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Pacific-Basin Finance Journal

journal homepage: www.elsevier.com/locate/pacfin

Bank lenders as matchmakers? Evidence from when acquirers and targets share a common lender[☆]



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ARTICLE INFO

Keywords:

Lending relationship
Lead creditor
M&A
Announcement return

JEL classification:

G31
G32
G34

ABSTRACT

We examine whether M&A transactions between firms sharing a common lender differ in important ways from those without common lenders. Consistent with the view that common lenders may improve information flow between firms, we find that firms have a higher likelihood of being a target when they share a common lender with the acquirer, and the resulting abnormal announcement return for the combined entity is higher. Additionally, these deals result in reductions in borrowing costs, and are associated with lower investment bank advisory fees. However, the effect of having a common lender is asymmetric: the effect is positive for bidders, but not for targets, with the average target also receiving a lower acquisition premium. The results are robust to controlling for several lender characteristics and are not driven by lenders acting as advisors. Overall, we find that bank lenders serve an important role in M&A transactions, but their role may not be entirely bias-free.

1. Introduction

Bank lenders are believed to occupy a privileged informational position in relation to their borrowers' businesses. Their lending relationships allow them to observe details that other outsiders cannot readily observe and to interact with their borrowers on a regular basis in order to share information.¹ Having superior knowledge about the operations of multiple borrowers may place them in a uniquely advantaged position to identify firms that may benefit from merging. That is, common lenders may serve as an informational bridge, or matchmaker, between acquirers and targets, leading to more valuable matches. While banks often act as formal advisors for mergers and acquisitions (M&A) transactions, their central position within the information network may be of value even without such a formal advisory role. Of course, as potentially interested parties, bankers may not be entirely disinterested matchmakers, and may have other motivations and preferences when connecting acquirers with targets. For example, they may place more value on acquirer outcomes than target outcomes, since the acquiring management team is likely to be the one they will

[☆] We would like to thank Qiao Liu, Wei Luo, Songtao Tan, Zhigang Zhen, and seminar participants at 2016 China Finance Annual Conference, Southwestern University of Finance and Economics, Peking University, Renmin University of China, University of Toledo, and Tsinghua University for valuable comments and discussions. All errors are our own.

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¹ See for example, Ramakrishnan and Thakor (1984), Diamond (1991), James (1987), Lummer and McConnell (1989), Billet et al. (1995), and Dennis and Mullineaux (2000).

<https://doi.org/10.1016/j.pacfin.2019.06.003>

Received 14 November 2018; Received in revised form 25 May 2019; Accepted 4 June 2019

Available online 06 June 2019

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continue to deal with in the future. This paper examines whether announcement returns to M&A transactions between firms sharing a common lender differ in important ways from those without common lenders. We attempt to identify whether these matches are in general value-creating, and also investigate whether the outcomes are consistent with any biases with regard to the bankers' preferences.

To examine these issues, we compile a database of 2117 US acquisition attempts between 1990 and 2011 using the Thomson SDC database. For these acquisitions, we identify the lenders to both the bidders and targets in the three-year period prior to the deal using the DealScan database. We first determine whether the parties shared any lenders in common, then whether any one bank served as a common lead lender to both parties. Since the lead bank is the bank with the closest connection to the borrowers, we would expect the lead bank's role to be more important than that of other syndicate members.

Consistent with the idea that common lenders impact the possibility of two firms coming together in a merger, we find that the likelihood of a firm being chosen as a target is higher when it shares a common lender with the acquirer as compared to similar firms without a common lender. Similarly, consistent with the notion that banks serve a positive matchmaking role, we find that the combined abnormal returns to bidders and targets on deal announcement are higher for deals in which the firms share a common lead banker.

We also investigated whether there are differential effects for acquirers and targets, as bankers may place acquirer interests above target interests because of anticipated relationship benefits with the post-merger entity. Here, our evidence suggests that most of the gains accrue to the acquirers rather than the targets. In our multivariate regression analyses explaining the determinants of the gains to acquirers and targets, we find that sharing a common lead banker has a positive effect on acquirer returns, but not on target returns. In later regression analyses looking at 4-week acquisition premiums, we find evidence that the targets experience lower premiums when they share a common lead banker with the bidder. Our regression results remain consistent even after controlling for the common lead and other lender characteristics. While we have no direct evidence that bankers deliberately influence deals to favor the acquirers, the indirect evidence obtained suggests that deals with common lead bankers seem to result in more favorable acquirer outcomes.

One possible bias of our sample is that loans to larger firms are more likely to appear in DealScan than are loans to smaller firms (Fang et al., 2013). As a robustness check, we run specifications limiting our sample to deals where both bidders and targets have relatively recent loan records listed within DealScan. The characters of our main cumulative abnormal return results remain the same even with this restriction. The results are also similar if we restrict our sample to include only completed deals or if we exclude the smallest deals.

In further robustness checks, we examine three screens designed to investigate whether our main results would hold when we eliminate deals where bidders and targets are only linked by (i) loans that are related to the transaction or (ii) very small loans where lenders are only incidentally related to both the acquirer and target. In one screen, we drop the relationships only linked by loans which have stated purposes related to M&A activity. In the second screen, we drop the relationships only linked by loans in the 6-month period preceding the announcement of the transaction. In the third screen we restrict our definition of common lenders to only include those lenders that have an average loan amount to both bidder and target of at least 50 million dollars. Using all three screens, our primary cumulative abnormal return results remain qualitatively similar.

Common lenders may not arise randomly, so the identification of common lenders as the reason for a better deal performance could be spurious. We acknowledge this identification issue and take several steps to mitigate it. For instance, firms that are likely to be good merger partners may have a common lender to begin with, resulting in better deal outcomes when they merge; we may be incorrectly attributing their superior deal performance to the presence of common lenders. To address this issue, we use characteristic-matching method for each acquirer in order to identify potential target candidate firms. Our results show that firms which share a lender with the acquirer have a higher likelihood of being chosen as a target than other characteristic-matched firms which do not share a lender. Similarly, it is possible that firms which are geographically proximate may have both common lenders and better merger outcomes, without an incremental role for the common lenders in explaining the merger outcome. To control for this possibility, we include a dummy variable among the control variables of our regression analyses, indicating whether the acquirer and the target are in the same industry, as well as the distance between the headquarters of the acquirer and those of the target. Our findings show that the results are not driven by industry or geographic closeness, as the better deal performance remains constant even after controlling for geographic proximity.

There may of course be alternative explanations for our results; for example, lenders who lend money to multiple publicly-traded companies are more likely to be larger and more experienced. They may select potential clients based on stricter criteria, such that the better deal performance may not be due to information flow through common lenders, but due to the common lenders' selection of good quality firms when deciding to whom to lend. To address this issue, we control for lender characteristics and lender quality measures in our regressions and show that our findings are not driven by such characteristics. These results improve the identification and mitigate the endogeneity concerns of our tests, although we cannot completely rule out all unobservable latent factors which may explain both the presence of common lenders and better deal performance.

We additionally investigate some measures of deal outcomes aside from announcement returns. The existence of a common lead creditor is negatively related to changes in the costs of borrowing from the period before the deal to the period following the deal. We do not, however, detect a significant impact on operating performance, as measured by ROA. We also do not detect a significant link between common creditors and either the probability of deal completion or the time to deal completion.

Our paper is related to the literature on connections or social ties and their effects on corporate investment and financing decisions. Within the M&A literature specifically, Matvos and Ostrovsky (2008) as well as Harford et al. (2011) study whether the institutional cross-holding of shares in the acquirer and the target can affect merger outcomes. Cai and Sevilir (2012) study the effects

of board connections on M&A transactions and find that acquirers obtain higher announcement returns where the acquirer and the target share a common director.

Since bankers can sometimes act as advisors, our paper is also related to the literature on the role of advisors in M&A transactions (e.g., Agrawal et al., 2013; Allen et al., 2004; Bodnaruk et al., 2009; Kale et al., 2003). In this context, the most relevant paper related to our research is that of Agrawal et al. (2013), who examine transactions in which bidders and targets share a common advisor. They provide evidence that these deals lead to outcomes “somewhat better for acquirers than for targets,” a result which is echoed in our study. One difference between our study and theirs is that we find an effect not just for bankers acting as advisors, but also for bankers simply serving as lenders. Our evidence suggests that banks may serve a role in acquisitions even if they are not formal advisors. Beyond this difference, we can examine deals in which a common lender served as an advisor to only the bidder and not the target, or vice-versa. This opens a new dimension of analysis not available in Agrawal et al. (2013).

Consistent with the idea that a lending relationship in and of itself can serve a valuable matchmaking purpose, we find higher combined acquirer and target returns for deals with common lead banks, even when these banks are not advisors to acquirers or targets. Interestingly, the relative returns of bidders vs. targets depend on whether the common lender is the advisor to the bidder or the target. Returns to acquirers (and overall combined returns) are higher when the common lead bank is the acquirer's advisor and lower when it is the target's advisor. Our results suggest that the advisor of the acquirer would help increase the acquisition synergy and the acquirer return when the advisor lends to both acquirer and target. However, the same lead creditor playing the role as advisor of the target would lead to a lower acquisition synergy and a lower acquirer return.

The structure of this paper is as follows. Section 2 elaborates on why common creditors may matter in mergers and establishes the hypotheses tested in the paper. Section 3 introduces our sample and reports summary statistics. Section 4 discusses the effect of having a common creditor on acquisition probability. Section 5 analyzes the relation between common creditor connections and acquisition outcomes. Section 6 presents some robustness checks; Section 7 discusses the potential explanations for the impact of creditor connection on M&As, while section 8 concludes the paper.

2. Why might common creditors matter in mergers?

When a firm borrows money, creditors and creditor-consortiums evaluate several facets of the firm's credit worthiness. This is in addition to the bond-rating process undertaken by rating agencies, which is required of most debt-issuing firms. The creditor-level evaluation is associated with disclosure of significant firm-specific information (Dennis and Mullineaux, 2000; Diamond, 1991; James, 1987; Lummer and McConnell, 1989; Ramakrishnan and Thakor, 1984). In fact, there is often a private disclosure of proprietary information to the creditors, information which is not known to the broader market (Bhattacharya and Chiesa, 1995; Yosha, 1995). This provides a substantial informational advantage to the creditors in understanding the different facets of a firm's operations, revenue sources, cost structures, and risks (Kang et al., 2000). The process may also provide creditors with a broader understanding of avenues for future improvement and potential synergies from different merger partners.

Given the extent of information available to creditors, when an institution is a creditor of both an acquirer and a target, it is in a unique place to evaluate the benefits of the synergies which may result from a merger between the two firms. For any given acquirer, such creditors may be able to better identify potential targets; moreover, once they hone in on a target, they are able to better identify the synergies and costs arising from a merger between the two firms. This is especially likely to be true when the creditor who is common to both firms is a lead creditor in a syndicate lending to either firm. Lead creditors have a disproportionate responsibility in collecting firm-specific information and in putting together a lending syndicate which would be able to successfully arrange for the appropriate loan amount, while also monitoring and servicing the loan through its term (Dennis and Mullineaux, 2000). Common creditors may also improve the information flow and communication between the merging firms and help improve each firm's understanding of the other firm's operations, revenue, cost structures, and risks. This improved knowledge flow may lead to superior coordination, and on average, better merger transactions when compared to mergers where there are no common creditors. Therefore, we expect higher synergies to be associated with mergers where there is a common creditor between the acquirer and the target, and especially so when the common creditor is a lead creditor. Thus, we would expect the presence of a common lead and of other creditors to be associated with higher announcement returns for the acquirer and target combined, i.e., higher combined bidder and target CARs (CCARs).

In a related vein, due to the greater information flow, there is a potential for lower transaction costs between the merger partners in an acquisition with common creditors. These may partly substitute for and offset the costs of investment banking services which are usually associated with identifying synergy sources as well as initiating and completing merger transactions. Therefore, there would be reduced transaction costs associated with such mergers, such as the costs associated with fairness opinions. These benefits would also translate into higher CCARs for mergers.

The presence of common creditors may also directly impact the announcement period gains to the acquirer. With the help of common creditors, acquirers are able to more readily identify potential targets. This lowers the search costs and other transaction costs associated with identifying high-synergy targets for mergers. Since acquirers now have private information about the target, they have a relative advantage over outside bidders, that is, bidders without a common creditor connection. This may enable acquirers to pay a lower premium for the target firm. In addition, the targets involved in a common bank connected acquisition may have relied, for financing purposes, on a long term lending relationship with banks in the past. These banks may exert influence on their borrowers to accept a low premium in common creditor connected M&A deals. Therefore, we expect a lower acquisition premium for targets and a higher announcement period abnormal return for acquirers in the case of mergers with a common creditor connection.

Among mergers with common creditor connections, given the superior flow of information and communication, we expect a higher probability of deal completion compared to mergers with no creditor connections. Moreover, if all else is equal, we expect that mergers with a creditor connection will have fewer days to deal completion (as measured from the announcement date) compared to mergers where there are no common creditors. Additionally, if there are increased CCARs associated with mergers with a common creditor connection, we explore the underlying factors which drive these greater value gains. We examine whether these mergers experience a greater increase in post-merger operating performance. Given that creditors are the source of the informational advantage which drives these relatively greater merger gains, we also explore whether the higher CCARs are driven by lower post-merger borrowing costs. To examine the latter, we analyze the relation between the changes in loan spread from the pre-merger to the post-merger time point for the acquiring firm, and the combined bidder-target announcement period abnormal returns around these mergers. In addition, we expect the improved information flow between merger partners in mergers with common creditors to directly result in lower transaction costs for these mergers (Druck and Puri, 2005). To analyze the impact on transaction costs, we examine whether mergers with a common lead creditor and those with common other creditors have lower investment bank fees compared to mergers with no such connections.

As previously stated, in some instances mergers not only have common creditors, but one of these creditors is also an advisor for either the bidder or the target. Agrawal et al. (2013) show that, when merger partners share common advisors, there are significant benefits to the deal resulting in greater combined bidder-target value gains relative to other mergers. However, since lending relationships provide access to detailed, and sometimes, proprietary firm-level information, we expect the benefits from common creditors to be incremental to the benefits derived from common advisors. Therefore, we expect CCARs to be higher for mergers with common creditor connections even after controlling for the fact that a common creditor is also an advisor for the merger. In addition, since advisors have a fiduciary responsibility to the firm they are advising, we expect that if a common creditor is an advisor for the acquirer, then such mergers will be associated with higher acquirer abnormal returns around the time of the announcement of the mergers. Similarly, we would expect higher target abnormal returns if the common creditor is an advisor of the target firm.

It is natural to ask what motivates these common lenders to facilitate these deals and help information transfer. What do they gain from it? A potential reason for why the common lenders are incentivized to help enable the merger is that a more valuable combined entity is better able to payoff the firm's debt. Additionally, debt becomes safer because of the co-insurance effect of debt. That is, combined firms have a lower default risk when compared to two separate firms whose values add up to the combined firm's value. Furthermore, a combined firm with greater synergies is likely to have more growth options. This may translate into more financing and more future lending opportunities for the common creditor and is thus yet another reason why common lenders would want to help initiate the merger.

3. Data and sample description

We draw our initial sample of US public-to-public mergers and acquisitions from the Thomson SDC M&A database. We include mergers and acquisitions announced between January 1990 and December 2011 for which the deal is coded as a merger, an acquisition of majority interest, or an acquisition of assets (including both completed and cancelled deals). We additionally restrict our attention to deals valued at more than one million dollars in which the bidder does not own a majority stake prior to the transaction and is trying to obtain such a stake after the transaction. We also require that both bidders and targets have no missing data on CRSP and Compustat for one year prior to the announcement.

To obtain information about the lenders of the acquirers and the targets, we use the Reuters Loan Pricing Corporation's DealScan syndicated loan database. For each M&A transaction, we use the syndicated loan records during the three-year period before the M&A announcement in the DealScan database in order to identify whether the acquirer and the target firm have the same creditors. We use the following procedure to identify such acquisitions. First, following Chava and Roberts (2008), we use the Dealscan-Compustat Link table to match the DealScan syndicated loan database with Compustat in order to obtain each borrower's unique identifier (GVKEY). Second, we construct a three-year time window for each M&A deal in our sample and merge these data with the DealScan data using the GVKEY in order to obtain the unique lender identifier IDs for the lenders of the acquirer and target firms during the three years immediately before each M&A deal announcement. Finally, we identify the common lenders in the cases where both the acquirer and the target firms have at least one unique lender identifier ID in common.

Syndicated loans usually involve many different participants, among which are lead creditors.² Since it is possible that lead creditors have a greater influence on their borrowers than do other creditors, we further divide common creditor connections into two types. The first type encompasses common lead creditor connections where the acquirer and the target have borrowed using the same lender as the lead creditor at least once during the three-year period prior to the M&A deal announcement. The second type encompasses common other (non-lead) creditor connections where the acquirer and the target have borrowed from the same lender during the three-year period prior to the M&A deal announcement, but the lender was not the lead creditor for either the acquirer or

² Due to a variety of lender titles used in different loan syndications, there has not been a consensus in the literature on how to identify the lead creditor(s) of a syndicate. In this article, we follow the indications of Jiang and Shao (2010) and identify the major participants in a loan syndicate based on the lenders' roles specified in DealScan. The lenders with the following roles are considered as the major participants: admin agent, agent, arranger, book runner, co-agent, co-arranger, co-lead arranger, co-lead manager, co-manager, co-syndications agent, coordinating arranger, documentation agent, joint arranger, joint lead manager, lead arranger, lead bank, lead manager, manager, managing agent, mandated arranger, senior arranger, senior co-lead manager, senior lead manager, senior lender, senior managing agent, sole lender, and syndications agent.

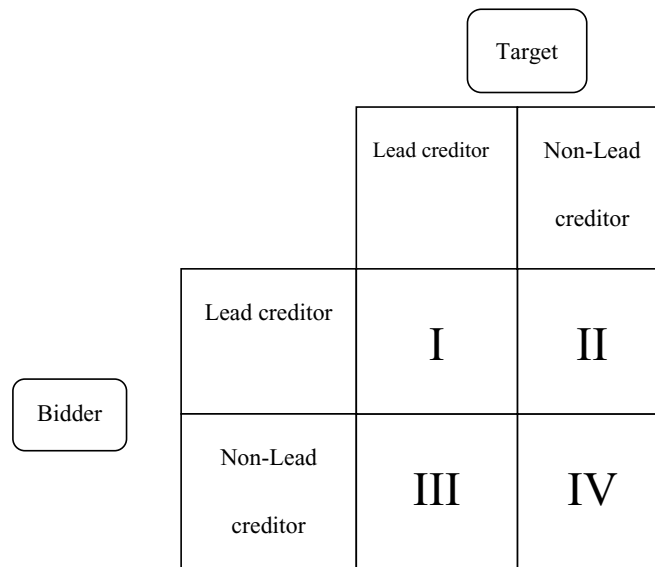


Fig. 1. Types of common creditor connections.

Quadrant I: common lead creditor connection; Quadrants II, III, IV: common other creditor connection.

the target. The common lead creditor and other creditor connection definitions are illustrated in Fig. 1. Our final sample consists of 2117 merger attempts; out of these, 1770 represent successfully completed deals. Among the 2117 acquisition attempts within our sample, we observe 257 deals (12.1%) with common lead creditor connections and 108 deals (5.1%) with common other creditor connections.

Table 1 reports the summary statistics for the different types of acquirer, target, and deal characteristics. The definitions of the variables are described in detail in the Appendix. Table 1 reports the variable means for the different subsamples based on whether the acquisition had a common lead creditor, a common other creditor, or no common creditor between the acquirer and the target. In columns 3 and 5, for each firm and its deal characteristic, we present the comparison between the common lead creditor connected transactions and non-connected transactions and between common other creditor connected transactions and non-connected transactions, respectively. The results show that the acquirer firms in the common lead creditor connected deals are larger in firm size, have a higher ROA, and have lower stock returns in the 200 trading day period ending 11 trading days before the deal announcement when compared to the acquirer firms in the non-connected transactions. The acquirer firms in the common other creditor connected deals are also larger in firm size and have lower stock return in the 200 trading day period ending 11 trading days before the deal announcement when compared to the acquirer firms in the non-connected deals.

In addition, acquirers in connected transactions have fewer growth options in their set of investment opportunities, as evidenced by their lower market-to-book ratio when compared to acquirers in deals with no creditor connections. Interestingly, the target firms in both the common lead creditor and other creditor connected deals are larger in firm size, have a higher ROA, and have more free cash flow when compared to the target firms in non-connected deals. These patterns suggest that target firms in common creditor connected transactions perform better, thus outperforming their industry peers. They also have higher leverage when compared to targets in non-connected deals, which may imply that creditors have more influence on these borrowing firms' corporate decisions. In terms of deal characteristics, common lead creditor connected deals have a larger relative deal size, are less likely to be all-cash or all-stock deals, have more bidders, and their bids are more likely to be hostile when compared to non-connected deals. Common other creditor connected deals also have a larger relative deal size, are less likely to be all-stock deals, have more bidders, and are more likely to be hostile when compared to non-connected deals. However, we find that these latter deals, i.e., deals where there are common other lender connections, are less likely to be completed even though the acquirers have a higher toehold.

4. Common creditor connections and the identification of acquisition targets

Due to privacy laws and related regulations, common creditors may not be able to share all their acquired information between their clients. However, there could be non-proprietary information which is more readily available to common creditors, which may be shared, and which could be instrumental in initiating more merger transactions among firms with common creditors. Besides this, the sharing of *any* kind of information (even proprietary information) may not always be observable.

To investigate whether there is an informational advantage for common creditors, we first examine whether there are more merger transactions among firms with common creditors. If indeed banks do facilitate information flow between acquirers and targets, then for any given acquirer, a firm that shares common creditors with the acquirer will be a more likely candidate for acquisition. To examine this possibility for each deal, we select one or more control firms from within the same industry as the target

Table 1
Summary statistics.

	No common creditor	Common lead creditor	Common lead creditor vs. no common creditor	Common other creditor	Common other creditor vs. no common creditor
No. of sample deal	1752	257		108	
Acquirer and target characteristics					
Acquirer size	7.43	8.64	1.21***	7.96	0.53**
Acquirer market-to-book ratio	1.98	1.89	-0.08	1.56	-0.42***
Acquirer ROA	0.02	0.05	0.03**	0.05	0.03
Acquirer leverage	0.26	0.26	0.00	0.29	0.03
Acquirer FCFLOW	-0.01	-0.02	-0.01	-0.04	-0.03
Acquirer stock price run-up	0.05	-0.01	-0.06**	-0.02	-0.07*
Target firm size	5.32	7.37	2.05***	6.48	1.16***
Relative target-to-bidder size	0.74	0.87	0.13***	0.83	0.09***
Target market-to-book ratio	1.60	1.70	0.10	1.47	-0.13
Target ROA	-0.08	0.01	0.09***	0.02	-0.10***
Target leverage	0.26	0.32	0.06***	0.32	0.06**
Target FCFLOW	-0.11	-0.06	0.05**	-0.08	0.03
Target stock price run-up	-0.04	-0.04	-0.01	-0.10	-0.07
Deal characteristics					
Deal completion (1/0)	0.84	0.84	-0.00	0.73	-0.11***
Relative deal size	0.41	0.66	0.26***	0.70	0.30***
Toehold (%)	0.91	1.47	0.56	1.97	1.06***
All-cash deal (1/0)	0.27	0.16	-0.11***	0.24	-0.02
All-stock deal (1/0)	0.44	0.29	-0.15***	0.31	-0.13**
Hostile deal (1/0)	0.03	0.05	0.03**	0.08	0.06***
Unrelated deal (1/0)	0.28	0.29	0.02	0.26	-0.02
Tender offer (1/0)	0.17	0.15	-0.02	0.19	0.02
Number of bidders	1.08	1.15	0.07***	1.22	0.14***
Local deal (1/0)	0.25	0.24	-0.01	0.21	-0.04

Note. The sample consists of 2117 acquisition attempts announced during the period January 1, 1990 to December 31, 2011. Common lead creditor transactions are the deals where the acquirer and the target share at least one common lead creditor during the three years before the merger announcement. Common other creditor transactions are the deals where the acquirer and the target share at least one common creditor but not the common lead creditor during the three years before the merger announcement. The rest of the deals are classified as no common creditor transactions. The variable definitions can be found in the Appendix. Columns 1, 2, and 4 present the mean values for the different sample deal characteristics. Column 3 reports the difference between columns 1 and 2; column 5 reports the difference between columns 1 and 4.

* Significant at the 0.1 level

** Significant at the 0.05 level

*** Significant at the 0.01 level.

(or characteristics-matched to the target) and consider them as possible acquisition candidates for the acquirer. We then use this data to estimate a probit regression model in order to analyze whether common creditor connections increase the likelihood of being chosen as a target by the acquirer. Following Bodnaruk et al. (2009), we also control for some widely used firm characteristics in our regression model. The results of this regression are presented in Table 2.

In the first column of Table 2, for each acquirer-target pair in our sample, we choose as control firms all firms in the same 4-digit SIC code as the target, excluding the acquirer and target firms. We then construct a set of acquirer-target and acquirer-control pairings. We create a dummy variable denoted as *Dummy_MA_yes*, which is set to 1 for the acquirer-target pairs and set to zero for the acquirer-control pairs. For each acquirer-target and acquirer-control pair, we also identify whether the two firms in a pair have had a common lead creditor connection or a common other creditor connection during the three-year period prior to the deal announcement. We then use these creditor connection variables to predict the acquisition likelihood; that is, we use the creditor connection data to explain the variation in the *Dummy_MA_yes* variable. The results in column 1 show that the coefficient for the common lead creditor connection is 0.0066, which is significant at the 0.01 level. We find similar results for the common other creditor connection. These results are consistent with the view that common lender connections with the acquirer significantly increase the likelihood of firms being chosen as targets.

Columns 2 and 3 of Table 2 show the results of similarly estimated regression models which use different control firms. In these columns we select the control firms based on their size or on other characteristics, respectively. In column 2 (column 3), for each target firm in an acquirer-target pair, we select 10 control firms from the same 4-digit SIC code as the target and match those that are similar in size (similar in other characteristics) with the target firm. For character-matched controls, we follow the procedure described by Huang and Stoll (1996) and obtain controls matched to the target based on size, book-to-market value, and leverage. The results show that firms which have a lender in common with the acquirer also have a higher likelihood of being chosen as a target when compared to other firms.

One concern is that, as Acharya et al. (2013) point out, a limitation of the DealScan database is its possible bias toward large syndicated loans and large firms. This would lead us to mistakenly classifying those small Compustat firms for which information on

Table 2
Regression results for acquirer-target matching.

	Dummy_MA_yes	Dummy_MA_yes	Dummy_MA_yes
	All firms with the same 4-digit SIC codes as candidate target firms	10 size-matched firms with the same 4-digit SIC codes as candidate target firms	10 characteristics-matched firms with the same 4-digit SCI codes as candidate target firms
	Probit	Probit	Probit
Common lead creditor connection	0.0066 ^{***} (6.14)	0.0585 ^{***} (4.05)	0.0545 ^{***} (3.83)
Common other creditor connection	0.0030 ^{**} (2.08)	0.0315 [*] (1.88)	0.0328 [*] (1.96)
Target size (Log)	0.0036 ^{***} (4.62)	0.0009 (0.05)	−0.0053 (−0.36)
Target market-to-book ratio	−0.0010 ^{***} (−4.57)	−0.0001 (−0.02)	0.0045 (0.89)
Target leverage	−0.0014 (−0.89)	−0.0061 (−0.24)	0.0102 (0.35)
Target ROA	−0.0002 (−0.27)	−0.0174 (−1.35)	−0.0121 (−0.86)
Target growth of sales	−0.0008 ^{**} (−2.29)	−0.0149 ^{***} (−2.71)	−0.0122 ^{**} (−2.24)
Target accounting liquidity	0.0008 (0.47)	−0.0147 (−0.60)	0.0112 (0.43)
M&A deal fixed effects	Yes	Yes	Yes
Observations	89,366	10,847	9672
Pseudo R ²	0.1544	0.0491	0.0491

Note. This table presents the marginal effects from probit models for the acquirer-target matching for the sample of 2117 US mergers and acquisitions attempts between 1990 and 2011. The dependent variable is *Dummy_MA_yes*, which equals one if the candidate firm is the actual target firm and zero otherwise. Column 1 uses all the firms within the same 4-digit SIC code as the target, except for the acquirer and the target, as control firms. Columns 2 and 3 use 10 size-matched and 10 characteristic-matched firms from the same 4-digit SIC code as the actual target firm as control firms, respectively. The characteristic-matching in column 3 follows the procedure in [Huang and Stoll \(1996\)](#) to identify control firms matched to the target firms based on size, book-to-market, and leverage. Marginal effects evaluated the means of the continuous independent variables and looked for a change from zero to one for the indicator variables. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not the common lead creditor, and zero otherwise. All regressions control for the M&A deal fixed effects; their coefficients are not reported for brevity reasons. The *t*-statistics based on heteroskedasticity-robust standard errors clustered at the acquirer level are reported in parentheses.

* Significant at the 0.1 level

** Significant at the 0.05 level

*** Significant at the 0.01 level.

DealScan is missing as firms without common lenders. This may lead to a spurious correlation between having no common lender and not being targeted for a merger. This data bias issue is more problematic in this analysis since target firms tend to be small. To alleviate this concern, we impose the restriction that all target candidate firms should have appeared in the DealScan database at least one time. Based on this reduced candidate sample, we replicate the abovementioned probit models and our main results remain unchanged.

5. Common creditor connections and acquisition outcomes

5.1. Univariate analyses

To examine the value impact of an acquisition on the acquirer, target, and the combined acquirer-target entity, we follow the prior literature and compute the cumulative abnormal returns (CAR) for each entity. In computing the CARs, we use the CRSP value weighted return as the market return and estimate the market model parameters over the 200 trading days prior to the acquisition announcement, ending 11 days before the announcement. We calculate the cumulative abnormal returns for the acquirer (ACAR), target (TACR), and a combined portfolio of acquirer and target (CCAR) around the acquisition announcement. For the combined portfolio, we form a value-weighted portfolio of the acquirer and target; the value weights are based on their market capitalization at 11 days before the acquisition announcement date. We adjust for any toehold by subtracting the target equity held by the acquirer from the target's market capitalization.

We use a three-day event window (−1, +1) where event day 0 represents the acquisition announcement date. However, our results and inferences remain similar when we use alternative event windows such as (−2, +2). We present the mean and median values of CARs for the full sample in Panel A of [Table 3](#). Consistent with the positive abnormal returns for the combined acquirer plus

Table 3
Univariate analysis of the CAR and the acquisition premium.

	Full sample			Common lead creditor			Common other creditor			No common creditor			Common lead creditor vs. no common creditor			Common other creditor vs. no common creditor		
	Mean	Median		Mean	Median		Mean	Median		Mean	Median		Mean	Median		Mean	Median	
Panel A: Abnormal announcement period returns and synergies based on event window [-1, +1] (in percentages)																		
Combined CAR	1.90***	1.04***	3.13***	1.89***	1.04***	3.86***	2.71***	1.61***	0.86***	1.52**	1.03***	2.26**	1.85***					
Acquirer CAR	-0.99	-0.94***	-0.69	-1.18**	-0.17	-0.27	-1.08***	-0.94***	0.39	0.91	-0.24	0.67						
Target CAR	21.31***	16.71***	18.02***	13.93***	20.57***	16.21***	21.82***	16.91***	-3.80**	-2.98*	-1.26	-0.70						
Panel B: Acquisition premium (in percentages)																		
PREM	44.24***	36.34***	32.72***	31.36***	37.77***	33.07***	46.37***	37.70***	-13.65***	-6.34***	-8.60	-4.63						

Note. The statistics in this table are based on the three-day market-model cumulative abnormal returns (CARs) calculated around the announcement date and for our sample of 2117 mergers and acquisitions. Common lead creditor transactions are the deals where the acquirer and the target share at least one common lead creditor during the three years before the merger announcement. Common other creditor transactions are the deals where the acquirer and the target share at least one common creditor but not the common lead creditor during the three years before the merger announcement. The rest of the deals are classified as no common creditor transactions.

* Significant at the 0.1 level
 ** Significant at the 0.05 level
 *** Significant at the 0.01 level.

target returns documented by previous literature (Andrade et al., 2001; Cai and Sevilir, 2012; Moeller et al., 2004; Wang and Xie, 2009), we find that the mean and median of the three-day combined abnormal returns (i.e., CCARs) are 1.90% and 1.04%, respectively, which are both statistically significant at the 0.01 level of significance. The mean and median of the three-day abnormal returns for acquirers (i.e., ACARs) are -0.99% and -0.94% , respectively, which are also both significantly different from zero at the 0.01 level. This latter mean abnormal return is consistent with the -1% magnitude reported by Fuller et al. (2002) for public targets, since our sample contains only publicly traded targets as well. For target firms the mean and median of the three-day abnormal returns are 21.31% and 16.71%, respectively, which are also both significantly different from zero at the 0.01 level.

In order to analyze the impact of common creditor connections on wealth gains, we split the sample into three subsamples based on whether each deal involves a common lead creditor connection, a common other creditor connection, or no common creditor connection. We present the summary statistics for CARs in each subsample and analyze the difference in mean and median CARs across the three subsamples. We present these results in Panel A of Table 3. As it can be seen from the table, the mean of the acquirer-target combined abnormal return (i.e., CCAR) for the common lead creditor connected deals (3.13%) is significantly larger than the mean CCAR for non-connected deals (1.61%). Similarly, the mean CCAR for the common other creditor connected deals (3.86%) is also significantly larger than the mean CCAR for non-connected deals. These results suggest that common creditor connected transactions, irrespective of whether this creditor is the lead one or not, exhibit a significantly higher acquisition synergy than other transactions.

Perhaps more importantly, we find that the mean of the three-day ACARs are not significantly different from zero for both common lead creditor connected and common other creditor connected transactions, while its coefficient is -1.08% for the non-connected transactions; this latter value is significantly different from zero at the 0.01 level of significance. Investigating this difference, however, shows that the mean difference in three-day ACARs between creditor connected transactions (i.e., lead or other) and non-connected transactions are not statistically significantly different from zero. However, once we move beyond the univariate differences and estimate regression models while controlling for firm- and deal-level characteristics, the results change. We find that acquirer firms in common lead creditor connected transactions experience significantly higher acquirer CARs than those in non-connected transactions. Overall, these results suggest that acquisitions do not have a negative impact on the acquirers when the acquirer and target share a common lead creditor.

The mean abnormal returns of targets (i.e., TCARs) for the subsample of common lead creditor, other creditor, and non-connected deals are all positive and significantly different from zero. The mean TCAR is almost 22% for non-connected deals, while it is 18% and 20.6% for the lead and other creditor connected deals, respectively. Therefore, TCARs in non-connected deals are not smaller than in creditor connected deals. In fact, testing for this difference shows that there is a statistically significant difference in TCARs between common lead creditor connected deals and non-connected deals but not between common other creditor connected deals and non-connected deals. These results suggest that common lead creditor connected targets experience lower abnormal returns, possibly due to the lower takeover premium received in the acquisition.

In Panel B of Table 3 we report the summary statistics for the takeover premium. The mean and median of the premiums for our full sample are 44.24% and 36.34%, respectively, which are both statistically significant at the 0.01 level of significance. The mean takeover premium for the sample of targets which have no creditor connections with the acquirer is 46.4%, while it is 32.7% and 37.8%, respectively, for targets that share a lead creditor or another creditor with the acquirer. We can observe a significantly smaller takeover premium for the common lead creditor connected deals than for the non-connected deals. There is no significant difference in the takeover premium between common other creditor connected deals and non-connected deals. These results suggest that acquirers pay lower acquisition premiums in acquisitions where the acquirer and the target share a lead creditor and that these targets earn lower abnormal returns during the announcement period when compared to targets in other deals. In addition, our earlier results showed that acquirers do not earn negative abnormal returns when they acquire targets with whom they share a creditor connection (lead or otherwise) and that these acquisitions result in superior combined abnormal returns when compared to acquisitions with no creditor connections.

Overall, our findings provide support for the view that common creditors may use their informational advantage to bring together acquirers and targets with higher synergies, which can result in value-enhancing deals when we take their combined CARs into consideration. The results also suggest that targets do not benefit from these deals because targets receive smaller premiums and earn lower abnormal returns when they share a common lead creditor with the acquirer as compared to targets in deals with no common creditor connections.

5.2. Multivariate analyses

Table 4 presents three sets of regression results on the combined CARs, Acquirer CARs, and Target CARs. The first two columns contain results from regressions using the combined acquirer plus target CARs, the next two are from regressions focusing on Acquirer CARs, and the last two columns contain regression results focusing on Target CARs. The key independent variables are the indicator variables for the common lead creditor connection and the common other creditor connection. The common lead creditor connection variable is 1 if the acquirer and the target share at least one common lead creditor, and is 0 otherwise. The common other creditor connection variable is 1 if the acquirer and target share at least one common creditor but not a common lead creditor, and is 0 otherwise. The regressions control for a variety of firm and deal characteristics, which are widely acknowledged in the literature and are derived from prior studies. These include size, leverage, market-to-book ratio of acquirer and target, stock price run-up of target, relative deal size, and indicator variables for whether the acquisition was paid for with cash or stocks, whether the acquisition was a hostile takeover or not, whether the acquirer and target are from within the same industry, and whether the acquirer and target have

Table 4
Regression analyses for the acquisition returns.

	Combined CAR		Acquirer CAR		Target CAR	
Common lead creditor connection	0.0158 ^{***} (2.64)	0.0148 ^{**} (2.44)	0.0131 ^{**} (2.12)	0.0155 ^{**} (2.40)	−0.0284 ^{**} (−2.04)	−0.0171 (−1.18)
Common other creditor connection	0.0167 ^{**} (2.07)	0.0158 [*] (1.94)	0.0089 (1.03)	0.0087 (0.96)	−0.0014 (−0.07)	−0.0041 (−0.19)
Acquirer size (Log)	−0.0392 ^{***} (−2.98)	−0.0475 ^{***} (−3.63)	−0.0352 ^{***} (−2.59)	−0.0418 ^{***} (−3.05)	0.0732 ^{***} (3.20)	0.0471 ^{***} (2.04)
Acquirer market-to-book ratio	−0.0037 (−1.61)	−0.0029 (−1.19)	−0.0046 [*] (−1.69)	−0.0038 (−1.36)	0.0178 ^{***} (3.67)	0.0222 ^{***} (4.39)
Acquirer leverage	−0.0008 (−0.06)	0.0067 (0.50)	−0.0135 (−0.99)	−0.0099 (−0.66)	−0.127 ^{***} (−4.14)	−0.1024 ^{***} (−3.14)
Relative target-to-bidder size (Log)	0.0116 [*] (1.82)	0.0185 ^{**} (2.14)	−0.0321 ^{***} (−4.05)	−0.0304 ^{***} (−2.69)	−0.134 ^{***} (−6.47)	−0.1554 ^{***} (−6.29)
Target market-to-book ratio	−0.0054 ^{**} (−2.23)	−0.0031 (−1.21)	−0.0065 ^{***} (−2.64)	−0.0052 [*] (−1.98)	−0.037 ^{***} (−6.67)	−0.0328 ^{***} (−5.74)
Target leverage	0.0005 (0.05)	0.0009 (0.09)	0.0103 (0.97)	0.0107 (0.99)	0.0827 ^{***} (2.77)	0.0974 ^{***} (3.18)
Target stock price run-up	−0.0095 ^{**} (−2.49)	−0.0103 ^{***} (−2.66)	−0.0065 (−1.52)	−0.0072 [*] (−1.65)	−0.099 ^{***} (−6.77)	−0.0935 ^{***} (−6.25)
All-cash deal (1/0)		0.0104 ^{**} (2.04)		0.0184 ^{***} (3.53)		0.0519 ^{***} (2.79)
All-stock deal (1/0)		−0.0153 ^{***} (−3.35)		−0.0068 (−1.36)		−0.0184 (−1.43)
Hostile deal (1/0)		−0.0000 (−0.00)		−0.0173 ^{**} (−2.26)		0.0186 (0.76)
Tender offer (1/0)		0.0198 ^{***} (3.56)		0.0149 ^{**} (2.40)		0.0549 ^{***} (2.65)
Unrelated deal (1/0)		−0.0045 (−0.90)		−0.0030 (−0.52)		−0.0033 (−0.24)
Local deal (1/0)		0.0018 (0.29)		0.0057 (0.89)		−0.0108 (−0.87)
Observations	1959	1862	1972	1875	2062	1890
Adj. R ²	0.0560	0.0751	0.0277	0.0423	0.1265	0.1550

Note. Reported in this table are the OLS regression coefficients for our sample of 2117 M&A attempts; heteroskedasticity-robust *t*-statistics are reported below in parentheses. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not common lead creditor, and zero otherwise. All specifications include year and 12 Fama-French industry fixed effects.

* Significant at the 0.1 level

** Significant at the 0.05 level

*** Significant at the 0.01 level.

headquarters within 100 km of each other (Kedia et al., 2008; Morck et al., 1990; Travlos, 1987). These variables are defined in detail in the Appendix. All regression specifications include year and industry fixed effects.

For each dependent variable, the first column in Table 4 contains results from regressions that control for acquirer- and target-specific variables, while the second column contains results from a regression which also controls for deal characteristics. From the first two columns, which contain regressions explaining the CCARs (i.e., the abnormal returns earned by the portfolio of the acquirer and target stocks), it can be seen that the coefficients for the common lead creditor connections are positive and significant at the 0.01 and 0.05 levels, respectively, while the coefficients for the common other creditor connections are significant at the 0.05 and 0.1 levels, respectively. These results indicate that common lead and other creditor connected deals can result in higher combined abnormal returns for the acquirer and the target. The regression coefficients show that the CCAR is between 1.48% and 1.58% higher for common lead creditor connected deals when compared to non-connected deals. This is consistent with the view that common lenders are associated with an informational advantage which in turn produces more valuable combinations of acquirers and targets.

The coefficients of the other control variables are consistent with the findings from past literature. We find that the combined wealth effect from the merger (i.e., CCAR) is larger when the acquisitions involve smaller-sized acquirers, relatively larger targets, lower-growth targets, and when the targets have not had a high stock price run-up prior to the acquisition. In terms of deal characteristics, the CCAR is also higher when the deal is made all in cash or when the deal involves a tender offer. The CCARs are lower when the acquisition is paid for in stock entirely. Acquirer and target leverage and geographical proximity of the acquirer and the target do not have a significant impact on the CCARs.

The next two columns of Table 4 present the regression results for acquirer abnormal returns (i.e., ACARs). For both regression specifications, the coefficients of the common lead creditor connection are positive and significant at the 0.05 level, while the coefficients of the common other creditor connection are not significant. Acquirers experience 1.31% higher abnormal returns in common lead creditor connected deals when compared to non-connected deals. The results thus show that there exists a positive

relationship between common lead creditor connections and acquirer announcement returns. This suggests that acquirer shareholders benefit from lead creditor connections, a finding which is consistent with the view that there are significant informational benefits to acquirers from shared creditor connections.

The coefficients of the other control variables are consistent with the findings from past literature. We find that ACARs are larger in the case of smaller and lower-growth acquirers. They are also larger when the acquisitions involve relatively smaller targets, lower-growth targets, and when the targets have not had a high stock price run-up prior to the acquisition. In terms of deal characteristics, the ACAR is also higher when the deal is paid for entirely in cash or when the deal involves a tender offer. Not surprisingly, the ACARs are lower if the deal is a hostile deal, as this presumably requires the acquirer to pay more for such acquisitions. Acquirer and target leverage and geographical proximity of the acquirer and the target do not have a significant impact on the ACARs.

The last two columns in Table 4 report the regression results for the target abnormal returns (TCARs). The coefficient for the common lead creditor connection is negative in both regressions, but is only statistically significant at the 0.05 level in the first regression specification. The coefficient is not statistically significant in the second regression specification, which has deal-specific controls. We do not find common other creditor connections have a significant impact on TCARs in either regression model. These results suggest that common lead creditor connections are not beneficial to the target firms.

Our results, after including the control variables in the models, are broadly consistent with the prior literature. We find that TCARs are larger when the target is acquired by a larger and higher-growth acquirer. TCARs are also larger when the acquisitions involve relatively smaller, lower-growth, or highly levered targets, and when the targets have not had a high stock price run-up prior to the acquisition. Moreover, TCARs are smaller when the target is acquired by highly levered acquirers. In terms of deal characteristics, the TCAR is also higher when the deal is paid for entirely in cash or if the deal involves a tender offer. Geographical proximity of the acquirer and the target does not have a significant impact on TCARs. Our results suggest that creditors enable acquirers to obtain information about the target, thus obtaining better deal terms for the acquirers.

6. Robustness checks and creditors as financial advisors

6.1. Robustness checks

We included all acquisition attempts in Table 4, which contains our baseline regression specifications; this data includes deals which have not been completed. This may cause a bias because deals which have not been completed may be significantly different from completed deals in terms of acquisition outcomes. For instance, it is possible that there is a higher incidence of non-completed deals among those where the targets experience lower abnormal returns. Thus we re-estimate the regressions using only the subsample of completed deals. The first three columns of Table 5 present those results. Although the results are weaker, we still find support for the main finding that common lead creditor connections bring together parties with greater synergies and hence lead to higher CCARs.

A potential problem which may bias our data is if the DealScan database only collects data on loans for relatively large firms. This would imply that smaller acquirers and targets do not have a loan record in this specific database, and therefore will not have common creditor connections by our definition. If deals involving smaller acquirers and targets have smaller combined CARs (or smaller acquirer CARs) because they have fewer synergies, then there may be a spurious positive correlation between CCARs (or ACARs) and common creditor connections. To address this concern, we re-estimate the regressions by including only those deals where acquirers and targets have had at least one loan record listed on DealScan during the three-year period immediately prior to the deal announcement. Focusing on this subsample ensures that the investigated firms are not among those excluded from DealScan. The results are reported in columns 4 through 6 of Table 5. Our main inferences remain the same. More specifically, common lead creditor connections have a statistically significant and positive effect on both combined and acquirer CARs, but have no significant impact on target CARs. However, common other (i.e., non-lead) creditor connections do not have a significant impact on any of the investigated CARs.

Another potential problem is that particularly small deals included in our M&A sample may experience extreme abnormal returns; these outliers may in turn bias our results. To address this issue, we re-estimate our regressions using a subsample that excludes those deals which have been valued at 10 million dollars or less. These results are reported in last three columns of Table 5, and again the results are broadly similar to our prior results. In particular, deals with common lead creditor or other creditor connections are associated with higher combined CARs. Therefore, our results so far suggest that both lead and other creditor connections are associated with better announcement returns for the combined acquirer-target entity, even after controlling for important firm and deal characteristics known to affect these returns within past M&A literature.

To further examine the robustness of our main results, we address an important endogeneity concern. It is possible that creditor connections do not arise randomly, but that these connections are related to factors omitted from our regressions which could also affect M&A outcomes, for example the synergies in mergers. In some cases, creditor connections may even be caused by the anticipation of the M&A deal. To address such endogeneity concerns, we adjust our methodology in order to identify the common creditor connections in two ways, and then re-estimate the regressions for the two subsamples. First, since the DealScan dataset provides the primary purpose of loans for most of the listed loan deals, we use this information and excluded those loan deals whose primary purpose is “takeover,” “acquisition credit line,” “merger,” “spin-off,” or “defensive bid”; we then use the remaining information on loan deals to construct the common creditor connections for each M&A transaction. Second, while identifying deals with common lead creditor connections, we refined our search to exclude the 6-month period immediately prior to the deal announcement, as a way of excluding connections which may have been potentially induced by an impending deal. In order to do this,

Table 5
Robustness tests: different samples of M&A deals.

	Subsample of completed deals			Subsample of deals with both acquirer and target having at least one loan record during the three-year period before the deal announcement			Subsample of deals with deal value over 10 million dollars		
No. of sample deals	1770	683	2052	683	2052	683	2052	683	2052
Common lead creditor connection	0.0115* (1.79)	0.0107 (1.58)	-0.0256 (-1.58)	0.0164* (1.95)	0.0175** (2.00)	-0.0209 (-0.85)	0.0161*** (2.65)	0.0165 (2.55)	-0.0128 (-0.87)
Common other creditor connection	0.0142 (1.57)	0.0077 (0.75)	-0.0063 (-0.27)	0.0150 (1.44)	0.0125 (1.14)	-0.0316 (-1.09)	0.0187** (2.32)	0.0111 (1.24)	-0.0010 (-0.0)
Observations	1550	1560	1572	586	588	601	1804	1816	1832
Adj. R ²	0.0766	0.0470	0.1531	0.0640	0.0191	0.1671	0.1026	0.0593	0.1640

Note. Reported in this table are the OLS regression coefficients for our sample of M&A attempts; heteroskedasticity-robust t-statistics are reported below in parentheses. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not common lead creditor, and zero otherwise. All regressions control for calendar-year fixed effects and 12 Fama-French industry fixed effects; their coefficients are not reported in the table for brevity reasons.

* Significant at the 0.1 level
 ** Significant at the 0.05 level
 *** Significant at the 0.01 level.

Table 6
Robustness tests: Different methods to identify common creditor connections.

Panel A.		Identification of common creditor connection based on DealsScan loan records with the primary purpose not involved with merger and acquisition		Identification of common creditor connection based on DealsScan loan records dated during the three-year period up to 6 months before the deal announcement	
No. of sample deals	2062			2117	
No. of sample deals with common lead creditor connection	218			253	
No. of sample deals with common other creditor connection	92			110	
Common lead creditor connection	Combined CAR 0.0141** (2.20)	Acquirer TCAR 0.0156** (2.36)	Target CAR -0.0207 (-1.34)	Combined CAR 0.0138** (2.18)	Acquirer CAR 0.0143** (2.20)
Common other creditor connection	0.0124 (1.36)	0.0063 (0.66)	-0.0014 (-0.06)	0.0165** (2.19)	0.0130 (1.43)
Observations	1820	1833	1845	1862	1875
Adj. R ²	0.0728	0.0436	0.1538	0.0749	0.0422
All control variables are included but coefficients are not reported for brevity reasons.					
Panel B.		Identification of common creditor connection using at least a 50 million dollar loan amount per facility for each acquirer and target firm		Identification of common creditor connection using a less than 50 million dollar loan amount per facility for each acquirer and target firm	
No. of sample deals	2117			2117	
No. of sample deals with common lead creditor connection	222			48	
No. of sample deals with common other creditor connection	82			38	
Common lead creditor connection	Combined CAR 0.0176*** (2.75)	Acquirer TCAR 0.0141** (2.03)	Target CAR -0.0101 (-0.65)	Combined CAR 0.0044 (0.33)	Acquirer CAR 0.0239* (1.77)
Common other creditor connection	0.0193** (2.17)	0.0140 (1.40)	-0.0014 (-0.06)	-0.0028 (-0.23)	-0.0127 (-1.04)
Observations	1862	1875	1890	1862	1875
Adj. R ²	0.0757	0.0419	0.1548	0.0720	0.0418
All control variables are included but coefficients are not reported for brevity reasons.					

Note. This table presents the ordinary least squares (OLS) regressions for the sample of 2117 US mergers and acquisitions attempts between 1990 and 2011. The dependent variables are the Combined CAR, Acquirer CAR, and Target CAR. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not common lead creditor, and zero otherwise. All regressions control for calendar-year fixed effects and 12 Fama-French industry fixed effects; their coefficients are not reported for brevity reasons. The t-statistics based on the heteroskedasticity-robust standard errors clustered at the acquirer level are reported in parentheses.

* Significant at the 0.1 level
 ** Significant at the 0.05 level
 *** Significant at the 0.01 level.

we check loan records in the three three-year period starting 6 months before the M&A deal announcement (i.e., from 42 months until 6 months before announcement) to identify common creditor connections for each M&A transaction. The results of the regression analyses using these two subsamples are presented in Panel A of Table 6. Our results remain consistent, namely deals with common lead creditor connections have higher CCARs and ACARs for both subsamples. Common other creditor connections result in a significantly higher CCAR for one of the subsamples, but not for both.

Another concern is related to the loan amount. It is possible that some common creditor connections are formed somewhat incidentally when either the acquirer or the target has borrowed a relatively small amount of money from the lender. In such cases, it is possible that the level of information collected (or due diligence) rises to a material level, thus truly impacting M&A decisions. To control for this possibility, we split the facility loan amounts as listed on DealScan into two types: those above 50 million dollars and those below 50 million dollars. We then use the same procedures as before to identify and construct proxies of common creditor connections and introduce them into our regression models. The results are presented in Panel B of Table 6. We find that, as previously predicted, common creditor connections based on a larger amount of borrowers have a more significant impact on acquisition outcomes.

Our primary research methodology uses the three-year period before the M&A deal announcement to identify common creditor connections. Considering that the average duration of a facility maturity is about 48 months, most of the common creditors in our sample are current creditors at the time point when the acquirers and the targets come together in an M&A deal. However, it is also possible that some of the loans with a common lead creditor might have matured prior to the M&A deal announcement, and that there is currently no remaining relationship between them. In these latter deals the acquirer and the target are related only by a past common lead creditor. As it can be inferred from Panel A of Table 7 roughly 15% of all lead creditor connections are *only past* lead connections.

In the following analysis we examine whether one type of common creditor connection, either current or past connection, is more important in M&A deals. Using the DealScan database, we differentiate between current common creditor connections and past common creditor connections. Specifically, we classify common creditors based on the expiration date of their loan records: those with an expiration date beyond the M&A announcement date are denoted as current common creditors, while those with an expiration date within the three-year period before the M&A announcement are denoted as past common creditors. The other identification steps are the same as those previously used.

We present these results in Table 7. Panel A of Table 7 reports some of the summary statistics on M&A deals with current and past common creditors, while Panel B reports the regression results. The results suggest that it is common current lead creditor connections, not past connections, that influence M&A returns. Consistent with the results from the earlier analyses, the coefficient of the dummy variable for the current lead creditor connection is positive and statistically significant at the 0.05 level in the regressions explaining the CCARs and ACARs. The coefficient of the dummy variable for the past lead creditor connection is positive but statistically insignificant for both the CCAR and the ACAR regressions. Similar to our prior findings, both variables have a statistically insignificant role in explaining the TCARs.

We control for several additional factors, in order to ensure that the superior merger outcomes are indeed due to the informational advantage arising from the presence of common lenders, and not due to some other systematic lender characteristics. For instance, it is possible that lenders who lend to multiple publicly-traded firms are larger and more experienced than other lenders. They may select potential clients using stricter criteria. In such a case, the documented superior deal performance may not be due to information flow through common lenders, but due to the common lender's selection of good quality firms to lend money to.

We calculate three proxy variables for such lender characteristics and control for them in the regression analyses, as a way to exclude this competing explanation. We construct the two variables, namely “*At least one common lead creditor is Top 10 creditor*” and “*At least one common other creditor is Top 10 creditor*” using the following procedure. First, we identified all possible common lead creditors and all possible common other creditors. Next, we calculate the total loan amount for each DealScan lender for the three-year period before the M&A deal announcement and rank the lenders by the amount of their total cumulative loan in order to identify the top 10 creditors. Finally, we match the common lead creditor list with the top 10 creditor list in order to identify whether there is at least one common lead creditor who is a top 10 creditor before the M&A deal announcement.

We also construct the variable “*Average size of all lenders of the acquirer*” using the following procedures. We use the lender link table provided by Schwert (2018) to identify all previous lenders for each acquirer firm during the three-year period before the M&A deal announcement. We then use the financial data for the prior fiscal year to calculate the average size of all lenders who had lent to each acquirer firm. Using a similar methodology, we also calculate the variable “*Average size of all lenders of the target*”.

The regression results after controlling for lender characteristics are reported in Table 8. The results are similar to the previous results from Table 4. The common lead creditor connection is significantly and positively related to CCARs and ACARs, but insignificantly related to TCARs. The results for the common other creditor connection are also similar. The variables “*At least one common lead creditor is Top 10 creditor*” and “*At least one common other creditor is Top 10 creditor*” are both not significantly related to CCARs, ACARs, or TCARs. The variable “*Average size of all lenders of the acquirer*” is not significantly related to CCARs, ACARs, yet is significantly related to TCARs. These results indicate that our findings are not driven by lender characteristics.³

³ In Table 8, we control only for “*Average size of all lenders of acquirer*,” but do not control for “*Average size of all lenders of target*,” because adding both variables simultaneously in the regression model reduces our sample size dramatically. However, in our un-tabulated results we find that including “*Average size of all lenders of target*” in our regression does not qualitatively affect any of our inferences from Table 8.

Table 7
Robustness tests: which common creditor connections are important - past versus current ones?

Panel A: Summary statistics	
No. of sample deals	2117
No. of sample deals with common current lead creditor connection	243
No. of sample deals with common current other creditor connection	109
No. of sample deals with common past lead creditor connection	125
No. of sample deals with common past other creditor connection	72
No. of sample deals with both current and past common lead creditor connections	80
No. of sample deals with both current and past common other creditor connections	20

Panel B: Regression results			
	Combined CAR	Acquirer CAR	Target CAR
Sharing both current and past common lead creditor connections	0.0128 (1.06)	0.0148 (1.11)	-0.0324 (-1.40)
Sharing common current lead creditor connection, but not common past lead creditor connection	0.0164** (2.32)	0.0156** (2.12)	-0.0170 (-1.00)
Sharing only common past lead creditor connection	0.0501 (0.93)	0.0573 (1.05)	0.0090 (0.15)
Sharing both current and past common other creditor connections	0.0140 (1.26)	0.0204* (1.66)	-0.0401* (-1.69)
Sharing common current other creditor connection, but not common past lead creditor connection	0.0106 (0.92)	0.0027 (0.23)	-0.0190 (-0.74)
Sharing only common past other creditor connection	0.0132 (1.11)	0.0020 (0.19)	0.0575 (1.50)
Observations	1862	1875	1890
Adj. R ²	0.0796	0.0475	0.1550

Note. Reported in this table are the OLS regression coefficients for our sample of 2117 M&A attempts; heteroskedasticity-robust t-statistics are reported below in parentheses. *Common current lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor and if the syndicated loan contracts have their origination date sometime within the 36-months period before the M&A announcement date; the variable takes the value of zero otherwise. *Common current other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor but not the common lead creditor and the syndicated loan contracts have their origination date sometime within the 36-months period before M&A announcement date, with their expiration date beyond the M&A deal announcement date; the variable takes the value of zero otherwise. *Common past lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor and the expiration of the syndicated loan contract was within the three-year period before the M&A deal announcement; it takes the value of zero otherwise. *Common past other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor but not the common lead creditor and the expiration of the syndicated loan contract was within the three-year period before the M&A deal announcement; it takes the value of zero otherwise. All regressions control for calendar-year fixed effects and 12 Fama-French industry fixed effects; their coefficients are not reported in the table for brevity reasons.

* Significant at the 0.1 level
** Significant at the 0.05 level

Table 8
Robustness tests: controlling for common creditor quality and lenders of acquirer size.

	Combined CAR		Acquirer CAR		Target CAR	
Common lead creditor connection	0.0244** (2.35)	0.0132* (1.96)	0.0270** (2.50)	0.0158** (2.25)	0.0045 (0.17)	−0.0212 (−1.21)
Common other creditor connection	0.0148 (1.47)	0.0153* (1.77)	0.0075 (0.70)	0.0155* (1.78)	−0.0005 (−0.02)	−0.0112 (−0.47)
At least one common lead creditor is Top 10 creditor	−0.0149 (−1.28)		−0.0180 (−1.59)		−0.0273 (−0.94)	
At least one common other creditor is Top 10 creditor	0.0013 (0.15)		0.0018 (0.20)		−0.0079 (−0.36)	
Average size of all lenders of acquirer		0.0070 (1.30)		0.0050 (0.88)		0.0235* (1.81)
Observations	All control variables are included but the coefficients are not reported for brevity reasons.					
Adj. R ²	1862	982	1875	989	1890	1004
	0.0747	0.0928	0.0421	0.0652	0.1545	0.1638

Note. This table presents the ordinary least squares (OLS) regressions for the sample of 2117 US mergers and acquisitions attempts between 1990 and 2011. The dependent variables are the Combined CAR, Acquirer CAR, and Target CAR. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not the common lead creditor, and zero otherwise. All regressions control for calendar-year fixed effects and 12 Fama-French industry fixed effects; their coefficients are not reported in the table for brevity reasons. The *t*-statistics based on heteroskedasticity-robust standard errors clustered at the acquirer level are reported in parentheses.

* Significant at the 0.1 level

** Significant at the 0.05 level

6.2. Creditors as financial advisors

A potentially confounding effect of our findings on the role of common creditors in M&A deals is that some of the creditors (i.e., some of the commercial banks and non-bank institutions) can also play a dual role of both creditor and acquisition advisor. It is possible that what we are capturing as the impact of common creditor connections may actually just be the impact of common acquisition advisor connections which has already been documented in prior literature (Agrawal et al., 2013; Bodnaruk et al., 2009; Hunter and Jagtiani, 2003; Kale et al., 2003). Allen et al. (2004) find that, because of their information acquired through prior banking relationships, commercial banks hired as M&A advisors of targets are associated with a certification effect when compared to investment banks hired as advisors. Agrawal et al. (2013) analyze the impact of common advisors on acquisitions and find that, although they are not associated with better overall deals for the combined acquirer-target entity, they are somewhat more beneficial to acquirers than to targets.

Given these findings, there is a strong reason to separate the common creditor effect from the common advisor effect. We identify the acquisitions for which the acquirer and the target share the same creditor, and the creditor is also one of the M&A advisors for the acquirer, the target, or both entities. From our sample of acquisitions, 71% (89.9%) of the deals have available information on the acquirer's advisors (target's advisors), and 68.9% have available information on both the acquirer's and the target's advisors. When investigating the subsample of acquisitions where both the acquirer and the target have at least one loan record in the three-year period immediately prior to the deal announcement, we find that at least one common lead creditor is an advisor to the acquirer (target) in 15.2% (14.4%) of the acquisitions. When we take into consideration both common lead and other creditors, we find that at least one common creditor is an advisor to the acquirer (target) in 25.9% (24.6%) of the acquisitions.

In order to distinguish between the effects of common creditors and common advisors within our regression analysis, we define four dummy variables. The first dummy variable equals 1 if at least one common lead creditor shared by the acquirer and target serves as an M&A advisor to the acquirer; the variable equals 0 otherwise. The second dummy variable equals 1 if at least one common lead creditor shared by the acquirer and target serves as an M&A advisor to the target; the variable equals 0 otherwise. The third dummy variable equals 1 if at least one common creditor (i.e., either a lead or non-lead creditor) shared by the acquirer and target serves as an M&A advisor to the acquirer; the variable equals 0 otherwise. The fourth dummy variable equals 1 if at least one common creditor (i.e., either a lead or a non-lead creditor) shared by the acquirer and target serves as an M&A advisor to the target; the variable equals 0 otherwise.

Table 9 presents our regression results. In Panel A, which contains the results for our full sample, the dependent variable for the first two regression specifications is CCAR, namely the combined acquirer-target CAR. The dependent variable for the next two regression specifications is ACAR (i.e., the acquirer CAR), while that for the last two is TCAR (i.e., the target CAR).

We find that, even after controlling for the incremental effect of common creditors also serving as advisors, common lead creditors have a positive and statistically significant effect on both CCARs and ACARs in all the regression specifications. More specifically, common lead creditors are associated with higher CCARs in general (statistically significant at the 0.1 level); if a lead creditor is also an advisor to the acquirer, the CCARs are even higher (statistically significant at the 0.05 level). Common other creditors have a positive impact on CCARs as well; while a common other creditor being an advisor to the acquirer does have a positive effect on

Table 9

Regression results of common creditor and financial advisor effects on acquisition returns.

Panel A: Full sample.						
	Full sample					
No. of sample deals	2117		Acquirer CAR		Target CAR	
	Combined CAR		Acquirer CAR		Target CAR	
Common lead creditor connection	0.0130*	0.0169**	0.0180**	0.0192**	−0.0217	−0.0154
	(1.84)	(2.36)	(2.46)	(2.48)	(−1.25)	(−0.82)
Common other creditor connection	0.0158*	0.0170*	0.0086	0.0108	−0.0039	−0.0031
	(1.94)	(1.93)	(0.95)	(1.14)	(−0.18)	(−0.13)
At least one common lead creditor is acquirer advisor (1/0)	0.0284**		0.0276**		0.0242	
	(2.15)		(1.97)		(0.77)	
At least one common lead creditor is target advisor (1/0)	−0.0243**		−0.036***		−0.0113	
	(−1.96)		(−2.66)		(−0.36)	
At least one common creditor is acquirer advisor (1/0)		0.0147		0.0186		−0.0086
		(1.19)		(1.56)		(−0.28)
At least one common creditor is target advisor (1/0)		−0.0201		−0.0277**		0.0057
		(−1.61)		(−2.23)		(0.19)
Acquirer size (Log)	−0.0477***	−0.047***	−0.042***	−0.0414***	0.0466**	0.0472**
	(−3.62)	(−3.57)	(−3.03)	(−2.99)	(2.01)	(2.04)
Acquirer market-to-book ratio	−0.0029	−0.0029	−0.0038	−0.0038	0.0222***	0.0222***
	(−1.18)	(−1.19)	(−1.35)	(−1.35)	(4.40)	(4.39)
Acquirer leverage	0.0062	0.0069	−0.0104	−0.0097	−0.103***	−0.1025***
	(0.46)	(0.51)	(−0.70)	(−0.65)	(−3.15)	(−3.14)
Relative target-to-bidder size (Log)	0.0181**	0.0184**	−0.031***	−0.0305***	−0.156***	−0.1554***
	(2.09)	(2.12)	(−2.70)	(−2.69)	(−6.30)	(−6.26)
Target market-to-book ratio	−0.0032	−0.0032	−0.0053**	−0.0052**	−0.033***	−0.0328***
	(−1.23)	(−1.23)	(−2.01)	(−2.00)	(−5.73)	(−5.72)
Target leverage	0.0013	0.0012	0.0110	0.0111	0.0976***	0.0973***
	(0.12)	(0.12)	(1.02)	(1.03)	(3.18)	(3.17)
Target stock price run-up	−0.0106***	−0.010***	−0.0075*	−0.0071	−0.094***	−0.0933***
	(−2.72)	(−2.66)	(−1.71)	(−1.63)	(−6.25)	(−6.22)
All-cash deal (1/0)	0.0107**	0.0104**	0.0185***	0.0183***	0.0521***	0.0517***
	(2.09)	(2.04)	(3.56)	(3.52)	(2.80)	(2.78)
All-stock deal (1/0)	−0.0148***	−0.015***	−0.0064	−0.0066	−0.0182	−0.0187
	(−3.2)	(−3.27)	(−1.27)	(−1.31)	(−1.41)	(−1.45)
Hostile deal (1/0)	−0.0003	−0.0005	−0.0177**	−0.0179**	0.0184	0.0187
	(−0.04)	(−0.06)	(−2.33)	(−2.36)	(0.75)	(0.76)
Tender offer (1/0)	0.0201***	0.0198***	0.0152**	0.0149**	0.0551***	0.0548***
	(3.61)	(3.56)	(2.45)	(2.39)	(2.65)	(2.64)
Unrelated deal (1/0)	−0.0046	−0.0045	−0.0030	−0.0030	−0.0037	−0.0034
	(−0.91)	(−0.89)	(−0.53)	(−0.53)	(−0.27)	(−0.25)
Local deal (1/0)	0.0016	0.0018	0.0057	0.0058	−0.0111	−0.0107
	(0.26)	(0.30)	(0.89)	(0.90)	(−0.89)	(−0.86)
Observations	1862	1862	1875	1875	1890	1890
Adj. R ²	0.0755	0.0749	0.0432	0.0427	0.1543	0.1541

Panel B: Subsample of deals with both the acquirer and the target having at least one loan record during the three-year period before the deal announcement.						
No. of sample deals	683					
	Combined CAR		Acquirer CAR		Target CAR	
Common lead creditor connection	0.0156*	0.0200**	0.0214**	0.0236**	−0.0275	−0.0254
	(1.72)	(2.23)	(2.32)	(2.56)	(−1.05)	(−0.94)
Common other creditor connection	0.0150	0.0169	0.0116	0.0158	−0.0305	−0.0343
	(1.44)	(1.57)	(1.06)	(1.43)	(−1.05)	(−1.13)
At least one common lead creditor is acquirer advisor (1/0)	0.0295**		0.0247*		0.0507	
	(2.37)		(1.93)		(1.44)	
At least one common lead creditor is target advisor (1/0)	−0.0270**		−0.0398***		−0.0264	
	(−2.30)		(−2.93)		(−0.75)	
At least one common creditor is acquirer advisor (1/0)		0.0138		0.0143		0.0117
		(1.13)		(1.33)		(0.34)
At least one common creditor is target advisor (1/0)		−0.0245**		−0.0323***		0.0002
		(−2.00)		(−2.71)		(0.01)
Acquirer size (Log)	−0.0393**	−0.0353*	−0.0238	−0.0210	0.0806	0.0807
	(−2.13)	(−1.90)	(−1.34)	(−1.17)	(1.49)	(1.49)
Acquirer market-to-book ratio	−0.0042	−0.0042	0.0002	0.0004	0.0044	0.0044
	(−1.00)	(−0.98)	(0.05)	(0.08)	(0.34)	(0.34)

(continued on next page)

Table 9 (continued)

Panel B: Subsample of deals with both the acquirer and the target having at least one loan record during the three-year period before the deal announcement.						
No. of sample deals	683					
	Combined CAR		Acquirer CAR		Target CAR	
Acquirer leverage	0.0192 (0.81)	0.0227 (0.95)	0.0212 (0.73)	0.0243 (0.83)	−0.124 _s (−1.86)	−0.1182 _s (−1.80)
Relative target-to-bidder size (Log)	0.0306 _{**} (2.14)	0.0331 _{**} (2.31)	−0.0171 (−1.09)	−0.0156 (−0.98)	−0.1400 _{***} (−2.55)	−0.1384 _{**} (−2.52)
Target market-to-book ratio	−0.0050 (−1.00)	−0.0049 (−0.98)	−0.0077 _{**} (−2.19)	−0.0075 _{**} (−2.14)	−0.0341 _{**} (−2.34)	−0.0336 _{**} (−2.32)
Target leverage	−0.0118 (−0.57)	−0.0113 (−0.55)	−0.0016 (−0.08)	−0.0002 (−0.01)	0.0790 (1.19)	0.0767 (1.15)
Target stock price run-up	−0.0090 (−1.24)	−0.0082 (−1.15)	−0.0114 (−1.45)	−0.0097 (−1.26)	−0.1306 _{***} (−4.08)	−0.130 _{***} (−4.10)
All-cash deal (1/0)	0.0059 (0.47)	0.0048 (0.38)	0.0139 (1.46)	0.0135 (1.43)	0.0514 (1.24)	0.0494 (1.20)
All-stock deal (1/0)	−0.0098 (−1.28)	−0.0105 (−1.37)	0.0016 (0.20)	0.0008 (0.09)	−0.0182 (−0.79)	−0.0194 (−0.84)
Hostile deal (1/0)	0.0061 (0.50)	0.0057 (0.47)	−0.0026 (−0.23)	−0.0033 (−0.29)	0.0198 (0.50)	0.0212 (0.53)
Tender offer (1/0)	0.0132 (1.41)	0.0125 (1.33)	0.0064 (0.76)	0.0054 (0.64)	0.0919 _{**} (2.54)	0.0919 _{**} (2.54)
Unrelated deal (1/0)	0.0102 (1.43)	0.0103 (1.45)	0.0127 _* (1.72)	0.0127 _* (1.72)	0.0097 (0.42)	0.0097 (0.42)
Local deal (1/0)	0.0048 (0.65)	0.0051 (0.70)	0.0132 (1.64)	0.0132 _* (1.65)	−0.0084 (−0.38)	−0.0068 (−0.31)
Observations	586	586	588	588	601	601
Adj. R ²	0.0673	0.0657	0.0271	0.0262	0.1658	0.1643

Note. Reported in this table are the OLS regression coefficients for our sample of M&A attempts; heteroskedasticity-robust *t*-statistics are reported below in parentheses. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not the common lead creditor, and zero otherwise. *At least one common lead creditor is acquirer advisor* is a dummy variable which is set to one if at least one of the common lead creditors of both the acquirer and the target (or target's parent) within the acquisition deal is also the acquirer's advisor or one member of the acquirer's advisory group; otherwise this dummy variable is set to zero. *At least one common lead creditor is target advisor* is a dummy variable which is set to one if at least one of the common lead creditors of both the acquirer and the target (or its parent) within the acquisition deal is also the target's advisor or one member of the target's advisory group; otherwise this dummy variable is set to zero. *At least one common creditor is acquirer advisor* is a dummy variable which is set to one if at least one common creditor of both the acquirer and the target (or its parent) within the acquisition deal is also the acquirer's advisor or one member of the acquirer's advisory group; otherwise this dummy variable is set to zero. *At least one common creditor is target advisor* is a dummy variable which is set to one if at least one common creditor of both the acquirer and the target (or its parent) within the acquisition deal is also the target's advisor or one member of the target's advisory group; otherwise this dummy variable is set to zero. All specifications include year and 12 Fama-French industry fixed effects.

* Significant at the 0.1 level

** Significant at the 0.05 level

*** Significant at the 0.01 level.

CCARs, the impact is not statistically significant. Perhaps more interestingly, if a common lead creditor is an advisor to the target, the effect on CCARs is negative; essentially, advisors to the targets are associated with less positive CCARs. These results suggest that advisors of acquirers identify and engender higher synergy deals which in turn create more value for the acquirer-target entities. In contrast, advisors of targets are not as beneficial because they identify and engender lower synergy targets for acquisition. Most importantly, common creditors (i.e., both common lead and common other creditors) have a significantly incremental and positive impact on CCARs even after controlling for possible advisor effects.

Columns 3 and 4 of Panel A in Table 9 present the regression results for the dependent variable ACAR based on our full sample. As with the CCAR results, we find that common lead creditors have a positive and statistically significant effect (at the 0.05 level of significance) on ACARs. Common other creditors have a positive influence on ACARs as well, but the effect remains non-significant. Similar to the results for CCARs, when a common lead creditor is also an advisor to the acquirer, the positive impact on ACARs is amplified, suggesting that acquirer's advisors help generate more value for their advisory-business clients, even though they are a lead creditor of both the acquirer and the target. Not surprisingly, when the common creditor (i.e., both lead and other creditor) is an advisor of the target, they have a negative impact on ACARs. That is, these advisors remain loyal to the target (i.e., their advisory-business client) at the expense of the acquirer. This impact on ACARs is negative and statistically significant at the 0.05 level. Once again, our main result that common lead creditors have a significantly incremental and positive impact on ACARs holds across the regression specifications, even after controlling for any advisor effects.

The last two columns of Panel A in Table 9 present the regression results for the dependent variable TCAR. In line with our

Table 10
Regressions on acquisition premium, deal completion, and deal-close days.

	PREM	Deal completion (1/0)	Deal-close days
	OLS	Probit	OLS
Common lead creditor connection	−0.0801*** (−2.83)	0.0094 (0.36)	1.2543 (0.17)
Common other creditor connection	−0.0479 (−1.27)	−0.0504 (−1.22)	−3.4323 (−0.27)
Acquirer size (Log)	−0.0549 (−1.11)	0.1597*** (5.07)	22.0330** (2.46)
Acquirer market-to-book ratio	0.0309*** (2.82)	0.0067 (0.85)	−5.0148*** (−2.87)
Acquirer leverage	−0.119* (−1.71)	−0.0526 (−1.04)	0.4232 (0.04)
Relative target-to-bidder size (Log)	−0.178*** (−4.04)	−0.1752*** (−4.57)	34.7319*** (4.84)
Target market-to-book ratio	−0.0491*** (−4.68)	−0.0171* (−1.91)	−0.9565 (−0.53)
Target leverage	0.1114* (2.03)	0.0183 (0.45)	7.7991 (0.76)
Target stock price run-up	−0.0721** (−2.12)	0.0310* (1.70)	2.5595 (0.59)
All-cash deal (1/0)	0.0463 (1.12)	−0.0726** (−2.50)	−23.8896*** (−4.03)
All-stock deal (1/0)	−0.0568** (−2.06)	0.0257 (1.26)	−6.7461 (−1.18)
Hostile deal (1/0)	0.0839* (1.95)	−0.6638*** (−11.46)	28.7747 (1.22)
Tender offer (1/0)	0.0031 (0.07)	0.1010*** (6.05)	−30.5493*** (−4.91)
Unrelated deal (1/0)	0.0249 (0.82)	−0.0557*** (−2.61)	−7.8832 (−1.60)
Local deal (1/0)	−0.0107 (−0.29)	0.0425** (2.30)	4.1458 (0.88)
Observations	1782	1941	1927
Adj. R ²	0.0544	0.1941	0.2414

Note. Reported in this table are the OLS regression coefficients for our sample of 2117 M&A attempts; heteroskedasticity-robust *t*-statistics are reported below in parentheses. The dependent variable in column 1 is the acquisition premium (PREM). Columns 2 and 3 report deal-level results from regressions of the probability of deal completion and deal-close days on the common creditor connection. The point estimate in column 2 represents the marginal effect from the Probit models. Marginal effects are evaluated at the means of the continuous independent variables and investigated for a change from zero to one in the indicator variables. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not the common lead creditor, and zero otherwise. All specifications include year and 12 Fama-French industry fixed effects.

* Significant at the 0.1 level

** Significant at the 0.05 level

*** Significant at the 0.01 level.

findings reported in prior tables, common creditor connections have no significant impact on TCARs. In addition, whether the common creditors are also M&A advisors of either the acquirer or the target has no statistically significant impact on TCARs.

We present additional results in Panel B of Table 9. Specifically, we analyze the same regression models as in Panel A, this time on a subset of acquisitions for which both the acquirer and the target have at least one loan record during the three-year period immediately before the deal announcement. Results in Panel B are qualitatively similar to those presented in Panel A, thus reinforcing the inferences generated from the previous analyses.

Overall our results suggest that the advisory role of common lead creditors can have a significant effect on both CCARs and ACARs, with acquirer advisors having a positive impact and target advisors having a negative impact. Most importantly, even after controlling for the advisor effect, our results indicate that common lending relationships remain valuable. This is because common creditor connections have a positive and significant effect on both the CCARs and the ACARs, suggesting that common creditors either identify or simply engender both higher synergy deals and deals which are beneficial to acquirers.

7. Potential sources of synergy

In this section we explore potential underlying reasons for why common creditor connections may lead to higher combined acquirer-target CARs and higher acquirer CARs. In particular, in Table 10 we present our investigation of three possible reasons for why the value gains to the combined bidder-target entity and to the acquirer may be higher when there are common creditor

connections.

Since the acquirer is the surviving entity following the acquisition process, it is possible that the common creditors influence elements of the deal in favor of the acquirer, so as to be able to win favor with the acquirer thereby enhancing their future lending relations with the acquirer. It is often the acquirer's management team who runs the combined post-merger entity; therefore, helping the acquirer during the deal may strengthen the future relationship between the creditor and the acquirer.

It is also possible that because of the information gained through the lending relationship with the target, common creditors have a better knowledge of the true value of the target or information leading to the true value of the target, and are able to credibly convey such information to the acquirer when they also have a lending relationship with the acquirer. One channel through which such an advantage to the acquirer may manifest itself is in the lower premiums paid by the acquirer to the target in acquisitions with common creditor connections, which then result in higher ACARs.

Besides this, it is possible that the acquisition deal is simply more efficient, meaning that there is a higher likelihood of a successful or faster completion of deals when there are common creditor connections. We explore these possibilities in the regression specifications presented in Table 10. The first column of Table 10 reports the results of the regression outlining the acquisition premium paid by the acquirer to the target. The dependent variable is PREM, namely the premium paid to the target in the acquisition. We find that, after controlling for other variables, the acquisition premium is significantly lower (at the 0.01 level of significance) when the acquirer and target share the same lead creditors. Acquirers pay an acquisition premium that is 8.01% lower in deals connected by a common lead creditor, when compared to premiums paid in non-connected deals. Common other creditor connected deals do not have a statistically significant impact on the acquisition premium when compared to deals where there are no common creditors. As previously stated, the regression analysis also controls for all the standard variables identified in the literature as having an impact on acquisition premiums. We find that higher growth acquirers and lower leverage acquirers generally pay higher premiums. Additionally, smaller targets (in comparison to their acquirers), higher leverage targets, and targets involved in hostile deals earn higher premiums. Geographical proximity of the target and the acquirer does not affect the acquisition premium.

In columns 2 and 3 of Table 10 we explore whether the presence of common creditors would enable easier and more accurate information gathering, decreasing obstacles in favor of a quick and successful completion of the acquisition. We examine whether the likelihood of a successful merger completion is increased as well as whether the number of days to merger completion is decreased with the presence of common creditors. For the regression reported in the second column of Table 10 we use *Deal Completion*, a dummy variable which is 1 if the acquisition was completed and 0 otherwise, as the dependent variable. For the regression reported in the third column of Table 10 we use *Deal-Close Days*, namely the number of days from announcement of the acquisition to its completion, as the dependent variable. As before, we use indicator variables to capture common creditor connections, and we control for a variety of other variables within the regression analyses. The results indicate that common creditor connections, whether they are common lead or common other creditors, do not affect the probability of the deal completion, nor do they impact the time it takes to complete the acquisition. The presence of a common lead creditor is beneficial to the acquirer as it is associated with a lower acquisition premium. However, these findings do not answer the question of how the increased gains to the combined acquirer-target entity come into being, when this entity is involved in an acquisition with common creditors. To explore this issue we analyze a variety of factors through which the combined entity may have increased its gains either during or following the acquisition.

First, we examine whether common creditor connections could positively impact the long-term operating performance of the merged firm. If common creditor connections are associated with increased synergies, as is consistent with the higher CCARs we observed, then we would expect a greater operating performance following these acquisitions. To examine this possibility, we use the return on assets (i.e., ROA) as our measure of operating performance. We follow the methodology of Cai and Sevilir (2012) to calculate ΔROA , which represents the change in industry-adjusted ROA from three years before the deal announcement to three years after the deal completion. We regress ΔROA on the indicator variables for common creditor connections and on a set of control variables. The results are reported in column 1 of Table 11. We do not find that common creditor connections, either with lead or with other creditors, have a significant impact on operating performance in the long run.

Another potential benefit which may underlie the higher CCARs could be that having common creditors may help decrease the cost of future borrowing for the combined firm following the merger. This is because common creditors may have less information asymmetry about post-merger synergies, and therefore, there are lower adverse selection costs associated with these loans. We examine whether common creditor connections could have an impact on the cost of borrowing for the newly merged firm after the deal completion, when compared to their costs before its completion. We construct a variable, $\Delta Loanspread$, which is a measure of the change in borrowing costs for the merged firm as compared to the average borrowing costs of the acquirer and target before the merger. To compute this variable we undertake the following steps. 1) We calculate the average loan spread for all the loans of the acquirer during the three-year period before the deal announcement based on the DealScan database. 2) We calculate the average loan spread for all the loans of the target during the three-year period before the deal announcement. 3) We calculate the weighted average loan spread for the portfolio of the acquirer and the target. The portfolio weights are calculated using the market values of the acquirer and the target at the beginning of the three-year period before the acquisition. 4) We calculate the average loan spread for all the loans of the acquirer during the three-year period after the deal announcement. 5) We compute the change in loan spread, namely $\Delta Loanspread$, as the value derived from step 4 minus the value derived from step 3.

We analyze the relation between the common creditor connections and the change in the cost of borrowing for the newly merged

Table 11
Regression results for the source of synergy: operating and financial synergies.

	ΔROA	$\Delta Loanspread$
Common lead creditor connection	−0.0037 (−0.27)	−23.5022** (−2.02)
Common other creditor connection	−0.0148 (−0.98)	−6.8955 (−0.53)
Control for pre-deal three-year average values of		
Acquirer size(Log)	0.0603 (0.87)	221.3281** (2.47)
Acquirer market-to-book ratio	−0.0002 (−0.02)	12.0783 (1.28)
Acquirer ROA	−0.1068 (−1.27)	25.4257 (0.49)
Acquirer leverage	0.0585 (0.80)	−124.0033** (−2.44)
Acquirer working capital ratio	−0.0947 (−1.38)	−15.6100 (−0.24)
Control for deal characteristics		
Relative deal size	−0.0011 (−0.16)	27.9392*** (3.77)
Unrelated deal(1/0)	−0.0134 (−0.82)	17.4856 (1.56)
Hostile deal(1/0)	−0.0130 (−0.79)	−0.6000 (−0.03)
Tender offer(1/0)	−0.0147 (−0.95)	15.2305 (1.44)
Local deal(1/0)	0.0051 (0.44)	−2.3903 (−0.18)
Control for post-deal three-year average values of		
Acquirer size(Log)	−0.0615 (−0.87)	−193.5035* (−1.90)
Acquirer market-to-book ratio	0.0134 (0.71)	−11.0560 (−0.69)
Acquirer ROA	−0.0199 (−0.22)	−83.8130 (−1.12)
Acquirer leverage	−0.1487** (−2.15)	180.56*** (3.25)
Acquirer working capital ratio	0.1973** (2.07)	−32.4047 (−0.45)
Observations	309	264
Adj.R2	0.1509	0.3534

Note. Reported in this table are the OLS regression coefficients for our sample of M&A attempts; heteroskedasticity-robust *t*-statistics are reported below in parentheses. The dependent variable in regression (1) is ΔROA , namely the change in industry-adjusted ROA from three years before the deal announcement to three years after the deal completion. The dependent variable in regression (2) is $\Delta Loanspread$, namely the difference between the average loan spread of the acquirer during the three-year period after the deal announcement, and the average loan spread of the portfolio of both the acquirer and the target during the three-year period before the deal announcement. *Common lead creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. *Common other creditor connection* is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not the common lead creditor, and zero otherwise. All specifications include year and 12 Fama-French industry fixed effects.

* Significant at the 0.1 level

** Significant at the 0.05 level

*** Significant at the 0.01.

firm by regressing $\Delta Loanspread$ on the indicator variables of common creditor connections; we also included a set of control variables. The results are reported in column 2 of Table 11. We find that the common lead creditor connection has a significant impact on the change in the borrowing cost observed around the time of the acquisition. Common lead creditor connected transactions decrease the cost of borrowing for the acquirer and the target as a whole by about 25 basis points; this decrease is significant at the 0.05 level of significance. We do not find that common other creditor connections have a material impact on the change in the borrowing cost around the time of the acquisitions.

It should be noted that value-added acquisitions could improve the debt capacity and the borrowing conditions of the merged firm, thereby lowering the borrowing cost of the acquirer following the merger. However, this would not explain why common lead creditor connections lead to an *incremental* decrease in the borrowing rate following the merger, when compared to mergers without a common lead creditor. As stated earlier, one possibility is that common lead creditors possess critical private information about the true synergies of the merger and hence have a more accurate picture of the true cost of borrowing for the merged firms, which is otherwise not known to the external market. Therefore, under conditions of information asymmetry with regard to merger synergies, one benefit of a common lead creditor would be that the post-acquisition borrowing rate would decrease even more as the synergies are fully or partly incorporated into the new borrowing rate. Without the presence of a common lead creditor, the adverse selection problem affecting synergies would still be present since these lenders do not know *both* the pre-merger acquirer and target, thus preventing a possible decrease in the borrowing rate.

Thus far, our results indicate that the higher ACARs in acquisitions with common creditors may be driven by the lower merger premium paid by the acquirer, while the higher CCARs may be driven by the incremental decrease in borrowing rate following the merger. However, there may be yet another, more direct, reason for the higher CCARs in mergers with common creditors. These mergers may be associated with lower investment banking fees when compared to other mergers. Investment banks play an important economic role in the M&A market. Prior literature documents that investment banks often evaluate, identify, and propose high-synergy deals. They also offer several benefits, such as providing fairness opinions and facilitating the acquisition transaction (Kisgen et al., 2009; McLaughlin, 1990). In common creditor connected deals, creditors may help facilitate a more efficient information transfer; thus, the acquirer and target firms may have a reduced need for investment banks to expend costly resources in information gathering in identifying potential acquisitions and in developing fairness opinions. If the acquirer and the target firms share common creditors, the investment bank fees in case of such acquisitions may be lower than those for non-connected transactions. Therefore, the lower fees associated with the acquisition may explain the higher CCARs in common creditor transactions.

To empirically explore this possibility, we analyze the investment bank fees paid by the acquirer, the target, and by both firms as a percentage of the deal value for our full sample of acquisitions. We present the results of the univariate analysis for the investment bank fees in Panel A of Table 12. The results indicate that the investment bank fees are significantly lower for common creditor connected deals, when compared to non-connected deals. More importantly, the regressions in Panel B of Table 12 indicate that, even after controlling for a variety of deal-related variables, common lead creditor connections decrease the investment bank fees paid by the acquirer by 0.126 percentage points when compared to the fees for non-connected deals. Common other creditor connections decrease the investment bank fees paid by the acquirer by 0.139 percentage points when compared to the fees for non-connected deals. As for the fees paid by the target, common lead creditor connections and common other creditor connections both decrease the investment bank fees paid by a typical target by 0.283 and 0.171 percentage points, respectively, when compared to target fees for non-connected deals. For the combined acquirer-target entity, common lead creditor connections and common other creditor connections both decrease the investment bank fees paid by 0.269 and 0.206 percentage points respectively, when compared to the corresponding fees for non-connected deals. These results are consistent with the view that creditors have an informational advantage regarding the value of the target firm and that of potential synergies; in turn, this advantage is associated with lower investment banking fees, which benefit the acquirer, target, and the combined entities.⁴ Therefore, investment banking fees are yet another channel, along with the reduced acquisition premium and lowered borrowing costs, which can explain the higher observed ACARs and CCARs.

8. Conclusion

We examine whether M&A transactions between firms sharing a common lender differ in important ways from those without common lenders. We find that firms have a higher likelihood of being a target when they share a common lender with the acquirer, as compared to other similar firms which do not share a common lender. Consistent with the idea that banks serve a positive match-making role, we find higher abnormal announcement returns for deals in which the bidder and the target share a common lender. Additionally, these deals generally result in reductions in borrowing costs and in advisory fees for the investment bank. Our results are robust to controlling for lender characteristics, namely the larger and better-networked abilities of lenders to select superior firms as their loan clients. The evidence is consistent with the view that superior information flow, regardless of whether it is overt or tacit, results in better M&A deals with higher synergies.

However, our findings also suggest significantly different outcomes for acquirer versus target shareholders in such deals. The effect of having a common lender is positive and statistically significant for the bidder announcement returns, and negative (but usually not statistically significant) for target returns. The results show that common lenders are disproportionately beneficial to acquirers when compared to targets. As further evidence that targets on average may actually fare worse in such deals, acquisition premiums are significantly lower for deals involving shared creditors. Overall, the evidence suggests that bank lenders may indeed serve an important and value-enhancing role in M&A transactions, but that their role may not be entirely bias-free.

⁴ According to past literature, prior and concurrent bank credit may reduce underwriter fees (Druck and Puri, 2005; James and Wier, 1990) and lessen the IPO underpricing (Schenone, 2005).

Table 12
Univariate and regression analyses for the investment bank fees.

Panel A: Univariate analysis.												
Investment bank fees (%)	Full sample		Common lead creditor		Common other creditor		No common creditor		Common lead creditor vs. no common creditor		Common other creditor vs. no common creditor	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Acquirer	0.610	0.414	0.393	0.333	0.384	0.328	0.679	0.477	-0.286***	-0.144***	-0.296**	-0.149***
Target	0.905	0.750	0.568	0.419	0.646	0.450	0.975	0.850	-0.408***	-0.431***	-0.330***	-0.400***
Acquirer + Target	1.128	0.900	0.735	0.600	0.817	0.600	1.211	1.000	-0.476***	-0.400***	-0.394***	-0.400***

Panel B: Regression analysis.			
	Investment bank fees		
	Acquirer	Target	Acquirer + Target
Common lead creditor connection	-0.126** (-2.23)	-0.283*** (-4.22)	-0.269*** (-3.58)
Common other creditor connection	-0.139** (-2.38)	-0.171** (-2.06)	-0.206** (-2.42)
Acquirer size	-0.135*** (-6.28)	-0.099*** (-5.72)	-0.179*** (-7.14)
Relative deal size	-0.102** (-2.04)	-0.232*** (-4.80)	-0.186*** (-2.92)
Unrelated deal (1/0)	0.004 (0.05)	0.087 (1.21)	0.056 (0.66)
Hostile deal (1/0)	-0.083 (-0.80)	-0.250** (-1.97)	-0.269* (-1.74)
Tender offer (1/0)	0.198*** (2.90)	0.198** (2.14)	0.280*** (2.75)
Number of bidders	-0.054 (-1.03)	-0.001 (-0.01)	-0.067 (-0.60)
Local deal (1/0)	0.065 (0.77)	0.026 (0.35)	0.082 (0.77)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	532	1230	1266
Adj. R ²	0.148	0.093	0.099

Note. This table presents the mean and median investment bank fees paid by the acquirer, by the target, and by both firms; the fees are calculated as a percentage of the deal value for the sample of 2117 US mergers and acquisitions attempts between 1990 and 2011. Common lead creditor transactions are the deals where the acquirer and the target share at least one common lead creditor during the three years before the merger announcement. Common other creditor transactions are the deals where the acquirer and the target share at least one common creditor but not the common lead creditor during the three years before the merger announcement. The rest of the deals are classified as no common creditor transactions.

Note. Reported in this table are the OLS regression coefficients for our sample of 2117 M&A attempts; heteroskedasticity-robust *t*-statistics are reported below in parentheses. The dependent variables in regressions (1), (2), and (3) are the total investment bank fees paid by the acquirer, by the target, and by both firms, respectively; they are calculated as a percentage of the deal value. Common lead creditor connection is an indicator variable which takes on the value of one if the acquirer and the target share at least one common lead creditor, and zero otherwise. Common other creditor connection is an indicator variable which takes on the value of one if the acquirer and the target share at least one common creditor but not the common lead creditor, and zero otherwise. All specifications include year and 12 Fama-French industry fixed effects.

* Significant at the 0.1 level

** Significant at the 0.05 level

*** Significant at the 0.01 level.

Appendix

Table A.1
Definitions of variables.

Variables	Definitions
Panel A: Measures of announcement returns	
Acquirer CAR	Three-day cumulative abnormal percentage return for the acquirer, calculated using a market model estimated over the period [−210, −11] relative to the announcement date (day 0).
Target CAR	Three-day cumulative abnormal percentage return for the target, calculated using a market model estimated over the period [−210, −11] relative to the announcement date (day 0).
Combined CAR	Three-day cumulative abnormal percentage return for the value-weighted portfolio of the acquirer and the target using the market model estimated over the period [−210, −11] relative to the announcement date (day 0). The weights are based on the market capitalizations of the acquirer and the target at two months prior to the announcement date. The target's weight is adjusted for the acquirer's toehold.
Panel B: Acquirer and target characteristics	
Firm size	Natural log of book value of the total assets.
Market to book	(Fiscal-year-end market value of equity + book value of liabilities)/total assets.
ROA	Net income before extraordinary items and discontinued operations/ total assets, lagged by one fiscal year.
Leverage	(Long-term debt + debt in current liabilities)/(fiscal-year-end market value of equity + book value of liabilities).
Growth of sales	Sales / Sales in previous year.
Accounting liquidity	Current assets scaled by book value of total assets.
FCFLOW	Free cash flow; operating income before depreciation – interest expenses – income taxes – capital expenditures, scaled by book value of total assets.
Working capital ratio	Working capital scaled by book value of total assets.
Stock price run-up	Buy-and-hold abnormal return (BHAR) during the 200 trading days ending 11 days before the announcement date with the CRSP value-weighted return as the market index.
Acquirer (target) size (-Log)	Natural log of the acquirer (target) size.
Panel C: Deal characteristics	
Relative target-to-bidder size	Ratio of target size to bidder size.
Deal completion (1/0)	Indicator variable; equals one if the deal is completed, zero otherwise.
Deal-close days	The days between the date of deal announcement and the date of its effective completion (if deal is completed) or withdrawal (if deal is withdrawn).
PREM	Acquisition premium (4-week; %), namely (offer price/target stock price four weeks prior to announcement – 1), all multiplied by 100.
Relative deal size	SDC deal value/acquirer market value on the 11th trading day before the deal announcement date (day – 11).
All-cash deal (1/0)	Indicator variable; equals one for all-cash financed deals, zero otherwise.
All-stock deal (1/0)	Indicator variable; equals one for all-stock financed deals, zero otherwise.
Hostile (1/0)	Indicator variable; equals one if the bid is classified by the SDC as hostile, zero otherwise.
Tender offer (1/0)	Indicator variable; equals one if the deal involves a tender offer, zero otherwise.
Unrelated deal (1/0)	Indicator variable; equals one for deals in which the acquirer and the target do not have the same primary two-digit SIC code (as obtained from the SDC); equals zero otherwise.
Local deal (1/0)	Indicator variable; equals one if the acquirer's headquarters are located within 100 km of the target's headquarters, zero otherwise.
Toehold (%)	Percentage of the target's common stock owned by the acquirer on the bid announcement date, as obtained from the SDC.
Difference in load spread	The average spread value of all the loans of the target minus the average spread value of all the loans of the bidder during the three-year window before the deal announcement.

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