Online Supplementary Material to "Bank Loan Announcement Effects—Evidence From a Comprehensive 8-K Sample"

OS.1. Wealth Effects Around Loan Announcements: Covenant-Lite Leveraged Loans

How do the decrease of bank shares and removal of financial covenants in covenant-lite leveraged loans affect the screening and monitoring roles of banks and impact the wealth effects of bank loan announcements? The answer to this question is ambiguous.

On one hand, according to the models of agency and moral hazard (Holmstrom (1979), Holmstrom and Tirole (1997)), a large share of "informed" banks is required to guarantee necessary efforts in due diligence and monitoring. A decrease in bank shares can lead to reduced due diligence and monitoring. In addition, the contracting literature suggests an important role of financial covenants, which assign state-contingent control rights to creditors and enhance their monitoring activities (e.g., Aghion and Bolton (1992), Dewatripont and Tirole (1994)). Covenant-lite loans may be a sign of declining role of bank monitoring. As a result, the wealth effects of bank loan announcements could be weakened for covenant-lite leveraged loans.

On the other hand, the information role of banks can be particularly strong for leveraged loans because the borrowers generally have lower credit quality and are opaque to investors. In addition, covenant decisions can reflect the endogenous nature of borrowers' credit conditions. Covenant-lite loans may signal better credit quality of borrowers that require less intensive monitoring and avoid excessive coordination costs (e.g., Becker and Ivashina (2017)). Consistent with this view, several recent studies find that covenant intensity is negatively associated with bank loan announcement returns (e.g., Demiroglu and James (2010)), and covenant-lite loans have lower credit spreads than covenant-heavy loans (e.g., Demerjian, Horne, and Moon (2020), Badoer, Emin, and James (2023)).

To understand the effect of leveraged loans on bank loan announcement returns, we start with the DealScan full sample, which defines a leveraged loan as a syndicated loan that is rated BB+ or lower or an unrated loan with an interest rate spread larger than 150 basis points. In Columns 1 and 2 in Table OS.6, we report the regression of bank loan announcement CAR on the leveraged loan dummy (*Leveraged Loan*), which equals one if a loan is a leveraged loan and zero otherwise, and a complete set of control variables. We find that the coefficient on *Leveraged Loan* is insignificant, suggesting that the average wealth effects of bank loan announcements are not statistically different for leveraged and unleveraged loans.

To identify the effect of covenant-lite loans on bank loan announcement returns, we focus our analysis on leveraged loans from the S&P Leveraged Commentary and Data (LCD) database for the following reasons. First, covenant-lite loans are almost exclusively present in the leveraged loan market. Second and more importantly, as noted in previous studies (e.g., Drucker and Puri (2009)), DealScan only reports covenant data for a subset of loans. This deficiency presents a serious problem in identifying covenant-lite loans because loans without financial covenant in DealScan could either be covenant-lite or having missing covenant data. In Columns 3 and 4, we report the regression of bank loan announcement CAR on the covenant-lite dummy (*Covenant-Lite*), which equals one if a leveraged loan is covenant-lite and zero otherwise, and a complete set of control variables. We show that the coefficient on *Covenant-Lite* is significantly and economically positive. For example, Column 3 suggests that the average CAR_{FF5}[-3,3] is 1.35% higher for covenant-lite loans than covenant-heavy loans. The results are more consistent with the recent findings that covenant-lite loans may signal better credit quality of the borrower and avoid excessive coordination costs, but less consistent with loosened monitoring arguments.

OS.2. Wealth Effects Around Loan Announcements: Loan Origination and Renegotiation

Previous studies suggest that bank loan announcement effects differ for new loan agreements and loan renewals but provide mixed evidence. Lummer and McConnell (1989) and Best and Zhang (1993) suggest that new loans generate insignificant average abnormal returns while renewals exhibit significant positive returns. However, Billett, Flannery, and Garfinkel (1995) report indistinguishable positive returns for both new and renewed loans.

We revisit this issue by utilizing the rich information in SEC 8-K and periodic filings and identifying the path of a loan following the methodology in Roberts (2015).[1] Roberts (2015) carefully classifies a sample of 501 loans from 114 randomly selected firms into originations and renegotiations by collecting and examining the detailed information from SEC filings. A loan is identified as an origination when a new loan is initiated between a borrower and a lender without an existing banking relationship, and as a renegotiation otherwise. Renegotiations contain three types: rollovers, amended and restated agreements, and amendments. Rollovers represent completely new credit agreements with existing lenders. Amended and restated agreements are new, standalone contracts that replace previous contracts. Amendments are modifications of existing loans.

We extend this analysis to our 11,595 loan announcements of 3,662 firms by extensively searching and reading all the related SEC 8-K/10-K/10-Q filings and identifying the loan agreement history of each borrower. We classify 3,794 loans as originations and 7,801 loans as renegotiations, among which 2,986 are rollovers, 2,959 amended and restated agreements, and 1,856 amendments.

Table OS.7 reports the average CARs around bank loan announcements for loan origination (Column 1), renegotiation (Column 2), and the difference between the two (Column

[1]As documented in Roberts (2015), the refinancing indicator variable provided by DealScan is missing for majority of the loan-level observations and defined differently from renegotiation.

3) in the full sample period and three subperiods, respectively. The results suggest that the average CAR is generally stronger for loan originations than for loan renegotiations. The average CAR_{FF5}[-3,3] is 0.79% with a *t*-statistic of 5.77 for loan originations and 0.33% with a *t*-statistic of 4.29 for loan renegotiations, and the difference between the two is 0.45% with a *t*-statistic of 2.90. The difference in announcement CARs between loan origination and renegotiation is particularly significant in recent years after July 21, 2010. Columns 4-6 in Table OS.7 further report the average CARs around bank loan announcements for the three types of loan renegotiations, respectively. The results suggest that the average CARs for all three types of renegotiation are all significantly positive in the full sample.

OS.3. Information Leakage Around Loan Announcements and Impact of the Dodd-Frank Act

OS.3.1. Information Leakage and the Dodd-Frank Act

To better understand how the stock prices incorporate information around bank loan announcements, we attempt to quantify the information leakage around loan announcement and investigate the sources of information leakage and the impact of regulatory changes.

In a syndicated loan, the lead banks are in charge of loan due diligence and administrative duties and have access to the confidential soft information about the borrower.[2] On one hand, lead banks may use non-public information to conduct proprietary trading for their own profits. For example, Acharya and Johnson (2007) and Sun, Wang, and Zhang (2021) find that informed banks trade ahead of important credit events in the credit derivatives market. On the other hand,

[2] Standard and Poor acknowledges that "Beyond the credit agreement, there is a raft of ongoing correspondence between issuers and lenders that is made under confidentiality agreements...; much of this information may be material to the financial health of the issuer and may be out of the public domain...; and in recent years, there was growing concern among issuers, lenders, and regulators that this migration of once-private information into public hands might breach confidentiality agreements between lenders and issuers and, more importantly, could lead to illegal trading."

lead banks are responsible for soliciting potential investors and may exchange confidential information with potential syndicate members including institutional participants. These institutional investors may infer and trade on the proprietary information obtained during the lending process. For example, Ivashina and Sun (2011b) find that institutional participants in loan renegotiations subsequently trade in the stock of the same company and outperform other managers by approximately 5.4% annually.

The Dodd-Frank Act signed into law on July 21, 2010 imposes strict restrictions that prohibit banks from engaging in proprietary trading, which could directly reduce the information leakage around loan announcements due to the proprietary trading by banks. The Dodd-Frank Act may also mitigate the proprietary trading of non-bank institutional investors for at least three reasons. First, the Volcker rule broadly restricts banks from engaging in private fund sponsorship, management, and investment activities, which significantly reduces the information sharing between banks and private funds, and more generally hinders the coevolution of banks and capital markets (Song and Thakor (2010)). Second, as stated in the goal of the Dodd-Frank Act, it aims to "improve accountability and transparency in the financial system." For instance, Title IV of the Dodd-Frank Act authorizes the SEC to promulgate rules requiring registration and enhanced disclosure for hedge funds and other private funds (Kaal (2013)). Stricter reporting requirements can prevent institutional investors from trading on certain proprietary information. Third, the Dodd-Frank Act generally boosts the legal consequences of financial misconduct and impropriety by expanding the power of regulatory agencies to monitor and levy penalties and enhancing the whistleblower provisions (Rosenfeld (2019)), which can lead to more cautious and compliant conducts of institutional investors.

Figure OS.3 plots the cumulative abnormal returns (in %) based on the Fama-French five-factor model surrounding the events that are announced in 8-K filings after the loan active date. The loan active date is the contract date for each loan reported by DealScan. Panel A displays the average CARs for the full sample period from January 1, 1994 to December 31, 2018. Panels B-D display the average CARs in three subperiods: before August 23, 2004, from August 23, 2004 to July 21, 2010, and after July 21, 2010, respectively. The *x*-axis is measured in event days: a negative number indicates the number of business days before the loan active date and a positive number indicates the number of business days after the Form 8-K bank loan announcement date; and the left (right) vertical red dashed line at day 0 indicates the loan active date (8-K bank loan announcement date). The cumulative abnormal returns are plotted in a solid line with the corresponding 90% confidence intervals plotted in dotted lines. It is evident from Figure OS.3 that the CARs before the loan active date in the pre-July 21, 2010 periods are significantly positive (Panel B and C) but become insignificant in the post-July 21, 2010 period (Panel D), which suggests a decrease of information leakage in the post-Dodd-Frank era.

To gauge the degree of information leakage, we construct a quantitative measure, *Leakage*, defined as CAR_{Pre}/CAR_{Full}, where CAR_{Pre} is the average CAR during the [-15,-1] window before the loan active date, and CAR_{Full} is the average CAR from 15 days before the loan active date to one day after the 8-K loan announcement date. CARs are calculated based on the Fama-French five-factor model.[3] Panel A in Table OS.8 reports the CAR_{Pre}, CAR_{Full}, and *Leakage* for pre- and post-July 21, 2010 periods, respectively. We report *t*-statistics based on bootstrapped standard errors.[4] *Leakage* is 0.498 (*t*-statistic = 7.03) in the pre-July 21, 2010

[3] Results based on CARs calculated from other models such as the DGTW benchmark model are qualitatively similar and are available upon request.
[4] We construct each bootstrap sample by drawing the same number of observations as the data (with replacement). We perform 500 repetitions and calculate the standard deviation of CAR_{Pre}, CAR_{Full}, and *Leakage*.

period, but decreases to 0.164 (*t*-statistic = 0.87) in the post-July 21, 2010 period, confirming our observation in Figure OS.3 that the degree of information leakage before loan announcements is substantially reduced after the Dodd-Frank Act.

OS.3.2. Participation of Institutional Investors: Term B Loans

The next question is who is participating in the proprietary trading that leads to the information leakage around loan announcements? In addition to the traditional role played by banks in the loan origination process, the participation of institutional investors in the corporate loan market has been facilitated by the growth of loan syndication since the late 1990s. After conducting due diligence on the borrowers, the lead banks usually first syndicate a fraction of the loans to other banks and then open the syndication process to potential institutional investors by proposing the loan structure and initial range of loan spreads (Ivashina and Sun (2011a)). While lead banks may conduct proprietary trading based on their private information about the borrowers, institutional investors may also trade on the proprietary soft information they obtain during the syndication process.[5]

The participation of institutional investors in the corporate lending market has been concentrated in the leveraged loan market, broadly defined as loans to borrowers with a high leverage and low credit quality. A typical leveraged loan contains a revolving credit line and several term loan facilities. A revolving credit line in general has short maturity and is drawn down at the discretion of the borrower. A term loan facility has a specified amount, fixed repayment schedule and maturity, and is usually fully funded at origination. Term loan facilities are normally designated by letter, where Term A loans are usually amortized and Term B loans

[5] Relatedly, Ben-Rephael, Da, Easton and Israelsen (2022) posit that "*institutional investors have financial incentives and resources to acquire this information*" and "*JPMorgan Chase & Co. put a CDS trader on leave after the firm discovered the trader has been exchanging information with colleagues using the WhatsApp group chat.*"

are often "bullet," meaning that they have one payoff at maturity. For an institutional investor, it is costly to commit funds to an undrawn loan and therefore, institutional investment tends to concentrate in term loans. In particular, Term A loans are typically held by banks and Term B loans are sold to institutional investors (Ivashina and Sun (2011a), Demiroglu and James (2015)).

To identify the role of institutional investors, we separately investigate the information leakage around the announcements of Term B and non-Term B loans. Panel B of Table OS.8 reports the results. In the pre-July 21, 2010 period, *Leakage* is high for both types of loans, which is 0.681 (*t*-statistic = 7.03) for Term B loans and 0.422 (*t*-statistic = 4.19) for non-Term B loans, suggesting that both banks and institutional investors may participate in the proprietary trading around loan announcements. In the post-July 21, 2010 period, *Leakage* decreases substantially for both types of loans, which becomes 0.278 (*t*-statistic = 0.72) for Term B loans and 0.119 (*t*-statistic = 0.37) for non-Term B loans, suggesting that the Dodd-Frank Act has been effective in preventing the proprietary trading activities of both banks and institutional investors.

OS.3.3. The Role of Lead Lenders

If the information leakage around loan announcements is related to the activities of banks with access to private information of borrowing firms, we would expect the effect to be stronger when there are more players possessing such information. Given that lead lenders play an important role in accessing and disseminating private information in the loan syndication process, we explore whether the information leakage varies with the number of lead lenders.

We split loans into two subsamples with high and low numbers of lead lenders and report the results in Panel C of Table OS.8. Loans with the number of lead lenders above (at or below) the median of the year are classified as the high (low) group. We find that in the pre-July 21, 2010 period, loans with a high number of lead lenders have higher information leakage than

loans with a low number of lead lenders. *Leakage* is 0.748 (*t*-statistic = 6.03) for loans in the high group but is only 0.408 (*t*-statistic = 4.40) in the low group. In the post-July 21, 2010 period, information leakage decreases substantially, especially for loans with more lead lenders. *Leakage* becomes 0.179 (*t*-statistic = 0.25) for loans with a high number of lead lenders and 0.155 (*t*-statistic = 0.64) for loans with a low number of lead lenders. Our results suggest that in the pre-Dodd-Frank period, a higher number of lead lenders leads to a higher degree of proprietary trading and information leakage, but such effect is significantly mitigated in the post-Dodd-Frank period.

OS.4. The Timing of Loan Announcements in 8-K

Before August 23, 2004, the deadline for firms to file mandatory items in 8-K reports varies from 5 to 15 business days depending on the item. After August 23, 2004, the SEC's new rule on Form 8-K filings becomes effective and firms are required to file all mandatory items within four business days. Given that EDGAR ensures the reports available to the public within, at most, one business day of the filing, the new Form 8-K rule enables the public to receive information of material events within five business days of their occurrence.

Figure OS.4 shows the histogram of the announcement gap between the loan active date and the announcement date of 8-K filings for the three subperiods, respectively. The *x*-axis represents the number of business days between the loan active date and the announcement date. The *y*-axis represents the percentage of announcements as a fraction of all loan announcements in each subperiod. It is observed that in the subperiod before August 23, 2004, a significant fraction (53%) of the loans are announced more than seven business days after the loan active date. In contrast, in the two subperiods after August 23, 2004, most of the loans (more than 80%)

are announced within five business days after the loan active date, while announcements that delay for more than seven days have virtually disappeared.

References

Acharya, Viral V., and Timothy C. Johnson, 2007, Insider trading in credit derivatives, *Journal of Financial Economics* 84, 110-141.

Aghion, Philippe, and Patrick Bolton, 1992, An incomplete contracts approach to financial contracting, *Review of Economic Studies* 59, 473-494.

Badoer, Dominique C., Mustafa Emin, and Christopher M. James, 2023, Contracting Costs, Covenant-Lite Lending, and Reputational Capital, *Journal of Financial and Quantitative Analysis*, Forthcoming.

Becker, Bo, and Victoria Ivashina, 2016, Covenant-light contracts and creditor coordination, Working Paper.

Ben-Rephael, Azi, Zhi Da, Peter D. Easton, and Ryan D. Israelsen, 2022, Who pays attention to SEC Form 8-K? *Accounting Review* 97, 59-88.

Best, Ronald., and Hang Zhang, 1993, Alternative information sources and the information content of bank loans, *Journal of Finance* 48, 1507-1522.

Billett, Matthew T., Mark J. Flannery, and Jon A. Garfinkel, 1995, The effect of lender identity on a borrowing firm's equity return, *Journal of Finance* 50, 699-718.

Demerjian, Peter R., Eric Horne, and Keehea Moon, 2020, Consequences of cov-lite loans, Working Paper.

Demiroglu, Cem, and Christopher M. James, 2010, The information content of bank loan covenants, *Review of Financial Studies* 23, 3700–3737.

Demiroglu, Cem, and Christopher James, 2015, Bank loans and troubled debt restructurings, *Journal of Financial Economics* 118, 192-210.

Dewatripont, Mathias, and Jean Tirole, 1994, A theory of debt and equity: Diversity of securities

and manager-shareholder congruence, *Quarterly Journal of Economics* 109, 1027-1054.

Drucker, Steven, and Manju Puri, 2009, On loan sales, loan contracting, and lending relationships, *Review of Financial Studies* 22, 2835–2872.

Holmstrom, Bengt, 1979, Moral hazard and observability, *Bell Journal of Economics* 10, 74-91.

Holmstrom, Bengt, and Jean Tirole, 1997, Financial intermediation, loanable funds, and the real sector, *Quarterly Journal of Economics* 112, 663-691.

Ivashina, Victoria, and Zheng Sun, 2011a, Institutional demand pressure and the cost of corporate loans, *Journal of Financial Economics* 99, 500-522.

Ivashina, Victoria, and Zheng Sun, 2011b, Institutional stock trading on loan market information, *Journal of Financial Economics* 100, 284-303.

Kaal, Wulf A., 2013, Hedge fund manager registration under the Dodd-Frank Act, *San Diego Law Review* 50, 243-322.

Lummer, Scott L., and John J. 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.

Roberts, Michael R., 2015, The role of dynamic renegotiation and asymmetric information in financial contracting, *Journal of Financial Economics* 116, 61-81.

Rosenfeld, David, 2019, Civil penalties against public companies in SEC enforcement actions: An empirical analysis*, University of Pennsylvania Journal of Business Law* 22, 135-208.

Song, Fenghua, and Anjan V. Thakor, 2010, Financial system architecture and the co-evolution of banks and capital markets, *Economic Journal* 120, 1021-1055.

Sun, Chengzhu, Shujing Wang, and Chu Zhang, 2021, Corporate payout policy and credit risk: Evidence from credit default swap markets, *Management Science* 67, 5755-5775.

Table OS.1. Predictive Regression of Loan Spreads

This table reports the predictive regression of loan spreads based on all DealScan loans from January 1, 1994 to December 31, 2018:

$$Loan\ Spread_{i,j,q,t} = \alpha_{j\_rating} + \alpha_{q\_rating} + \alpha_j + \alpha_t + \beta X_i + \gamma Y_j + \varepsilon_{i,j,q,t},$$

where i, j, q, t represent loan, borrower, lender, and year-quarter, respectively. The dependent variable, *Loan Spread*$_{i,j,q,t}$, is the all-in-drawn spread obtained from DealScan, which describes the amount the borrower pays in percentage points over LIBOR for each dollar drawn down from the loan, including the fees. Control variables include a vector of loan-specific (X_i) and borrower-specific (Y_j) characteristics. *TOM-Loan* is the loan-specific time-on-the-market, measured as the number of days between syndication launch and closure following Ivashina and Sun (2011). *Loan Size* represents the loan amount in million USD. *Maturity* represents loan maturity in number of months. Loan-specific characteristics also include dummy variables indicating whether a loan is secured (*Security*) or senior (*Seniority*), whether a loan has covenants (*Covenant*), a prime base rate (*Prime*), performance pricing contracts (*PerformancePricing*), or guaranty (*Guaranty*), whether the lead lender of the loan is the sole lender (*SoleLender*), and whether the lead lender is a relationship lender (*RelationshipLender*). *(ln)Total Asset* is the natural logarithm of borrower's total assets. *Tangibility* is the borrower's net property, plant and equipment divided by total assets. *OIBD* is the borrower's operating income before depreciation divided by total assets. *Leverage* is the book value of borrower's long-term debt plus debt in current liability divided by the sum of the book value of debt and the market value of equity. All regressions control for borrower rating (α_{j_rating}), lender rating (α_{q_rating}), borrower (α_j), and year-quarter (α_t) fixed effects. All continuous variables are winsorized at the 1% and 99% levels. The standard errors are clustered at the industry and year levels. Corresponding *t*-statistics are reported in parentheses and *, **, and *** indicate significance at the 10%, 5%, and 1% two-tailed levels, respectively. Bold is used for numbers that are statistically significant at the 10% level or above.

Dep. Var.: All-in-Drawn Spread	1	2
TOM-Loan		**0.010*****
		(6.05)
Loan Size	**-0.103*****	**-0.253***
	(-4.91)	**(-1.91)**
Maturity	**0.004*****	**-0.009*****
	(7.68)	**(-3.33)**
Security	**0.569*****	**-0.810*****
	(13.75)	**(-3.68)**
Seniority	**-2.596*****	0.000
	(-12.11)	(0.00)
Covenant	**-0.155*****	**0.137****
	(-6.43)	**(2.12)**
Prime	**0.134*****	-0.066
	(4.75)	(-0.80)
PerformancePricing	**-0.381*****	**-0.248*****
	(-14.95)	**(-3.00)**
Guaranty	-0.040	**-0.209****
	(-1.49)	**(-2.24)**
SoleLender	**0.098*****	**0.182*****
	(3.11)	**(5.24)**
RelationshipLender	**-0.117*****	**-0.360*****
	(-5.40)	**(-7.88)**
(ln)Total Asset	**-0.197*****	**-0.167****
	(-11.46)	**(-2.55)**
Tangibility	0.040	0.305
	(0.31)	(1.14)
OIBD	**-1.930*****	**-2.701*****
	(-14.82)	**(-3.42)**
Leverage	**1.267*****	0.133
	(14.54)	(0.41)
Year-Quarter FE	Yes	Yes
Borrower FE	Yes	Yes
Borrower Credit Rating FE	Yes	Yes
Lender Credit Rating FE	Yes	Yes
Adjusted R-squared	0.610	0.528
Observations	47,354	4,767

Table OS.2. Cumulative Abnormal Returns Around Bank Loan Announcements: Excluding Major Corporate Events

This table reports the robustness check by excluding 1) loan announcements accompanied by other major corporate events, such as announcements of earnings, dividends, repurchases, stock issues, other debt issues, and mergers and acquisitions, and 2) the later loan announcements if a firm announces two loans within 15 days. In total, 683 events are dropped from the original sample of 11,595 events. This table reports the cumulative abnormal returns based on the Fama-French five-factor model (CAR_{FF5}) and the DGTW benchmark model (CAR_{DGTW}) during the [-2,+2], [-3,+3] and [-5,+5] trading day window around the 8-K loan announcement date. CARs are reported for the full sample period from January 1, 1994 to December 31, 2018 and three subperiods: before August 23, 2004, from August 23, 2004 to July 21, 2010, and after July 21, 2010. The number of events for the full sample and three subsamples are 10912, 822, 4144 and 5946, respectively. Corresponding *t*-statistics are reported in parentheses and *, **, and *** indicate significance at the 10%, 5%, and 1% two-tailed levels, respectively. Bold is used for numbers that are statistically significant at the 10% level or above. *p*-value for Wilcoxon signed rank test and the percentage of positive CARs are also reported.

	Nobs		CAR_{FF5} [-2,+2]	CAR_{DGTW} [-2,+2]	CAR_{FF5} [-3,+3]	CAR_{DGTW} [-3,+3]	CAR_{FF5} [-5,+5]	CAR_{DGTW} [-5,+5]
Full Sample	10,912	Avg.	**0.37*****	**0.32*****	**0.44*****	**0.41*****	**0.45*****	**0.38*****
		t-stat.	**(6.39)**	**(5.65)**	**(6.46)**	**(6.07)**	**(5.42)**	**(4.69)**
		Wilcoxon p	0.00	0.00	0.00	0.00	0.00	0.00
		%Pos	51.5%	52.1%	52.2%	52.0%	51.7%	51.4%
Before Aug 23, 2004	822	Avg.	**0.85*****	**0.68****	**0.76****	**0.65***	**0.76***	0.40
		t-stat.	**(3.00)**	**(2.36)**	**(2.25)**	**(1.89)**	**(1.86)**	(0.99)
		Wilcoxon p	0.03	0.15	0.09	0.12	0.12	0.34
		%Pos	53.8%	52.3%	52.0%	50.8%	51.2%	51.1%
From Aug 23, 2004 to Jul 21, 2010	4,144	Avg.	**0.44*****	**0.36*****	**0.58*****	**0.44*****	**0.73*****	**0.54*****
		t-stat.	**(4.30)**	**(3.64)**	**(4.85)**	**(3.76)**	**(5.09)**	**(3.83)**
		Wilcoxon p	0.00	0.07	0.00	0.04	0.00	0.02
		%Pos	51.0%	51.6%	52.9%	50.7%	52.3%	51.9%
After Jul 21, 2010	5,946	Avg.	**0.26*****	**0.25*****	**0.30*****	**0.36*****	**0.20****	**0.27*****
		t-stat.	**(3.70)**	**(3.62)**	**(3.69)**	**(4.46)**	**(2.01)**	**(2.73)**
		Wilcoxon p	0.00	0.00	0.00	0.00	0.12	0.01
		%Pos	51.6%	52.4%	51.7%	53.0%	51.5%	51.1%

Table OS.3. Comparison of Loan and Firm Characteristics for the Randomly Drawn Loans and the Population From the DealScan Database

This table compares the loan and firm characteristics for the randomly-drawn loans and the rest of the population from the DealScan Database. In Panel A, we follow MM and randomly choose 800 loans out of 24,711 loans from the DealScan database during 1987-2004. In Panel B, we repeat the procedure and randomly choose 800 loans out of 14,703 loans from the DealScan database during 2005-2018. All continuous variables are winsorized at the 1% and 99% levels. Detailed variable definitions are described in Appendix A. Bold is used for numbers that are statistically significant at the 10% level or above.

Panel A. 1987-2004

Variable	800	All except 800	Difference	*t*-statistics
Loan Size ($ million)	289.19	268.49	20.70	(1.24)
(ln)Loan-to-Asset Ratio	0.19	0.19	-0.01	(-0.88)
Maturity (# of Months)	44.38	45.26	-0.89	(-1.02)
All-in-Drawn Spread (%)	2.20	2.16	0.04	(0.76)
Abnormal Spread (%)	0.00	-0.03	0.03	(0.81)
Syndicate	0.55	0.58	-0.03	(-1.53)
Number of Lenders	5.45	5.50	-0.06	(-0.22)
(ln)Market Equity	19.93	19.99	-0.05	(-0.43)
(ln)Total Assets	20.18	20.19	-0.01	(-0.07)
OIBD	0.12	0.12	0.00	(0.49)
TobinQ	1.74	1.72	0.02	(0.41)
Leverage	0.23	0.22	0.01	(0.96)
Beta	0.93	0.93	0.00	(0.06)
IVol	0.53	0.52	0.01	(0.97)
EBIT	0.12	0.12	0.00	(0.49)
Negative EBIT	0.08	0.09	-0.01	(-0.64)
IA Index	3.17	3.18	-0.01	(-0.25)

Panel B. 2005-2018

Variable	800	All except 800	Difference	*t*-statistics
Loan Size ($ million)	795.66	707.33	88.34	(1.59)
(ln)Loan-to-Asset Ratio	0.18	0.18	0.00	(0.57)
Maturity (# of Months)	51.94	52.31	-0.37	(-0.53)
All-in-Drawn Spread (%)	2.22	2.19	0.03	(0.63)
Abnormal Spread (%)	-0.05	-0.05	0.01	(0.16)
Syndicate	0.87	0.88	-0.01	(-0.83)
Number of Lenders	8.49	8.33	0.16	(0.51)
(ln)Market Equity	21.70	21.58	0.12	(1.43)
(ln)Total Assets	21.73	21.64	0.09	(1.50)
OIBD	0.13	0.13	0.00	(0.16)
TobinQ	1.79	1.78	0.01	(0.32)
Leverage	0.19	0.19	0.00	(-0.10)
Beta	1.01	1.01	0.00	(-0.05)
IVol	0.31	0.31	0.00	(-0.03)
EBIT	0.13	0.13	0.00	(0.16)
Negative EBIT	0.04	0.04	0.00	(0.24)
IA Index	3.05	3.07	-0.02	(-0.57)

Table OS.4. Summary Statistics for All Announced and Unannounced Loan Samples

This table reports the summary statistics of loan and borrower characteristics for all announced and unannounced loans in the DealScan database from January 1, 1994 to December 31, 2018. The announced bank loan sample includes all loans that are announced in 8-K, 10-K, or 10-Q filings and has 22,458 observations. The unannounced bank loan sample includes all loans that are not announced in any 8-K, 10-K, or 10-Q filings and has 29,036 observations. We require the borrowing firms to have valid market capitalization data to be included in the samples. *IA Index* is the information asymmetry index, which is calculated as the average quintile rank values of the borrower based on six measures, including analyst forecast errors, dispersion of analyst forecasts, residual volatility of stock returns, standard deviation of abnormal returns around earnings announcement, firm age, and bid-ask spread. All continuous variables are winsorized at the 1% and 99% levels. Detailed variable definitions are described in Appendix A. Panels A and B report the summary statistics for announced and unannounced samples, respectively.

Panel A. Announced Loan Sample

Variable	Mean	Std. Dev.	P25	Median	P75
Loan Characteristics					
Loan Size ($ million)	543.19	832.09	80.95	243.11	604.07
(ln)Loan-to-Asset Ratio	0.19	0.17	0.06	0.14	0.26
Maturity (# of Months)	50.42	21.98	36.00	60.00	60.00
All-in-Drawn Spread (%)	2.11	1.32	1.25	1.75	2.75
Abnormal Spread (%)	-0.05	0.74	-0.46	-0.08	0.28
Syndicate	0.84	0.37	1.00	1.00	1.00
Number of Lenders	8.33	7.57	3.00	6.00	11.00
Borrower Characteristics					
(ln)Market Equity	20.95	1.91	19.65	21.00	22.24
(ln)Total Assets	21.22	1.87	19.94	21.15	22.42
OIBD	0.12	0.09	0.08	0.12	0.16
TobinQ	1.67	0.94	1.08	1.38	1.89
Leverage	0.22	0.18	0.08	0.19	0.33
Beta	0.97	0.80	0.59	0.96	1.35
IVol	0.39	0.28	0.21	0.31	0.48
EBIT	0.12	0.09	0.08	0.12	0.16
Negative EBIT	0.05	0.22	0.00	0.00	0.00
IA Index	3.17	0.89	2.50	3.17	3.83

Panel B. Unannounced Loan Sample

Variable	Mean	Std. Dev.	P25	Median	P75
Loan Characteristics					
Loan Size ($ million)	431.14	800.26	36.67	149.28	428.81
(ln)Loan-to-Asset Ratio	0.15	0.18	0.03	0.09	0.22
Maturity (# of Months)	46.81	28.37	21.00	48.00	60.00
All-in-Drawn Spread (%)	1.99	1.45	0.75	1.75	2.75
Abnormal Spread (%)	0.02	0.76	-0.40	-0.05	0.31
Syndicate	0.70	0.46	0.00	1.00	1.00
Number of Lenders	6.14	7.11	1.00	3.00	8.00
Borrower Characteristics					
(ln)Market Equity	21.06	2.29	19.37	21.04	22.70
(ln)Total Assets	21.38	2.37	19.64	21.26	22.94
OIBD	0.12	0.09	0.07	0.12	0.17
TobinQ	1.67	0.98	1.07	1.34	1.87
Leverage	0.23	0.18	0.08	0.20	0.34
Beta	0.94	0.94	0.46	0.92	1.37
IVol	0.41	0.30	0.21	0.32	0.52
EBIT	0.12	0.09	0.07	0.12	0.17
Negative EBIT	0.06	0.23	0.00	0.00	0.00
IA Index	2.98	0.95	2.17	3.00	3.67

Table OS.5. CARs Around Bank Loan Announcements: The Effect of Loan-to-Asset Ratio and Abnormal Spread Conditioning on Firm Size
This table reports the effect of loan-to-asset ratio and abnormal spreads on cumulative abnormal returns around bank loan announcements conditioning on firm size. The cumulative abnormal returns are based on the Fama-French five-factor model (CAR_{FF5}) and the DGTW benchmark model (CAR_{DGTW}) during the [-3,+3] window around the 8-K loan announcement dates. *Loan-to-Asset Ratio* is measured as loan size divided by borrower's total assets. *Abnormal spread* is measured as the residual spread from the regression of all-in-drawn spreads on various loan, borrower, and lender characteristics. Panel A displays the CARs across loan-to-asset ratio quintiles after controlling for borrower size measured by market equity. Loan announcements are first sorted into quintiles based on the borrower's market equity, and then within each quintile, bank loan announcements are further sorted into quintiles by loan-to-asset ratio. After forming the 5 × 5 borrower size and loan-to-asset ratio portfolios, we average the CARs of each loan-to-asset ratio quintile over the five borrower size quintiles. CARs are reported across the loan-to-asset ratio quintiles with dispersion in abnormal spreads but with a similar level of borrower size. Panel B displays the CARs across abnormal spread quintiles after controlling for borrower size. CARs are reported for the full sample period from January 1, 1994 to December 31, 2018 and three subperiods: before August 23, 2004, from August 23, 2004 to July 21, 2010, and after July 21, 2010. Corresponding *t*-statistics are reported in parentheses and *, **, and *** indicate significance at the 10%, 5%, and 1% two-tailed levels, respectively. Bold is used for numbers that are statistically significant at the 10% level or above.

Panel A. CARs Around Bank Loan Announcements in Loan-to-Asset Ratio Quintiles After Controlling for Borrower Size

		1=Low	2	3	4	5=High	High−Low
Full Sample	CAR_{FF5}[-3,+3]	**0.30***	**0.28***	**0.29***	**0.56*****	**0.89*****	**0.59*****
	t-statistics	**(1.95)**	**(1.93)**	**(1.90)**	**(3.59)**	**(5.73)**	**(2.69)**
	CAR_{DGTW}[-3,+3]	**0.34****	**0.35****	**0.30****	**0.50*****	**0.73*****	**0.39***
	t-statistics	**(2.23)**	**(2.48)**	**(2.01)**	**(3.34)**	**(4.63)**	**(1.77)**
Before Aug 23, 2004	CAR_{FF5}[-3,+3]	-0.19	0.26	0.60	**1.65****	**1.56***	1.75
	t-statistics	(-0.26)	(0.37)	(0.86)	**(2.02)**	**(1.88)**	(1.58)
	CAR_{DGTW}[-3,+3]	-0.40	0.49	0.45	**1.73****	1.25	1.65
	t-statistics	(-0.51)	(0.74)	(0.63)	**(2.13)**	(1.52)	(1.46)
From Aug 23, 2004 to Jul 21, 2010	CAR_{FF5}[-3,+3]	**0.86*****	0.36	**0.44***	**0.59****	**0.75*****	-0.12
	t-statistics	**(3.26)**	(1.52)	**(1.68)**	**(2.07)**	**(2.72)**	(-0.30)
	CAR_{DGTW}[-3,+3]	**0.73*****	**0.46***	0.35	0.41	**0.55***	-0.18
	t-statistics	**(2.78)**	**(1.94)**	(1.41)	(1.49)	**(1.94)**	(-0.47)
After Jul 21, 2010	CAR_{FF5}[-3,+3]	-0.03	0.23	0.14	**0.39****	**0.90*****	**0.93*****
	t-statistics	(-0.17)	(1.22)	(0.72)	**(2.30)**	**(5.05)**	**(3.68)**
	CAR_{DGTW}[-3,+3]	0.18	0.26	0.24	**0.42****	**0.80*****	**0.62****
	t-statistics	(1.00)	(1.43)	(1.30)	**(2.53)**	**(4.31)**	**(2.42)**

Panel B. CARs Around Bank Loan Announcements in Abnormal Spread Quintiles After Controlling for Borrower Size

		1=Low	2	3	4	5=High	High−Low
Full Sample	CAR_{FF5}[-3,+3]	**0.57****	**0.48*****	**0.49***	0.20	0.07	-0.51
	t-statistics	**(2.25)**	**(2.89)**	**(1.69)**	(1.01)	(0.30)	(-1.47)
	CAR_{DGTW}[-3,+3]	**0.49****	**0.45*****	**0.35****	0.25	0.03	-0.46
	t-statistics	**(2.53)**	**(2.72)**	**(2.21)**	(1.36)	(0.13)	(-1.51)
Before Aug 23, 2004	CAR_{FF5}[-3,+3]	**3.68***	1.11	-0.88	0.01	1.55	-2.12
	t-statistics	**(1.84)**	(1.22)	(-0.73)	(0.01)	(1.26)	(-0.90)
	CAR_{DGTW}[-3,+3]	**2.04****	0.48	-0.25	-0.63	1.03	-1.01
	t-statistics	**(2.14)**	(0.50)	(-0.21)	(-0.69)	(0.86)	(-0.66)
From Aug 23, 2004 to Jul 21, 2010	CAR_{FF5}[-3,+3]	**0.59***	**0.72****	0.37	0.47	-0.03	-0.62
	t-statistics	**(1.68)**	**(2.42)**	(1.01)	(1.41)	(-0.09)	(-1.24)
	CAR_{DGTW}[-3,+3]	0.29	**0.54***	**0.59****	0.50	-0.07	-0.36
	t-statistics	(0.80)	**(1.77)**	**(2.11)**	(1.46)	(-0.19)	(-0.70)
After Jul 21, 2010	CAR_{FF5}[-3,+3]	0.11	0.23	**0.72***	0.04	-0.02	-0.13
	t-statistics	(0.39)	(1.24)	**(1.67)**	(0.15)	(-0.08)	(-0.32)
	CAR_{DGTW}[-3,+3]	**0.41***	**0.38****	0.25	0.18	-0.01	-0.42
	t-statistics	**(1.91)**	**(2.10)**	(1.56)	(0.86)	(-0.02)	(-1.09)

Table OS.6. CARs Around Bank Loan Announcements: Leveraged and Covenant-Lite Loans
This table reports the effect of leveraged and covenant-lite loans on CARs around bank loan announcements. CARs are based on the Fama-French five-factor model (CAR_{FF5}) and the DGTW benchmark model (CAR_{DGTW}) during the [-3,+3] window around the 8-K loan announcement dates. Columns 1-2 report the regression of bank loan announcement CARs on the leveraged loan dummy (*Leveraged Loan*), which equals one if a loan is a leveraged loan and zero otherwise, and a complete set of control variables. This analysis is based on the DealScan full sample, which defines a leveraged loan as a syndicated loan that is rated BB+ or lower or an unrated loan with an interest rate spread larger than 150 basis points. Columns 3-4 report the regression of bank loan announcement CARs on the covenant-lite dummy (*Covenant-Lite*), which equals one if a leveraged loan is covenant-lite and zero otherwise, and a complete set of control variables. This analysis is based on leveraged loans from the S&P Leveraged Commentary and Data (LCD) database. Control variables include *(ln)Market Equity*, *OIBD*, *TobinQ*, *Leverage*, *Beta*, *IVol*, and *Runup*. Year and industry fixed effects are included in all regressions. Industry is defined as the two-digit SIC industry. The sample period is from January 1, 1994 to December 31, 2018. Corresponding *t*-statistics are reported in parentheses and *, **, and *** indicate significance at the 10%, 5%, and 1% two-tailed levels, respectively. Bold is used for numbers that are statistically significant at the 10% level or above.

	DealScan Full Sample		*LCD Leveraged Loan Sample*	
	CAR_{FF5}[-3,+3]	CAR_{DGTW}[-3,+3]	CAR_{FF5}[-3,+3]	CAR_{DGTW}[-3,+3]
	1	2	3	4
Leveraged Loan	0.15	0.14		
	(0.71)	(0.69)		
Covenant-Lite			**1.35*****	**1.47*****
			(4.16)	**(4.29)**
(ln)Loan-to-Asset Ratio	**1.32*****	**1.15*****	0.53	-0.14
	(5.08)	**(4.41)**	(0.73)	(-0.21)
Abnormal Spread	**-0.24***	-0.18	-0.29	-0.26
	(-1.95)	(-1.61)	(-1.16)	(-0.95)
(ln)Market Equity	-0.11	-0.12	-0.20	-0.36
	(-1.32)	(-1.42)	(-0.65)	(-1.24)
OIBD	-1.89	-1.64	-1.91	-3.04
	(-1.48)	(-1.23)	(-0.68)	(-1.00)
TobinQ	0.10	0.05	**0.83****	**0.91*****
	(0.89)	(0.49)	**(2.17)**	**(2.81)**
Leverage	0.16	-0.01	2.51	1.94
	(0.77)	(-0.04)	(1.41)	(1.18)
Beta	-0.03	0.04	**0.98*****	**0.95*****
	(-0.12)	(0.20)	**(2.64)**	**(2.64)**
IVol	0.26	-0.25	-1.05	-1.64
	(0.29)	(-0.37)	(-0.88)	(-1.15)
Runup	**-0.04*****	**-0.03***	**-0.09****	**-0.07***
	(-3.24)	**(-1.79)**	**(-2.10)**	**(-1.81)**
Adjusted R^2	0.009	0.006	0.039	0.032
Nobs	7,774	7,506	1,154	1,085
Fixed Effects	Year, Ind	Year, Ind	Year, Ind	Year, Ind

Table OS.7. Cumulative Abnormal Returns Around Bank Loan Announcements: The Effect of Loan Origination and Renegotiation
This table reports the average cumulative abnormal returns around bank loan announcements for loan originations and renegotiations as defined in Roberts (2015). A loan is classified as an origination when the loan is initiated between a borrower and a lender without an existing banking relationship, and as a renegotiation otherwise. Renegotiations contain three types: rollovers, amended and restated agreements, and amendments. Rollovers represent completely new credit agreements with existing lenders. Amended and restated agreements are new, standalone contracts that replace previous contracts. Amendments are modifications of existing loans. This table also reports the cumulative abnormal returns around bank loan announcements for the three types of renegotiations, respectively. There are 3,794 loans classified as loan originations and 7,801 loans classified as renegotiations, among which there are 2,986 rollovers, 2,959 amended and restated agreements, and 1,856 amendments. The cumulative abnormal returns are based on the Fama-French five-factor model (CAR_{FF5}) and the DGTW benchmark model (CAR_{DGTW}) during the [-3,+3] window around the 8-K loan announcement dates. The full sample period is from January 1, 1994 to December 31, 2018. Results are also reported for three subperiods: before August 23, 2004, from August 23, 2004 to July 21, 2010, and after July 21, 2010, respectively. Corresponding *t*-statistics are reported in parentheses and *, **, and *** indicate significance at the 10%, 5%, and 1% two-tailed levels, respectively. Bold is used for numbers that are statistically significant at the 10% level or above.

					Renegotiation		
		Origination	Renegotiation	Diff.	Rollover	Amended & Restated	Amendment
Full Sample	CAR_{FF5}[-3,+3]	**0.79*****	**0.33*****	**0.45*****	**0.36*****	**0.25****	**0.40****
	t-statistics	**(5.77)**	**(4.29)**	**(2.90)**	**(3.13)**	**(1.96)**	**(2.42)**
	CAR_{DGTW}[-3,+3]	**0.78*****	**0.29*****	**0.49*****	**0.36*****	0.15	**0.38****
	t-statistics	**(5.87)**	**(3.71)**	**(3.22)**	**(3.08)**	(1.18)	**(2.30)**
Before Aug 23, 2004	CAR_{FF5}[-3,+3]	**1.11****	0.23	0.88	-0.18	0.35	1.25
	t-statistics	**(2.48)**	(0.46)	(1.32)	(-0.27)	(0.41)	(0.96)
	CAR_{DGTW}[-3,+3]	**0.95****	0.22	0.74	-0.23	0.39	1.22
	t-statistics	**(2.10)**	(0.43)	(1.08)	(-0.34)	(0.44)	(0.89)
From Aug 23, 2004 to Jul 21, 2010	CAR_{FF5}[-3,+3]	**0.84*****	**0.51*****	0.33	**0.47****	**0.44****	**0.69****
	t-statistics	**(4.10)**	**(3.52)**	(1.33)	**(2.09)**	**(1.98)**	**(2.07)**
	CAR_{DGTW}[-3,+3]	**0.75*****	**0.36****	0.39	0.34	0.26	**0.58***
	t-statistics	**(3.76)**	**(2.52)**	(1.61)	(1.52)	(1.17)	**(1.78)**
After Jul 21, 2010	CAR_{FF5}[-3,+3]	**0.61*****	**0.24*****	**0.37***	**0.36*****	0.12	0.22
	t-statistics	**(3.23)**	**(2.71)**	**(1.76)**	**(2.79)**	(0.80)	(1.20)
	CAR_{DGTW}[-3,+3]	**0.76*****	**0.25*****	**0.51****	**0.43*****	0.06	0.25
	t-statistics	**(4.17)**	**(2.81)**	**(2.51)**	**(3.33)**	(0.40)	(1.31)

Table OS.8. Information Leakage Around Bank Loan Announcements

This table reports the information leakage around bank loan announcements in SEC 8-K filings from January 1, 1994 to December 31, 2018. The information leakage measure, *Leakage*, is defined as CAR_{Pre}/CAR_{Full}, where CAR_{Pre} is the average CAR during the [-15, -1] window before the loan active date, and CAR_{Full} is the average CAR from 15 days before the loan active date to one day after the 8-K loan announcement date. CARs are calculated based on the Fama-French five-factor model. Panel A reports the information leakage measures for pre- and post-July 21, 2010, respectively. Panel B reports the information leakage measures for Term B loans and Non-Term B loans pre- and post-July 21, 2010, respectively. Panel C reports the information leakage measures for loans with high and low numbers of lead lenders pre- and post-July 21, 2010, respectively. Loans with the number of lead lenders above (at or below) the median of the year is classified as the high (low) group. We use bootstrapped standard errors to calculate *t*-statistics, which are reported in parentheses and *, **, and *** indicate significance at the 10%, 5%, and 1% two-tailed levels, respectively. We construct each bootstrap sample by drawing the same number of observations as the data (with replacement). We perform 500 repetitions and calculate the standard deviation of CAR_{Pre}, CAR_{Full}, and *Leakage*. Bold is used for numbers that are statistically significant at the 10% level or above.

Panel A. Pre- and Post-July 21, 2010

	Nobs	CAR_{Pre}	CAR_{Full}	*Leakage*
Pre-July 21, 2010	5,223	**0.621*****	**1.248*****	**0.498*****
		(5.09)	**(8.56)**	**(7.03)**
Post-July 21, 2010	6,372	0.052	**0.320*****	0.164
		(0.60)	**(2.87)**	(0.87)

Panel B. Term B Loan and Non-Term B Loan

		Nobs	CAR_{Pre}	CAR_{Full}	*Leakage*
Pre-July 21, 2010	Term B	937	**1.465*****	**2.151*****	**0.681*****
			(4.81)	**(5.62)**	**(7.03)**
	Non-Term B	4,286	**0.450*****	**1.065*****	**0.422*****
			(3.48)	**(7.52)**	**(4.19)**
Post-July 21, 2010	Term B	1,055	0.162	**0.583***	0.278
			(0.61)	**(1.89)**	(0.72)
	Non-Term B	5,317	0.032	**0.272****	0.119
			(0.32)	**(2.41)**	(0.37)

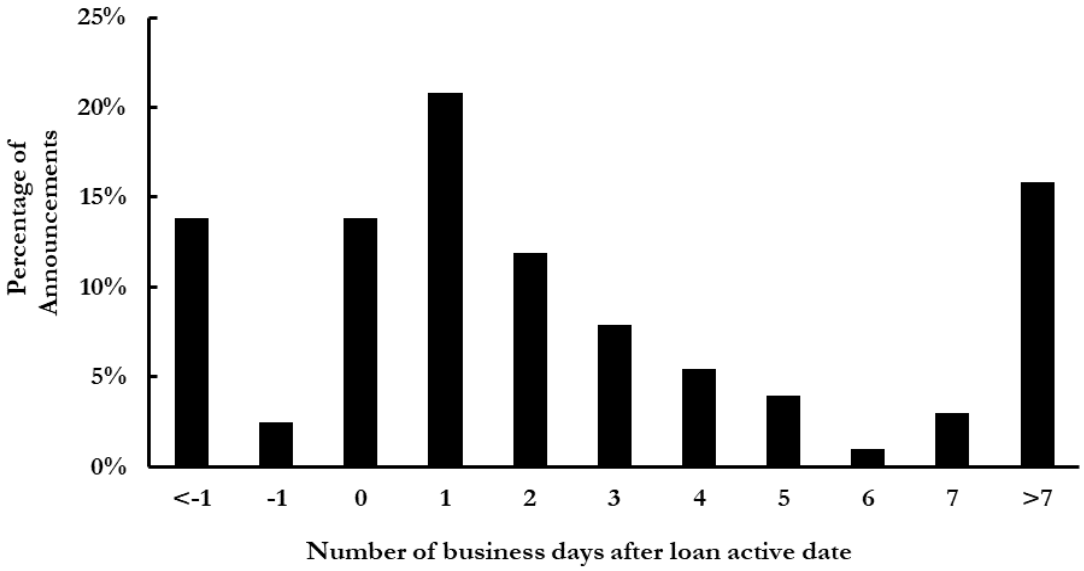
Panel C. Low and High Number of Lead Lenders

		Nobs	CAR_{Pre}	CAR_{Full}	*Leakage*
Pre-July 21, 2010	Low	3,231	**0.592*****	**1.453*****	**0.408*****
			(3.72)	**(7.70)**	**(4.40)**
	High	1,992	**0.671*****	**0.897*****	**0.748*****
			(3.90)	**(4.11)**	**(6.03)**
Post-July 21, 2010	Low	3,792	0.053	**0.340****	0.155
			(0.44)	**(2.07)**	(0.64)
	High	2,580	0.052	**0.292***	0.179
			(0.40)	**(1.82)**	(0.25)

Figure OS.1. Distribution of the Number of Business Days Between the Loan Active Date and News Announcement Date

This figure presents the distribution of the number of business days between the loan active date and news announcement date. In Panel A, we follow MM and randomly choose 800 loans from the DealScan database during 1987-2004. We then search the Factiva database and identify 202 loan announcements in the news. In Panel B, we repeat the procedure for the sample period during 2005-2018 and identify 439 loan announcements in the news.

Panel A. 1987-2004



Panel B. 2005-2018

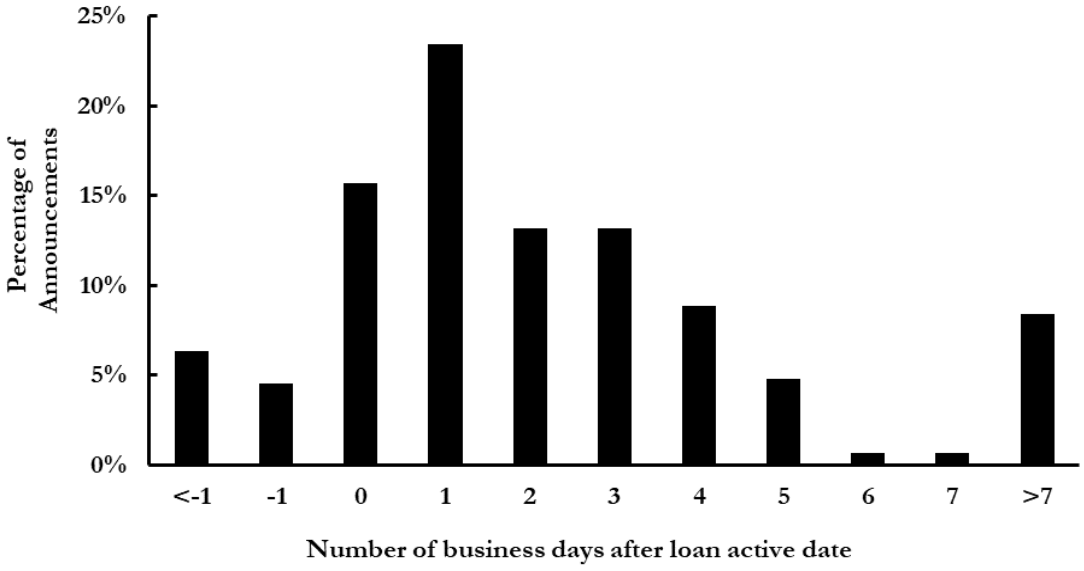
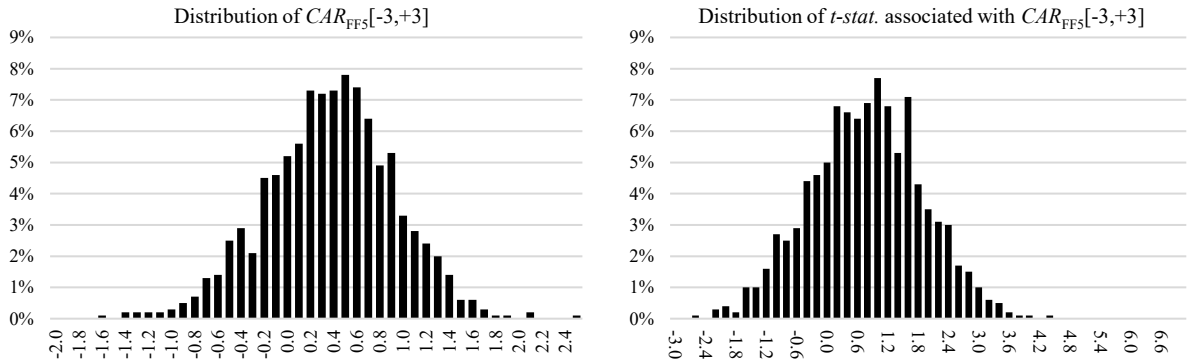


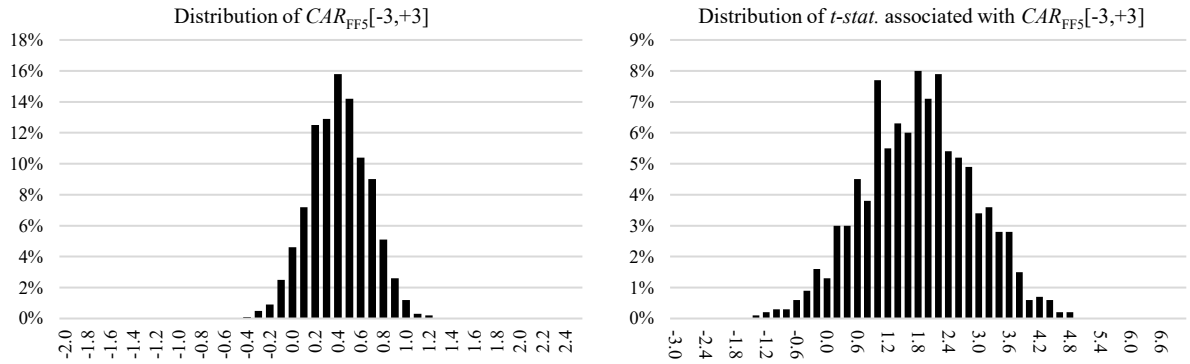
Figure OS.2. Simulation Analysis: Distribution of the Average CARs and *t*-Statistics for Bank Loan Announcements Randomly Drawn From the 8-K Announcement Sample During 1994-2018

This figure presents the distribution of the average CARs and *t*-statistics of bank loan announcements randomly drawn from the 8-K announcement sample in the simulation analysis. We randomly draw 200 (Panel A), 800 (Panel B), and 3200 (Panel C) loans from our full 8-K announcement sample during 1994-2018 for 1,000 times. We then report the distribution of the average CAR_{FF5}[-3,3] and corresponding *t*-statistics for the 1,000 samples. The *y*-axis represents the percentage of samples as a fraction of 1,000.

Panel A. 200 Loans



Panel B. 800 Loans



Panel C. 3200 Loans

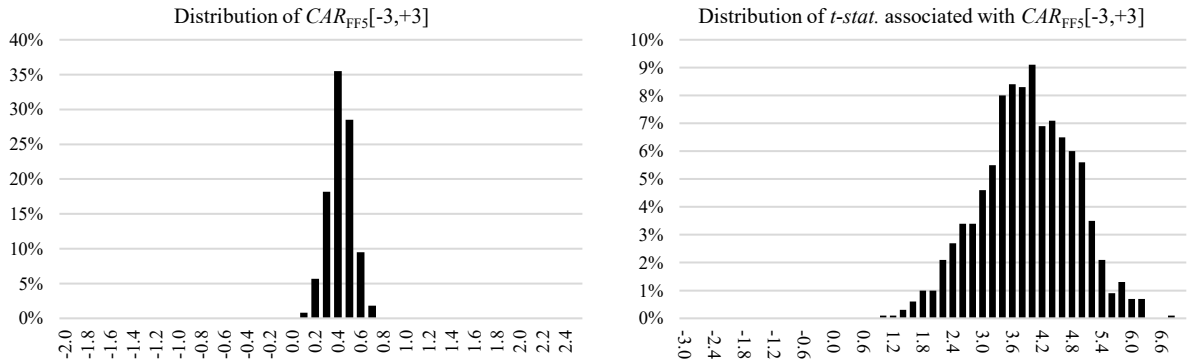
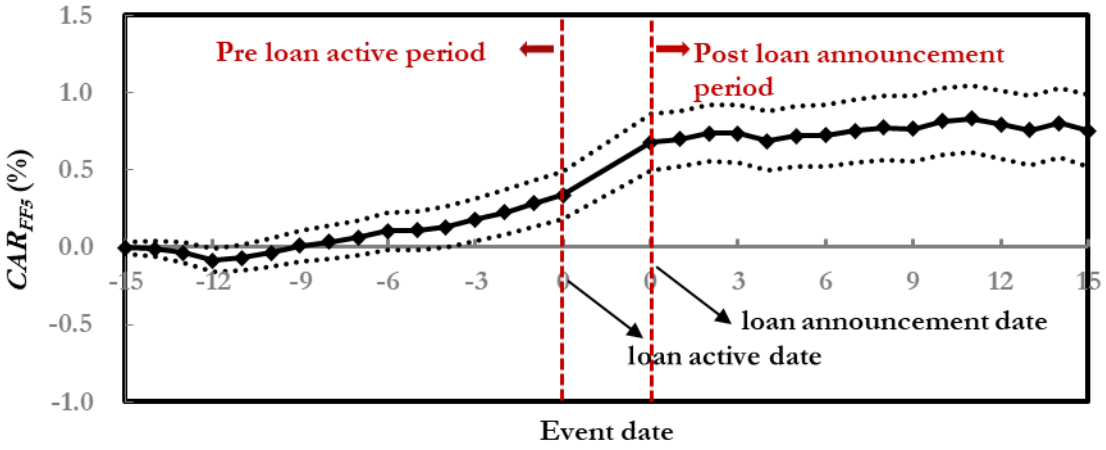
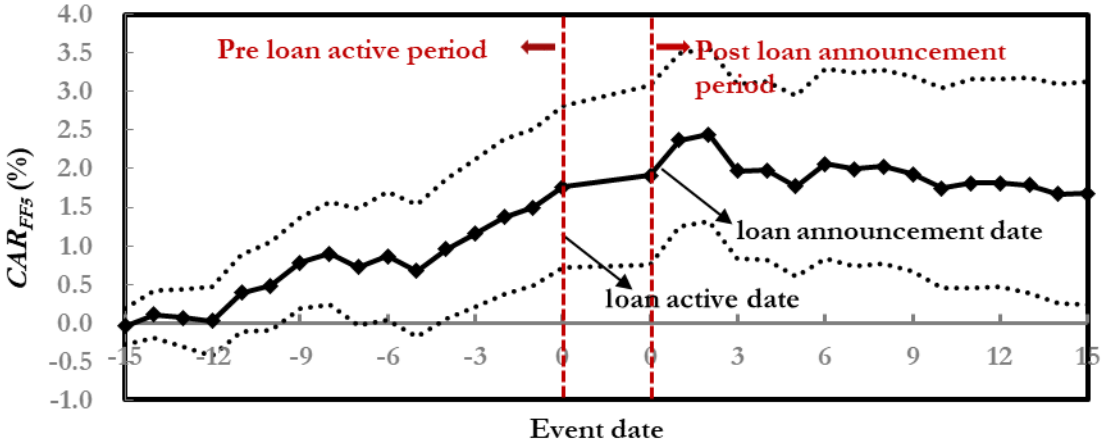


Figure OS.3. CAR Around Loan Active Dates and Loan Announcement Dates
This figure plots the average cumulative abnormal returns based on the Fama-French five-factor model (CAR_{FF5}, in %) around loan events that are announced in 8-K filings after the loan active date. Panel A displays the CAR_{FF5} for the full sample period from January 1, 1994 to December 31, 2018. Panels B-D display the CAR_{FF5} in the following three subperiods: before August 23, 2004, from August 23, 2004 to July 21, 2010, and after July 21, 2010, respectively. The *x*-axis is measured in event days: a negative number indicates the number of business days before the loan active date and a positive number indicates the number of business days after the 8-K announcement date. The left (right) vertical red dashed line at day 0 indicates the loan active date (8-K announcement date). The cumulative abnormal returns are plotted in a solid line with the corresponding 90% confidence intervals plotted in dotted lines. CARs are cumulated starting from 15 days before the loan active date.

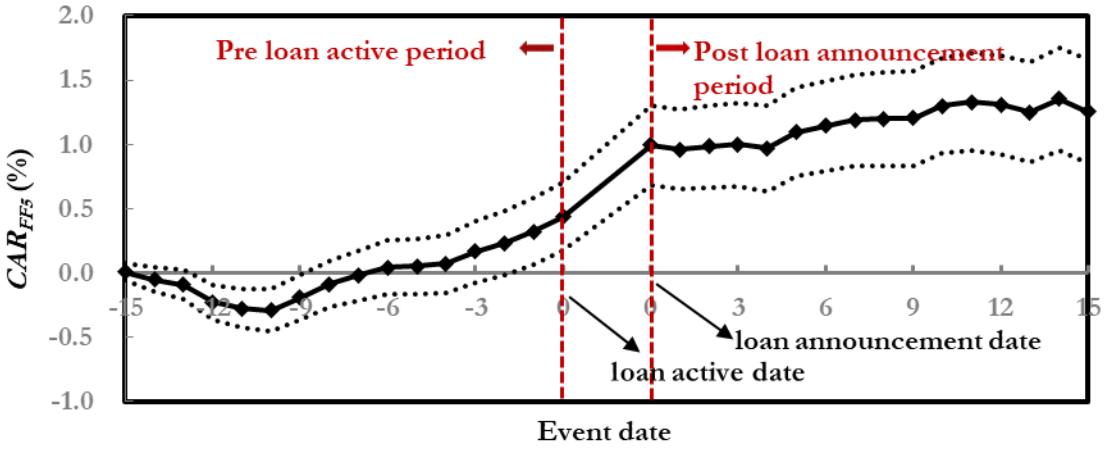
Panel A. Full Sample



Panel B. Subsample Before Aug 23, 2004



Panel C. Subsample From Aug 23, 2004 to Jul 21, 2010



Panel D. Subsample After Jul 21, 2010

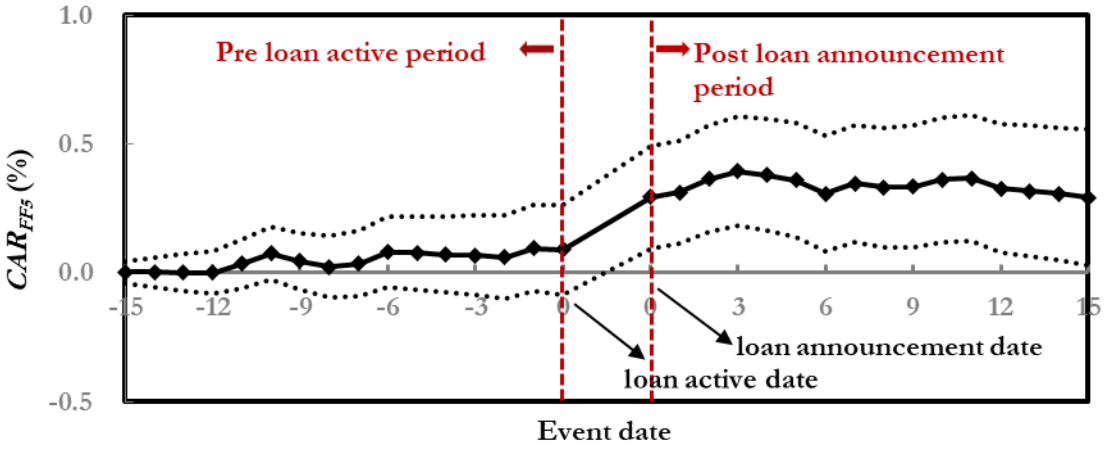


Figure OS.4. Distribution of the Number of Business Days Between Loan Active Date and 8-K Loan Announcement Date

This figure plots the histogram of the number of business days between the loan active date and the 8-K announcement date for loan announcements from January 1, 1994 to December 31, 2018. The three bars in the figure, from left to right, represent the following three subperiods: before August 23, 2004, from August 23, 2004 to July 21, 2010, and after July 21, 2010. The *y*-axis represents the percentage of announcements as a fraction of loan announcements in each subperiod.