SELECTION, DATA AND SUMMARY STATISTICS

Sample Selection and Data

The sample consists of 1,375 randomly selected loans that were activated between 1996 and 2004. I choose 1996 as the start year of the study period because since January 1996 the Securities and Exchange Commission (SEC) requires all firms to submit their filings electronically, and the analysis uses information on loan restructurings from 8-K, 10-Q and 10-K filings. The number of loans per year is initially determined so that each year the proportion of loans in the sample equals the corresponding annual proportion of loans in the DealScan database. The reason for this sampling is the analysis of incremental financing choices between bank debt, public debt, and non-bank private debt. This analysis requires three random samples, one for each type of financing source, that maintain the yearly proportions of the universe of issues reported in DealScan (bank loans) and Securities Data Corporation (SDC) (public debt and non-bank private debt). In addition, the random sample maintains the overall proportions of total number of issues for each financing choice with respect to the other two, and requires the borrowers to be publicly traded at the time of loan activation. Moreover, the loan sample includes only completed loans involving U.S. banks with roles other than participant, and excludes loans granted to financial institutions.

DealScan is the source of data regarding the identity and role of all members of the loan syndicate, loan maturity, type and purpose, credit risk measures, and covenant information. Securities Data Corporation provides information on the proceeds and payment conditions of public debt and non-bank private debt issues.

For the classification of reported and non-reported loans, public and non-bank private debt issues, I do a Dow Jones search for news and wire articles and headlines published between

three months prior to one month after the effective date of the issue. I specifically look for articles and headlines that contain the issue size and/or the usual key terms used in previous studies. In the case of bank loan announcements the key terms are “line of credit,” “credit line,” “credit facility,” “credit agreement,” “credit extension,” “new loan,” “loan agreement,” “loan renewal,” “loan revision,” “loan extension,” “finance company loan,” “term loan,” “commercial loan,” and “bank loan.” Once the news and wire articles are selected, I collect data for the loan, public debt or non-bank debt issue samples on the frequency of wire and press articles, timing of the earliest article with respect to the issue date, news or wire source, and bundling of information with other non-issue-related news in the earliest article. Furthermore, this hand-collected news information identifies articles in which the only loan-related information is the agreement size, those in which bank lending is inferred through terms such as “loan,” and those that specify it is a bank agreement, whether the identity of one or more members of the loan syndicate is reported or not.

In 64 out of 304 cases of reported loans (out of 1,375 sample loans), the earliest news is accompanied by other news concerning dividends, earnings, or control activity. Most empirical studies of loan announcements exclude these confounding announcements so as to focus solely on the information content of the financing news. In this paper, confounding press articles are excluded in the analysis of the market reaction to loan announcements (I obtain similar results when confounding articles are included). However, confounding press-reported loans are considered in the examination of incremental financing choices because those decisions are made earlier. Confounding articles are included as well as in the examination of reporting likelihood given that earnings or dividend announcements, for example, may reduce information

asymmetries associated with selling securities. Thus, excluding confounding reporting may bias the results and conclusions.

The news information on bank loans is supplemented with information from filings with the Securities and Exchange Commission (SEC). More specifically, I collect data from the SEC filings whenever available on whether the loans constitute a new agreement, renewal or a restructure deal following a covenant violation and subsequent waiver. This manual search within SEC filings covers the two years prior to loan activation because Roberts and Sufi (2007) find in their study of renegotiation of financial contracts that the average effective maturity of bank loans is half the average stated maturity, which DealScan reports to be of around four years for the loans in the sample. More specifically, I search the SEC filings for specific expressions¹ used in previous studies, and check each passage to ensure that the expressions indeed refer to financial covenant violations, waivers, and loan restructurings.

The data on issuing firm characteristics, stock price reaction, and analysts' forecasts, is obtained from Compustat, the Center for Research of Security Prices (CRSP), and the Institutional Brokers' Estimate System (IBES) data tape. As a result, the overall sample consists of 1,375 bank loan deals, 355 public debt issues and 92 non-bank private debt deals. The news search process identifies 304 loans that are reported in the financial press, 166 additional loans that are identified in the wire but not reported in the press, 905 loans that are not reported in wire or press articles, 207 reported public debt issues and 42 reported non-bank private debt issues. In

¹ The specific terms are those also used by Roberts and Sufi (2007): "in violation of covenant," "in violation of a covenant," "in default of covenant," "in technical violation of covenant," "in technical violation of a covenant," "in violation of financial covenant," "in violation of a financial covenant," "in technical violation of a financial covenant," "in technical violation of financial covenant," "in technical default of a financial covenant," "in technical default of financial covenant," "not in compliance," "out of compliance," "received waiver," "receiver a waiver," "obtained a waiver," "obtained waiver."

addition, I find that for 78.9% (240 out of 304) of reported loans there is no bundling of loan information with other non-loan related news.

Summary Statistics

Table 2-1 provides the annual percentage of loans reported in the financial press, those listed on the wire services but not reported in the press, or those not reported at all. More specifically, I find that 22% (304 out of 1,375) of the sample loans are reported in the financial press, while an additional 12% (166 out of 1,375) of loans are reported in the wire but are not reported subsequently in the press. In addition, about 8% (not reported in the table) of the loans that are not identified in wire or press articles are made public through 8-K filings.

The Form 8-K filings follow the SEC regulation that requires firms to report any “material” event that may affect the stock price, or definitive agreement “not made in the ordinary course of the registrant’s business.”² As Nini et al. (2008) note, as private agreements, loans are not legal securities and, thus, are not subject to direct SEC regulation. However, the SEC precedent has established a requirement that public companies include copies of all “material” contracts, including bank loan agreements, with relevant SEC disclosures. These contracts typically appear as exhibits at the end of a 10-K or 10-Q report, or as an attachment to an 8-K filing.

Table 2-2 presents some initial evidence of how press-reported loans differ from non-reported loans in terms of primary loan purpose, and introduces the hypothesis that the timing of

² An agreement is deemed as material definitive when it “provides for obligations that are material to and enforceable against the registrant or rights that are material to the registrant and enforceable by the registrant against one or more parties to the agreement, in each case whether or not subject to conditions.” The Form 8-K requires the agreement date, the identity of the parties and a brief description of any material relationship between the registrant or its affiliates and any of the parties, other than in respect of the material definitive agreement. Moreover, the Additional Form 8-K, effective August 2004, expands the number of events that are reportable on Form 8-K and shortens the filing deadline for most items to four business days. These amendments are said to further the goals of Section 409 of the Sarbanes-Oxley Act.

the loan news relative to loan activation may not be random. In particular, takeover is the most-common primary purpose of the loans reported in the news before activation (24% vs. 11% for loans reported on or after activation, and 8% for non-reported loans). Debt repayment is also stated as primary purpose of loans reported in the press before activation, but in a lower proportion than for loans reported in the press on or after activation (21% vs. 32% of the cases for loans reported or on after activation, and 23% for non-reported loans). On the other hand, working capital is more frequently the main purpose of loans reported in the press on or after activation (21% vs. 8% in the case of loans reported before activation, and 12% in the case of non-reported loans). And, interestingly, non-reported loans are more likely to include 364-day facilities (not specified in Table 2-2). These 364-day facilities are a major source of short-term financing, given that non-reported loans are established significantly more often for corporate purposes (32% vs. 24% for loans reported before activation, and 19% for loans reported on or after activation). Thus, it may be argued that the frequent corporate purposes of non-reported loans signal a more transaction oriented type of lending that would be deemed less noteworthy by press editors.

Table 2-3 reports firm and loan summary statistics for the fiscal year preceding loan activation. The results identify significant differences between reported and non-reported cases, as well as some potential reasons for the timing of the earliest news with respect to loan activation. The reported summary statistics include the cases in which loan reporting is bundled with non-loan-related news information, but I obtain similar results if I exclude confounding articles.

The summary statistics of the sample firms, shown in Table 2-3, have been used frequently in the banking literature as proxies for information asymmetries and *ex ante* risk of

the borrower. The reason is that bank lending is credited for providing tailored and flexible lending to firms that present more opaque riskier profiles (Houston and James (1996), Johnson (1997), and Hadlock and James (2002)). Hence, since practically all public firms borrow from banks, heterogeneity in the measures of opaqueness and credit risk within the loan sample may explain why reported loans and their borrowers may be deemed different from non-reported ones.

As shown in Table 2-3, firms with reported loans are on average smaller (in terms of assets and sales), and have higher surprise and dispersion of earnings forecasts³, higher leverage, and poorer operating performance during the fiscal year preceding the activation of the loan - as measured by the ratio of earnings before interest, taxes, depreciation and amortization (EBITDA) to assets. The debt to EBITDA ratio, covenant included in about 50% of loan contracts (Demiroglu and James (2007)), is also significantly higher during the year preceding the loan for borrowers with reported loans. Thus, reported borrowers appear to be on average more opaque and riskier than non-reported borrowers. This is insightful, because those same factors determine as well the choice of bank debt over other sources of incremental financing, as previous work finds. More specifically, previous studies document that firms with higher information asymmetries and lower credit risk are more likely to choose reported bank debt over public debt (Hadlock and James (2001)). Hence, the higher information content of reported bank loans compared to non-reported ones can explain the need for reporting.

³ Like Gomes and Phillips (2006), I compute the quarterly analyst earnings surprise as the absolute value of the difference between the median quarterly earnings estimate and the actual quarterly earnings per share, normalized by the stock price at the fiscal quarter end. Similarly, I compute the analyst earnings dispersion measure as the standard deviation of outstanding earnings forecasts normalized by the stock price requiring a minimum of two outstanding earning forecasts. Additionally, since firms may have incentives to disclose more information prior to a public issue vs. prior to a private issue. Thus, the earnings surprise and dispersion measures use the average of the last four quarters ending a quarter before the issue date.

The loan characteristics reported also in Table 2-3 show that reported loans are larger - relative to the size of the borrower - and have longer maturities than non-reported loans. In addition, reported loans present significantly higher measures of the covenant intensity index (4.5 vs. 3) that would arguably involve closer bank monitoring. The covenant intensity index, as defined in previous studies (Bradley and Roberts (2004)), is an aggregate measure of covenant structure. It equals the sum of six covenant indicators: collateral, dividend restrictions, asset sales sweep, debt issuance sweep, equity issuance sweep, and the existence of more than two financial covenants.⁴ Thus, the value of the intensity index ranges between 0 and 6, and implicitly assumes that each covenant is equally restrictive for borrowers. Moreover, following also the criteria of previous studies, the index is set to missing when the value of one of the indicators is missing (64% of the reported loans and 83% of non-reported loans).

Reported loans are also more likely than non-reported loans (30% vs. 12% of the cases) to constitute restructurings following loan covenant violations and subsequent waivers during the two years preceding the loan agreement object of study. However, the percentage of reported loans that include in the syndicate lenders from which the firm has borrowed previously is lower than in the case of non-reported loans (37% of reported loans have at least a common lender with previous syndicates, vs. 44% in the case of non-reported loans). Thus, reported loans are more likely to be both loan restructurings and new loans with new lenders.

Reported loans also present significantly higher all-in-drawn spreads, a measure that further reflects the riskiness of borrowers with reported loans suggested by the firm summary characteristics. In particular, DealScan expresses the all-in-drawn spread as a basis point mark-

⁴ Dealscan includes covenant information on dividend payment restrictions under certain conditions, collateral requirements and prepayments requirements (so called sweeps that mandate that a portion of the loan be repaid out of excess cash flows, debt and equity financings, or asset sales proceeds).

up over the 6-month LIBOR that includes recurring fees associated with the credit facility.⁵ The spread is used as a measure of per dollar cost of borrowing in a number of previous empirical studies on loan pricing (for example, Bradley and Roberts (2004), Guner (2006) and Moerman (2005)). It is interesting to note here that, besides the loan size relative to the firm size, all-in-drawn spreads measures also differentiate, among reported loans, those that are reported before loan activation with respect to those reported on or after activation, as shown in Table 2-3. More specifically, I find that loans reported in the press before activation are larger (relative to firm size) and present higher all-in-drawn spreads than those reported on or after activation, which would arguably make their announcements even more noteworthy.

Overall, the firm and loan summary statistics in Table 2-3 show that reported loans and their borrowers are not representative of the universe of loans and borrowers. Furthermore, the firm characteristics that differentiate reported loans from non-reported loans also differentiate bank borrowing from public borrowing in previous studies (Hadlock and James (2002)). In consequence, it could be argued that non-reported bank borrowing constitutes an intermediate debt source between reported bank borrowing and public debt borrowing.

Table 2-4 presents firm and issue characteristics for non-bank private debt and public debt deals. Like bank loans, both in the case of public debt and non-bank private debt issues, bigger deals (relative to firm assets or not) are more likely to be reported. However, there are important differences in terms of frequency of reporting and potential determinants of press reporting between bank loans, public debt and non-bank private debt issues. First, it is important to note that about 40% of the non-bank private debt issues are reported and that 60% of the public debt issues are reported. Thus, bank loans are much less likely to get reported than public debt and

⁵ LPC computes the spread for non-LIBOR based loans by converting index used to price the loan into a LIBOR equivalent using the historical relationship between the index and the LIBOR.

non-bank private debt issues. This would explain why the summary statistics of non-bank private debt borrowers and public debt borrowers show less statistical differences between reported and non-reported borrowers than in the case of bank loans. More specifically, reported non-bank private debt borrowers are smaller than their non-reported counterparts, but this is not the case of public debt borrowers. Also, reported public debt borrowers present lower operating performance than their non-reported counterparts, unlike non-bank private debt borrowers.

Table 2-4 introduces two other interesting facts related to credit rating and cumulative returns. Like in the case of bank loans, non-bank private debt issues are reported more frequently when the borrower does not have credit rating or its credit rating is below BBB. This is consistent with the findings of Denis and Mihov (2003), who show that non-bank private debt lenders have a niche among the riskiest borrowers. Furthermore, it can be argued that borrowers without credit rating are not only riskier, but also more opaque, characteristics that also differentiate reported borrowers from non-reported ones. On the other hand, the borrowers whose public debt issues get reported are credit rated more often than non-reported borrowers, and the credit rating is at least BBB more often than in the case of non-reported borrowers. Furthermore, reported public debt borrowers also have higher cumulative returns during the year prior to the issue. This is insightful because it suggests that the reporting of public debt issues in the press may time the market.

How do the firm characteristics of bank, public debt and non-bank private debt borrowers in the sample compare to those of previous studies of incremental financing decisions? To address this issue I use the seasonally adjusted monthly Consumer Price Index (CPI), as provided by the U.S. Department of Labor. I control for inflation by bringing the summary statistics of previous studies from the mid-month of their study periods to June 2000, the mid-month of my

January 1996 to December 2004 period. Overall, and as expected for syndicated loan borrowers, the firms in this paper are bigger. In terms of firm assets, Denis and Mihov (2003) study bank, public debt and non-bank private debt borrowers that are significantly smaller than the borrowers in my sample (firm asset medians of \$162.24, \$2,435, and \$246.2 million respectively). James (1987) also uses smaller public private debt borrowers (firm assets medians of \$3,322.27), as well as longer maturity bank loans (median of 72 months). In terms of leverage, Hadlock and James (2002) study the choice between bank borrowing and public debt borrowing with higher debt to assets ratios (median ratios of 0.52 and 0.44 respectively). Consistently with the higher leverage, the bank and public debt firms in Hadlock and James (2002) study borrow less (median commitment to assets ratios of 0.26 and 0.047 respectively). However, I observe no significant difference in terms of firm assets when comparing the size of the bank borrowers in previous studies with the subsample of reported loans in my sample. This is insightful, because previous studies consider only reported loans. Hence, the similarities between my subsample of reported borrowers and the samples of reported borrowers used previously in the literature allow a comparison of results.

Summary Statistics of Market Reaction to Loan News and Loan Activation

How do loans come to be published through Dow Jones? The issuance of a press release by the borrower constitutes one more source of information in the first step of the chain that conveys the information to the market through the press. Thompson et al. (1987) describe the process. Once reporters or firms transmit the story to the Dow Jones News Service, the editors summarize them, weight their importance, and determine whether to make them press news. This process takes place within hours or, in most cases, not more than one day.

One should note that the dissemination of news information through wire services does not target only Dow Jones. In fact, the New York Stock Exchange regulations require

simultaneous disclosure of firm-specific news to Dow Jones and Reuters, and the American Stock Exchange requires simultaneous disclosure to Dow Jones, Reuters, Associated Press, United Press International, the *Wall Street Journal*, the *New York Times*, Standard & Poor's, and Moody's Investor Service (Thompson et al. (1987)). Nevertheless, both practitioners and academics rely on Dow Jones as the primary source of news existence and timing, most likely because of its longer tradition and wider dissemination of information.⁶ In any case, when I select a random subsample of loans and search for press articles without limiting the source, I find that Dow Jones captures all cases in which the loans are reported.

The nature of the publishing process raises several questions. First, can financial press editors influence returns and trading volume through editing? Mitchell and Mulherin (1994) find that the number of news stories and market activity are directly related and that this relation is robust to the size of the headlines and macroeconomic announcements. In addition, they find that the association between larger size headlines and higher market returns does not have a significant effect on trading volume.⁷ Second, how much news is there in successive announcements? Rippington and Taffler (1996) find that only preliminary announcements and interim statements convey substantial amounts of new information. Thus, in light of the findings in previous work, one could argue that multiple incomplete announcement returns could be aggregated in the study of the market reaction to loan news. However, the loans in the sample are reported in most cases through unique articles, and in the few cases where there is more than one

⁶ Dow Jones maintains five wire services in addition to publishing the *Wall Street Journal* and *Barron's*. Dow Jones also maintains the News Retrieval Service, which contains selected articles from the Dow Jones News Service, now called Factiva, and the *Wall Street Journal*. In terms of coverage, the *Journal* appears to include the initial news release data for approximately 96% of the items listed in the NYSE/ASE Index (Thompson et al. (1987)).

⁷ Mitchell and Mulherin (1994) find April to be the month with the smallest number of announcements per day. In addition, Thompson et al. (1987) also document that firms are less likely to issue news releases on Fridays and in December.

article about a loan (in most cases just two articles) they are either dated the same day with practically verbatim information about the loan or one article is a summary of the key points in the other one, or distant enough in time not to affect the two-day event study results.

The two-day-window event studies of bank, public and non-bank private debt announcements use the earliest of the first news or the issue activation date as event date, a standard market model estimation period that ends 46 trading days before the event date, and the standard methodology by Mikkelson and Partch (1986) to measure the stock price reaction. In addition, since there is “contamination” of loan, public debt and non-bank private debt news, I control for it and find similar results when confounding news articles are included. Thus, I report in this paper only the non-confounding results given that previous studies exclude confounding press articles in their analysis of market reaction surrounding announcements. I find that for 78.9% (240 out of 304) reported loans, and 63.1% (53 out of 84) of loans reported before the activation date, there is no bundling of loan information with other non-loan related news. I classify as bundling - or contamination of the earliest loan related article - any information within the same article that can affect the stock price. The nature of the bundling of information can range, for example, from an earnings announcement that does not appear to be a repetition of previous news, to the completion of an acquisition.

The cumulative abnormal returns (CARs), average standardized prediction errors (SPE) and Z values associated to loan, public debt and non-bank private debt reporting and activation are reported in Table 2-5 and present four interesting findings. First, although the market can gain access to information about the existence and deal activation date of the non-reported loans, there is no significant market reaction surrounding the deal activation for the non-reported

loans⁸. More specifically, and as discussed in the introduction to this paper, DealScan uses as sources of loan information public SEC filings and market sources, and maintains a real-time website that reports the existence of not-yet active loans. Thus, it can be argued that the sample loans are disclosed.

Second, I find that the significant market reaction to reported loans is driven by the reaction to news articles that precede the activation of the loans. This is consistent with the differences shown in Table 2-5 between loans reported before activation and loans reported on or after activation. As mentioned before, loans reported before activation show a higher DealScan spread and commitment size relative to assets that would arguably make them more noteworthy among all the loans that are reported. In consequence, the reporting in the press of those loans would more likely trigger a larger market reaction, especially if the timing of the article that precedes loan activation cannot be foreseen and increases the surprise by which the news takes the market. Sections III and IV discuss in more detail the determinants of loan reporting and market reaction in relation to the timing of the news.

Third, the market reaction to public debt announcements is not significant when all reported issues are considered. However, when press articles are classified by their timing with respect to deal activation, the announcements following activation are associated with a significant positive market reaction. This is interesting, because I find no difference between public debt deals reported before activation and after activation in terms of borrower opacity and credit risk, or in terms of deal characteristics.

⁸ Previous work by Thompson et al. (1987) also observes no significant market reaction to announcements in the wire services that are not followed by announcements in the financial press, but their study does not distinguish bank loan reporting from all other news types.

Fourth, although the reaction to non-bank private debt news is overall negative, I find no significant market reaction to non-bank private debt news. The reason could be associated to the bigger size of the non-bank private debt borrowers in my sample. Bigger firms tend to be less opaque and therefore, less risky.

Table 2-1. Annual Distribution of Loans by Year of Deal Activation

Year of Deal Activation	All Sample Bank Loans N=1375	Loans Reported in Press Before Activation N=84	Loans Reported in Press On or After Activation N=220	DJ & PR Wire Reported Loans N=166	Non-reported Loans N=905
1996	11.78%	8.33%	8.64%	11.45%	12.93%
1997	15.56%	15.48%	14.21%	15.66%	15.69%
1998	12.51%	20.24%	11.36%	8.43%	12.82%
1999	11.27%	16.67%	10.9%	7.83%	11.49%
2000	11.85%	7.14%	11.36%	11.45%	12.49%
2001	11.05%	9.52%	14.09%	7.23%	11.16%
2002	10.25%	14.29%	10%	11.45%	9.72%
2003	9.38%	4.76%	11.36%	12.05%	8.84%
2004	6.35%	3.57%	7.27%	14.45%	4.86%

The sample consists of 1474 randomly selected syndicated bank loan agreements activated between January 1996 and December 2004. The number of loans randomly selected each year was determined so that each year the proportion of loans in my sample equals the corresponding annual proportion of loans in DealScan database. I include loans involving US banks and only US publicly traded firms at the time of loan activation. I identify reported and unreported loans searching the Wire and Dow Jones News Retrieval Service for articles and headlines containing the deal amount and/or the key words “bank,” “line” “credit,” “loan.” I require the financial press and wire information to be published between three months prior to one month after the activation of the loan as reported in DealScan.

Table 2-2. Loan Deal Purpose

	Percentage within All Loans	Percentage within Loans Reported Before Activation	Percentage within Loans Reported On or After Activation	Percentage within DJ&PR Wire Reported Loans	Percentage within Non-reported Loans
Debt. Repay	24.44%	21.43%	32.73%	21.69%	23.2%
Working Capital	14.62%	8.33%	21.36%	19.88%	12.6%
Takeover	10.4%	23.81%	11.36%	12.65%	8.51%
Corporate Purposes	28.8%	23.81%	19.09%	24.7%	32.38%
Acquis. Line	4.51%	7.14%	4.09%	8.43%	3.65%
CP Backup	12.0%	5.95%	5.9%	5.42%	15.25%
Other	5.24%	9.53%	5.47%	7.23%	4.41%

The sample consists of 1474 randomly selected syndicated bank loan agreements activated between January 1996 and December 2004. The number of loans randomly selected each year was determined so that each year the proportion of loans in my sample equals the corresponding annual proportion of loans in DealScan database. I include loans involving US banks and only US publicly traded firms at the time of loan activation. I identify reported and unreported loans searching the Wire and Dow Jones News Retrieval Service for articles and headlines containing the deal amount and/or the key words “bank,” “line” “credit,” “loan.” I require the financial press and wire information to be published between three months prior to one month after the activation of the loan as reported in DealScan.

Table 2-3. Firm and Loan Summary Statistics for Reported and Unreported Loans

	Loans Reported in Press Before Activation N=84		Loans Reported in Press On or After Activation N=220		DJ & PR Wire Reported Loans N=166		Non-reported Loans N=905	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Assets (millions)	3680.28	504.87*	2355.06*	500.84*	4119.3	480.32*	4688.93	885.13
Sales (millions)	2261.74*	362.13*	1861.3*	499.22*	3066.3	530.59*	4027.94	819.96
Tangible/Assets	0.36	0.30	0.33	0.26	0.30*	0.24*	0.36	0.29
Earnings Surprise (%)	0.85	0.38*	1.04	0.26*	0.53	0.18	0.55	0.14
Earnings Dispersion (%)	0.40	0.17*+	0.25	0.10*	0.30	0.11*	0.28	0.07
Debt/Assets	0.35*	0.36*	0.33*	0.34*	0.29	0.27	0.28	0.27
Debt/EBITDA	3.84*	3.08*	3.31	2.57*	3.25	2.22	3.01	2.07
EBITDA/Assets	0.12*	0.12*	0.12*	0.12*	0.12*	0.13	0.14	0.13
Credit Rating	0.45	0	0.39*	0	0.43	0	0.47	0
Investment Credit Rating	0.23*	0	0.18*	0	0.30*	0	0.38	0
Firm's 12-month cum. return	0.096	0.03	0.27	0.07	0.26	0.1	0.19	0.11
Commitment (millions)	448.92	216.73*	392.55	175	565.79	192.22	400.33	150
Commitment/Assets	0.69*+	0.44*+	0.44*	0.36*	0.42*	0.29*	0.26	0.16
Maturity (months)	51.65*	53.86*	46*	42.49*	43.60*	37.5*	35.09	31.43
Covenant Intensity Index	4.42*	5*	4.53*	4*	3.71*	3*	3.08	3
Restructuring	0.30*	0	0.32*	0	0.16	0	0.12	0
All-in-drawn spread	234.2*+	238.6*+	204.31*	181.88*	181.88*	160*	133.67	100

The loan sample consists of 304 loans reported in the financial press, 166 loans reported in the wire, and 905 non-reported syndicated bank loans activated between January 1996 and December 2004. The public debt sample consists of 355 issues, and the non-bank private debt sample of 92 issues, also activated between January 1996 and December 2004. The number of security issues randomly selected is determined so that each year the proportion of security issues in the sample equals the corresponding annual proportion of

loans in DealScan database, and public debt and non-bank private debt deals in Securities Data Corporation (SDC). In addition, the randomly selected issues maintain the overall proportions of total number of security issues for each financing type with respect to the other two, as reported in DealScan and (SDC). I identify reported and non-reported deals searching Dow Jones sources for news and wire articles that contain the deal amount and/or the key words used in the literature on loan, public debt and non-bank private debt announcements. *Tangible* assets are plant, property and equipment divided by assets. *Earnings Surprise* is defined as the absolute value of the difference between the median quarterly earnings estimate and the actual earnings per share, normalized by the stock price. *Earnings Dispersion* is defined as the standard deviation of earning forecasts normalized by the stock price. *Credit Rating* is an indicator variable equal to one if the firm has a debt rating, zero otherwise. The *Investment Grade Rating* is an indicator variable equal to one if the firm has an existing debt rating of BBB or higher, zero otherwise. *Commitment* is the size of the loan commitment. *Maturity* is the maturity of the loan agreement as reported in Dealscan. The *covenant intensity index* equals the sum of six covenant indicators (collateral, dividend restriction, more than two financial covenants, asset sales sweep, equity issuance sweep, and debt issuance sweep) when none of the six indicators is missing. *All-in-drawn spread* is calculated and reported by Dealscan as the total borrowing cost of the drawn portion of a loan over and above LIBOR. The *maturity* and DealScan *all-in-drawn spread* are calculated as the weighted average of the maturity and spread of each facility in the package loan.

* Significantly different from non-reported loan issue sample at the 0.1 level.

+ Significantly different from sample of reported loans on or after deal activation date at the 0.1 level.

Table 2-4. Firm and Deal Summary Statistics for Reported and Unreported Public Debt and Non-Bank Private Debt

	Reported Non-Bank Private Debt N=42		Non-reported Non- Bank Private Debt N=50		Reported Public Debt N=207		Non-reported Public Debt N=148	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Assets (millions)	2303.2	481.16*	15983.7 3	867.53	22389.9	6852.44	19453.5	7609.65
Sales (millions)	2393.96	585.95	6877.85	673.2	18460.8	6120.5	17626.3	8358.2
Tangible/Assets	0.4	0.33	0.42	0.39	0.4	0.38	0.43	0.41
Debt/Assets	0.29	0.27	0.28	0.28	0.35	0.33	0.34	0.32
Debt/EBITDA	2.73	1.62	2.29	2.11	2.96	2.29	2.48	2.05
EBITDA/Assets	0.14	0.13	0.15	0.13	0.15*	0.14	0.17	0.16
Credit Rating	0.36*	0	0.57	0	0.97*	0	0.93	0
Investment Credit Rating	0.14*	0	0.43	0	0.83*	0	0.75	0
Firm's 12-month cum. return	0.16	0.12	0.24	0.17	0.21*	0.14	0.12	0.09
Commitment (millions)	55.86*	48.25*	37.94	25	383.92*	250	110.62	36
Commitment/Assets	0.23*	0.1*	0.07	0.03	0.10	0.04	0.05	0.004

The loan sample consists of 304 loans reported in the financial press, 166 loans reported in the wire, and 905 non-reported syndicated bank loans activated between January 1996 and December 2004. The public debt sample consists of 355 issues, and the non-bank private debt sample of 92 issues, also activated between January 1996 and December 2004. The number of security issues randomly selected is determined so that each year the proportion of security issues in the sample equals the corresponding annual proportion of loans in DealScan database, and public debt and non-bank private debt deals in Securities Data Corporation (SDC). In addition, the randomly selected issues maintain the overall proportions of total number of security issues for each financing type with respect to the other two, as reported in DealScan and (SDC). I identify reported and non-reported deals searching Dow Jones sources for news and wire articles that contain the deal amount and/or the key words used in the literature on loan, public debt and non-bank private debt announcements. *Tangible* assets are plant, property and equipment divided by assets. *Credit Rating* is an indicator variable equal to one if the firm has a debt rating, zero otherwise. The *Investment Grade Rating* is an indicator variable equal to one if the firm has an existing debt rating of BBB or higher, zero otherwise. *Commitment* is the size of the loan commitment.

* Significantly different from non-reported issue sample at the 0.1 level.

Table 2-5. Market Reaction Summary Statistics

	Non-Confounding News Before Loan Activation		Non-Confounding News On Loan Activation		Non-Confounding News After Loan Activation		Non-reported Deals	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Loans		N=53		N=37		N=150		N=1071
CAR (%)	2.56*+	0.13	0.033	0.26	0.46	0.16	0.25	-0.06
Average SPE		0.32		0.009		0.077		0.05
Z value		2.33		0.05		0.96		1.64
Public Debt		N=52		N=111		N=36		N=146
CAR (%)	0.58	0.33	-0.11	-0.1	1.21	0.56	-0.18	-0.001
Average SPE		0.21		-0.03		0.39		-0.07
Z value		1.51		-0.31		2.34		-0.85
Non-Bank		N=24		N=3		N=11		N=43
Private Debt								
CAR (%)	1.12	0.003	-3.49	-4.54	-0.38	-0.42	1.67	-0.38
Average SPE		0.11		-0.67		-0.11		0.05
Z value		0.55		-1.2		-0.36		0.33

The sample consists of 240 loan news and 1071 non-reported bank loan agreements, 199 reported and 146 non-reported public debt issues, and 38 reported and 43 non-reported non-bank private debt issues activated between January 1996 and December 2004, with all news being free of contamination. Non-confounding news means that the loan information in the press articles are not bundled with other non-loan related information such as earnings, dividends, changes in management or completion of acquisitions. I identify reported and non-reported issues searching Dow Jones sources for articles containing the issue amount and/or the key words used in the literature of bank loan, public debt and non-bank private debt announcements. CAR and SPE refer to the two-day Cumulative Abnormal Returns and Standardized Prediction Errors of a 2-day window event study centered on the earliest of news date and deal activation date. Z value is calculated as the square root of the number of observations times the average Standardized Prediction Error.

* Statistically different at 10% level from non-reported subsample.

+ Statistically different at 10% level from reported subsample that does not precede loan activation.

CHAPTER 3 DETERMINANTS OF LOAN, PUBLIC DEBT, AND NON-BANK PRIVATE DEBT ANNOUNCEMENTS

The substantial heterogeneity in firm and loan characteristics shown in Table 3-1 evidences that reported loans and their borrowers constitute a non-representative subsample of the entire DealScan universe of loans and their public borrowers. Furthermore, the differences between reported and non-reported loans may arguably involve differences in loan information content that would explain the noteworthiness of reported loans and help identify the criteria used by press editors. In addition, the widespread use of bank loans (94% of public firms borrow from banks) and the fact that about 60% of public firms issue public debt (Sufi (2007)) also raises the question of whether press editors follow the same firm and deal characteristics related criteria when deciding which public debt and non-bank private debt issues to publish, as compared to loan reporting.

Determinants of Bank Loan Announcements

A large theoretical literature in banking focuses on banks as screeners that reduce *ex ante* information asymmetries when compared with public “arm’s length” debt (Diamond (1991), Fama (1985), and Ramakrishnan and Thakor (1984)). Furthermore, the banking literature argues that loans constitute a unique source of financing because, among other reasons, banks have access to information that is not available to other lenders and market participants while screening loans and monitoring borrowers (Rajan (1992)). So, if non-reported loans require less access to private information due to their less severe information asymmetries, one could argue that the lenders of non-reported loans do not know significantly more than other market participants about their non-reported borrowers. Consequently, those loans would constitute a weaker signal of firm quality and be, therefore, less noteworthy.

Previous empirical studies document that more opaque firms are more likely to use bank debt (Houston and James (1996), Johnson (1997), and Sufi (2007))¹ when the returns of the borrower decrease with respect to the market (Hadlock and James (2002)), and that relatively riskier firms also choose bank debt over public debt (Denis and Mihov (2003)). Moreover, and in relation to disclosure decisions, Bagnoli and Watts (2007) find that firms are more likely to disclose private information when the operating performance in financial reports falls below expectations and/or does not contain sufficient good news. Thus, besides measures of asymmetric information, market timing and leverage, EBITDA to assets ratio could also constitute a significant determinant of reporting likelihood.

Roberts and Sufi (2007) report that, although over 90% of long term loan contracts are renegotiated prior to their stated maturity, only 16% of the renegotiations are due to default events such as covenant violations. In addition, a related study by Nini et al. (2008) shows that following loan covenant violations and subsequent waivers there is an efficient reduction in firm investment and subsequent increases in market valuation and operation performance. Thus, one could argue that loan contracts following covenant violations could also be viewed as a significant signal of firm potential and be, therefore, more noteworthy. Finally, and in relation to loan characteristics that could make reporting more likely, Verrecchia and Weber (2006) find that firms are less likely to withhold information in material contract filings when they issue long-term debt. This suggests that, besides larger loans, loans with longer maturity could also be more newsworthy.

Therefore, since summary statistics show heterogeneity in all the above-mentioned borrower and loan characteristics suspected to determine reporting likelihood, the analysis of

¹ Recent studies by Sufi (2007) find increased access to capital of less informed investors following the introduction of bank loan ratings as well as more concentrated syndicated loans in the case of opaque borrowers.

bank loan reporting determinants includes proxies for information asymmetries, credit risk, market timing, loan restructuring following violations, loan size, and loan maturity. In addition, one could argue that the largest firms are less opaque and the smallest firms of less interest to the general investor, and that, consequently, their loans could be less likely to be reported. Thus, given that the likelihood of reporting is suspected to have a non-linear dependency with respect to borrower size, the analysis also considers a medium-firm-size dummy variable. This dummy equals one if the firm has assets of less than \$1 billion and more than \$400 million in order to include non-reported borrowers with below-median firm size and reported borrowers with above-median firm size.

The analysis of loan-reporting determinants is based on a series of probit models. Table 3-1 reports the regression results and marginal effects for the two main probit models. The first model studies the likelihood that a loan is deemed noteworthy through a press article or a Dow Jones wire article that is not made press news. The dependent variable equals one if the bank loan is reported in the financial press or on the Dow Jones wire but not in the press, and zero otherwise. The second regression analyzes how the factors that determine the likelihood of reporting can also affect the timing of the reporting, i.e., the likelihood that a loan is reported before its activation date.

As shown in Table 3-1, higher measures of information asymmetries and credit risk increase the likelihood of loan reporting. These determinants are measured by tangibles relative to assets and EBITDA to assets, although other proxies used in the literature, such as volatility, and surprise and dispersion in earnings forecasts, lead to analogous results. In addition, loan restructurings, loans with longer maturities, and bigger loans relative to assets are also more likely to be reported in the press. More specifically, I find that, evaluated at the sample means of

the other explanatory variables, the likelihood of a loan being reported is 13 percentage points lower with higher tangibles relative to assets, 41 percentage points lower with higher measures of EBITDA to assets, 21 percentage points higher in the case of loan restructurings, 17 percentage points higher when the commitment amount relative to firm size is bigger, and 11 percentage points higher when the borrower is a medium-size firm. It is important to note that these are also the determinants that reporters of loan news in Dow Jones cite when asked on the phone about the criteria followed to determine whether a particular loan is newsworthy. Thus, both the analysis and anecdotal evidence suggest that reported loans are more surprising and also informative about firm potential.

Beyond the average marginal effects reported in Table 3-2 reports how the lowest and highest quartile measures of loan-reporting determinants in the 1,375 loan sample alter the likelihood of reporting evaluated at the sample means of the other explanatory variables. More specifically, the likelihood of reporting decreases by 10 percentage points for the firms within the highest quartile of tangibles to assets, increases by 8 percentage points (decreases by 7 percentage points) for the firms with EBITDA to assets within the lowest (highest) quartiles of the sample, and increases by 20 percentage points (decreases by 17 percentage points) for the firms with loan commitment to assets within the highest (lowest) quartiles of the sample.

The analysis of the loan reporting determinants also shows that the likelihood of loan reporting is increases throughout the study period. This could be arguably be due to lower reporting costs thanks to developments in information technology, and suggests that the information content of the average reported loan decreases during the 1996 through 2004 period.

In order to confirm the non-linear dependency of loan reporting with respect to firm size, I apply the reporting likelihood probit model to the firms in the sample that fall within the

smallest - biggest - size quartile in terms of assets (the regression results are not reported in the paper). As expected, I find that when the loans are surprising and informative - given loan characteristics, information asymmetries, and borrower credit risk - but the borrower is a small firm, the wire article that is not followed by a press article is usually a press release wire. Thus, one could argue that loans to smaller borrowers are less likely to draw attention from the press because those firms are of less interest to the general investor. On the other hand, in the case of the biggest firms, which receive greater analyst coverage, I find that not all their loans are systematically reported. The loans obtained by the biggest firms are reported when credit risk and loan characteristics justify it, given that these borrowers are generally less opaque.

The second probit model reported in Table 3-1 studies whether loan-reporting determinants also influence the timing of the loan news with respect to loan activation. Overall, I find no evidence supporting the hypothesis that firm characteristics affect the timing of the loan news. However, the size of the loan commitment relative to borrower size increases the likelihood that the loan is reported before loan activation.

Overall, only the loans that seem more informative about the potential of the borrower are reported. This evidence deals with a variety in the loan market that had not been documented before. Furthermore, the heterogeneity in information asymmetries and credit risk that distinguishes reported from non-reported cases is insightful because it also determines the choice of reported bank debt over public debt (Hadlock and James (2001)). In consequence, one could argue that non-reported loans are more transactional, contrary to the belief that bank loans always involve a more or less close relationship between borrower and lender.

Determinants of Public Debt and Non-Bank Private Debt

The news search for the samples of 355 public debt issues and 92 non-bank private debt issues indicates that most public debt deals are reported in the press vs. 57% of the non-bank

private debt deals. In addition, the news search shows that almost 20% of non-bank private deals are reported by the borrower, while in the case of public debt reporting by the firm is rare and usually related to debt repayment. Thus, in the case of non-bank private deals, either the borrowers or the lenders seem to want investors to know about the deals. This is interesting given that previous studies document a negative market reaction to non-bank private debt (Eckbo (2007)).

The borrower and lender incentives to report non-bank private debt despite the adverse reaction of the market could be explained through the findings of Denis and Mihov (2003) and Carey et al. (1998) that associate non-bank private lenders to the financing of the riskiest borrowers. It seems that the good news of getting financing should increase the likelihood that non-bank private debt is announced. However, only banks are considered to be special in terms of access and generation of private information and efficient monitoring (Fama (1985), Rajan (1992) and Denis and Mihov (2003)). On the other hand, in the case of reporting of public debt issues, if those borrowers are significantly less risky and opaque than bank borrowers, one may argue that the likelihood of reporting would decrease at least among the best performers. Thus, how do the determinants of bank loan reporting differ from those of public debt and non-bank private debt? The analysis of the likelihood of public debt and non-bank private debt reporting through a press article or a Dow Jones wire article is shown in Table 3-3.

The probit analysis for non-bank private debt shows that, besides information asymmetries, credit risk does not seem to play a significant role in the likelihood of reporting of non-bank private debt issues (although it plays it in the choice of non-bank private debt borrowing, as Dennis and Mihov find (2003)). The reason could be that although this type of financing serves the niche of highest risk borrowers that cannot obtain financing from loans, the

lenders do not necessarily base the agreements on private information about firm potential, but on control rights.

In relation to measures of risk, Table 3-3 also shows that although the size of the proceeds relative for firm size does not affect the likelihood of reporting for public debt borrowers, non-bank private debt issues are 125 percentage points more likely to be reported as proceeds relative to firm size increase when evaluated at the sample means of the other explanatory variables. The reason could be that public debt borrowers are not expected to default on the agreements, while non-bank private borrowers could. Thus, bigger loans granted to riskier borrowers may be considered good news because the lenders have positive private information about the borrower, while bigger lending to the riskiest firms is negative news, since it may just imply additional risk and a higher probability of default.

In addition, the likelihood of public debt reporting is found to be 22 percentage points higher in the case of firms with higher cumulative returns when evaluated at the sample means of the other explanatory variables. This is consistent with market sources echoing the new public debt issues of the “market darlings,” which would not require revelation of any particular insight regarding firm potential, and would lead to an average null market reaction to the news. Moreover, and as expected, the likelihood of public debt reporting is 85 percentage points lower in the case of firms with better operating performance, and therefore, less risky, given that, as mentioned before, public debt borrowers are less opaque.

Finally, the probit analysis shows that public debt issues, like loans, are more likely to be reported over time, but that there is no significant time trend in the reporting of non-bank private debt. The reason could be that while public debt issues are reported in Dow Jones, non-bank private issues are announced mainly in specialized publications such as *Private Placement Letter*

and *Private Placement Reporter*. Thus, it may have become less costly over time to report loans due to advancements in information technology in the case of Dow Jones, but not in the case of other smaller news sources that do not benefit from economies of scale.

Table 3-1. Determinants of the Likelihood and Timing of Bank Loan Reporting in the Press

	Likelihood of loan reporting	Marginal Effects	Likelihood of reporting before loan activation	Marginal Effects
Time trend	0.06 (3.12)	0.02	-0.01 (-0.31)	-0.004
Tangibles/Assets	-0.39 (-2.18)	-0.13	0.27 (0.78)	0.09
Debt/Assets	0.30 (1.40)	0.10	0.09 (0.22)	0.03
EBITDA/Assets	-1.2 (-2.54)	-0.41	-0.94 (-1.09)	-0.3
Restructure Loan	0.56 (5.32)	0.21	-0.03 (-0.17)	-0.01
Commitment Amount/Assets	0.51 (3.01)	0.17	0.41 (2.47)	0.13
Maturity	0.01 (4.52)	0.003	0.003 (1.06)	0.001
Medium-size firm	0.32 (3.84)	0.11	-0.16 (-0.90)	-0.05
Firm's past 12-month cumulative return	-0.03 (-0.56)	-0.01	-0.09 (-1.22)	-0.03
Market's past 12-month cumulative return	0.01 (0.08)	0.01	-0.61 (-1.63)	-0.19
Constant	-1.32 (-8.18)		-0.71 (-2.14)	
Pseudo R ²	0.11		0.05	
N	1176		294	

Table 3-1 provides the estimates of two probit models that relate firm and loan characteristics to the likelihood that the press deems a loan noteworthy through a press article or a DJ wire, and the likelihood that when there is loan news the press article precedes the loan activation date. Both the results and marginal effects of the probit regressions are reported. The analysis is based on a sample of 304 press-reported, 166 PR or DJ wire reported loans and 905 non-reported loans activated between January 1996 and December 2004. I identify reported and non-reported loans searching the Dow Jones sources for articles containing the deal amount and/or the key words used in the literature on loan announcements. *Commitment Amount* is the size of the loan commitment. *Maturity* is the maturity in months of the loan agreement as reported in Dealscan. *Medium-size firm* is a dummy variable that equals one if the firm has less than \$1 billion in assets and more than \$400 million in assets. Z statistics are reported in parenthesis.

Table 3-2. Marginal Effects of the Lowest and Highest Quartile Determinants on Loan Reporting

	<i>Effect of Lowest Quartile On Reporting Likelihood</i>	<i>Effect of Highest Quartile On Reporting Likelihood</i>
Tangibles/Assets	0.05	-0.1*
Debt/Assets	-0.06*	-0.01
EBITDA/Assets	0.08*	-0.07*
Restructure Loan	-0.21*	0.21*
Commitment Amount/Assets	-0.17*	0.2*
Maturity	-0.05	-0.04
Over \$1Billion vs. Below \$400 Million	-0.04	-0.11*

Table 3-2 reports how the lowest and highest quartiles of some firm and loan characteristics in the sample significantly affect the marginal effects of a loan being deemed noteworthy by the press through a press article or a DJ wire, as examined in the first Probit model of Table 3-1. *Significant at the 0.1 level.

Table 3-3. Determinants of the Likelihood of Public and Non-Bank Private Debt Reporting

<i>Probit Reporting</i>	Non-Bank Private Debt		Public Debt	
		Marginal Effects		Marginal Effects
Time trend	0.04 (0.61)	0.01	0.16 (5.24)	0.06
Tangibles/Assets	-0.54 (-0.96)	-0.22	-0.36 (-1.17)	-0.14
Debt/Assets	0.84 (1.13)	0.33	0.25 (0.50)	0.10
EBITDA/Assets	1.72 (0.86)	0.69	-2.21 (-2.05)	-0.85
Proceeds/Assets	3.12 (2.38)	1.25	0.46 (0.69)	0.18
Medium-size firm	0.08 (0.28)	0.03	0.18 (0.63)	0.07
Firm's past 12-month cumulative return	-0.13 (-0.48)	-0.05	0.57 (2.81)	0.22
Market's past 12-month cumulative return	-0.36 (-0.51)	-0.14	-0.13 (-0.38)	-0.05
Constant	-0.91 (-1.49)		-0.30 (-0.86)	
Pseudo R ²	0.11		0.10	
N	92		355	

Table 3-3 provides the estimates of a probit model relating firm and debt characteristics to the likelihood that the press deems a public debt or non-bank private debt noteworthy through a press article or a DJ wire. The analysis is based on a sample of 92 non-bank private debt agreements and 355 public debt agreements activated between January 1996 and December 2004. I identify reported and non-reported agreements searching the Dow Jones sources for articles containing the key words used in the announcements literature. *Medium-size firm* is a dummy variable that equals one if the firm has less than \$1 billion in assets and more than \$400 million in assets. Z statistics are reported in parenthesis.

CHAPTER 4 STOCK PRICE REACTION TO LOAN NEWS. MULTIVARIATE ANALYSIS

Among the several explanations for the general pattern of relative stock price effects in event studies, Smith (1986) cites the unanticipated announcement hypothesis, which states that the more predictable the issuance and its structure, the smaller the associated stock price change.¹ Another explanation mentioned in the study of the differences in announcement effects across security types is the importance of asymmetric information problems. For example, since debt and preferred stock are more senior claims, their valuation is expected to be less sensitive than common stock to changes in firm value. In addition, James and Smith (2000) suggest a third explanation for why bank loan announcements by large and medium-size companies elicit a positive stock price reaction. According to their results, commitment-based financing is used by larger companies when they believe themselves to be undervalued or when interest rates are too high.²

In relation to loan announcements, and given that loan news articles are very brief, it could be also argued that the articles per se are not informative. It could be argued that loan articles mainly signal the existence of a noteworthy loan without giving further information about the circumstances that make the loan noteworthy. Thus, the study of the magnitude of the market reaction to loan news should consider the factors that make reported loans noteworthy, i.e., credit risk, information asymmetries, loan characteristics and potential market timing hypothesis.

The analysis of the stock price reaction to the earliest loan news vs. the reaction to the loan activation of non-reported deals is presented in Table 4-1. It uses an OLS regression model that

¹ See Marsh (1982) for evidence on the use of short-term debt and how to predict public debt issues.

² For example, and at the time of the Asian crisis in the last quarter of 1998, \$10 billion of commercial paper was retired and \$20 billion of net new commercial loans were booked.

studies the likelihood of a higher z -value (average standardized prediction errors times the square root of the number of observations) in relation to whether the loan is reported and other potential determinants of market reaction identified in the study of reporting determinants (Table 3-1). Similarly, Table 3-2 presents the results of the OLS analysis of the market reaction for public debt and non-bank private debt issues.

As shown in Table 3-1, the market reaction is driven by the size of the issue and market timing considerations. More specifically, I find that the reaction to loan news increases with lower measures of cumulative returns of the loan borrower relative to the market during the 12 months preceding the earliest of the news or loan activation of reported loans. This is consistent with previous work by Hadlock and James (2002), who find evidence in support of a market timing argument by which firms tend to choose announced bank lending over public debt when their returns decrease with respect to the market.

The analysis of the market reaction for public debt and non-bank private debt news and issues is, as expected, inconclusive given that no significant market reaction is observed, in general, for these two types for issues surrounding news articles or activation of non-reported issues. As such, and in the case of public debt issues, I find no evidence in support of the market timing hypothesis, like suggested by the firm characteristics in Table 2-3. However, the size of the issue relative to firm size still appears to have a positive effect on the market reaction, especially in the case of public debt issues reported after activation, although the significance level is a little over 10%. Finally, and although the market reaction is not significant either for reported and non-reported non-bank private debt issues, I find that tangibles relative to assets can increase the market reaction, although this firm characteristic does not differentiate reported from non-reported non-bank private debt borrowers.

Table 4-1. Determinants of the Stock Price Reaction Surrounding Loan Reports and Activation

	Non-Confounding Loan News vs. Non- Reported Loans	Non-Confounding Loans News Before Loan Activation vs. Non-Reported Loans
Press-reported	-0.51 (-0.26)	-0.56 (-0.23)
Time Trend	-0.03 (-0.09)	-0.09 (-0.2)
Tangible/Assets	0.08 (0.02)	-0.21 (-0.05)
Debt/Assets	4.76 (1.04)	5.86 (1.11)
EBITDA/Assets	-3.28 (-0.35)	0.72 (0.07)
Restructure	-3.59 (-1.15)	-4.45 (-1.08)
Commitment Amount /Assets	5.96 (3.01)	5.95 (2.16)
Maturity	-0.03 (-0.66)	-0.02 (-0.35)
Medium-size firm	1.75 (0.52)	1.62 (0.38)
Firm's past 12-month cumulative return	-1.84 (-1.72)	-3.3 (-2.11)
Market's past 12-month cumulative return	9.43 (2.13)	11.11 (2.12)
Constant	-0.88 (-0.27)	-1.53 (-0.4)
N	1196	1014

Table 4-1 provides the estimates of two OLS regressions relating the magnitude of the market reaction to loan news to reporting and firm and loan characteristics. The market reaction is measured as the Standardized Prediction Errors for a two day event window centered on the earliest of the announcement date or activation date. The analysis is based on a sample of 240 non-confounding press news (53 precede the activation of the loan) and 1071 non-reported loans activated between January 1996 and December 2004. I identify reported and non-reported loans searching the Dow Jones sources for articles containing the key words used in the announcements literature. Commitment Amount is the size of the loan commitment. Maturity is the maturity in months of the loan agreement as reported in Dealscan. Medium-size firm is a dummy variable that equals one if the firm has less than \$1 billion in assets and more than \$400 million in assets. t statistics are reported in parenthesis.

Table 4-2. Determinants of the Stock Price Reaction Surrounding Public Debt and Non-Bank Private Debt Reports and Activation

	Non-Bank Private Debt	Public Debt
	Non-Confounding News vs. Non-Reported Issues	Non-Confounding News vs. Non-Reported Issues
Press-reported	-0.32 (-0.21)	2.66 (1.58)
Time Trend	-0.01 (-0.05)	-0.53 (-1.58)
Tangible/Assets	7.95 (2.44)	-2.43 (-0.7)
Debt/Assets	-1.61 (-0.3)	-2.1 (-0.41)
EBITDA/Assets	-14.06 (-1.54)	2.73 (0.26)
Commitment Amount /Assets	-4.1 (-1.56)	1.23 (1.69)
Medium-size firm	-2.18 (-1.36)	1.7 (0.61)
Firm's past 12-month cumulative return	-2.73 (-1.46)	0.45 (0.23)
Market's past 12-month cumulative return	-3.7 (-1.03)	1.31 (0.31)
Constant	1.9 (0.52)	2.84 (0.69)
N	81	343

Table 4-2 provides the estimates of two OLS regressions relating the magnitude of the market reaction to public debt and non-bank private debt news to reporting and firm and loan characteristics. The market reaction is measured as the Standardized Prediction Errors for a two day event window centered on the earliest of the announcement date or activation date. The analysis is based on a sample of 199 non-confounding public debt news, 146 non-reported public debt issues, 38 non-confounding non-bank private debt news, and 43 non-reported non-bank private debt issues activated between January 1996 and December 2004. I identify reported and non-reported agreements searching the Dow Jones sources for articles containing the key words used in the announcements literature. *Commitment Amount* is the size of the loan commitment. *Maturity* is the maturity in months of the loan agreement as reported in Dealscan. *Medium-size firm* is a dummy variable that equals one if the firm has less than \$1 billion in assets and more than \$400 million in assets. t statistics are reported in parenthesis.

CHAPTER 5 DETERMINANTS OF INCREMENTAL FINANCING OPTIONS

Previous empirical studies of the determinants of incremental financing choices are based on samples of bank loans that get reported in the press. Denis and Mihov (2003), Hadlock and James (2002), Houston and James (1996), Johnson (1997), and Cantillo and Wright (2000) find that smaller, younger, more levered firms are more likely to raise capital via bank debt.¹ In addition, Hadlock and James (2002) document that higher volatility of returns and lower market to book and market adjusted cumulative returns during the year prior increase the probability of a bank agreement over a public debt issue. More recently, Bradley and Roberts (2004) report that bank borrowers include more covenants in their debt agreements and have greater growth opportunities and more volatile cash flows than firms that issue public debt.² These findings are insightful because they differentiate bank borrowers from bond borrowers using the same firm characteristics that I have found differentiate borrowers with reported loans from those without. Furthermore, if as I find, reported loans are not representative of the entire universe of loans, and non-reported loans are suspected to have a more transactional nature, the determinants of the choice between bank loans, public debt, and non-bank private could change when non-reported loan borrowers are also considered.³

¹ In relation to agreement size, Smith (1986) specifies that firms are expected to use bank lines of credit until an efficient public issue size is reached. The reason for this size criterion is that flotation costs for public debt issues have a larger fixed component and more pronounced economies of scale than does bank debt. In addition, non-bank private loans tend to have lower flotation costs than public issues and custom-designed covenants.

² Although banks are considered the most efficient liquidity providers in the economy (Kasyap et al. (2002) and Gatev et al. (2006)), firms are restricted access to bank credit if they do not maintain high enough cash flows (Sufi (2007)). One explanation for this finding could be the use of marginal vs. book firm characteristics.

³ Regarding the choice between debt and equity, Gomes and Phillips (2005) find that firms with the greatest asymmetric information problems tend to borrow from private equity, while the most transparent firms seem to issue public equity, and those that are relatively more opaque prefer bank debt to public debt.

Bank debt and non-bank private debt differ in terms of regulatory requirements, maturity, costs, placement structure, and creditor concentration (Carey et al. (1998)).⁴ Overall, since bank and non-bank private debt offer higher flexibility of renegotiation, it should be optimal for the riskiest borrowers to borrow privately instead of issuing public debt.⁵ In this context, Chemmanur and Fulghieri (1994) predict that firms with high and low credit ratings use public debt, while firms with intermediate ratings use bank loans. However, Denis and Mihov (2003) document that while firms with the highest credit quality are more likely to issue public debt, and firms with medium credit quality establish bank loans, those with the lowest credit quality establish non-bank private debt agreements.⁶ Thus, as Rajan (1992) argues, the cost of bank monitoring may outweigh the benefits for low-quality firms, and in consequence, low-quality firms are more likely to issue non-bank private debt than bank debt.

To examine the determinants of the choice between bank debt, public debt and non-bank private debt in a multivariate setting, I use a series of four multinomial logistic regressions. Table 5-1 reports the regression results, and Table 5-2 the marginal effects. The first multinomial regression studies the choice between bank borrowing that is reported, public, and non-bank private debt, while the third and fourth regressions do the same considering all loans and only non-reported loans, respectively. The second regression studies the choice between reported issues of bank, public and non-bank private debt.

4 See Bayless and Chaplinsky (1992), Chaplinsky and Hansen (1993), and Jung, Kim, and Stulz (1996) for the choice between public debt and equity.

5 Sufi (2005) documents that firms with higher lagged earnings to assets are more likely to establish bank loan agreements as opposed to arm's length debt.

6 More specifically, Denis and Mihov (2003) find that bank and non-bank private borrowers present significantly lower returns on assets, lower proportions of rated debt and credit quality when credit ratings are available, and higher growth opportunities in terms of growth in capital expenditures, sales, and number of employees.

The results in Table 5-1 and Table 5-2 show that, evaluated at the sample means of the other explanatory variables, reported loans are 26 percentage points less likely to be chosen over public and non-bank private debt with higher measures of tangibles to assets, and 23 percentage points more likely to be chosen over public and non-bank private debt if the borrower is a medium-size firm. In terms of credit risk, the choice of bank borrowing over public and non-bank private debt borrowing decreases with higher measures of EBITDA to assets independently of whether the loans are reported or not. More specifically, I find that, evaluated at the sample means of the other explanatory variables, reported loans are 170 percentage points less likely to be chosen over public and non-bank private debt with increases in EBITDA to assets. In addition, I find that the likelihood that more leveraged firms relative to assets choose bank debt is 10 percentage points lower for bank loans.

In terms of the effect of proceeds relative to assets on incremental financing choices, and evaluated at the sample means of the other explanatory variables, firms with higher financial needs relative to assets are 120 percentage points more likely to choose bank debt over public and non-bank private debt if only reported loans are considered.

Overall, the study of incremental financing decisions does not vary significantly when considering only reported loans instead of both reported and non-reported loans. In other words, whether reported deals or all deals are considered, the results are similar and consistent with those of previous studies by Hadlock and James (2002), and Denis and Mihov (2003). Riskier more opaque borrowers are more likely to borrow from banks instead of public debt, and non-bank private debt has a niche among the riskier borrowers. This suggests that, even if they are less noteworthy and more transactional, non-reported loans are still somehow special and different from public debt. Moreover, since DealScan covers only syndicated loans, this study

may be excluding a significant proportion of smaller firms that borrow from one lender. Those firms, as Houston and James (1996) find, are more likely to be subject to information monopolies, and have greater incentives to time the market due to more severe asymmetric information problems. This could explain the lack of evidence in the analysis for the market timing hypothesis.

Table 5-1. Multinomial Logistic Regressions on Incremental Financing Decisions

	(1.a)	(1.b)	(2.a)	(2.b)	(3.a)	(3.b)
Time trend	-0.14 (-2.92)	-0.07 (-1.35)	-0.06 (-1.08)	-0.05 (-0.67)	-0.08 (-2.88)	-0.02 (-0.41)
Tangibles/Assets	1.02 (2.17)	1.21 (2.0)	0.92 (1.79)	1.2 (1.42)	0.28 (0.85)	0.93 (1.75)
Debt/Assets	1.2 (1.84)	-1.85 (-1.87)	1.02 (1.58)	-1.66 (-1.3)	1.52 (4.25)	-0.54 (-0.82)
EBITDA/Assets	7.65 (4.87)	3.65 (1.92)	6.94 (3.9)	2.98 (1.22)	4.81 (5.28)	1.44 (1.03)
Deal Size/Assets	-4.81 (-2.04)	-4.74 (-2.58)	-4.76 (-1.51)	-2.7 (-1.48)	-6.03 (-2.18)	-4.53 (-2.36)
Medium-size firm	-1.81 (-4.99)	0.94 (2.51)	-1.75 (-3.97)	0.7 (1.52)	-1.17 (-4.31)	1.39 (4.47)
Firm's past 12-month cumulative return	0.07 (0.74)	0.09 (0.78)	0.11 (1.13)	0.02 (0.13)	0.07 (0.74)	0.05 (0.45)
Market's past 12-month cumulative return	-0.46 (-1.05)	-0.64 (-1.11)	-0.51 (-1.07)	-1.12 (-1.35)	-0.55 (-1.88)	-0.46 (-0.93)
Constant	0.66 (1.37)	-0.42 (-0.82)	-0.02 (-0.03)	-1.37 (-2.06)	-0.91 (-2.27)	-2.72 (-6.47)
Pseudo R ²		0.30		0.30		0.19
N		755		557		1822

Table 5-1 provides the estimates of a series of four multinomial logistic regressions relating the choice of bank debt over public debt and non-bank private debt, as well as the likelihood and timing of loan reporting in the context of incremental financing decisions. The analysis is based on a sample of 304 press-reported, and 1071 non-reported syndicated bank loans, as well as 355 public debt and 92 non-bank private debt agreements, all activated between January 1996 and December 2004. The public debt and non-bank private debt random samples keep the proportion of total bank loans in DealScan to public debt and non-bank private debt issues in SDC, as well as the yearly proportions in the original SDC samples. I identify reported and non-reported loan, public and non-bank issues searching the Dow Jones sources for articles containing the deal amount and/or the key words used in the announcements literature. *Deal Size* refers to the commitment amount in the case of bank loans and proceeds in the case of public debt and non-bank private debt. Z statistics are reported in parenthesis.

(1.a) Public Debt vs. Reported Bank Loans

(1.b) Non-Bank Private Debt vs. Reported Bank Loans

(2.a) Reported Public Debt vs. Reported Bank Loans

(2.b) Reported Non-Bank Private Debt vs. Reported Bank Loans

(3.a) Public Debt vs. Bank Loans

(3.b) Non-Bank Private Debt vs. Bank Loans

Table 5-2. Multinomial Logistic Regressions. Marginal Effects

	(1.a)	(1.b)	(1.c)	(2.a)	(2.b)	(2.c)	(3.a)	(3.b)	(3.c)
Time trend	0.03 (2.85)	-0.03 (-3.0)	-0.001 (-0.14)	0.01 (1.26)	-0.01 (-1.2)	-0.002 (-0.47)	0.01 (2.5)	-0.01 (-2.61)	-0.001 (-0.23)
Tangibles/Assets	-0.26 (-2.49)	0.19 (1.73)	0.07 (1.14)	-0.22 (-1.81)	0.15 (1.27)	0.07 (1.04)	-0.04 (-1.32)	0.02 (0.64)	0.03 (1.37)
Debt/Assets	-0.14 (-0.94)	0.38 (2.49)	-0.24 (-2.10)	-0.08 (-0.61)	0.22 (1.85)	-0.14 (-1.38)	-0.1 (-1.84)	0.13 (2.37)	-0.02 (-0.93)
EBITDA/Assets	-1.7 (-4.57)	1.69 (5.27)	0.01 (0.04)	-1.31 (-4.28)	1.22 (4.24)	0.08 (0.48)	-0.42 (-3.06)	0.39 (2.81)	0.03 (0.78)
Proceeds/Assets	1.2 (2.27)	-0.95 (-1.9)	-0.24 (-2.02)	0.93 (2.34)	-0.83 (-2.29)	-0.1 (-0.96)	0.6 (8.17)	-0.48 (-8.35)	-0.13 (-3.98)
Medium-size firm	0.23 (2.84)	-0.42 (-5.43)	0.2 (6.23)	0.21 (1.66)	-0.29 (-2.27)	0.09 (2.87)	0.02 (0.53)	-0.09 (-1.91)	0.06 (5.49)
Firm's past 12-month cumulative return	-0.02 (-0.84)	0.01 (0.62)	0.01 (0.55)	-0.02 (-1.03)	0.02 (1.31)	-0.001 (-0.05)	-0.01 (-0.86)	0.01 (0.79)	0.001 (0.39)
Market's past 12-month cumulative return	0.12 (1.21)	-0.08 (-0.84)	-0.04 (-0.78)	0.14 (1.39)	-0.07 (-0.78)	-0.07 (-1.13)	0.06 (1.68)	-0.04 (-1.45)	-0.013 (-0.77)

Table 5-2 provides the marginal effects of a series of four multinomial logistic regressions relating the choice of bank debt over public debt and non-bank private debt. The analysis is based on a sample of 304 press-reported, and 1071 non-reported syndicated bank loans, as well as 355 public debt and 92 non-bank private debt agreements, all activated between January 1996 and December 2004. The public debt and non-bank private debt random samples keep the proportion of total bank loans in DealScan to public debt and non-bank private debt issues in SDC, as well as the yearly proportions in the original SDC samples. I identify reported and non-reported loan, public and non-bank issues searching the Dow Jones sources for articles containing the deal amount and/or the key words used in the announcements literature. *Deal Size* refers to the commitment amount in the case of bank loans and proceeds in the case of public debt and non-bank private debt. Z statistics are reported in parenthesis.

(1.a) Public Debt vs. Reported Bank Loans

(1.b) Non-Bank Private Debt vs. Reported Bank Loans

(2.a) Reported Public Debt vs. Reported Bank Loans

(2.b) Reported Non-Bank Private Debt vs. Reported Bank Loans

(3.a) Public Debt vs. Bank Loans

(3.b) Non-Bank Private Debt vs. Bank Loans

CHAPTER 6 LONG-TERM PERFORMANCE OF BANK BORROWERS

As commented before, reported loans involve a closer relationship between lenders and borrowers, while non-reported loans are more transaction oriented and, to a certain extent, more equivalent to public debt. In consequence, one could argue that reported borrowers may improve their operating performance with respect to the performance of non-reported borrowers. In a related study, and since reported loans are more likely to be restructured loans following covenant violations, Nini et al. (2008) show that, following covenant violations, there is an effective reduction of capital expenditures that leads to higher performance and valuation.

In the study of long-term operating performance, I use two measures: EBITDA to assets, and debt to EBITDA. I focus on these two ratios because they are closely linked to the borrower's ability to service both current and future bank borrowings. While stock returns and net income are also important measures of performance used in previous studies, they are more removed from the banker's principal focus. In addition, the debt to EBITDA ratio is present in about half the loans that include financial covenants. Thus, firms have an incentive to improve this ratio.

To limit the effect of outliers, I examine the medians of operating performance measures for a period of seven years that covers four fiscal years preceding loan activation and the three subsequent ones. The summary statistics for a fixed sample of firms are presented in Table 6-1¹. Year 0 refers to the fiscal year prior to the activation of the loan.

Overall, I observe in the balanced panel that reported borrowers present poorer operating performance with respect to non-reported loans during the last three fiscal years prior to the activation of the loan. However, and although the operating performance measures of reported

¹ I find similar results when I exclude unannounced loans for which there is 8-K filing.

borrowers remain weaker than those of non-reported borrowers for two years following loan activation, I observe no significant difference at the 5% level in EBITDA to assets during the third fiscal year following loan activation. Furthermore, it is important to note that the improvement in the operating performance of reported borrowers would be more pronounced if the firms whose loans are reported mainly on the basis of loan size or maturity were excluded from the study sample.

Table 6-1. Median Peer-Adjusted Measures of Subsequent Operating Performance

	EBITDA/Assets (%)		Debt/EBITDA (%)	
	Press Reported	Unreported	Press Reported	Unreported
Year -3	0.13	0.143	2.15	1.8
Year -2	0.13	0.138	2.2*	1.86
Year -1	0.12*	0.136	2.8*	1.93
Year 0	0.12*	0.134	2.78*	2.07
Year 1	0.12*	0.129	3.02*	2.44
Year 2	0.12	0.124	2.8	2.5
Year 3	0.12	0.124	2.8	2.5
N	179	593	130	494

Table 6-1 presents summary statistics for a balanced panel of firms. Year refers to the number of fiscal years following the loan activation date. Year zero refers to the last fiscal year prior to the activation date.

* Significantly different from the unreported loan median at the .05 level.

+ Significantly different from the unreported loan median at the .1 level.

CHAPTER 7 SUMMARY AND CONCLUSIONS

An important strand of the banking literature holds that banks play a special role in the capital acquisition process through the close relationship they establish with their borrowers. More specifically, banks can gain access to private information that is not available to other credit claimants and provide more flexible lending conditions, which is of particular importance in the case of private firms. However, it is not clear why the more established less opaque public firms would need to establish the same type of “unique” relationships with banks in all cases. Also, it is puzzling why there is a significant positive stock price reaction surrounding the press reporting of bank loans, given that practically all public firms have bank loans.

To address this puzzle, I begin by examining the frequency and determinants of bank loan reporting in the financial press. I find that only 22% of bank loans are reported, and that the subsample of reported loans and borrowers is not representative of the entire population of syndicated loans and public borrowers. More specifically, I find that, besides bigger loans relative to assets, longer maturity loans, and loan restructurings following loan covenant violations are significantly more likely to be reported in the press. In addition, consistently also with a greater need for lender access to private information, I find that more opaque riskier borrowers are more likely to have their loans reported.

Reported loans seem more informative about the potential of the borrower than non-reported ones, an heterogeneity that, to my knowledge, has not been documented before. However, since the cost of reporting has decreased with technological developments, there is an increase in the frequency of reporting during the 1996 through 2004 study period that makes the information content of the average loan decrease overtime. In any case, the firm and deal factors that explain what makes a loan more likely to be reported are also those that explain the choice

of bank borrowing over public debt borrowing. In consequence, one could argue that non-reported loans require a less close relation between lender and borrower and are, therefore, more transaction oriented, although somehow still special and different from public debt.

In general, and although the loans in the sample are disclosed, the market reaction is only significant in the case of reported loans, especially when the earliest news precedes loan activation. This reaction to loan reporting when the news precedes loan activation is more intense when loans are bigger and when the performance of the borrower's stock is poor with respect to the market during the year prior. Thus, although borrowing is more difficult to obtain in the case of reported loans, which makes them more surprising, and therefore newsworthy, loan reporting also appears to time the market. Still, and consistent with the view that bank loans are more informative about firm potential when they are reported in the press, reported borrowers improve their operating performance with respect to non-reported ones over the three years following the activation of the loan.

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BIOGRAPHICAL SKETCH

Laura Gonzalez Alana earned her Bachelor of Science in electrical engineering from Superior College of Engineering of Bilbao (Spain) simultaneously with Bachelors of Arts in music education and music performance from J.C. Arriaga, Bilbao, Spain. In 2002 and 2003 respectively, she earned her Master of Business Administration and Master of Arts in foreign languages and literatures from Southern Illinois University–Carbondale. The requirements for the degree of Doctor of Philosophy in finance were completed at the University of Florida during the spring of 2008. Upon graduation from the University of Florida, she will join Fordham University, NY, as an assistant professor in finance. Laura’s research interests include financial markets and institutions, corporate finance, and international finance.