

## **Dogs that Bark: Why are Bank Loan Announcements Newsworthy?**

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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, the frequency and determinants of bank loan reporting are examined. Results indicate that only 22% of loans to public firms are reported in the press, a subset that is not random. Riskier more opaque firms are more likely to have their loans reported, and restructured loans following covenant violations, as well as larger loans -relative to firm size- are also more likely to be reported in the press. In addition, the operating performance of firms whose loans get reported for three years following the agreements appears significantly better. Thus, reported loans appear to be noteworthy and informative about the potential of the borrower up to the end of year 2007.*

**Field of Research:** Banking

### **1. Introduction**

A recent study (Sufi, 2009) 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 (James, 1987, James & 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 (James & Smith, 2000).

However, previous work on the specialness of bank loans considers only loans that are reported in the press, and the subset of press reported loans and borrowers could arguably differ from the subset of non-reported loans and borrowers. Furthermore, if the subset of reported loans is found not to be random, then the share price reaction to loan announcements would have more to do with the circumstances in which loan agreements are reported than with a general uniqueness of bank borrowing as a financing source.

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To further explore these issues, this paper examines the frequency and determinants of bank loan reporting in Dow Jones during the 1996 through 2004 period, for which data could be obtained. It also examines the long run operating performance of the bank borrowers during three years following the activation of the bank agreement to examine whether press coverage is informative about the potential of the firm. Thus, the sample covers up to the end of year 2007.

The analysis finds that only 22% of all syndicated Loan Pricing Corporation (LPC) DealScan loans obtained by public firms are reported in the financial press. The borrowers whose loans are reported in the press are found not to be representative of the entire sample of bank borrowers, and press-reported loans are also found to be significantly different from non-reported loans. More specifically, results suggest 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. In addition, the study of long run operating performance does shows a statistically significant improvement for press reported bank borrowers with respect to non reported borrowers, suggesting that bank loan announcements are a reliable signal of firm quality and potential.

The remainder of the paper is organized as follows. Section 2 provides a summary of the literature. Section 3 describes the unique hand-collected sample of bank debt. It also provides summary statistics of the deals and borrowers. Section 4 presents the market reaction results. Section 5 examines the determinants of bank loan reporting in the press. Section 6 studies long-term operating performance. Section 7 presents the conclusions and limitations of the study.

## 2. Literature Review

### 2.1 The Specialness of Bank Loans

The literature on the specialness of bank loans spans for several decades. In general, for a comprehensive coverage of findings in how bank relations are special over the past few decades, there are some recent reviews of the literature on banking relations (Boot, 2000).

In relation to this paper, previous empirical studies show that bank loans are more special for firms with acuter information asymmetry problems. This specialness appears to be a consequence of the ongoing relation between the banks and their borrowing customer. Through time, bankers gain access to information that is not available to other firm claimants, and this allows the borrowers to have access to credit at a lower cost. However, for firms with a single bank relationship, the reliance on bank debt is negatively related to the importance of growth opportunities, while among firms borrowing from multiple banks, the relationship is positive (Houston & James, 1996).

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The private information banks build about their opaque customers overtime is generally soft in nature, and is used in conjunction with current financial and other hard data when making credit decisions. In fact, it is the use of non public information in granting loans and monitoring what is often used to distinguish bank lending from arm's - length funding arrangements (Rajan, 1992). In consequence, banks and other private lenders are credited as superior screeners, besides monitors, that reduce ex-ante information asymmetries (Diamond, 1991, Fama, 1985; Ramakrishnan & Thakor, 1984, Berger, Klapper & Udell, 2001).

Furthermore, banking relations are expected to be particularly informative about the borrowing firm's future prospects in the case of not only more opaque, but also riskier firms. In this context, there is, for example, a positive and significant relation between improvements in post-IPO operating performance and the existence and size of pre-IPO banking relations among technology firms during the so-called 'tech' bubble (Gonzalez & James, 2007).

### **2.2 Loan Covenants**

Over 90% of long-term debt contracts are renegotiated prior to their stated maturity (Roberts & Sufi, 2009). Renegotiations result in large changes to the amount, maturity, and pricing of the contract, occur relatively early in the life of the contract, and are rarely a consequence of distress or default. In addition, recent work finds 5.4% increased annualized profits during the month following loan renegotiations in trading by institutional investors that are members of loan syndicates (Ivashina & Sun, 2010). Thus, it can be argued that there is generation of valuable information about the quality of the firm during the renegotiations of loan contracts, especially following covenant violations, and that covenant restrictions may positively impact long run operating performance.

In this context, 32% of the agreements are found to contain an explicit restriction on the firm's capital expenditures (Nini, Smith & Sufi, 2009). Furthermore, net debt issuing activity experiences a sharp and persistent decline following debt covenant violations, especially when the borrower's alternative sources of finance are costly, like is the case of the more opaque borrowers (Roberts & Sufi, 2009). However, following the restrictions, there are subsequent increases in market value and operating performance (Nini, Smith & Sufi, 2009).

### **2.3 Press Reporting and Disclosure Decisions**

How do bank loans to public firms get published? Given that bank loans are good news, a press release by the borrower should arguably be the most likely source of information in the first step of the process that conveys the information to investors. Following the press process, and once reporters or firms transmit the story to Dow Jones, the editors summarize them, weight their importance, and

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determine whether to make them press news. The time frame is short, just a few hours or, in most cases, not more than one day (Thompson et al., 1987).

It is important to 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<sup>1</sup>. In any case, for the sake of reassurance, a random subsample of loans in this study is news searched without limiting the source, and Dow Jones is found to capture all the reported cases.

The literature on discretionary disclosure finds 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 (Bagnoli & Watts, 2007). Moreover, firms are less likely to withhold information in material contract filings when they issue long-term debt (Verrecchia & Weber, 2006). Thus, opaque riskier firms with long maturity loans would arguable be more compelled to disclosure their loans. And in general, since bank loans are good news, which is when firms are more forthcoming (Miller, 2002), one would expect firms to try to disclose all bank loans. Accordingly, the source of loan news in the sample study is usually the borrower.

However, firms are not only willing to disclose loans, they may be required to disclose. Securities and Exchange Commission (SEC) regulation requires public firms to disclose any 'material' event that can affect the stock price. Thus, the timing of the disclosure is important. In this context, 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 & Ko, 2006).

Given all these findings, it is important to note that all LPC DealScan loans, from which the sample of this study is drawn, are disclosed in some way, whether or not they are reported in the press. More specifically, DealScan cites as sources of loan information SEC 8-K filings, other public SEC filings, and industry sources. In addition, DealScan offers affordable real-time web access to agreed-upon but not-yet-active loans. 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 found, no significant market reaction surrounding the activation of non-reported bank loans,

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and one assumes reported loans to be significant, it can be argued that the market views reported loans differently from non-reported loans.

### 2.4 Market Reaction to Bank Loan Announcements

Several studies document the statistically significant positive market reaction to bank loan announcements in the financial press even when the borrower is a public firm (James, 1987, Lummer & McConnell, 1989, James & Smith, 2000, Ongena & Roscovan, 2009). This is surprising, given that 94% of publicly traded firms have bank lending relationships (Sufi, 2007). Bank lending seems then important not only for small firms that lack access to public debt markets, but also for large and medium-size firms as well. In this context, Dealscan constitutes a good source, since it includes all syndicated US loan agreements for medium-sized and large firms.

Thus, given its widespread use, is there any special reason for public firms to choose bank financing and for investors to react to it? Previous studies find that commitment-based financing is used by larger companies when they believe themselves to be undervalued in the market (James & Smith, 2000), which would explain why announcements of these types of loans elicit a positive stock price reaction. Recently, investors are also found to react more positively to loan announcements when the loans are made by local banks (Ongena & Roscovan, 2009), since local media, apart from the information transmitted, is more likely to affect investor behavior (Engelberg & Parsons, 2009).

Then, if most public firms borrow from banks and bank loans are always good news, can financial press editors influence returns and trading volume through editing? Also, how much news is there in successive announcements? In this context, previous work finds 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. Moreover, the association between larger size headlines and higher market returns does not have a significant effect on trading volume (Mitchell & Mulherin, 1994). Finally, only preliminary announcements and interim statements seem to convey substantial amounts of new information (Rippington & Taffler, 1996).

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 article about a loan (in most cases just two articles) they are either dated the same day with practically verbatim information 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.

### 3. Sample Selections, Data and Summary Statistics

This section describes in detail the unique hand collected data set. It also emphasizes the most relevant differences between the firms whose loans are reported and those whose loans are not, as well as between press-reported loans and not reported loans.

#### 3.1 Sample Selection and Data

The sample consists of 1,375 randomly selected loans that were activated between 1996 and 2004, last year for which data could be obtained. Year 1996 is chosen 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. Since the analysis of long term operating performance covers three fiscal years following loan activation, the sample firms are observed until the end of 2007. The number of loans per year in the sample is determined so that each year the proportion of sample loans equals the corresponding annual proportion of loans in the DealScan database. DealScan is also the source of data on the identity and role of all members of the loan syndicate, loan maturity, type and purpose, credit risk measures, and covenant information.

For the classification of reported and non-reported loans, a Dow Jones News Service search is done for news and wire articles<sup>1</sup> and headlines published between three months prior to one month after the effective date of the issue. The search specifically looks 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, data is collected 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.

For the study sample, 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 “contaminated” announcements so as to focus solely on the information content of the financing news. In this paper,

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contaminated press articles are included in the examination of reporting likelihood given that earnings or dividend announcements, for example, may reduce information asymmetries associated with selling securities. Thus, excluding contaminated reporting may bias the results and conclusions.

The news information on bank loans is supplemented with information from filings with the SEC. More specifically, collected data from the SEC filings details 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 (2009) 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, the SEC filing search uses specific expressions of previous studies, and each passage is double checked to ensure that the expressions indeed refer to financial covenant violations, waivers, and loan restructurings. The specific terms, also used by pivotal studies (Roberts & Sufi, 2009) are: “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”, “received a waiver”, “obtained a waiver”, “obtained waiver”. Finally, the data on 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.

### 3.2 Summary Statistics

Table 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, 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.

Table 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 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

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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). 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 1. Annual statistics**

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	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%

**Table 2. Loan purpose statistics**

Deal Purpose	% within All Loans	% Loans Reported Before Activation	% Loans Reported On or After Activation	% Wire Reported Loans	% 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	28.8%	23.81%	19.09%	24.7%	32.38%
Acquisition	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%

Table 3 reports firm and loan summary statistics for the fiscal year preceding loan activation. The reported summary statistics include the cases in which loan reporting is bundled with non-loan-related news information, but similar results are obtained if contaminated articles are excluded. The summary statistics of the sample firms shown in Table 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. Hence, since practically

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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 3, firms with reported loans are on average smaller (in terms of assets and sales), and have higher surprise and dispersion of earnings forecasts<sup>2</sup>, 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 (see Demiroglu and James (2009)), is also significantly higher during the year preceding the loan for borrowers with reported loans.

The loan characteristics reported in Table 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 (see 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<sup>3</sup>. 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, and therefore, more newsworthy.

Reported loans also present significantly higher all-in-drawn spreads, a measure that further reflects the riskiness of borrowers. In particular, DealScan expresses the all-in-drawn spread as a basis point mark-up over the 6-month LIBOR that includes recurring fees associated with the credit facility<sup>4</sup>. The spread is used as a measure of per dollar cost of borrowing in a number of previous empirical studies on loan pricing (Bradley & Roberts, 2004, Guner, 2006, Moerman, 2005).

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**Table 3. Summary statistics**

	Fin. Press Reported Loans				Unreported Loans			
	Mean	Median	High	Low	Mean	Median	High	Low
<b>Firm</b>								
Assets (millions)	2381.2*	437.1*	16528	3.66	4382.1	704.45	160825	2.63
Sales (millions)	1875.1*	462.7*	52550	0	3260	717.22	245308	0
Tangibles/Assets	0.34*	0.28*	0.97	0.0	0.35	0.29	0.95	0
Analyst Earnings Surprise (%)	1.1	0.29*	34.5	0.01	0.51	0.13	75.87	0
Analyst Earning Dispersion (%)	0.31	0.13*	6.03	0	0.26	0.07	69.69	0
Debt/Assets	0.35*	0.34*	2.88	-0.15	0.28	0.27	1.39	-0.2
EBITDA/Assets	0.12*	0.12	0.41	-0.15	0.14	0.13	0.41	-0.2
<b>Loan</b>								
Deal Size (millions)	388.3	175*	5855	0.75	382.7	150	10000	0.5
Deal Size/Assets	0.5*	0.35*	5.29	0.015	0.28	0.16	5.59	0.02
Maturity (months)	46.96*	43*	276	2	39.62	36	240	1
Covenant Intensity Index	4.25*	5*	6	0	3.1	3	6	0
Covenant Waiver	0.15*	0	1	0	0.04	0	1	0
Loan Restructure	0.3*	0	1	0	0.1	0	1	0
All-in-drawn spread	215*	200*	1055	23	145.4	112.5	800	7

\*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

Overall, the firm and loan summary statistics in Table 3 show that reported loans and their borrowers are not representative of the universe of loans and borrowers. Furthermore, the statistical significance is maintained when loans reported before the activation date and those reported in the press on or after activation date are considered.

## 4. Market Reaction to Bank Loan Reporting in the Press

It is important to note that the 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 filings<sup>5</sup>, other public SEC filings, and industry sources. In addition, DealScan offers affordable real-time web access to agreed-upon but not-yet-active loans. 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 found, no

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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.

The two-day-window event studies of bank 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. The stock price reaction is also measured using the standard methodology (Mikkelson & Partch, 1986). Bundling - or contamination of the earliest loan related article – is defined as 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.

This “contamination” of loan news is controlled for, and similar results are found when contaminated news articles are included. However, only the non-contaminated results are reported given that previous studies exclude contaminated press articles in their analysis of market reaction surrounding announcements. Overall, results show 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.

The cumulative abnormal returns (CARs), average standardized prediction errors (SPE) and Z values associated to loan debt reporting and activation are reported in Table 4 and present two 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 loans. Second, 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 between loans reported before activation and loans reported on or after activation.

**Table 4. Market reaction to loan news**

	Before Activation		On Activation		After Activation		Non-reported	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CAR (%)	2.56*+	0.13	0.033	0.26	0.46	0.16	20.73	-0.06
Mean SPE		0.32		0.009		0.077		0.05
Z value		2.33		0.05		0.96		1.64

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

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

### 5. Determinants of Bank Loan Announcements

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 (Bagnoli & Watts, 2007). Thus, besides measures of asymmetric information and leverage, the EBITDA to assets ratio is also considered as potential determinant of press reporting. On the other hand, firms are less likely to withhold information in material contract filings when they issue long-term debt (Verrecchia & Weber, 2006). Therefore, besides larger loans, loans with longer maturity could also be more newsworthy.

In terms of covenant violations and loan restructures, 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 (Roberts & Sufi, 2009). Therefore, since summary statistics show heterogeneity in all the above-mentioned borrower and loan characteristics suspected to determine reporting likelihood, the analysis of bank loan reporting determinants includes proxies for information asymmetries, credit risk, 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, out of which Table 5 reports the regression results and marginal effects for the two main two. 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 wire, 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 5, higher measures of information asymmetries and credit risk increase the likelihood of loan reporting - other proxies used in the literature, such as volatility, and surprise and dispersion in earnings forecasts, lead to analogous results. More specifically, and 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

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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. The analysis of the loan reporting determinants also shows that the likelihood of loan reporting 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.

The second probit model reported Table 5 studies whether loan-reporting determinants also influence the timing of the loan news with respect to loan activation. Overall, there is 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.

**Table 5. Loan news determinants**

	Likelihood of loan reporting		Likelihood of reporting before loan activation	
		Marginal Effects		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
Constant	-1.32 (-8.18)		-0.71 (-2.14)	
Pseudo R <sup>2</sup>	0.11		0.15	

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Beyond the average marginal effects reported in Panel 1 of Table 4, Panel 2 of Table 4 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.

**Table 6. Marginal effects of the loan news likelihood**

	<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 Commitment	-0.21*	0.21*
Amount/Assets	-0.17*	0.2*
Maturity	-0.05	-0.04
Over \$1 Billion vs. Below \$400 Million	-0.04	-0.11*

\*Significant at the 0.1 level

## 6. Long-Term Performance of Bank Borrowers

In a related study, and since reported loans are more likely to be restructured loans following covenant violations, it is found that, following covenant violations, there is an effective reduction of capital expenditures that leads to higher performance and valuation (Nini, Smith & Sufi, 2008). In the study of long-term operating performance, two measures are used, EBITDA to assets and debt to EBITDA. The reason is that 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, the medians of operating performance measures are examined for a period of seven years that covers four fiscal years preceding loan activation and the three subsequent ones, up to 2007. The summary statistics are presented in Table 7. Panel A reports the results of the analysis that uses the sample of firms that are publicly listed for at least four fiscal years prior and at least three fiscal years following the activation of the loan. Panel B

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reports the results of a fixed sample of firms. Year 0 refers to the fiscal year prior to the activation of the loan.

Overall, it is observed - both in the balanced and unbalanced panels - 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 borrowers remain weaker than those of non-reported borrowers for two years following loan activation, there is 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 7. Panel A: Unbalanced Panel**

	EBITDA/Assets (%)		Debt/EBITDA (%)	
	Press-reported	Non-reported	Press-reported	Non-reported
Year -3	12.98+	14.27	2.1	1.89
Year -2	12.55+	13.71	2.2*	1.86
Year -1	11.9*	13.61	2.62*	1.91
Year 0	12.0*	13.38	2.73*	2.07
Year 1	11.4*	12.44	3.19*	2.27
Year 2	11.62+	12.21	3.02*	2.26
Year 3	11.33+	12.17	3.14*	2.21

**Table 7. Panel B: Unbalanced Panel**

	EBITDA/Assets (%)		Debt/EBITDA	
	Press-reported	Non-reported	Press-reported	Non-reported
Year -3	13.11	14.59	2.2	1.93
Year -2	12.68*	14.39	2.21*	1.91
Year -1	11.87*	13.98	2.93*	1.97
Year 0	12.26*	13.6	2.82*	2.09
Year 1	12.1*	12.89	3.19*	2.41
Year 2	11.81	12.43	2.99*	2.49
Year 3	11.35	12.23	3.01*	2.36

\* Significantly different from the non-reported loan median at the .05 level

+ Significantly different from the non-reported loan median at the .1 level

## 7. Conclusions and Limitations

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. However, it is not clear why the more established less

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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, the frequency and determinants of bank loan reporting in the financial press between 1996 and 2004, period for which data could be obtained, are examined. Results show 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, 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, more opaque riskier borrowers are also more likely to have their loans reported.

Moreover, 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, up to the end of 2007. Therefore, and due to the lack of data, it is not possible to discern whether the time trend of reporting likelihood, that is, the increased probability of loan reporting, is due only to IT developments or to the forming bubble. More recent data could help clarify that possibility, as well as whether the reporting likelihood differs from 22% after 2004.

### End-Notes

1. Some loans are reported in the wire but do not result in news articles.
2. The quarterly analyst earnings surprise is computed 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 earnings 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.
3. 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).
4. DealScan 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

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5. The SEC regulations require public firms to report any 'material' event through a 8-K Form.

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