

Institutional Stock Trading on Loan Market Information

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Over the past decade, one of the most important developments in the corporate loan market has been the increasing participation of institutional investors in lending syndicates. As lenders, institutional investors routinely receive private information about borrowers. However, most of these investors also trade in public securities. This leads to a controversial question: do institutional investors use private information received in the loan market to trade in public securities? In this paper we examine the stock trading of institutional investors that also hold loans in their portfolio. Specifically, we look at the abnormal returns on stock trades following loan renegotiations. By collecting SEC filings of loan amendments, we are able to identify institutional investors that had access to private information disclosed by the borrower during loan renegotiations. Our results indicate that institutional managers that participate in loan renegotiations consequently trade in stock of the same company and outperform other managers by approximately 8.8% in annualized terms in the month following loan renegotiation.

Key words: Institutional investors, Syndicated loans, Private information

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Over the past two decades, the commercial loan market was transformed by loan syndication and multiple financial innovations that accompanied it. Today, most of the corporate loans are funded by a group, or syndicate of lenders. Because in a syndicated loan due diligence and loan administrative duties are typically delegated to the leading bank, loan syndication creates an investment opportunity for *passive* lenders, i.e., investors that do not have banks' unique monitoring skills or expertise. Not surprisingly, loan syndication triggered a large entry of institutional investors into the credit market.

A growing supply of institutional money allows banks to reduce their risk through diversification, noticeably improving loan market liquidity and ultimately benefiting borrowers through easier and cheaper access to credit.¹ However, it also creates concerns about separation between public and private information. Typically, we think of bank debt as informed debt. Indeed, most of the loans are unmistakably private and flexible agreements with regular material information flow between borrowers and lenders, “including quarterly or monthly financial disclosures, covenants compliance information, amendment and waiver requests, and financial projections, as well as plans for acquisitions or dispositions.”² All lenders in the lending syndicate are governed by the same credit agreement, they all hold a direct but interdependent claim against the borrower, and they all need to agree if there are material amendments or waivers to the credit agreement. In practice, loan renegotiations boil down to a private conference call

¹ Mutual funds have a restriction on the fraction of the portfolio invested in illiquid securities. However, according to an opinion of one of the most prominent mutual funds, at this point in time, most of the loans would be classified as liquid securities. To the best of our knowledge, there are no other regulatory restrictions that could affect loan investments.

² Standard and Poor's (2006).

that includes all of the lenders, where the borrower explains its financial conditions and reasons for renegotiation.³

There is no doubt that institutional investors have access to fundamental non-public information in the loan market. Yet doubt remains on whether these institutions are effective at keeping the non-public information disclosed by the borrower to its lenders from influencing their investments in public securities. Formally, public securities can not be traded on the basis of material non-public information, i.e., private information that is likely to substantially affect the stock price. In practice, large institutional investors create “ethical walls” by adopting preemptive paper procedures meant to preclude trading on private information received from the loan markets. These “ethical walls” are a softer version of what came to be known as “Chinese walls” between investment and commercial banking which are typically associated with physical and functional separation within a bank, as well as formal wall-crossing procedures.

In this paper, we look at the stock performance of the institutional managers that invest in the syndicated loan market and the stock market. We first document that stock portfolios of the institutional managers that invest in *both* markets outperform those of the investors that *specialize* in the stock market. In particular, we find that equity portfolio of the institutions that invest in the stock and loan of the same company outperform comparable investors that do not invest in the loan market by approximately 0.98% per year. We believe that this difference in performance is related to the use of information received in the loan market to trade in the stock market.

³ Anecdotal evidence suggests that most often passive lenders, and specifically institutional investors, remain silent in these negotiations.

To establish a causal relation between private information release in the loan market and stock trading, we focus on the loan renegotiations that resulted in change of the loan spread. Renegotiations affecting the interest rate are likely to be associated with disclosure of private material information about the borrower. In addition, a typical loan contract would require a unanimous agreement from all lenders for a change of interest rate to take place. We then search SEC filings and news releases to assure that information disclosed to the lenders was not available to the public until several days later. Also from SEC filings, we are able to collect the names of the institutional investors that were part of the loan renegotiations and, thus, had access to the information disclosed by the borrower. With the exact time of the event and the identity of the lenders, we proceed to look at the returns on the stock trades following loan renegotiations. We find that managers with the loan holdings on average realize a 10.5% annualized abnormal return on their trades in stocks of the companies with loan renegotiations.⁴

To assure that performance on these trades is not specific to a given stock or manager's unobservable characteristic, we compare abnormal returns on trades (i) across the managers for the same stock and (ii) across the stocks for the same manager. In the first case, we look at the stocks of the companies that had loan renegotiation, and compare returns on trades of the institutions that were part of the loan renegotiation against institutions that were *not* part of the loan renegotiation. In the second case, we look at all trades of the institutions that were part of the loan renegotiation and compare returns on stocks of the companies with loan renegotiation against the rest of their stock portfolio. In summary, we find that investors that take part in the loan renegotiations consequently trade on information disclosed in the loan market and outperform their

⁴ The returns are measured over one month following loan renegotiation.

comparison group by approximately 8.8% in annualized terms in the month following loan renegotiation.

In addition, we find that institutional investors holding loans in their portfolio also perform better on trades in stocks that are indirectly related to loan renegotiation, that is, companies that have high earnings correlation, high returns correlation, or are in the same industry as the company that renegotiated its loan. While less obvious, trading in related stock is actually a complex and important legal question.⁵ However, the economic magnitude of the outperformance for the related stocks is small.

In what follows, we will focus on the economic evidence supporting use of non-public information received by received in the loan market for trading in stocks. We believe that regulatory implications should not be drawn without understanding the full scope of impact of institutional investment in the loan market. For instance, restricting institutional investors' access to private information would severely aggravate the agency within the lending syndicate and increase the cost of corporate lending.⁶

This is the first paper that looks directly at the institutional managers' investment in the loan market and, more broadly, across different security classes. However, there is important and growing literature that investigates cross-market information flow. Thus, our findings contribute to those of Hotchkiss and Ronen (2002), Longstaff, Mithal, and Neis (2003), Blanco, Brennan and Marsh (2005), Altman, Saunders and Gande (2005) and Acharya and Johnson (2005). This paper also helps understand the exact channel of information transmission between the loan and equity market and, in that sense, adds to the findings by Massa and Rehman (2005). Broadly speaking, the unique feature of our

⁵ See Allen, Kraakman and Subramanian (2007).

⁶ Ivashina (2006) finds that information asymmetries within a lending syndicate lead to large economic costs for the borrower.

paper is that we are able to identify the time when private information is released by the borrower and the identity of the investors that have access to private information. This allows us to address causality in a direct way.

The remainder of the paper is divided into four sections. In the first section, we provide more details on institutional background and discuss our sample construction. In the second section, we look at the aggregate performance of stock portfolios for institutional investors who participate in both stock and loan markets. In section three, we establish causality of information flow between loan and stock markets by following equity trading following loan renegotiations. In section four, we summarize our conclusions.

I. Institutional Background and Sample Construction

A. Institutional environment

The banking industry considers syndicated lending to be the largest and most profitable corporate financing business.⁷ New corporate issuance of syndicated loans is estimated to be at least twice as large as total bond issuance and over five times larger than equity issuance. The essence of syndicated lending is that instead of one lender there is a group of lenders, or lending syndicate, that funds loan under the same loan agreement.⁸ An increasing trend in this major financial market is that most of the participants in the lending syndicates are not banks but institutional investors, including insurance companies, mutual funds, pension funds and hedge funds.⁹

[FIGURES 1 & 2]

⁷ PaineWebber Equity Research, “The Biggest Secret of Wall Street” May 14, 1999.

⁸ For more information on syndicated loans please see Standard & Poor’s (2006).

⁹ Pilgrim Prime Rate Trust created in 1988 is typically credited with being the first institutional investor in the loan market.

As Figures 1 and 2 illustrate, over the past decade institutional investors' participation in the loan market was steadily growing in number and volume. Institutional managers, as a percent of the total number of participants in the syndicated loan market, steadily increased from approximately 25% in the mid 90s to nearly 70% by the end of 2005. For the same period, the total volume of new loans where institutional lenders were part of the original syndicate increased from approximately \$30 to \$130 billion. These numbers correspond to the primary market. In addition, loan participations are traded in the secondary loan market. As a result, institutional investors can, and do, enter lending syndicates by purchasing a fraction of loans in the secondary market.¹⁰

Syndicated loans are typically senior secured debt and that is the central feature that attracts institutional investors into loan markets. Starting in late 1995, the syndicated loan market underwent several important changes including the creation of a trading association, adoption of several contractual and settlement conventions, and the introduction of loan ratings. The standardization process dramatically improved loan liquidity and, as a consequence, accelerated institutional entry into the loan market.

Notwithstanding financial innovations, the loan market remains largely private. Indeed, on October 16, 2006, the Loan Syndications and Trading Association drafted a set of principles designed to help loan market participants handle confidential information. Coincidentally, it was the same day that suspicions of hedge funds trading on private information received in the loan market made it to the cover of *The New York*

¹⁰ Formally speaking, when part of the loan is sold as a claim against the borrower it is called an "assignment." "Participation" is a name reserved for the secondary market sales where the claim is against the seller (e.g., bank).

Times.¹¹ This news was related to a specific incident and, in what follows here, we analyze market-wide patterns that could be attributed to spill-over of private information between the loan and stock markets.

B. Sample description

Our starting sample links three different data sources: Reuters LPC DealScan loan database, CDA/Spectrum 13f and S12 institutional stock holdings database, and CRSP stock returns database.¹² In DealScan, we observe names of the borrower and members of the lending syndicate at the loan issuance. For the U.S. market, over 200 different lenders in the primary market are classified by DealScan as institutional investors. However, many of the institutional investors, and particularly hedge funds, are not included in this category. Overall, using CDA/Spectrum data covering the period from 1990 to 2005, we were able to identify stock holdings for 121 different institutional investors at the loan issuance. In the following section, to establish causality between private information release in the loan market and trading in the stock market, we look at the loan renegotiations. For that, we collect identities of the lenders that were part of the loan renegotiation process directly from SEC filings. We find that, by the time loan renegotiations takes place, there are more institutional investors in the lending syndicates due to secondary market trading. Matching names of the investors collected from the loan amendments with CDA/Spectrum stock holdings allows us to enlarge the final pool of managers. We discuss collection of loan amendments in more detail in the following

¹¹ *The New York Times* cover story, “As Lenders, Hedge Funds Draw Insider Scrutiny” by Jenny Anderson, October 16, 2006.

¹² The structure and limitations of the CDA/Spectrum data are extensively discussed by Gompers and Metrick (2001).

section. DealScan provides only loan information; therefore, we also match borrowers to the CRSP database.

[TABLE I]

Table I summarizes the match between DealScan and CDA/Spectrum. There are several loans with multiple institutional investors; consequently, there are 2,437 different institutional holdings corresponding to the loans of publicly traded U.S. companies. In 918 of the cases (approximately 38% of the observations), the same institutional investors also hold stocks of the same company. Table I shows that institutional presence in the primary loan market goes back at least to the early 90s. The dynamic of the market was significantly affected by the standardization process and improvements in liquidity that took place in the mid-90s. This structural change is likely to explain the increase in the number of institutional loan holdings toward the end of the sample.

II. Aggregate stock portfolio performance

We start our analysis by looking at the overall performance of the stock portfolio of the institutional managers that also invest in the loan market. Specifically, we want to see if there are differences in aggregate performance for institutional managers that invest in the loan market (*Stock & Loan*) as compared to similar investors that do not invest in the loan market (*Stock only*). Therefore, each investor in our sample is matched to a control group.

For mutual funds, we used CRSP mutual fund data to identify comparable funds. Thus, the control group for mutual funds is matched by the assets under management quintile and investment objective. For all other institutions, we select the control group of comparable investors using managers in the same size quintile among all types of

institutions. In addition, we constrained the control group by institutional type as classified by CDA/Spectrum. For data after 1999, CDA/Spectrum misclassifies a lot of institutions as “other institutional type.” To correct this problem for managers in this group, for years 1999 and later, we replace the value with the one reported by the end of 1998. The problem seems to be alleviated to some degree, but we still find a sharp increase in the number of managers classified as “other institutional type” around this period. We also use the Bushee and Noe (2000) institutional type classification to construct an alternative benchmark. The results remain qualitatively similar.

[TABLE II]

As can be seen in Table II, between 1990 and 2005, stock portfolios of the institutional managers that also invest in the loan market perform better than the stock portfolio of the investors that do not invest in the loans.¹³ For the full sample of the stock and loan investors, this result is not statistically significant. However, the managers that invest in the stock and loan of the *same company* on average realize 4.06% annual return on their aggregate stock portfolio and they outperform comparable investors by 0.98% per year statistically significant at the 10% level. The economic magnitude of this result is comparable to the effect found by Massa and Rehman (2005) for mutual funds that form part of bank holding companies.

¹³ Portfolio performance is risk-adjusted and it is calculated using the Grinblatt and Titman (1993) approximation (GT). The measure calculates the sum of time series covariance between portfolio weight change and returns of each asset included in the evaluating portfolio. In particular, the GT measure uses a four-quarter change in portfolio weights and multiplies it by the future return. For example, the performance from quarter t to $t+m$ is calculated as:

$$\alpha_{t,t+m} = \sum_{i=1}^m \sum_{j=1}^N (w_{j,t} - w_{j,t-4}) R_{j,t+i},$$

where $w_{j,t}$ is the weight of stock j in an institutional investor’s portfolio at quarter t , and $R_{j,t+i}$ is stock i ’s return from $(t+i-1)$ to $(t+i)$. The GT measure does not require any benchmark portfolio, yet it has been shown to effectively adjust for the risk of the underlying portfolio.

In Panel B of Table II, we compare differences in performance for two groups of the stock and loan investors: those that hold stock and loan of the same company and those that hold stock and loan of different companies. Because the sample of the stock and loan investors is not big enough to construct a proper benchmark, we look at the differences in performance with respect to style and size matched stock-only investors. We also use multivariate framework which allows us to control for the size of the investors. We find that, between 1990 and 2005, investors that hold stock and loan of the same company outperform other institutions that invest across stock and loan markets by 0.86% per year.

We believe that the difference in performance for the investors that hold stock and loan of the same company could be attributed to the use of non-public information from the loan market to trade in the stock market. Evidently, the private information effect may not be the only possible explanation for the aggregate outperformance. Other potential explanations could be endogeneity of the investment choices (i.e., factors that drive the decision to combine stock and loan for a given company), or portfolio manager's skill. Although we control for the skill effect using control sample matched by size and style, these factors may still be too rough to account for all the skill variation between institutional investors. In what follows, we focus on loan renegotiation and provide direct evidence that institutional investors use non-public information gathered in the loan market to trade in stock.

III. Stock portfolio rebalancing following loan renegotiations

A. Loan amendments sample

To understand causality of the information flow between the loan and equity markets, we look at the stock trades following loan renegotiations. Loan renegotiations are very frequent and can be triggered by covenants violations, changes in market conditions, or a company's financing needs.¹⁴ Some loan amendments can be approved by majority vote of the lenders; however, changes in the credit agreement concerning repayment schedule, maturity, loan amount, or interest rate typically require the consent of all lenders. In practical terms, this means that when a borrower needs to renegotiate terms of the loan, it will do it by holding a *private* conference call for all of its lenders. Such loan renegotiations, therefore, represent exogenous events when institutional managers receive private information in the loan market.

Amendments to the credit agreements are typically disclosed by the *borrower* as part of its 8-K, 10-Q and 10-K SEC filings, from which DealScan collects dates of the renegotiations and changes in loan contracts. We focus on the loan amendments that result in interest rate changes.¹⁵ To ensure that private information disclosed by the borrower was new, we only look at the first change in the interest rates. Because loan amendments that change interest rates require a unanimous agreement of all the lenders, we assure that we can credibly identify all the investors that received information from the borrower. In addition, loan amendments language tends to be very technical, and we rarely found companies explaining in their reports to the shareholders the reason for

¹⁴ Dichev and Skinner (2002) document that covenants violations occur in approximately 30% of loans.

¹⁵ Performance pricing is a common feature of a loan contract and it implies automatic adjustment of the interest rate paid by the borrower as a step function of its financial ratios. Basically, performance pricing allows state pricing and it is believed to be a positive contractual feature (see Tchisty (2006)). In our sample, we observe some cases where performance pricing is replaced by a flat interest rate, typically the highest under a performance pricing schedule. In these cases, we categorize the amendments as 'change in the interest rate' and include them in the analysis.

credit amendments.¹⁶ Thus, by focusing on the loan renegotiations that resulted in interest rate changes, we identify those cases where it is likely that the borrower disclosed material non-public information.

Loan amendment data is very scarce before 1998; so we look at the loan renegotiations that took place between 1998 and 2005. For this period, in DealScan we find a total of 169 loan amendments that corresponds to the first interest rate change for the publicly traded U.S. companies with at least one institutional investor in the original lending syndicate. For 169 cases, we search for the original SEC filing. The reason for collecting SEC reports is twofold. First, we want to assure that information disclosed during renegotiation, or even the fact that loan renegotiation took place, did not become public until several days later. Second, loan amendments have to be signed by all lending syndicate members at the day of the amendment's ratification. By looking at the actual filings, we were able to verify that the institutional investors that were part of the original loan syndicate did not sell their position on the secondary loan market and had access to private information about the borrower.

[TABLE III]

Table III summarizes results of collecting loan amendments from SEC filings. Out of 169 amendments mentioned in DealScan, we are able to get detailed information for 160 cases. This reflects that loan amendment data collected by DealScan is actually quite accurate. We find that amendments to loan contracts were disclosed on average

¹⁶ Typically, an SEC filing would disclose an actual loan amendment but would not explain why the amendment took place. In its Quarterly Report filed on May 17, 1999, the following description of the Integrated Health Services loan renegotiation from March 25, 1999 is one of the most detailed that we could find: "In March 1999, the Company amended its Credit Facility, whose amendments loosened the financial covenants, increased interest rates, and accelerated the reduction in the availability under the Credit Facility."

about 39 days after the renegotiation took place.¹⁷ We also search public news releases and find that, in 62 cases, loan amendments were mentioned in the news before the SEC filing. Overall, however, in only 15 out of 160 cases did the information about loan amendments become public the same day that renegotiation took place. We exclude these cases from our sample and match the identity of the investors with institutions in CDA/Spectrum. Our final sample contains 110 renegotiations; on average, we are able to match 5 managers per loan amendment. In 32 out of 110 loan amendments, we observe managers that hold stocks and loans of the same company in their portfolio.

In Panel B of the Table III, we compare the structure of the lending syndicate at the origination and the lending syndicate at the moment of renegotiation. The average time to renegotiation in our sample is approximately 18 months. Interestingly, the number of the members in the syndicate remains relatively constant; however, the identities of the participants change. We do not observe the share of the loan held by each member of the syndicate; however, it appears that the lead banks do not sell their loan holding, while approximately half of the participants change by the time of the renegotiation.

In the appendix we look at the returns behavior surrounding the date of the amendment. We do not find a statistically significant price reaction on the date of the amendment or on the date of the public disclosure in the loan or in the stock market. It is very difficult to determine if private information disclosed during the process of the renegotiation was fundamentally good or bad, as most often loan amendments represent simultaneous changes in multiple financial covenants, repayment terms, and pricing

¹⁷ All information disclosures by public companies must comply with the SEC Regulation Fair Disclosure (Regulation FD). Regulation FD requires immediate public release of all information where “it is reasonably foreseeable” that the information will be used to trade in a *public* market. Regulation FD does not explicitly exclude information exchange between borrowers and lenders. However, it would be exempt, because a typical loan would include a confidentiality agreement between lenders and borrowers.

schedules that tie borrower's performances to the interest rate. Thus, it is likely that mixing good and bad news affects the statistical significance of the results.

B. Abnormal returns following loan renegotiations

We do not know the nature of the information disclosed in loan renegotiations, and we do not observe full composition of the investors' portfolios (bonds or short positions). In that sense, we can not clearly anticipate if the investors sell or buy the stocks. Therefore, we look at the abnormal returns realized on the trades of the institutional investors following loan renegotiation. That is, we look at average *AR x Trade direction*. Our hypothesis is that managers who invest in the loan market *profit* from trading stocks based on private information. CDA/Spectrum stock holdings data is quarterly; thus, in the quarter of the loan amendment, we look at the changes in the stock holdings for managers that were part of the loan renegotiation in the stock that was affected by the loan renegotiation. We then look at the abnormal returns realized on these trades. We expect that institutions with access to private information sell stocks that go down and buy stocks that go up. We assume that stock trades take place immediately after the loan amendment, and we look at the abnormal return realized over the following month.

[TABLE IV & V]

Table IV indicates that, institutions with access to private information in the loan market realize, on average, a 10.54% abnormal return on the trades in the stock of the borrower. This corresponds to the annualized return measure within the month following loan renegotiation. This result is statistically significant and robust to different

calculations of abnormal returns, as well as alternative definitions of the trade direction. The returns on the buy and sell positions are 18.38% and 2.25%, respectively.

There is a concern that stock trading could be attributed to a release of other public information within the same quarter, or to window-dressing practice.¹⁸ To assure that rebalancing in a stock portfolio is *caused* by private information received by the institutional investors during loan renegotiation, for each manager we constructed a control sample, following trading in the same stock, in the same quarter, by comparable managers who do not have access to the information from the loan market. We select comparable managers within the same size quintile. The abnormal return on the trades by the investors, that were not part of the renegotiations, in the stocks affected by the loan renegotiations, is 1.71%, but not statistically different from zero. Therefore, institutional investors receiving non-public information from the borrower, trade in the stock of the borrower, and, on those trades, outperform on average investors without access to the loan market information by 8.83%, measured within the month following loan renegotiation. This result is significant and robust to alternative specifications.

We only observe stock holdings at the end of the quarter; this can be problematic if loan amendments take place and are disclosed to the public within the same quarter. Because we know when information was released to the lenders and when it was released to the public, we are able to isolate those loan amendments where the information did not become public until the next quarter. This allows us to ensure that the marginal effect is, indeed, attributed to trades on private, rather than public, information. Throughout the paper, we report results for the full sample and the sample where loan information

¹⁸ “Window dressing” is a practice that takes advantage of the fact that stock holdings are reported quarterly; it consists of selling ex-post losing stocks and buying ex-post winning stocks to make a reporting period portfolio look better.

becomes public in a different quarter. The results are qualitatively similar for the two samples.

In Table V, we provide additional evidence that the earlier result is attributed to trading on private information, by restricting the control sample of the managers only to those institutions that invest in the loan market. We allow for the control sample to include those investors holding stock and loan of other borrowers. This way, we are certain to guarantee that this result is not specific to the group of institutional managers that invest in the loans in general, but only to those institutions that were part of the loan renegotiations. The result remains statistically and economically significant.

[TABLES VI & VII]

We want to assure that the results of superior performance are explained by the non-public information released in the process of the loan amendments, and not by a general characteristic of the stocks picked by the managers that invest in the stock and loan markets. To do that, we focus on the informed investors (investors that were part of the loan renegotiations), and compare performance of their trades in the stock of the borrower affected by the loan renegotiation against average performance on other stocks in their portfolio. Table VI summarizes those results. We find that, in the month following loan renegotiation, performance of the informed investors on the stocks without loan renegotiations is economically small and statistically insignificant. Informed investors' trades in the stock of the borrower with loan renegotiation outperform trades on other stocks in their portfolio by 10.26%, measured over the month following loan renegotiation.

As in Table VI, in Table VII we also look only at the informed investor, but instead of comparing trades in the stocks with loan renegotiation to all other stocks in the investor's portfolio, we restrict the control sample to the companies that have loans outstanding. The results reported in Table VI remain practically unchanged. Therefore, the documented outperformance only takes place following loan renegotiations, and it can not be explained by a broad stock or firm characteristic.

[TABLE VIII]

In the previous result, we first looked at the differences in trades for the same stock across different investors, and then we look at the differences in trades for the same investor across different stocks. What we did is a partial version of the difference-in-differences approach. In Table VIII, we report the full version estimation. Thus, access to private information is the treatment in our model, and we are interested in its effect on the trade.¹⁹ The two levels of differences that we are looking at are: stocks with (R) and without (NR) loan amendments, and institutional investors that were part of the renegotiation (P), and investors that were not part of the renegotiation (NP). Our central hypothesis is about *marginal* abnormal returns realized on trades on non-public information received in the loan market, and it is equal to:

$$(AR_R \times Trade^P_R - AR_{NR} \times Trade^P_{NR}) - (AR_R \times Trade^{NP}_R - AR_{NR} \times Trade^{NP}_{NR}).$$

In the regressions, this effect is reflected in the coefficient on the interaction term between dummy identifying institutions with private information (*Stock & Loan Investors*) and dummy identifying stocks with loan renegotiations. Results in the Table VIII indicate that approximately 9.13% of the outperformance by the investors that have

¹⁹ Given trade is a flow variable, formally, we are dealing with triple differences.

access to loan renegotiations is attributed to trading on information coming from the loan market.

[TABLE IX]

To better understand the economic value of our findings, in table IX we look at the size of the trades for the institutions that participate in the loan renegotiations in the stock of the borrower. Using absolute value of the change in number of shares held, we find that in the quarter of the loan renegotiation, investors change their holdings of the stock of the borrower by approximately 29%. This is three times larger than the change in the holdings of the same stock in the quarter previous to the loan renegotiation. Trades on the sell side tend to be twice as large (in relative value) as trades on the buy side. In general, portfolio weights in the stock of the borrower tend to be above the median portfolio weight.

C. Abnormal returns following loan renegotiations

[TABLE X]

Thus far, we have found that, following loan amendments, institutional investors profit from trading in the same stock. However, cases where managers hold stocks and loans of the same company are relatively limited. In Table X, we test if institutional investors use private information disclosed in the loan market to infer information and trade in *related* stocks. Private fundamental information about a given company may be relevant to an investor from a portfolio perspective. For instance, if company A is considering an acquisition, there could be fundamental implications for other companies directly or indirectly related to company A.

We assume that information about company A is more relevant for company B if: (i) absolute earnings correlation is higher; (ii) absolute stock returns correlation is higher; and (iii) companies A and B are in the same industry. These hypotheses correspond to the three different specifications reported in Table X. Although the economic result is comparatively small, we find statistically significant evidence that institutions with access to private information also profit from trading in the related stocks.

To ensure that the results of our analysis are robust to outliers or possible nonlinear features in the data, we also evaluate the performance of institutional investors who have access to loan amendment information using traditional sorting techniques. In particular, we focus on stocks traded by these institutional investors during the quarter of a loan amendment. For each quarter in which there was an amendment to a loan held by a manager, we first sort his stocks into quintiles according to how much each company in his portfolio is correlated with the loan amendment firm. If a manager holds more than one amended loan during the quarter, we use the maximum absolute correlation between each company and all loan amendment firms. To measure correlation, we again use both earnings correlation and return correlation. The correlation measures reflect how informative the loan renegotiation news is to the institutional manager. In the next step, we sub-sort stocks within each correlation quintile into three groups based on the institutional investor trading volume and direction, proxied by signed trading volume. For each institutional manager with loan amendment information, we thus end up with 15 sub-groups. We then follow the performance of the stocks over a quarter following the loan amendment dates.

[TABLE XI]

From Table XI, we can see that stocks that are relatively heavily bought by institutional investors on average earn higher returns (HML) than ones that are more heavily sold. For instance, in the highest correlation quintile, stocks that are heavily purchased outperform the ones heavily sold by 4.21% per quarter. To see whether this result is actually related to the private information held by the lenders, we compare HML across different correlation rank groups. Results show institutional investors trade *most* successfully in stocks that have the *highest* return correlation with the loan amendment company stock. Conversely, they trade *least* successfully in stocks that are *least* correlated to with the loan amendment company stock.

It is interesting to observe that the difference in trading performance between high and low correlation groups is mainly driven by losing stocks. For stocks heavily sold by managers, the future return is 3.22% lower if they belong to the high correlation group vs. if they belong to the low correlation group. This may be due to the fact that majority of the loan amendments in our sample are associated with increases in interest rate, which may reflect bad news to the loan issuing companies.

IV. Conclusions

Institutional investment in syndicated loans is probably the fastest expanding yet the least understood development in the corporate loan market. In this paper, we provide a first insight into why institutional investors choose to participate in the loan market, and how the news received in the loan market propagates through institutional managers' investments and into the equity market.

We look at the institutional investors that invest in equity and loan markets. We find that stock investments of the managers that hold stock and loan of the same company generally outperform stock investments of comparable managers that only hold stock, or invest in stock and loans of different companies. To verify the causal relation between superior information and outperformance, we introduce a direct test that looks at the institutional investors' trading behavior *following* loan renegotiations. We collect loan renegotiations data directly from the SEC filings and follow each amendment in the news to credibly identify the timing of the public information release. Our results indicate that when a loan contract is subject to a loan amendment, institutions holding the loan of the borrower realize large positive abnormal returns in the equity market by trading in the stock of the company with both the loan amendment as well as related stocks.

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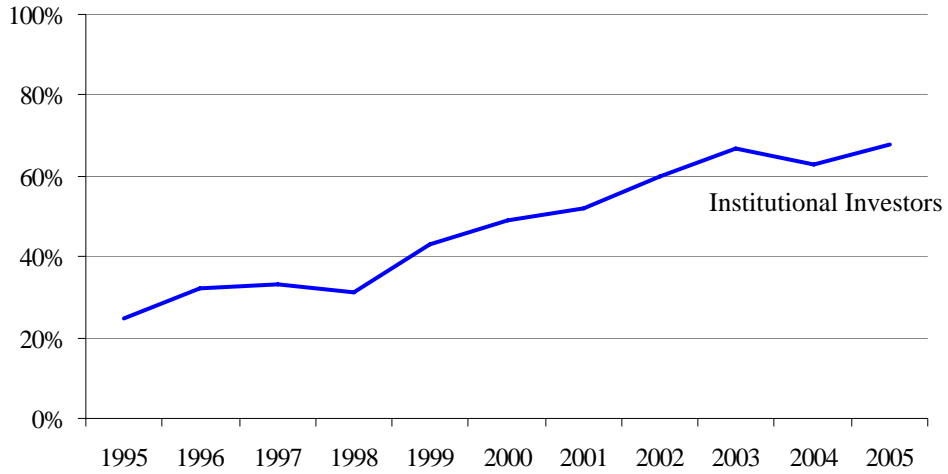
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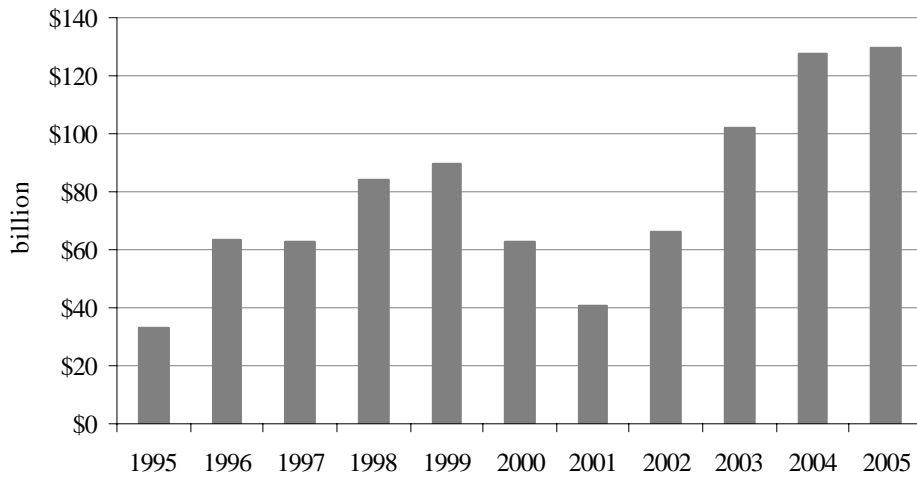
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FIGURE 1
COMPOSITION OF LOAN INVESTORS



Includes investments in the secondary loan market
Data: Standard&Poor's

FIGURE 2
CORPORATE LOAN ISSUANCE WITH INSTITUTIONAL INVESTORS



Including all loans with institutional investors in the primary loan market
Data: Reuters LPC/DealScan

APPENDIX

TABLE AI

LOAN AND STOCK RETURNS AROUND LOAN AMENDMENTS

This table presents stock and loan abnormal returns surrounding loan amendments. Assuming the loan amendment event date is t , $(t-j)$ and $(t+j)$ represent average returns on the j th day before and after the event date, respectively. Abnormal returns are calculated as raw return minus average return during the 25th to 5th day before the loan amendment dates. ***, **, and * indicate p -values of 1%, 5%, and 10%, respectively.

	Abnormal Return Amendment date			Abnormal Return Public news release		
	N	Mean	t-stat	N	Mean	t-stat
<i>Panel A: Stock Returns</i>						
$(t-5)$	97	0.17	0.21	91	0.00	0.00
$(t-4)$	97	-0.36	0.35	91	-0.16	0.10
$(t-3)$	97	0.97	1.01	91	-0.01	0.01
$(t-2)$	97	-0.84	1.11	91	1.59	1.02
$(t-1)$	97	1.63	1.16	91	0.37	0.29
(t)	97	-0.52	0.81	91	3.44	1.51
$(t+1)$	97	0.74	0.48	91	0.62	0.31
$(t+2)$	97	0.09	0.08	91	-2.17	1.66
$(t+3)$	97	-1.95	1.15	91	0.26	0.29
$(t+4)$	97	-0.56	0.40	91	-1.90	1.37
$(t+5)$	97	-0.18	0.15	91	-1.60	1.47
<i>Panel B: Loan Returns</i>						
$(t-5)$	32	0.00	0.01	29	-0.07	0.55
$(t-4)$	32	0.07	1.41	29	0.03	0.20
$(t-3)$	32	0.07	1.40	29	0.01	0.08
$(t-2)$	32	0.08	1.78	29	0.09	0.81
$(t-1)$	32	0.02	0.13	29	-0.01	0.08
(t)	32	0.10	1.86	29	-0.06	0.22
$(t+1)$	32	1.37	1.13	29	0.02	0.17
$(t+2)$	32	-0.94	0.85	29	-0.04	0.26
$(t+3)$	32	0.83	1.29	29	-0.03	0.2
$(t+4)$	32	0.99	1.11	29	-0.05	0.34
$(t+5)$	32	0.13	2.65	29	-0.06	0.44

TABLE I
DEALSCAN SAMPLE

This table presents results of matching loan level data from Reuters LPC/DealScan with CRSP and CDA/Spectrum institutional investors' data. The first three columns specify the number of unique investors, loans, and borrowers in the sample. There is more than one institutional investor per loan; thus, the last three columns count unique observations by loan and investor. The last two columns count the cases where investors simultaneously hold loans and stocks of the same company. Column five assumes that the loans are outstanding until maturity, while column six assumes that the loans are only outstanding for one year.

Year	Inst. Inv.	Loans	Borrower	Institutional Investor x Loan		
				Loans	Loans & Stock (Full maturity)	Loans & Stock (1 year)
1990	19	59	55	110	39	15
1991	24	73	64	97	43	19
1992	23	67	61	87	23	4
1993	25	75	70	108	39	20
1994	18	61	58	84	23	13
1995	24	53	51	76	18	11
1996	28	88	86	139	47	18
1997	32	77	71	123	43	14
1998	32	77	72	106	23	9
1999	38	92	82	185	38	17
2000	33	58	57	135	27	15
2001	32	91	88	116	51	43
2002	45	149	142	200	98	91
2003	48	177	164	267	126	116
2004	53	236	222	384	159	150
2005	42	186	172	256	121	121
Overall	121	1,619	1,074	2,437	918	676

TABLE II
DIFFERENCES IN STOCK PORTFOLIO PERFORMANCE

This table shows differences in annualized quarterly abnormal returns on stock portfolios between institutional managers that invest in loans and institutional managers that do not invest in loans. Portfolio returns are calculated using the Grinblatt and Titman (1993) approximation. The sample covers the period between 1990 and 2005. Stock & Loan corresponds to returns for the investors that were part of the loan renegotiation and Stock only corresponds to returns for those investors that were not part of the loan renegotiation. Investors in the *Stock only* group are matched by size and style to investors in the *Stock & Loan* group. Part B shows analysis of the differences in performance controlling for year and size effects. $\ln(Assets)$ is the logarithm of dollar value of the total equity portfolio. t -statistics are shown in parenthesis. ***, **, and * indicate p -values of 1%, 5%, and 10%, respectively.

A: Summary of differences in performance

<i>Stock & Loan</i>		<i>Stock only</i>		<i>[Stock & Loan – Stock only]</i>
Mean		Mean		Mean
(%)		(%)		(%)
Panel A1: All Stock & Loan investors				
3.98	***	3.76	***	0.23
(4.16)		(3.38)		(1.47)
Panel A2: Investors in Stock & Loan of the same company				
4.06	***	3.08	***	0.98
(2.41)		(5.91)		(1.76)

B: Multivariate analysis of differences in performance

Dependent variable: <i>[Stock & Loan – Stock only]</i>			
	Coeff.	t-stat	
	(%)		
Panel B1: Matched by size and style (modified CDA/Spectrum)			
<i>Log (Assets)</i>	-0.51	(34.43)	***
<i>Stock & loan of the same company</i>	0.86	(12.15)	***
Fixed effects: Inst. type x Year	Yes		
Adjusted R ²	0.09		
Observations	68,770		
Panel B2: Matched by size and style (Bushee, et al. (2000))			
<i>Log (Assets)</i>	0.04	(2.98)	***
<i>Stock & loan of the same company</i>	0.95	(13.82)	***
Fixed effects: Inst. type x Year	Yes		
Adjusted R ²	0.04		
Observations	117,822		

TABLE III
LOAN AMENDMENTS SAMPLE

This table summarizes loan amendment data collected from SEC filings and public news releases. The sample covers loan amendments that took place between 1998 and 2005 and resulted in changes of the loan pricing. We only count the first price amendment, thus, each observation corresponds to a different loan.

Panel A: Data collection

	Number of amendments	Days until public release		
		Median	Mean	Std. Err.
Starting sample	169	--	--	--
SEC filings found	160	18	39.5	4.5
8-K	53	6	12.2	2.7
10-Q	50	46	42.5	4.5
10-K	38	20	56.1	13.6
News wire releases found	62	7	16.9	3.8
Same day disclosure (News wire or SEC filing)	15	--	--	--
Loan investors in CDA/Spectrum	110	12	31.5	6.6
Investors with stock and loan of the same firm	32	5	20.1	4.3

Panel B: Evolution of the lending syndicate

	Median	Mean	Std. Err.
Syndicated size (at the loan origination)	14	21.8	2.0
Syndicated size (at the loan renegotiation)	9	21.0	2.6
% of the syndicate members remaining	60.3	55.2	3.0
% of lead arrangers remaining	100.0	74.4	2.8
% of participants remaining	51.8	46.9	3.4

TABLE IV
ABNORMAL RETURNS FOLLOWING LOAN RENEGOTIATIONS:
STOCKS WITH LOAN RENEGOTIATIONS, ALL INVESTORS

This table shows returns realized on trades in stocks of companies with loan renegotiations (each number is $AR \times Trade\ Direction$, averaged across loan renegotiations) for different investors. *Stock & Loan* corresponds to returns for the investors that were part of the loan renegotiation and *Stock only* corresponds to returns for those investors that were not part of the loan renegotiation. Investors in the *Stock only* group are matched by size to investors in the *Stock & Loan* group. Returns are annualized and are measured over one month following loan renegotiation. The difference between Panel A and B is the definition of *Trade direction*. In Panel A, *Trade direction* is equal to -1, 0, or 1 if, over the past quarter, the investor reduced, did not change, or increased his position in a given stock (i.e., the returns are counted only if the stock was traded). In Panel B, *Trade direction* is equal to -1 if, over the past quarter, the investor reduced his position in a given stock and, otherwise, it is equal to 1. To account for quarterly reporting of institutional stock holdings, the last four columns report results for the sub-sample restricted to those cases where the information about renegotiation becomes public in a different quarter. *AR* is the intercept in the regression of monthly excess returns. The 4-factor model includes Fama and French (1993) factors and the Cahart (1997) momentum factor. *t*-statistics are shown in parenthesis. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

Investors:	Market model		4-factor model		Loan renegotiation becomes public in a different quarter			
	Mean (%)	Diff.	Mean (%)	Diff.	Mean (%)	Diff.	Mean (%)	Diff.
Panel A: All trades								
<i>Stock & Loan</i>	10.54 (2.23)	**	10.63 (2.35)	**	10.06 (1.51)		13.07 (2.07)	*
<i>Stock only</i>	1.71 (1.02)	8.83 (2.33)	1.76 (1.00)	8.87 (2.56)	3.06 (1.18)	7.00 (1.51)	3.93 (1.40)	9.15 (2.18)
Number of events (loan renegotiations)	32		32		15		15	
Panel B: All trades (includes returns on unchanged stock positions)								
<i>Stock & Loan</i>	10.30 (2.11)	**	10.13 (2.14)	**	10.06 (1.51)		13.07 (2.07)	*
<i>Stock only</i>	2.89 (1.26)	7.41 (2.12)	2.79 (1.19)	7.34 (2.31)	4.46 (1.38)	5.60 (1.38)	5.13 (1.52)	7.95 (2.13)
Number of events (loan renegotiations)	32		32		15		15	

TABLE IV - continued

		Panel C: Buys									
<i>Stock & Loan</i>		18.38 **		17.81 **		20.91 **		26.94 **			
		(2.51)		(2.40)		(2.21)		(2.43)			
<i>Stock only</i>		5.36 **	13.02 **	5.50 *	12.31 **	5.33	15.58 **	5.80	21.14 **		
		(2.12)	(2.44)	(1.97)	(2.44)	(1.13)	(2.18)	(1.11)	(2.46)		
Number of events (loan renegotiations)		17		17		7		7			
		Panel D: Sells									
<i>Stock & Loan</i>		2.25		3.40		0.57		0.94			
		(0.32)		(0.62)		(0.66)		(0.26)			
<i>Stock only</i>		-2.72	4.97	-2.54	5.94	-2.17 ***	2.74	-1.48 **	2.42		
		(1.31)	(0.73)	(1.42)	(1.00)	(4.09)	(0.18)	(2.94)	(0.62)		
Number of events (loan renegotiations)		11		11		8		8			

TABLE V
ABNORMAL RETURNS FOLLOWING LOAN RENEGOTIATIONS:
STOCKS WITH LOAN RENEGOTIATIONS, LOAN MARKET INVESTORS

This table reexamines results in the Table IV for a different control sample (*Stock only*). Here, *Stock only* corresponds to returns for those managers that invest in stock and loan markets, but were not part of the loan renegotiation for a given event. *Stock & Loan* corresponds to returns for the investors that were part of the loan renegotiation. As in Table IV, reported results correspond to returns realized on trades in stocks of companies with loan renegotiations (each number is $AR \times Trade\ Direction$, averaged across loan renegotiations). Returns are annualized and are measured over one month following loan renegotiation. The difference between Panel A and B is the definition of *Trade direction*. In Panel A, *Trade direction* is equal to -1, 0, or 1 if, over the past quarter, the investor reduced, did not change, or increased his position in a given stock (i.e., the returns are counted only if the stock was traded). In Panel B, *Trade direction* is equal to -1 if, over the past quarter, the investor reduced his position in a given stock and, otherwise, it is equal to 1. To account for quarterly reporting of institutional stock holdings, the last four columns report results for the sub-sample restricted to those cases where the information about renegotiation becomes public in a different quarter. AR is the intercept in the regression of monthly excess returns. The 4-factor model includes Fama and French (1993) factors and the Cahart (1997) momentum factor. t -statistics are shown in parenthesis. ***, ** and * indicate p -values of 1%, 5%, and 10%, respectively.

Investors:	Market model		4-factor model		Loan renegotiation becomes public in a different quarter			
	Mean (%)	Diff.	Mean (%)	Diff.	Mean (%)	Diff.	Mean (%)	Diff.
Panel A: All trades								
<i>Stock & Loan</i>	10.54 (2.23)	**	10.63 (2.35)	**	10.06 (1.51)	*	13.07 (2.07)	**
<i>Stock only</i>	0.43 (0.29)	10.10 (2.50)	0.90 (0.61)	9.73 (2.57)	0.62 (0.25)	9.45 (1.89)	1.87 (0.75)	11.20 2.37
Number of events (loan renegotiations)	32		32		15		15	
Panel B: All trades (includes returns on unchanged stock positions)								
<i>Stock & Loan</i>	10.30 (2.11)	**	10.13 (2.14)	**	10.06 (1.51)		13.07 (2.07)	**
<i>Stock only</i>	2.02 (0.88)	8.28 (2.26)	2.34 (1.03)	7.79 (2.25)	2.59 (0.76)	7.48 (1.91)	3.55 (1.03)	9.53 (2.37)
Number of events (loan renegotiations)	32		32		15		15	

TABLE VI
ABNORMAL RETURNS FOLLOWING LOAN RENEGOTIATIONS:
INVESTORS WITH ACCESS TO LOAN RENEGOTIATIONS, ALL STOCKS

This table shows returns realized by the investors that were part of the loan renegotiation on trades in stocks of the companies with loan renegotiations, and compares it to the rest of their stock portfolio. Each number is $AR \times Trade\ Direction$ averaged across loan renegotiations. Returns are annualized and are measured over one month following loan renegotiation. The difference between Panel A and B is the definition of *Trade direction*. In Panel A, *Trade direction* is equal to -1, 0, or 1 if, over the past quarter, the investor reduced, did not change, or increased his position in a given stock (i.e., the returns are counted only if the stock was traded). In Panel B, *Trade direction* is equal to -1 if, over the past quarter, the investor reduced his position in a given stock and, otherwise, it is equal to 1. *AR* is the intercept in the regression of monthly excess returns. The 4-factor model includes Fama and French (1993) factors and the Cahart (1997) momentum factor. *t*-statistics are shown in parenthesis. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

Stocks:	Market model		4-factor model	
	Mean (%)	Diff.	Mean (%)	Diff.
Panel A: All trades				
<i>With loan renegotiation</i>	10.54 (2.23)	**	10.63 (2.35)	**
<i>Without loan renegotiation</i>	0.28 (1.06)	10.26 (2.19)	0.25 (1.12)	10.39 (2.35)
Number of events (loan renegotiations)	32		32	
Panel B: All trades (including unchanged stock positions)				
<i>With loan renegotiation</i>	10.30 (2.11)	**	10.13 (2.14)	**
<i>Without loan renegotiation</i>	0.26 (0.91)	10.04 (2.07)	0.28 (1.17)	9.86 (2.14)
Number of events (loan renegotiations)	32		32	
Panel C: Buys				
<i>With loan renegotiation</i>	18.38 (2.51)	**	17.81 (2.40)	**
<i>Without loan renegotiation</i>	0.77 (0.97)	17.61 (2.55)	0.65 (0.95)	17.17 (2.48)
Number of events (loan renegotiations)	17		17	
Panel D: Sells				
<i>With loan renegotiation</i>	2.25 (0.32)		3.40 (0.62)	
<i>Without loan renegotiation</i>	-1.72 (1.49)	3.96 (0.56)	-1.49 (1.47)	4.89 (0.87)
Number of events (loan renegotiations)	11		11	

TABLE VII

ABNORMAL RETURNS FOLLOWING LOAN RENEGOTIATIONS:

INVESTORS WITH LOAN RENEGOTIATIONS, STOCKS WITH LOANS OUTSTANDING

This table reexamines results in the Table VI for a different control sample. This table shows returns realized by the investors that were part of the loan renegotiation on trades in stocks of the companies with loan renegotiations, and compares it to their trades in other stocks with loans outstanding. Each number is $AR \times Trade\ Direction$ averaged across loan renegotiations. Returns are annualized and are measured over one month following loan renegotiation. The difference between Panel A and B is the definition of *Trade direction*. In Panel A, *Trade direction* is equal to -1, 0, or 1 if, over the past quarter, the investor reduced, did not change, or increased his position in a given stock (i.e., the returns are counted only if the stock was traded). In Panel B, *Trade direction* is equal to -1 if, over the past quarter, the investor reduced his position in a given stock and, otherwise, it is equal to 1. *AR* is the intercept in the regression of monthly excess returns. The 4-factor model includes Fama and French (1993) factors and the Cahart (1997) momentum factor. *t*-statistics are shown in parenthesis. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

Stocks:	Market model		4-factor model	
	Mean (%)	Diff.	Mean (%)	Diff.
Panel A: All trades				
<i>With loan renegotiation</i>	10.54 (2.23)	**	10.63 (2.35)	**
<i>Without loan renegotiation</i>	0.28 (1.06)	10.26 (2.15)	0.25 (1.12)	10.39 (2.31)
Panel B: All trades (including unchanged stock positions)				
<i>With loan renegotiation</i>	10.30 (2.11)	**	10.13 (2.14)	**
<i>Without loan renegotiation</i>	0.27 (0.93)	10.03 (2.03)	0.28 (1.18)	9.85 (2.09)
Number of events (loan renegotiations)	32		32	

TABLE VIII

ABNORMAL RETURNS FOLLOWING LOAN RENEGOTIATIONS: DIFFERENCES-IN-DIFFERENCES APPROACH

This table looks at the abnormal returns on the stock trades following loan renegotiations using differences-in-differences framework. The dependent variable is *Abnormal Return (AR) x Trade direction*. Each observation is in the format $(AR_{k,t} \times TD_{i,k,t})$, where k stands for the stock, t stands for the loan amendment, and i stands for the institutional manager. Each coefficient corresponds to the marginal effect for the indicated group (*Investors * Stocks*), averaged across loan amendments. The difference between Panel A and B is the definition of *Trade direction*. In Panel A, *Trade direction* is equal to -1, 0, or 1 if, over the past quarter, the investor reduced, did not change, or increased his position in a given stock (i.e., the returns are counted only if the stock was traded). In Panel B, *Trade direction* is equal to -1 if, over the past quarter, the investor reduced his position in a given stock and, otherwise, it is equal to 1. *AR* is the intercept in the regression of monthly excess returns. The 4-factor model includes Fama and French (1993) factors and the Cahart (1997) momentum factor. *t*-statistics are shown in parenthesis. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

	Market model		4-factor model		Loan renegotiation becomes public in a different quarter							
	Panel A: All trades				Market model		4-factor model					
	Coeff	t-stat		Coeff	t-stat	Coeff	t-stat		Coeff	t-stat		
<i>All investors * Stocks with loan renegotiation</i>	1.33	(5.53)	***	1.53	5.89	***	3.6	(9.74)	***	4.81	(12.16)	***
<i>Stock & Loan investors * All stocks</i>	-1.02	(1.93)	*	-0	-1.07		-0.27	(3.84)	***	-0.16	(2.10)	**
<i>Stock & Loan investors * Stocks with loan renegotiation</i>	9.13	(4.33)	***	9.22	4.06	***	6.18	(1.99)	**	7.98	(2.40)	**
	Panel B: All trades (including unchanged stock positions)											
<i>All investors * Stocks with loan renegotiation</i>	1.89	(7.38)	***	1.94	7.03	***	4.41	11.13	***	5.60	(13.23)	***
<i>Stock & Loan investors * All stocks</i>	-0.29	(5.19)	***	-0.15	-2.53	***	-0.53	-7.04	***	-2.95	(3.65)	***
<i>Stock & Loan investors * Stocks with loan renegotiation</i>	8.43	(3.75)	***	8.30	3.43	***	5.47	1.64	*	7.15	(2.01)	**

TABLE IX
SIZE OF THE STOCK TRADES

This table examines relative size of the trades by the investors that were part of the loan renegotiation (*Stock & Loan*) in the stocks of the companies with loan renegotiations. The numbers correspond to the average of the absolute trades (i.e., purchases and sells are unsigned). *t*-statistics are shown in parenthesis. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

	Median (%)	Mean (%)	t-stat	
<i>Δ Shares held following renegotiation</i>	29.44	33.69	(5.02)	***
<i>Buys</i>	21.81	36.08	(3.29)	***
<i>Sells</i>	39.62	42.25	(5.06)	***
<i>Δ Shares held before renegotiation</i>	10.33	27.21	(3.04)	***
<i>Portfolio weights (% of the median weight)</i>	107.51	126.65	(1.46)	

TABLE X

ABNORMAL RETURNS FOLLOWING LOAN RENEGOTIATIONS: RELATED STOCKS

This table looks at the abnormal returns on trading in related stocks following loan renegotiation. We define two companies as *Related* if the absolute value of earnings correlation is in the top quintile (Panel A), if the absolute value of stock returns correlation is in the top quintile (Panel B), or if companies belong to the same 2-digit SIC code (Panel C). The table shows *differences* between the *Stock & Loan* investors and for the *Stock only* investors. *Stock & Loan* corresponds to returns for the investors that were part of the loan renegotiation and *Stock only* corresponds to returns for those investors that were not part of the loan renegotiation. We restrict the *Stock only* group to those investors that invest in the loan markets. Returns are annualized and are measured over one month following loan renegotiation. Each number is *AR x Trade Direction*, averaged across loan renegotiations. *Trade direction* is equal to -1, 0, or 1 if, over the past quarter, the investor reduced, did not change, or increased his position in a given stock (i.e., the returns are counted only if the stock was traded). To account for quarterly reporting of institutional stock holdings, the last four columns report results for the sub-sample restricted to those cases where the information about renegotiation becomes public in a different quarter. *AR* is the intercept in the regression of monthly excess returns. The 4-factor model includes Fama and French (1993) factors and the Cahart (1997) momentum factor. *t*-statistics are shown in parenthesis. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

Investors: [<i>Stock & Loan</i> - <i>Loan only</i>]	Market model		4-factor model		Loan renegotiation becomes public in a different quarter											
	Mean (%)	Diff.	Mean (%)	Diff.	Mean (%)	Diff.	Mean (%)	Diff.								
Panel A: High earnings correlation																
<i>Related stocks</i>	-0.17 (1.94)	**	-0.17 (1.75)	*	-0.33 (3.13)	***	-0.36 (3.91)	***								
<i>Unrelated stocks</i>	-0.31 (7.99)	***	0.14 (1.47)		-0.30 (7.17)	***	0.13 (1.23)		-0.40 (6.79)	***	0.07 (0.58)	-0.38 (6.13)	***	0.02 (0.18)		
Panel B: High returns correlation																
<i>Related stocks</i>	-0.02 (0.25)		-0.04 (0.46)		-0.16 (1.34)	***	-0.04 (0.32)									
<i>Unrelated stocks</i>	-0.23 (6.47)	***	0.21 (2.45)	**	-0.19 (4.81)	***	0.15 (1.57)		-0.41 (7.94)	***	0.25 (1.92)	*	-0.32 (5.75)	***	0.28 (2.04)	**
Panel C: Same industry																
<i>Related stocks</i>	0.12 (0.70)		0.20 (1.98)	**	-0.29 (1.13)	***	-0.04 (0.15)									
<i>Unrelated stocks</i>	-0.21 (6.46)	***	0.33 (1.90)	*	-0.20 (5.60)	***	0.40 (2.08)	**	-0.35 (7.43)	***	0.06 (0.23)		-0.29 (5.79)	***	0.25 (0.94)	
Number of events	78		78		35		35									

TABLE XI
TRADING PERFORMANCE: INVESTORS WITH ACCESS TO LOAN RENEGOTIATIONS,
RELATED VS. UNRELATED STOCKS

This table shows event time performance for institutional investors who have access to the loan amendment information. The event time is the quarter of the loan amendment. Stocks held by an investor are first sorted into quintiles according to the absolute value of their returns correlation with the stock issued by the loan amendment company. Rank 1 is the lowest absolute correlation, and rank 5 is the highest. Within each correlation quintile, stocks are then sub-sorted into three groups based on signed trading volume by the investor. Rank 1 is the strongest sell, and rank 3 is the strongest buy. Mean return for each subgroup is calculated across all investors for a given period. HML is the average performance difference between strong buy group and strong sell group. The table reports the time-series average of each quantity. ***, ** and * indicate p -values of 1%, 5%, and 10%, respectively.

Panel A: Absolute returns correlation

Panel A1: Signed Trading Volume						
Correlation Rank (Low to High)	N	Trading Rank (Sell to buy)			HML	
		1	2	3		
1	33	4.41	7.67	5.49	1.09	
2	33	3.00	3.34	7.19	1.99	
3	33	3.14	5.22	4.40	2.42	
4	33	2.62	-0.02	4.05	1.81	
5	33	1.19	16.02	5.40	4.21	
rank5-rank1		-3.22	8.35	-0.09	3.12	***
t-stat					(4.97)	

Panel A2: Signed Turnover						
Correlation Rank (Low to High)	N	Trading Rank (Sell to buy)			HML	
		1	2	3		
1	33	4.06	7.77	5.63	1.60	
2	33	3.39	2.85	7.50	1.90	
3	33	3.19	5.62	3.97	1.91	
4	33	2.70	0.23	3.90	1.58	
5	33	1.57	15.99	5.12	3.55	
rank5-rank1		-2.49	8.22	-0.51	1.96	***
t-stat					(2.85)	

TABLE XI- continued

Panel B: Absolute earnings correlation

Panel A1: Signed Trading Volume						
Correlation Rank (Low to High)	N	Trading Rank (Sell to buy)			HML	
		1	2	3		
1	32	3.89	4.62	2.84	-1.02	
2	32	3.40	5.67	4.05	0.65	
3	32	3.41	4.38	3.56	0.19	
4	32	4.41	5.26	4.07	-0.52	
5	32	3.90	4.84	4.72	0.82	
rank5-rank1		0.01	0.22	1.88	1.84	***
t-stat					(2.10)	
Panel B2: Signed Turnover						
Correlation Rank (Low to High)	N	Trading Rank (Sell to buy)			HML	
		1	2	3		
1	32	3.89	4.43	3.10	-0.77	
2	32	3.61	5.13	4.46	0.86	
3	32	3.72	3.93	3.76	0.09	
4	32	4.63	5.16	3.98	-0.84	
5	32	3.93	4.34	5.24	1.32	
rank5-rank1		0.04	-0.09	2.15	2.08	***
t-stat					(2.32)	