The Effect of Lender Identity on a Borrowing Firm's Equity Return

Matthew T. Billett; Mark J. Flannery; Jon A. Garfinkel

The Journal of Finance, Vol. 50, No. 2 (Jun., 1995), 699-718.

Stable URL:
http://links.jstor.org/sici?sici=0022-1082%28199506%2950%3A2%3C699%3ATEOLIO%3E2.0.CO%3B2-M

The Journal of Finance is currently published by American Finance Association.

THE JOURNAL OF FINANCE • VOL. L, NO. 2 • JUNE 1995

The Effect of Lender Identity on a Borrowing Firm's Equity Return

MATTHEW T. BILLETT, MARK J. FLANNERY,
and JON A. GARFINKEL*

ABSTRACT

Previous research demonstrates that a firm's common stock price tends to fall when it issues new public securities. By contrast, commercial bank loans elicit significantly positive borrower returns. This article investigates whether the lender's identity influences the market's reaction to a loan announcement. Although we find no significant difference between the market's response to bank and nonbank loans, we do find that lenders with a higher credit rating are associated with larger abnormal borrower returns. This evidence complements earlier findings that an auditor's or investment banker's perceived "quality" signals valuable information about firm value to uninformed market investors.

PREVIOUS STUDIES SHOW THAT certain types of loan announcements generate significantly positive abnormal returns to the average borrower's equity.[1] This finding contrasts with the negative equity returns generally associated with a corporation's issuance of public securities (Smith (1986)). This difference in market reactions indicates that private and public securities are not perfect substitutes for the average firm. In this sense, lender identity, defined as public versus private lender, significantly impacts the borrower's abnormal equity return. The standard theoretical explanation for this difference is that private lenders either obtain private information about the firm's value, or they have the incentive and ability to monitor firm behavior more effectively than other outside monitors can. Although the empirical literature on private lending has evaluated primarily commercial bank loans and lines of credit, these theoretical arguments apply equally to *any* type of private

* Billett is from the Federal Deposit Insurance Corporation, Washington, D.C. Flannery is from the University of Florida, Garfinkel is from Loyola University, Chicago. We would like to thank the following people for helpful comments on earlier drafts: George Benston, Dave Brown, Susan Chaplinsky, Allaudeen Hameed, Rob Hansen, Joel Houston, Cris James, Simon Kwan, Jim Wansley, the referee, the editor (René Stulz), and seminar participants at the Universities of Arizona, British Columbia, and Calgary, the Virginia Polytechnic Institute, Florida State University, the Federal Reserve Board, and Concordia University. Mr Jerome Fons of Moody's Investor Services generously provided the data on lender credit ratings. We are responsible for any remaining errors. This work was largely completed while Matthew Billett and Jon Garfinkel were at the University of Florida. The analysis and conclusions of this article are those of the authors and do not indicate compliance with the views of the FDIC.

[1] For example, see Mikkelson and Partch (1986), James (1987), Lummer and McConnell (1989), Slovin, Johnson, and Glascock (1992), Best and Zhang (1992), and Preece and Mullineaux (1994).

lender. An important question is whether all private lenders are homogeneous, and thus substitutable, or whether the market infers something from the identity of the lender providing funds to a borrowing firm.

This article investigates whether private lenders are homogeneous by examining the effect of the private lender's identity on the borrower's abnormal equity return. Some authors (James (1987), Preece and Mullineaux (1994)) test whether bank and nonbank credits elicit significantly different mean returns to the borrowers' equity. Our analysis shares this same basic motivation, but we define lender "identity" in a richer fashion: not only do we distinguish lenders according to their institutional status (bank versus nonbank), but also by their (Moody's) credit rating. This latter designation permits lenders to be categorized according to *market perceived* differences in their quality.

We find that the borrower returns associated with nonbank loans (e.g., from commercial finance companies) are positive and statistically indistinguishable from the returns associated with bank loans. However, when we define each lender's identity by its credit rating, we find that the borrower's abnormal return increases with the lender's credit quality. The differential effect of borrowing from a high-rated lender is both statistically and economically significant, indicating that outside investors reflect lender identity in their reaction to the announced loan. This finding extends the documented effect of an intermediary's reputation on market values. In the case of initial public offerings, for example, higher-quality underwriters (Beatty and Ritter (1986), Carter and Manaster (1990)), or auditors (Beatty (1989)) are associated with significantly less underpricing. For seasoned equity issues, Slovin, Sushka, and Hudson (1990) report that auditor quality affects the announcement return.

The article is organized as follows. Section I reviews the evidence about loan announcement returns. Section II discusses some conceptual reasons why lender identity might convey important information to equity markets. We describe our data in Section III, and Section IV presents empirical results. We first examine the effect of lender identity in a univariate context, using simple tests of mean and median abnormal returns. Section IV.*B* shows how borrower characteristics affect loan returns and presents our main conclusions about the impact of lender credit quality on those announcement returns. The article concludes with a summary and interpretation of the major findings.

I. Prior Evidence on Loan Announcements

Mikkelson and Partch (1986) first discovered that bank credit line announcements generate positive abnormal borrower returns. Because this finding is of secondary concern to their study, they provide no further analysis of these events. James (1987) focuses directly on the announcement effects of bank loans and private placements, comparing them to public debt financing. For a

sample of 80 bank loans, James reports a significant (1 percent level) average borrower abnormal return of 1.93 percent. In a sample of 37 private placement agreements (primarily with insurance company lenders) he finds an average borrower return of −0.91 percent, significantly negative at the 10 percent confidence level. James also provides an important bit of evidence about lender identity: he reports that borrowers' average return to private placements is statistically smaller (at the 1 percent level) than the mean return to bank loan announcements.

Preece and Mullineaux (1994) also test whether lender identity matters. Examining a sample of 439 short-term loan contracts, they find significantly positive borrower returns for loans from commercial banks, independent finance companies, and nonbank subsidiaries of bank holding companies. Although the mean two-day abnormal return associated with a bank loan (0.79 percent, $p < 0.01$) is smaller than that of finance company (1.84 percent, $p < 0.01$) or holding company subsidiary (2.77 percent, $p < 0.01$) loans, these differences are not statistically significant. Nevertheless, finding a smaller point estimate for the bank loan returns (weakly) contrasts with James' result for private placements, where bank loans convey *more* positive information than insurance company financings.

Lummer and McConnell (1989) distinguish new bank loans from renewals that occurred within an existing bank relationship. Their sample's new loans generate a zero average abnormal return, while their renewals exhibit a strong and significant positive return. Best and Zhang (1993) report similar results for their sample. (By contrast, Wansley, Elayan, and Collins (1992) report indistinguishable positive returns for both new and renewed loans.) Lummer and McConnell (1989) suggest that new bank loans have no information effect on equity value because banks must interact with a borrower or over time in order to acquire and understand private information about it. Consequently, new loans reflect no information that is not already available to market investors, while loan renewals indicate positive "inside" information. An alternative explanation is that banks enhance borrowers' value by effective monitoring, but it takes time to learn how to monitor each particular firm. Slovin, Sushka, and Polonchek (1993) find empirical support for the hypothesis that a firm's existing bank relationships are costly to replace: in examining the impact of Continental Illinois' 1984 failure on its large loan customers, they find that the bank's financial crisis caused negative abnormal returns to borrowers, while the Federal Deposit Insurance Corporation's (FDIC's) rescue of Continental provided its borrowers with positive equity returns.

Several articles show that the market's reaction to a loan announcement varies with a borrower's characteristics. We must control for these characteristics when we assess the impact of lender identity on borrower returns, in order to avoid the possibility that lender identity is correlated with loan announcement returns only because different types of lenders tend to deal with different borrower classes. Slovin, Johnson, and Glascock (1992) report that larger borrowers receive smaller announcement returns, consistent with

Fama's (1985) suggestion that larger firms already operate under the scrutiny of numerous external monitors. Best and Zhang (1993) find that firms with negative recent earnings trends or greater market dispersion in (IBES) expected earnings receive larger abnormal returns upon announcing a bank loan agreement. That is, the market values a bank's monitoring or information-gathering services in the context of what is already known about the borrowing firm. Wansley, Elayan, and Collins (1992) also conjecture that a "credit announcement provides information on firm value which is [more] informative to the market the more difficult firm value is to estimate" (page 3). They argue that firms with relatively more growth options are harder for outsiders to value, and proxy for this effect with the ratio of the borrower's market-to-book value of equity. Their evidence reveals that new bank loans are associated with slightly larger equity returns for a borrower with higher market to book ratios, while the return to loan renewals varies inversely with the borrower's market to book ratio.

In summary, the existing literature clearly indicates that announced bank loans generate positive returns for the borrower. Whether similar returns accrue to nonbank loan arrangements is unclear. While some authors demonstrate a relation between borrower characteristics and a loan's announcement effect, no prior article investigates the impact of lender quality on the market's reaction to a loan announcement.

II. Why Might the Lender's Identity Matter?

A lender's identity may convey information to outside equity investors in two ways. First, the lender might be known to prefer certain risk classes of private debt. If lenders obtain *private information* in the process of underwriting loans, their lending decisions would then convey valuable information about a borrower's true risk. This perspective resembles the notion that credit rating agencies can provide valuable information to outside investors, via their access to inside information or their unique ability to evaluate publicly available information. (See Holthausen and Leftwich (1986) or Hand, Holthausen, and Leftwich (1992).) Second, lenders may have different *monitoring* abilities, which enhance a borrower's value by assuring that appropriate investment and spending decisions are implemented (Fama (1985)).

A. Potential Importance of the Lender's Charter (Institutional Form)

Portfolio theory broadly implies that a lender should not care about the risk characteristics of its individual loans, but only about the riskiness of its overall portfolio returns. However, banks operate under substantially more intrusive governmental regulations than nonbank lenders do, which could influence their choice of loan customers. Flannery (1989) discusses the impact of bank capital adequacy and loan examination procedures on banks' preferences for individual loan risks. His simulation evidence suggests that government-imposed capital constraints may induce banks to choose less risky

individual loans. Consequently, the market might make a positive inference about future borrower prospects from the fact that loan financing was obtained from a (constrained) commercial bank instead of a less constrained nonbank lender.[2] Commercial banks also possess the unique power to provide corporate demand deposit services. If observing a loan applicant's demand deposit account provides better credit information or an enhanced ability to monitor borrower performance,[3] bank loans may add more value than nonbank loans can.

B. Potential Importance of the Lender's Credit Quality

A lender's credit quality might convey information to the borrower's outside equity holders for at least three reasons. First, lender credit quality may affect borrower returns because there exist shared benefits from a longstanding customer relationship. Merton (1992) points out that if loan relationships are expensive to establish, a bank's ability to sell credit services will be positively affected by its own credit quality. Since higher rated lenders are expected to survive longer, a loan relationship with them provides the borrower with a longer stream of expected benefits than would a similar loan from a weaker lender.

Second, underwriting or monitoring technologies may produce economies to specialization. If negotiating and managing high-risk loans (with many covenants to be designed and enforced) requires different skills than low-risk credits, individual lenders may choose to specialize. Chemmanur and Fulghieri (1994a) present a model in which banks are exogenously endowed with different abilities to identify true firm values. They label banks with greater evaluative abilities "more reputable," and conclude that "loan renewals from more reputable banks convey more favorable information compared to that from less reputable ones (since ... more reputable banks devote more resources toward evaluating firms and consequently obtain more accurate evaluations of firms)." (page 498). A related idea is implied by Diamond (1984), in which the extent of a bank's monitoring effort completely determines its likelihood of repaying depositors. From this perspective, a bank's credit rating may simply proxy for its monitoring effectiveness. Furthermore,

[2] In a recent comparison of bank and finance company commercial lending, Simonson (1994) contends that

> *Commercial finance companies, particularly the independent firms, typically are thought of as high risk institutions. ... Conventional wisdom about the asset quality of commercial banks is dramatically different. High risk activities are proscribed by bank regulation while on-site inspections by bank regulators attempt to reinforce safety and soundness of banks (page 7).*

Kwan (1994) finds that private placement debt issued to replace bank loans carries a significantly lower coupon rate than otherwise similar private debt issued for other purposes. This result is consistent with the hypothesis that banks certify that their borrowers are relatively low-risk firms.

[3] See, for example, Kane and Malkiel (1965), Black (1975), or Fama (1985).

if a high credit rating raises bank profits (e.g., by reducing borrowing costs or permitting a more extensive derivative business), high-quality banks will wish to protect their credit rating. This should provide higher rated banks with a stronger *incentive* to monitor effectively.[4] Borrowers whose banks are more effective monitors should enjoy higher equity revaluations when their loan is announced.

Third, corporate lenders may participate in the type of reputational equilibrium previously described for underwriters or outside auditors. Carter and Manaster (1990) contend that informed underwriters can earn reputational rents by originating only a specific risk class in the IPO market. In equilibrium, relatively uninformed IPO purchasers rely on the underwriter to provide securities with a particular value, and the underwriter can earn future profits (in the form of higher fees charged to its IPO firms) by delivering only securities of the anticipated "type." (Chemmanur and Fulghieri (1994b) formally model the process of investment bank reputation acquisition). Relatedly, Beatty (1989) demonstrates that when a firm employs an auditor with greater reputational capital, its IPO discount declines, consistent with the hypothesis that uninformed market investors more highly value the opinions of more reputable third parties. Slovin, Sushka, and Hudson (1990) find a similar effect for seasoned equity issues: a high-quality underwriter or accounting firm reduces the (negative) impact on an issuing firm's market value. In all these cases, it appears that higher quality agents more accurately inform the capital markets about their customer's risk and/or value. If high-quality lenders convey more accurate information, then those firms seeking a credible signal of positive private information will use higher quality lenders. The parallel for our study is that loans from higher quality lenders will be associated with more favorable borrower revaluations.[5]

III. Data

We constructed an extensive sample of corporate loan announcements, in which comparable financings are extended by different types of financial institutions. For the time period 1980 to 1989, we search the Dow Jones News Retrieval Service (DJNRS) for stories and headlines containing the key words "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," or "bank loan."[6] This search yields approximately 15,000 stories. We discard transactions that involved anything other than a straight debt contract (e.g.,

[4] Thanks to Chris James for suggesting this possibility.

[5] We conjecture that a reputational model of borrower-lender matching could readily be constructed (along the lines of Carter and Manaster (1990) or Diamond (1991)) in which higher quality lenders reliably signal their private assessment of a loan applicant by lending only to low-risk firms.

[6] In order to exclude announcements about noncorporate borrowers, we deleted stories that contained the word(s) "country," "government," "savings and loan," "S & L," or "credit card."

if the lender was partially compensated with warrants). We also eliminate stories containing potentially "contaminating" information, such as dividend declarations, earnings announcements, or other concurrent financing. These screens reduce the sample to 1,746 stories, of which 1,468 involve borrowers whose stock returns are reported on either the Center for Research in Securities Prices (CRSP) or National Association of Securities Dealers Automated Quotation system (NASDAQ) tape. We then check for contaminating news outside the loan announcement story, by searching DJNRS headlines in the $[-2, 0]$ trading day window around each loan announcement date. Any headlines referring to dividends, earnings, other new financing arrangements, corporate control events, litigation, or bond rating changes cause the observation to be dropped from our final sample. Still additional firms are eliminated because they have insufficient CRSP data to compute their abnormal announcement returns. Finally, we omit from our primary analysis any borrower for which CRSP provides a market quote (i.e., the center of the bid-ask spread) rather than an actual transaction price on the announcement day or the preceding day, so that our returns would be based solely on transaction prices. Our primary sample of "clean" announcements includes 626 loans negotiated during the decade 1980 to 1989.

For each loan announcement, we record the following information (as available):

1. Lender type: commercial bank(s) ($DBANK = 1$), nonbank lender(s) ($DNONBANK = 1$), a nonbank subsidiary of a bank holding company ($BHCDUM = 1$), or unknown.[7]
2. Name of the lead lender or "agent."
3. Renewal status: new, renewal, or unknown. A "new" loan represents an agreement with a new lender (i.e., the firm did not have a relationship with this lender prior to signing the announced loan agreement). A "renewed" loan represents a new (or revised) loan agreement with a lender from whom the firm had a prior loan. If the DJNRS story contain no specific indication of whether the loan was new or renewed, we classify its status as "unknown."[8]
4. Number of lenders.
5. The time of day when the story appears on the Dow Jones News Wire. We also record information about the loan's terms, although such data are much less routinely reported than lender-related information.

[7] Five announced loans extended by a consortium of bank and nonbank lenders were combined with the "unknown lender" loan category in our analysis.

[8] Our classification scheme differs from that of Lummer and McConnell (1989), Preece and Mullineaux (1994) and Best and Zhang (1992), who classify some loans as "new" when they could find no positive indication that they had been renewed with the same lender. In other words, their "new" category includes some loans which we would have categorized as "unknown" (62.1 percent of our final sample). We classify 8.4 percent of our loans as "new," compared to 51 percent (or 40 percent) for Lummer and McConnell, 69 percent for Preece and Mullineaux (1994), and 39 percent for Best and Zhang (1992). We believe that the vast majority of our "new" loans represent a borrower who has previously borrowed from other lenders, but is now switching lenders—as opposed to borrowers establishing loan relationships for the very first time.

6. Loan size (in million dollars).
7. Security status: unsecured, secured, or unknown.
8. Type of loan facility: line of credit or revolving credit facility alone, straight (term) loan, a combination, or unknown.
9. Maturity (in years).[9]
10. Contract loan rate, measured as either a fixed rate or a markup over some index.[10]

We combine the data from each loan announcement with information about the borrower's stock returns (from CRSP) and a set of variables describing the firm's financial condition at the fiscal year-end preceding its loan announcement date (from COMPUSTAT). Using these borrower data, we construct the following control variables, which earlier studies show can affect loan announcement returns:

DBIGFIRM— a dummy variable equal to unity if the borrower's market value of equity (MVEQ) exceeds the median MVEQ for firms traded on the New York Stock Exchange (NYSE) or American Stock Exchange (AMEX) in that sample year, zero otherwise. (Slovin, Johnson, and Glascock (1992) use the same measure.)

SDPE— the standard deviation of the borrower's stock return residual during the estimation period ($t - 200$ through $t - 51$). The shareholders in a riskier firm might value a lender's assessment or monitoring ability more highly (see Best and Zhang (1993)).

BETA— the firm's market model beta calculated over the estimation period ($t - 200$ through $t - 51$). *BETA* should capture the borrower's systematic risk, as distinct from its idiosyncratic risk (*SDPE*).[11] Once again, a riskier firm's market value may be more positively influenced by its loan announcement.

RUNUP— the cumulative abnormal return on the borrower's stock during the ten trading days preceding the loan announcement, computed using the estimated market model. Best and Zhang (1993) find that firms which have recently suf-

[9] For loans that begin as revolving lines of credit and are scheduled to be "termed out" at some point in the future (approximately 32.75 percent of our sample loans), we measure maturity as the revolver's maturity plus the maturity of the ensuing term loan.

[10] In our sample, 80 loans were priced in terms of the prime rate and another 46 provided the borrower with some choice about the way interest would be computed. The limited number of agreements for which price was reported on a consistent basis made it difficult to undertake very extensive analysis of loan pricing determinants, or of the effect of pricing on the borrower's announcement return.

[11] The combination of *SDPE* and *BETA* can be viewed as measuring the total variability of a borrower's stock return. Substituting this total variability of the raw stock return for *SDPE* and *BETA* does not affect any of our subsequent conclusions about the significance of lender credit quality.

fered expected earnings declines are more affected by a loan announcement. Alternatively, Korajczyk, Lucas, and McDonald (1991) show that firms tend to sell new equity claims following a runup in their stock price. If bank loans also tend to be announced in the wake of other good news, *RUNUP* should be inversely related to the extent to which the loan announcement was a surprise.

TOBQ— the ratio of the borrower's book value of debt plus market value of equity to its total assets. Firms with higher *TOBQ* will tend to have more growth options (relative to assets in place), which would make them harder for outsiders to evaluate. The information in a loan announcement might therefore cause a greater revaluation for firms with higher *TOBQ*.

OIBD— operating income before depreciation, divided by total assets. *OIBD* should capture part of the borrower's apparent credit worthiness. A more profitable firm's market value may be less influenced by its loan announcement.

LEVERAGE— the book value of total debt divided by the sum of debt plus the market value of equity. More levered firms may be more likely to associate with a particular type of lender or may be less able to support new debt (such as the announced bank loan).

Table I provides summary information about the 626 loan announcements that comprise our primary sample. Panel A reports the overall sample's loan and lender characteristics, while Panel B describes the borrowing firm's properties. Our sample resembles those used in earlier studies, including James (1987), Lummer and McConnell (1989), Booth (1992), and Wansley, Elayan, and Collins (1992).

Finally, we collect Moody's senior unsecured debt rating for each lender whose name is reported in the news story.[12] We use this credit rating (called *BNDRAT*) to represent the market's assessment of the lender's overall financial condition. in most cases, the Moody's rating applies to a holding company, and we assume that each subsidiary of the holding company shares its parent's credit rating. We find the lead lender's bond rating for approximately 60 percent of our "clean" sample loans; for the rest, the news story did not report the lender's name, or the lender is too small to have rated bonds outstanding. Table II reports the sample's ratings distribution and the corre-

[12] When a loan was provided by a group of lenders, we categorize the lender's creditworthiness on the basis of the lending group's lead (or agent) bank. For example, in the following case we used First Union's credit rating to categorize the lender:

Hardee's Food Systems said it got a $27 million revolving credit agreement at the prime rate with its bankers. ... The banks involved in the latest agreement are First Union National Bank, Charlotte, N.C., Citibank, and First National Bank of Chicago.

Table I

Sample Summary Statistic for 626 "Clean" Loan Announcements

During the period 1980 to 1989 "Clean" loan announcements are not contaminated by any confounding corporate events, and have returns based on actual transaction prices. "Abnormal Return" is the announcement day excess return to the borrower's stock, computed with market model parameters estimated using daily returns over the time period $t - 200$ through $t - 51$. *SDPE* = the standard deviation of the borrower's stock return residual during the estimation period ($t - 200$ through $t - 51$). *BETA* = the firm's market model beta calculated over the estimation period ($t - 200$ through $t - 51$), which captures the borrower's systematic risk, as opposed to its idiosyncratic risk (*SDPE*). *RUNUP* = the cumulative abnormal return on the borrower's stock during the ten trading days preceding the loan announcement, computed using the estimated market model. *TOBQ* = the ratio of the borrower's book value of debt plus market value of equity to its total assets. *OIBD* = operating income before depreciation, divided by total assets. *LEVERAGE* = the book value of total debt divided by the sum of debt plus the market value of equity.

	Mean	Median	Minimum	Maximum	No. of Observations
Panel A: Loan Characteristics					
Abnormal return	0.68%	0.14%	−15.0%	24.5%	626
Loan size ($ million)	116.9	45.0	1.600	2500	620
Maturity (years)	5.14	5.00	0.25	15	374
Number of lenders	5.11	2.00	1.00	57	497
Size (% borrower's equity)	77.5%	49.4%	0.31%	544.7%	619
Fraction with lender's name reported	66.8%				
Fraction secured	51.5%				198
Spread (over prime)	0.494%	0.25%	−0.25%	2.00%	80
Panel B: Borrower Characteristics					
Equity market value ($ million)	316.9	79.5	1.31	8624.5	625
OIBD	10.34%	11.26%	−108%	61.30%	583
ln (total assets)	5.31	5.08	1.379	10.03	603
SDPE	0.0310	0.0274	0.006	0.134	625
RUNUP	−0.03%	−0.20%	−54%	91.4%	626
TOBQ	1.35	1.10	0.596	10.1	601
Share price	$15.21	$11.19	$0.19	$79.88	626
BETA	1.38	1.33	−1.68	6.83	623
LEVERAGE	0.438	0.430	0.00	0.98	602

spondence between Moody's letter ratings and the numerical values we assigned to the variable *BNDRAT*. The average sample lender's senior subordinated debt is rated approximately "Aa3" by Moody's, but there is a substantial amount of variation, particularly in the second half of the decade (not shown).

Table II

Distribution of Lender Credit Ratings (*BNDRAT*)

Available credit ratings from the sample of 626 "clean" loan announcements that are not contaminated by any confounding corporate events, and for which actual stock transaction prices are available for the event day and the prior day.

Moody's Bond Rating	Assigned Value	No. of Observations
Aaa	20	78
Aa1	19	41
Aa2	18	73
Aa3	17	72
A1	16	44
A2	15	28
A3	14	8
Baa1	13	9
Baa2	12	5
Baa3	11	7
Ba1	10	6
Ba2	9	0
Ba3	8	2
Total observations		373
Mean	17.27	
Std. dev.	2.39	

IV. Results

We use the same basic methodology as Mikkelson and Partch (1986), James (1987), and Lummer and McConnell (1989). The only noteworthy difference between our analysis and those of the earlier studies is that we utilize a one-day event window. Because most of our sample stories first appear on the Dow Jones News Wire, we could identify when the announcement occurred during the trading day. For announcements which appear after the markets' 4:00 P.M. closing time, we define "day 0" as the next trading day. Accordingly, we felt no need to include any days besides our (restated) announcement day in our return calculations. Indeed, abnormal returns for the days following day 0 are economically and statistically very small, while abnormal returns for the days prior to day 0 are substantially smaller than the day 0 returns.[13]

For each "clean" bank loan announcement, we run a daily market model regression (using the CRSP equally weighted market) for the borrowing firm over the period $[-200, -51]$. We then compute a fitted return for day 0,

[13] Re-estimating the regressions in Table IV for wider announcement windows ($[-1, 0]$ or $[-2, 0]$) yielded similar estimated coefficients, with larger standard errors. This is consistent with the notion that a wider window simply adds noise to the announcement effects we seek to measure.

which implies a prediction error (PE_{jt}), and a standardized prediction error ($SPE_{jt} = PE_{jt}/S_{jt}$), where

$$S_{jt} = \left(V_j^2 \left[1 + \frac{1}{150} + \frac{\left(R_{mt} - \bar{R}_m\right)^2}{\sum_{i=1,150} \left(R_{mi} - \bar{R}_m\right)^2} \right] \right)^{1/2} \tag{1}$$

and

V_j^2 is the residual variance of firm j's market model regression,
R_{mt} is the market return on day t, and
$\bar{R}_m$ is the mean market return during the estimation period.

Under the null hypothesis of no announcement effect, the SPEs should be distributed asymptotically $N(0, 1)$, and the mean of T such SPEs should be distributed $N(0, 1/\sqrt{T})$. As a robustness indicator, we also report a Wilcoxon sign test statistic for each set of returns evaluated in Table III below.

A. Loan Announcement Returns: Univariate Analysis

Table III reports average one-day abnormal returns for the full loan sample, and for various subsamples based on the type of lender and the loan's renewal status. The first line in Panel A describes the overall sample of 626 "clean" loan announcements for which we had transaction prices on event days 0 and -1.[14] The average abnormal return ($PE = 0.68$ percent) is positive and significant ($t = 4.33$), consistent with the now well-established fact that loan announcements cause an increase in the borrower's market value. A sign test confirms this conclusion ($p = 0.05$).

The next four rows in Panel A report average prediction errors by lender category. Bank loans constitute the majority of our sample, and generate positive significant mean borrower returns of 0.63 percent ($t = 3.63$). The nonbank loans' average return is also positive (1.08 percent); a t-test indicates insignificance at the 10 percent level ($t = 1.582$), while the sign test statistic is significant at the 10 percent level. The set of loans made by nonbank subsidiaries of a bank holding company ($BHCDUM = 1$) have a large positive PE of 1.52 percent, which is statistically indistinguishable from zero. We conjecture that this insignificance may be due to the small number of BHC nonbank loans in our sample (18). Finally, the category of unknown or mixed lenders shows a positive PE of 0.60 percent, which is significant at the 10 percent level.

We are also interested in whether the borrower's abnormal return varies with the lender's institutional form. The mean PEs in Panel A are indistinguishable from one another (on a pairwise basis) at the 25 percent confidence level. Similarly, we find no significant difference between the *median* SPEs of

[14] Similar results occur for the larger smaple that includes announcement returns computed from both transaction prices and bid-ask quotes.

Table III

Univariate Statistics for the Sample of 626 "Clean" Loan Announcements

During the period 1980 to 1989, "Clean" loan announcements are not contaminated by any confounding corporate events, and have returns based on actual transaction prices. *BHCDUM* = a dummy variable equal to unity when the lender is a nonbank subsidiary of a bank holding company. *DNEW* = a dummy variable equal to unity when the loan is negotiated with a "new" lender. *DRENEW* = a dummy variable equal to unity when the loan is obtained from a lender who has previously lent to the firm.

	Number of Observations	Mean SPE	t-Statistic	Mean PE	Percentage Negative
Panel A: Abnormal Returns by Type of Lender					
All Loans	626	0.173	4.329***	0.682%	45.9%**
Bank Loans	540	0.156	3.625***	0.628%	46.9%
Nonbank Loans	41	0.247	1.582	1.076%	36.6%*
BHCDUM = 1	18	0.283	1.201	1.524%	38.9%
Unknown (including mixed)	27	0.338	1.756*	0.599%	44.4%
Panel B: Abnormal Returns by Lender Bond Rating					
Banks rated AAA	78	0.320	2.830***	0.636%	43.6%
Banks rated BAA or lower	29	−0.233	1.255	−0.571%	62.1%
Panel C: Abnormal Returns by Loan Renewal Status					
DNEW = 1	51	0.263	1.878*	0.648%	51.0%
DRENEW = 1	187	0.207	2.831***	1.091%	46.5%
Unknown Renewal Status	388	0.145	2.856***	0.490%	44.9%**

*, **, *** Significantly different from zero at 10, 5, and 1 percent level (2-tailed), respectively.

bank versus nonbank loans.[15] Given these results, we do not differentiate between bank and nonbank lenders in our subsequent analysis.

Panel B of Table III further investigates lender identity by separating loan announcements into two (extreme) groups, according to the lender's bond rating. When the lender is AAA rated on the loan announcement date, the borrower's abnormal return is positive (PE = 0.64 percent) and significant (t = 2.83). By contrast, when the lender is rated BAA or lower the average PE is negative (−0.57 percent), but insignificantly different from zero. Importantly, the mean abnormal return to loans from AAA lenders significantly exceeds that from lenders rated BAA or lower.

[15] The insignificant difference between bank and nonbank (or bank and *BHCDUM*) mean returns may possibly reflect the small number of nonbank loans in our sample. When we combined nonbank and *BHCDUM* loans into a single group, we also found that the mean (t = 1.03) and median (z = 0.699) SPE did not differ significantly from that of the bank group.

Panel C of Table III evaluates whether the borrower's abnormal return depends on the renewal status of the announced loan. Our sample of 51 new loans shows a positive average PE of 0.65 percent, which is significantly different form zero at the 10 percent level ($t = 1.88$).[16] Our renewed loans have a larger average PE of 1.09 percent, which is highly significant ($t = 2.83$). Loans for which we could not determine the renewal status from the news story also show significant positive returns (PE = 0.49 percent, $t = 2.86$). Despite these differences in the estimated mean effects, our data do not reject the hypothesis that new and renewed loans elicit equal average PEs ($t = 0.674$). Our results thus conflict with those of Lummer and McConnell (1989) and Best and Zhang (1993), but not with the conclusion of Wansley, Elayan, and Collins (1992). As we noted in footnote 9, our definitions of new and renewed loans differ from those used by Lummer and McConnell (1989). We repeated the univariate tests using their definition of "new" loans (i.e., all loans that were not definitively described as renewals). These loans (the union of our *DNEW* = 1 and Unknown categories in Panel C) show a mean PE of 0.508 percent ($z = 3.33$). The difference between these "new" loans and the *DRENEW* = 1 category is (again) insignificant ($t = 0.35$). Based on these results, we do not distinguish between new and renewed loans in our multivariate analysis below.

B. The Impact of Lender Credit Quality on Announcement Returns

The univariate analysis in Table III implicitly assumes that only the lender's identity or the loan's renewal status influences the market's evaluation of a loan announcement. However, earlier authors relate loan announcement returns to the borrower's size, risk, growth opportunities, and profitability. In order to assess the impact of lender identity on borrower equity returns, we must control for borrower characteristics in our cross-sectional regressions.

The impact of lender credit quality on borrower announcement returns is illustrated in Table IV. The first column reports the regression of loan announcement returns on borrower characteristics, for the largest available sample of firms. Lender credit rating is omitted for the sake of comparison with previous work. Only two borrower characteristics carry significant coefficients.[17] Borrower risk, as measured by *SDPE*, is positively related to the loan announcement return, as also found by Best and Zhang (1993). The negative coefficient on *RUNUP* ($t = -1.91$, p-value = 0.057) indicates that borrowers that have recently enjoyed an increase in their stock price experi-

[16] If we include all "clean" loan announcements, regardless of the type of price available on the event date, we find that the resulting sample of 81 new loans has an even larger average PE of 1.24 percent, which is a significantly positive ($t = 2.26$, $p = 2.67$ percent).

[17] Unlike Slovin, Johnson, and Glascock (1992), we find that the announcement return does not depend on the borrower's size, as measured by *DBIGFIRM*. This difference seems to result from our requirement that included announcement returns be computed from actual transaction prices: when we include observations with abnormal returns calculated from bid-ask averages (consistent with Slovin, Johnson, and Glascock (1992)), the coefficient on *DBIGFIRM* becomes negative and statistically significant at the 10 percent level.

ence a lower revaluation upon announcing a loan. The other borrower characteristics are not significantly correlated with our measured abnormal returns. The overall regression is significant at the 10 percent level (pr(F) = 0.075). Column 2 of Table IV estimates the same regression for the subset of loan announcements for which we know the lender's credit rating. While the coefficient point estimates are broadly similar to those in column 1, the overall regression is not statistically significant (pr(F) = 0.435).

The specifications in columns 3 to 5 differ from that in column 2 by the addition of the lender's credit rating as an explanatory variable. Column 3 shows *BNDRAT* with a highly significant positive coefficient (0.002, t = 2.58). Lender identity is a significant determinant of the market's reaction to a loan announcement, even controlling for borrower-specific characteristics. Column 4 retains the same basic specification, but measures lender credit quality as the natural log of *BNDRAT* (*LNRAT*) rather than its numerical level. Once again, the credit rating variable carries a significantly positive coefficient, and the other coefficient estimates in column 4 correspond closely to those in columns 2 and 3. Finally, in column 5 we avoid imposing a cardinal value on bond ratings and include only two dummy variables: one for the highest rating category (*DAAA* = 1 for lenders rated AAA, 0 otherwise) and another for the lowest rating categories (*DBAA* = 1 for lenders rated BAA or lower, 0 otherwise). Once again, the borrower variables' coefficients are unaffected by this change in specification. *DAAA* carries a significant (10 percent level) positive coefficient, while *DBAA* is negative but not different from zero at the 10 percent level. For purposes of establishing that lender identity matters, however, the more relevant question is whether the coefficients on *DAAA* and *DBAA* differ significantly from one another. A t-test indicates that they do: t = 2.29, p = 0.02. In words, the average AAA lender in our sample effects a 1.9 percent greater market revaluation for its borrower than a BAA or lower rated lender would generate for a borrower with the same measurable characteristics.

The results in Table IV indicate that firms which borrow from higher-rated banks experience *statistically* higher abnormal returns upon announcing their loan agreements. This effect is also *economically* large: column 3 indicates that a borrower's announcement return increases 20 basis points for every unit increase in *BNDRAT*. Our sample range for *BNDRAT* is 12, meaning that the difference in borrower return from announcing a loan from a AAA-rated lender versus a Ba3-rated lender is 2.4 percent, compared to the average sample announcement return of 0.55 percent.[18] In other words, the information conveyed by a loan announcement *depends very importantly* on the lender's credit rating.

[18] The same size effect is implied by the coefficient on *LNRAT* in column 4—a *BNDRAT* of 20 instead of 8 generates a 2.75 percent higher PE. Similarly, the dummy coefficients in column 5 imply that the difference between a *BNDRAT* of 20 and one of 12.13 (the average lender rating for which *Dbaa* = 1) is 1.89 percent. Even a more moderate difference in lender quality—say the 4-grade difference between Aaa and A1—causes a difference of 0.76 percent in the borrower's abnormal return, according to the specification in column 3.

Table IV

The Effect of Lender Credit Quality on Borrower Returns

Weighted least squares regressions of one-day abnormal returns on borrower characteristics and the lender's credit rating. The abnormal returns apply to "clean" loan announcements (which are not contaminated by any confounding corporate event and for which the one-day stock return can be calculated from actual transaction prices). Weights are the inverse of the (PEs) estimated standard error. *DBIGFIRM* = 1 if borrower's market value of equity (MVEQ) exceeds median MVEQ for New York Stock Exchange/American Stock Exchange firms in that year, 0 else; *SDPE* = standard deviation of the market model prediction error over the estimation period; *RUNUP* = the cumulative abnormal return over the interval [−10, −1]; *TOBQ* = the ratio of the borrower's book value of debt plus market value of equity to its total assets; *OIBD* is the operating income before depreciation, as a fraction of total assets; *BETA* is the market model beta from the estimation window; and *LEVERAGE* is market leverage. *BNDRAT* = numerical value of the lender's senior subordinated debt rating (as given in Table II); *LNRAT* is the natural log of *BNDRAT*; *DAAA* (*DBAA*) is a dummy variable equal to unity when the lender's rating is AAA (Baa or lower). Numbers in parentheses are *t*-statistics.

	(1)	(2)	(3)	(4)	(5)
BNDRAT			0.002**		
			(2.58)		
LNRAT				0.030***	
				(2.60)	
DAAA					0.006*
					(1.81)
DBAA					−0.013
					(−1.63)
DBIGFIRM	0.001	0.001	−0.0005	−0.0003	−0.0003
	(0.333)	(0.317)	(−0.136)	(−0.090)	(−0.102)
SDPE	0.479***	0.329*	0.363*	0.369*	0.386*
	(3.33)	(1.67)	(1.85)	(1.88)	(1.95)
RUNUP	−0.29*	−0.036*	−0.035*	−0.036*	−0.037*
	(−1.91)	(−1.84)	(−1.83)	(−1.86)	(−1.91)
TOBQ	−0.002	−0.001	−0.001	−0.001	−0.001
	(−1.30)	(−0.497)	(−0.48)	(−0.51)	(−0.567)
OIBD	0.014	0.016	0.008	0.008	0.009
	(1.17)	(1.13)	(0.571)	(0.555)	(0.623)
BETA	−0.002	−0.002	−0.002	−0.002	−0.002
	(−0.926)	(−0.840)	(−0.690)	(−0.679)	(−0.647)
LEVERAGE	0.005	0.005	0.004	0.003	0.003
	(0.925)	(0.606)	(0.479)	(0.442)	(0.458)
Constant	−0.006	−0.004	−0.036**	−0.089***	−0.004
	(−1.03)	(−0.477)	(−2.43)	(−2.64)	(−0.543)
N	578	346	346	346	346
Adj. R^2	0.010	−0.0001	0.016	0.017	0.013
pr(*F*-statistic)	0.075	0.435	0.093	0.091	0.149
Mean PE	0.75%	0.55%	0.55%	0.55%	0.55%

*, **, *** Significantly different from zero at 10, 5, and 1 percent level (2-tailed), respectively.

We perform extensive sensitivity analyses to evaluate whether our *BNDRAT* results depend on the particular specifications shown in Table IV. The sign and significance of *BNDRAT*, ln(*BNDRAT*), and the dummy variables *DAAA* and *DBAA* are preserved for a wide range of specification changes, including:

1. adding a set of dummy variables identifying each year in our sample period;
2. substituting other measures of firm size for *DBIGFIRM* and other measures of income for *OIBD*;
3. removing various combinations of the insignificant variables in Table IV;
4. eliminating observations for which the borrower's stock price on the announcement date was less than two dollars, to further reduce the noise in our measured PEs;
5. replacing the various measures of lender credit quality in Table IV with a dummy variable equal to unity (zero) for a lender rating above (below) the average sample value (17.27). This dummy's estimated coefficient is positive at the 10 percent level (0.55 percent $t = 1.83$); and
6. adding sets of dummy variables for lender identity (*DBANK*, *DNONBANK*, *BHCDUM*) or for loan renewal status (*DNEW*, *DRNEW*) to the specifications in Table IV. None of these dummy variables carried a significant coefficient nor was either set of dummies significantly nonzero.

We also expand the sample in three ways and repeat the basic regressions shown in Table IV. First, we add the set of "clean" loans for which we do not have a lender credit rating. To control for the missing data, we construct an indicator variable (*DUNRATED*), which equals 1 for loans with a nonrated (or unknown) lender, 0 otherwise. Higher rated lenders continue to be associated with significantly higher abnormal announcement returns, while the coefficient on *DUNRATED* was insignificant. Second, when we rerun the same regressions over the entire sample of useable observations (including both quoted and transaction prices), the *BNDRAT* coefficients maintain about the same point estimates and remain significant at the 5 percent level or better. Third, we investigate whether our results reflect some unmeasured aspect of financial distress in our sample borrowers, by adding to our "clean" sample an additional 45 observations for which the only confounding influence is a reference (in the same story as the loan announcement) to some sort of financial distress at the borrowing firm. For this expanded sample of loan announcements, the average PE is 0.73 percent, which is highly significant ($t = 4.25$). When we add a dummy variable for distressed firms to the independent variables in Table IV, the coefficient on *BNDRAT* remains virtually identical (0.002, $t = 2.92$), confirming the importance of lender identity.[19]

[19] The distress dummy carries a large negative coefficient (-1.6 percent), but is insignificant at conventional levels ($t = 1.48$).

We investigate further the possibility that *BNDRAT*'s effect in Table IV reflects some other feature of the loan announcement besides lender quality. One possibility is that *BNDRAT* proxies for some aspect of the borrower's financial condition. To investigate whether this potential correlation causes the significance of *BNDRAT* in Table IV, we regress *BNDRAT* on a set of year dummies and the six borrower financial variables listed in Table IV (*SDPE*, *RUNUP*, *TOBQ*, *OIBD*, *BETA*, and *LEVERAGE*). We then replace *BNDRAT* in Table IV with the residuals from this regression (which are orthogonal to the borrower's financial characteristics by construction). This procedure (arbitrarily) loads all the common explanatory power shared by *BNDRAT* and the borrower's characteristics onto the latter variables. The estimated coefficient on the *BNDRAT* residuals (0.0020, $t = 2.41$) corresponds very closely to the value show in column 3 of Table IV. A second possibility is that the measured effect of *BNDRAT* reflects different monitoring or underwriting associated with syndicated loans, and that only high-quality banks can function as effective syndicate managers. When we add a dummy variable for syndicated loans to the explanatory variables in Table IV, however, it carries an insignificant estimated coefficient. We also find that *BNDRAT* does not significantly affect the probability that a loan is syndicated: a logit regression of the syndication dummy on the set of borrower-specific variables from Table IV plus *BNDRAT* produces an insignificant coefficient on the latter. Third, we assess whether the effect of *BNDRAT* differs for New versus Renewed loans. A New Loan from a low-quality bank, for example, might imply that the borrower had been turned down at his prior bank, while a renewal from a bad bank might convey less negative information. In order to test for this potential effect, we added two explanatory variables to the specification in column 3:

NEWRAT = *BNDRAT* for New loans, zero otherwise; and
RENEWRAT = *BNDRAT* for Renewed loans, zero otherwise.

These two variables' coefficients measure the differential importance of lender quality for new (or renewed) loans relative to its importance for loans with unknown renewal status. Neither of the estimated coefficients on *NEWRAT* and *RENEWRAT* is significantly different from zero, nor are they reliably different from one another ($p = 0.126$). Furthermore, the significance of *BNDRAT* is unaffected by the inclusion of these interactives.[20]

Finally, we employ an alternate proxy for lender credit quality, the Moody's rating of its commercial paper program. A dummy variable for investment grade (P-1) commercial paper carries a significant positive coefficient (1.49 percent, $t = 3.22$) in a regression that is otherwise identical to column (2) in Table IV. In sum, no specification revision, sample change, or variable transformation causes the lender's credit quality to become statistically insignificant in explaining borrowers' abnormal returns.

[20] When we substitute Lummer and McConnell's definition of "new" loans, there is (again) no significant effect of renewal status, and the coefficient on *BNDRAT* is unaffected.

V. Conclusions

Many types of lending institutions serve the corporate loan market: foreign and domestic commercial banks, commercial finance companies, insurance companies, and (increasingly) pension funds. In addition, private lenders differ substantially in the market's perception of their creditworthiness, even within the same type of financial institution. This paper examines a sample of 626 "clean" loan announcements, to evaluate the positive revaluation of equity that accompanies the average borrower's loan announcement.

Our analysis reconfirms that, unlike public debt issuances, private loan announcements are associated with positive borrower returns. Both bank and nonbank loans generate positive borrower abnormal returns, although we cannot reject the hypothesis that the means of these returns are identical. We do, however, find strong evidence that higher quality lenders are associated with significantly higher abnormal returns to the borrower's stock, even after controlling for borrower characteristics. This is consistent with the notion that an announced loan from a "good" banking firm conveys more positive information about the borrower's prospects than would a loan from a "mediocre" bank.

The substantial effect of bank credit rating on borrowers' announcement returns carries an interesting implication for the recent debate on "market discipline" of banking firms. Such discipline is generally thought to occur through the bank's cost of funds: as a bank's credit quality deteriorates, bank creditors require higher promised returns in order to continue supplying funds. Our results suggest that a bank's credit quality may also affect its ability to profit from underwriting commercial loans. This additional effect of a banking firm's credit rating seems to warrant further investigation.

REFERENCES

Beatty, Randolph P., 1989, Auditor reputation and the pricing of initial public offerings, *The Accounting Review* 64, 693–709.

Beatty, Randolph P., and Jay R. Ritter, 1986, Investment banking, reputation, and the underpricing of initial public offerings, *Journal of Financial Economics* 15, 213–232.

Best, Ronald, and Hang Zhang, 1993, Alternative information sources and the information content of bank loans, *Journal of Finance* 4, 1507–1523.

Black, Fischer, 1975, Bank funds management in an efficient market, *Journal of Financial Economics* 2, 323–340.

Booth, James R., 1992, Contract costs, bank loans, and the cross-monitoring hypothesis, *Journal of Financial Economics* 31, 25–41.

Carter, Richard, and Steven Manaster, 1990, Initial public offerings and underwriter reputation, *Journal of Finance* 45, 1045–1067.

Chemmanur, Thomas J., and Paolo Fulghieri, 1994a, Reputation, renegotiation, and the choice between bank loans and publicly traded debt, *Review of Financial Studies* 7, 475–506.

———, 1994b, Investment bank reputation, information production, and financial intermediation, *Journal of Finance* 49, 57–80.

Diamond, Douglas W., 1984, Financial intermediation and delegated monitoring, *Review of Economic Studies* 51, 393–414.

———, 1991, Monitoring and reputation: The choice between bank loans and directly placed debt, *Journal of Political Economy* 99, 689–721.

Fama, Eugene, 1985, What's different about banks?, *Journal of Monetary Economics* 10, 10–19.

Flannery, Mark J., 1989, Capital regulation and insured banks' choice of individual loan default risks, *Journal of Monetary Economics* 24, 235–258.

Hand, John R. M., Robert W. Holthausen, and Richard W. Leftwich, 1992, The effect of bond rating agency announcements on bond and stock prices, *Journal of Finance* 47, 733–752.

Holthausen, Robert W., and Richard W. Leftwich, 1986, The effect of bond rating changes on common stock prices, *Journal of Financial Economics* 17, 57–90.

James, Christopher, 1987, Some evidence of the uniqueness of bank loans, *Journal of Financial Economics* 19, 217–235.

Kane, Edward, and Burton G. Malkiel, 1965, Bank portfolio allocation, deposit variability, and the availability doctrine, *Quarterly Journal of Economics* 79, 113–134.

Korajczyk, Robert, Deborah J. Lucas, and Robert L. McDonald, 1991, The effect of information releases on the pricing and timing of equity issues, *Review of Financial Studies* 4, 685–708.

Kwan, Simon, 1994, The certification value of bank loans, Working paper, University of Arizona.

Lummer, Scott, and John McConnell, 1989, Further evidence on the bank lending process and the capital market response to bank loan agreements, *Journal of Financial Economics* 25, 99–122.

Merton, Robert C., 1992, Operation and regulation in financial intermediation: A functional perspective, Working paper No. 93-020, Harvard Business School Division of Research.

Mikkelson, Wayne, and Megan Partch, 1986, Valuation effects of securities offerings and the issuance process, *Journal of Financial Economics* 15, 31–60.

Preece, Dianna C., and Donald J. Mullineaux, 1994, Monitoring by financial intermediaries: Banks vs. nonbanks, *Journal of Financial Services Research* 4, 191–200.

Smith, Clifford W., Jr., 1986, Investment banking and the capital acquisition process, *Journal of Financial Economics* 15, 3–29.

Slovin, Myron B., Marie E. Sushka, and Carl D. Hudson, 1990, External monitoring and its effect on seasoned common stock issues, *Journal of Accounting and Economics* 12, 397–417.

Slovin, Myron B., Shane A. Johnson, and John L. Glascock, 1992, Firm size and the information content of bank loan announcements, *Journal of Banking and Finance* 16, 1057–1071.

Slovin, Myron B., Marie E. Sushka, and John A. Polonchek, 1993, The value of bank durability: Borrowers as bank stakeholders, *Journal of Finance* 48, 247–266.

Simonson, Donald G., 1994, Business strategies: Bank commercial lending vs. finance company lending, Working paper, University of New Mexico.

Wansley, James W., Fayez A. Elayan, and M. Cary Collins, 1992, Investment opportunities and firm quality: An empirical investigation of the information in bank lines of credit, Working paper, University of Tennessee.