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Information Transmission between Banks and the Market for Corporate Control*

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Abstract

This paper provides evidence of deliberate private-information disclosure within banks' international business networks. Using supervisory trade-level data, we show that banks with closer ties to a target advisor in a takeover buy more stocks of the target firm prior to the deal announcement, enabling them to benefit from the positive announcement return. We do not find such effects for bank connections to acquirer advisors or for trades in acquirer stocks. Target advisors benefit from leaking information about takeover bids to connected banks, as it drives up the premium paid without compromising the probability of bid success.

JEL Codes: G11, G15, G21, G24

Keywords: bank networks, trading, information spillovers, mergers and acquisitions, syndicated lending

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1 Introduction

How do economic incentives govern the diffusion of private information and resource allocation in financial markets? Attempts to microfound this relationship are centered on the incentives to *produce* and *share* information in social networks (Herskovic and Ramos, 2020; Leister, Zenou, and Zhou, 2021; Kranton and McAdams, 2022), such as those of interconnected banks. However, empirical evidence is limited to the economic consequences of social connections and the extent to which they facilitate social learning and the transmission of private information (Bailey, Cao, Kuchler, Stroebel, and Wong, 2018; Bailey, Gupta, Hillenbrand, Kuchler, Richmond, and Stroebel, 2021). While banks' key economic role is typically seen in collecting, processing, and producing private information relevant for financial decisions (Boot, 2000; Morrison and Wilhelm, 2007), little is known about banks' incentives to disseminate private information within their relationship networks and how this affects market outcomes.

This paper studies under what circumstances and how incentives matter for the transmission of private information between banks. In particular, we use syndicated-loan networks of banks in conjunction with administrative security-transaction data to infer information flows around the announcement of corporate mergers and acquisitions (M&A). Information regarding imminent takeovers may spill over from banks that serve as advisors in the market for corporate control to other banks. We show that such information spillovers exist and benefit members of syndication networks: banks that are connected to advisors of takeover targets through frequent joint syndicated lending purchase the target firms' shares at lower prices prior to takeover announcements and subsequently reap trading gains.

Our empirical strategy is based on the idea that banks establish relationships when syndicating loans together. These relationships do not only allow but also incentivize banks to share private information that some of these banks obtain when simultaneously acting as advisors to target and acquirer firms in M&A transactions. The M&A context helps to identify the source of private information. In particular, we can keep constant private information while exploiting the fact that incentives for leaking information about imminent transactions vary across traded

stocks and advisors. This is because announcement returns are positive primarily for target, rather than acquirer, stocks. As such, target advisors have the incentive to leak related private information. If traders—e.g., other banks—act on this information and buy target stocks prior to takeover announcements, the takeover price increases, which implies that the target shareholders receive a larger share of the surplus. This would, however, not be in the interest of the acquirer advisor. In contrast, the incentives of privately informed traders and target shareholders, which are represented by the target advisor, are aligned.

To measure the strength of banks' ties to target and acquirer advisors, we use the fraction of jointly issued syndicated loans. In doing so, we can contrast the relative importance of trading banks for advisors and vice versa. Consistent with the idea that advisors leak information to connected banks as part of an exchange of favors, we find that banks that are more important for the target advisor's syndicated-loan business are more likely to trade on private information about imminent takeovers.

Using administrative data at the bank-security-date level from Germany, we can estimate the effect of banks' connectedness to target and acquirer advisors on their trades around international takeover announcements. The granularity of our data, and the fact that we exploit takeover-specific variation across banks, allows us to control for time-varying unobserved heterogeneity at the security and the (trading) bank level. We find that banks closely connected to the target advisor purchase more shares of the target, but not of the acquirer, in the 30 days prior to the takeover announcement and, thus, at a lower price. In contrast, we find no such effects when considering the trading bank's degree of connectedness to the acquirer advisor. These effects are stronger when the potential trading gains are larger, i.e., for deals that are completed in a shorter amount of time and for cash, as opposed to stock, transactions.

When banks that are more connected to target advisors purchase target shares ahead of takeover announcements, they do not merely emulate advisors' trading behavior, as we do not find advisors to act on their private information and purchase target shares themselves. This suggests that target advisors leak private information about imminent takeovers. At the deal level,

we then show that they benefit from leaking such information to connected traders as it helps drive up the pre-announcement stock price of the target and, as such, the final price paid. This does not come at the cost of lower deal success probabilities, which would diminish the expected revenues accruing to the target advisor.

Our evidence therefore suggests that target advisors have an incentive to leak this private information, and they share it with connected banks that actively trade shares of non-financial corporations. By affecting the premium paid, this has real implications for the division of surplus in M&A transactions, without any repercussions for the reputation of the target advisor. On the contrary, our findings are consistent with a positive feedback effect for target advisors that successfully represent target shareholders' interests.

Our empirical laboratory resembles the theoretical setup in Antić and Persico (2017, 2020) and Voß and Kulms (2022), built around an endogenous conflict of interest between shareholders and management that governs the extent of information transmission. Our setting is closer to that in Voß and Kulms (2022), in that the conflict of interest is determined by the price offer of an external bidder, i.e., the acquirer, or by the target's stock price, which is affected by trades in the target stock. In our setting, we vary the degree of the conflict of interest between the advisors and trading banks by exploiting the fact that connected banks' trading motives are aligned only with the incentives of the target, but not of the acquirer, advisor. Our empirical evidence is consistent with the idea that strategic communication can foster efficient trade in the market for corporate control.[1]

To capture information flows, we make use of syndicated-loan networks among banks, some of which also serve as M&A advisors. Syndicate members receive borrower-related private information from the lead arranger that can be—and appears to be—exploited in the trading of borrower stocks (Bushman, Smith, and Wittenberg-Moerman, 2010; Ivashina and Sun, 2011; Addoum and Murfin, 2020). In line with the idea that there is information leakage within banks,

[1]Electronic communications such as one-to-one or multilateral chatrooms had been used in the past to disseminate sensitive information, see https://ec.europa.eu/commission/presscorner/detail/en/IP_19_2568 and https://www.gov.uk/government/news/cma-provisionally-finds-5-banks-broke-competition-law-on-uk-bonds.

Acharya and Johnson (2007) and Haselmann, Leuz, and Schreiber (2023) show that banks use their private information on borrower firms, respectively, in the credit-derivatives market and in their securities trading around major corporate events, including mergers and acquisitions. In terms of the latter, there is evidence that traders that are affiliated with the target's (Mooney, 2022) or the acquirer's (Bodnaruk, Massa, and Simonov, 2009) investment-bank advisor belonging to the same financial conglomerate try to benefit from holding the target's stock prior to M&A announcements.

Rather than studying the information transmission within banks, our paper identifies information transmission *between* banks and highlights a potentially important side effect of the ever-increasing interconnectedness of the financial sector. As such, it is related to, and potentially interacts with, the notion of banks as information transmitters between competing firms (Asker and Ljungqvist, 2010), besides the possibility of using common connections, such as overlapping board members, to acquire private information about takeover targets (Cai and Sevilir, 2012).

We use the syndication process for loans to uncover information networks on an international scale. This novel channel complements previously discussed information networks in the literature. As Kuchler and Stroebel (2021) highlight, at various levels social connections serve as a means of sharing private information and facilitating social learning in financial decision-making. For instance, Rehbein and Rother (2022) find that stronger social connections boost cross-regional bank lending especially for information-sensitive loans. Using common ownership as a channel of information transmission, Colombo, Grigolon, and Tarantino (2021) show that within loan syndicates lead banks and (commonly owned) participants share information regarding the borrower's credit quality.

With respect to the role of information networks and insider trading, Jagolinzer, Larcker, Ormazabal, and Taylor (2020) show that politically connected traders benefited from insider information on TARP. Cohen, Frazzini, and Malloy (2008) present evidence that fund managers hold larger positions, and realize excess returns, on stocks of firms with CEOs that share a common educational background with them. More generally, Ahern (2017) documents how information

flowing through strong social ties based on family, friends, and geographic proximity facilitates insider trading. Finally, Bradley, Jame, and Williams (2022) argues that non-deal roadshows constitute a channel for the transmission of private information between firms' management and institutional investors, allowing the latter to trade profitably.

While all of these studies treat established networks as a sufficient condition for information sharing, we show that pre-existing relationships are only a necessary condition, and that economic incentives determine whether private information is actually disseminated across network members.

Our paper is also related to the literature on the use and transmission of insider information (see The Economist, 2018, for a general overview and the practical relevance of this subject matter). For instance, Meulbroek (1992) shows that markets take the possibility of informed trading into account and incorporate it in stock prices. Ali and Hirshleifer (2017) identify and quantify profits from insider trading, while Jenter (2005) analyzes market timing by managers and shows that insiders are contrarian investors.

Various other papers document such patterns in different financial markets and for different sources of private information. Barbon, Di Maggio, Franzoni, and Landier (2019) present evidence that brokers leak information on order flow of block trades, enabling connected traders to engage in predatory trading. In the context of mergers and acquisitions, Augustin, Brenner, and Subrahmanyam (2019) report abnormally high trading volumes in out-of-the-money equity call options on targets prior to takeover announcements. Jegadeesh and Tang (2010) find that funds whose main broker is a target advisor are net buyers of target shares before announcement, while Lowry, Rossi, and Zhu (2019) present evidence suggesting informed trading by M&A advisors in options. Dai, Massoud, Nandy, and Saunders (2017) and Fich, Lantushenko, and Sialm (2020) report increases in holdings of future takeover targets by hedge funds.

Trading on or disseminating insider information would contradict banks' fiduciary duties[2] as this typically hurts bank customers and would, thus, be a cause of regulatory concern, as has

[2]The U.S. Securities and Exchange Commission (SEC) lists examples of insider-trading enforcement actions between 2009 and 2014: https://www.sec.gov/spotlight/insidertrading/cases.shtml.

been argued by Puri (1996) with regard to universal-banking deregulation.[3] In contrast, we show that information leakage emanating from the target advisor in our M&A setting does benefit the target shareholders. Thus, our paper points not only to the primary beneficiaries of insider trading but also to potentially limited downsides for the firms whose shares are traded (akin to Suk and Wang, 2021).

2 Hypothesis Development

In this section, we motivate our main conjecture regarding banks' incentives to share private information about imminent takeovers with other banks in their business network.

We start out by showing that it is profitable to buy target, rather than acquirer, stocks ahead of takeover announcements. As can be seen in Figure 1, target stocks have highly economically and statistically significant announcement returns, controlling for security and date fixed effects, whereas this is not the case to the same extent for acquirer stocks (Figure 2). This suggests that trading on private information about imminent takeovers is profitable primarily in target stocks, i.e., by purchasing target stocks ahead of announcements. The latter is, in turn, reflected in a more emphasized runup in targets' stock prices ahead of takeover announcements.

While fiduciary duties should, in principle, keep both acquirer and target advisors from disseminating or trading themselves on private information, target advisors can benefit from elevated demand for target stocks and a subsequent increase in the target's stock price prior to takeover announcements, as this might lead to a higher price paid. As such, target advisors have an economic incentive to allow connected banks to reap trading profits from purchasing target stocks ahead of takeovers. In contrast, acquirer advisors do not have as strong of an incentive to leak information on imminent takeovers, as the induced trading behavior of informed traders would increase the cost of the M&A transaction for the acquirer, leaving the latter worse off.

We therefore hypothesize that traders connected to the target advisor are more likely to be

[3] Egan, Matvos, and Seru (2019) document another example of banks' breach of fiduciary duties hurting customers using information of misconduct among financial advisors.

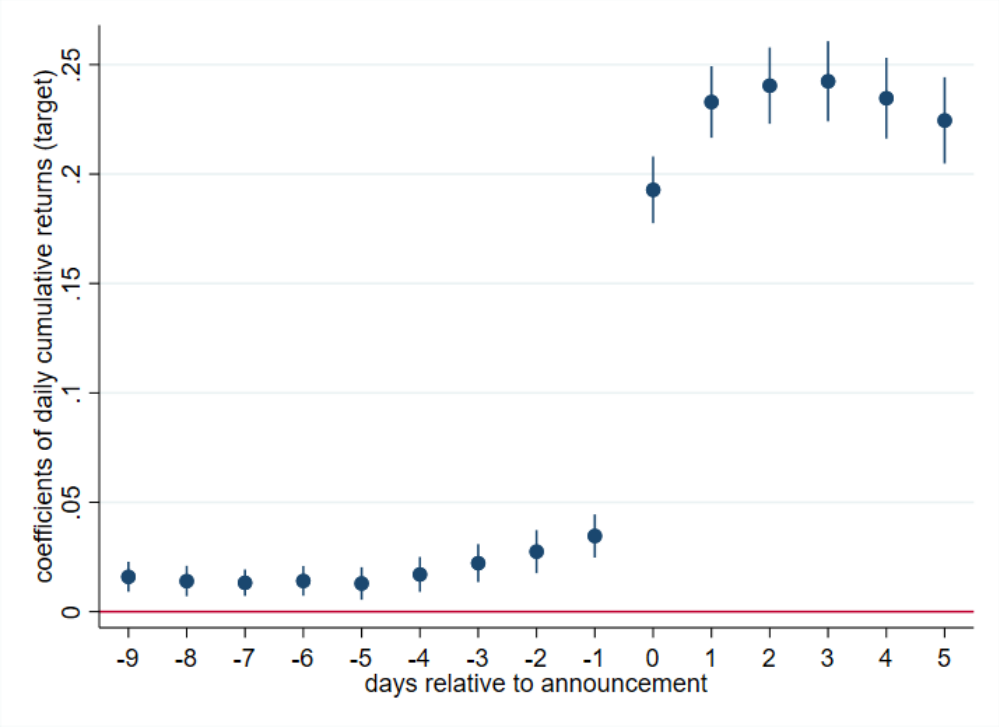

Figure 1: **Cumulative Returns of Target Stocks around Takeovers.** The figure shows the point estimates and 95% confidence intervals for 9 days prior to the announcement and 5 days afterwards, based on the following regression specification: $Return\ (cumulative)_{st} = \beta_t \sum_{t=-9}^{5} Takeover_{st} + \delta_t + \gamma_s + \varepsilon_{st}$, on a sample at the security-date level from 30 days prior to 5 days after the announcement. Standard errors are double-clustered at the security and date level.

informed and trade profitably prior to takeover announcements. To approximate the degree of connectedness between advisors in takeovers and traders, we make use of syndicated-loan networks. In particular, we measure the frequency with which the respective financial institutions interact when granting syndicated loans to firms. The tighter the interaction, the more likely it is that information is exchanged. We remain agnostic, however, regarding the identity of departments within the respective organizations from which the information is sent and received. While our proxy is based on interaction in the market for syndicated loans, its interpretation need not be confined to interactions involving only bankers from syndicated-loan or credit departments.

If one, nevertheless, wanted to assume that only bankers from syndicated-loan departments are involved in the transmission of private information across banks, then this would require information to be shared within banks—both from the M&A advisory to the lending unit of the

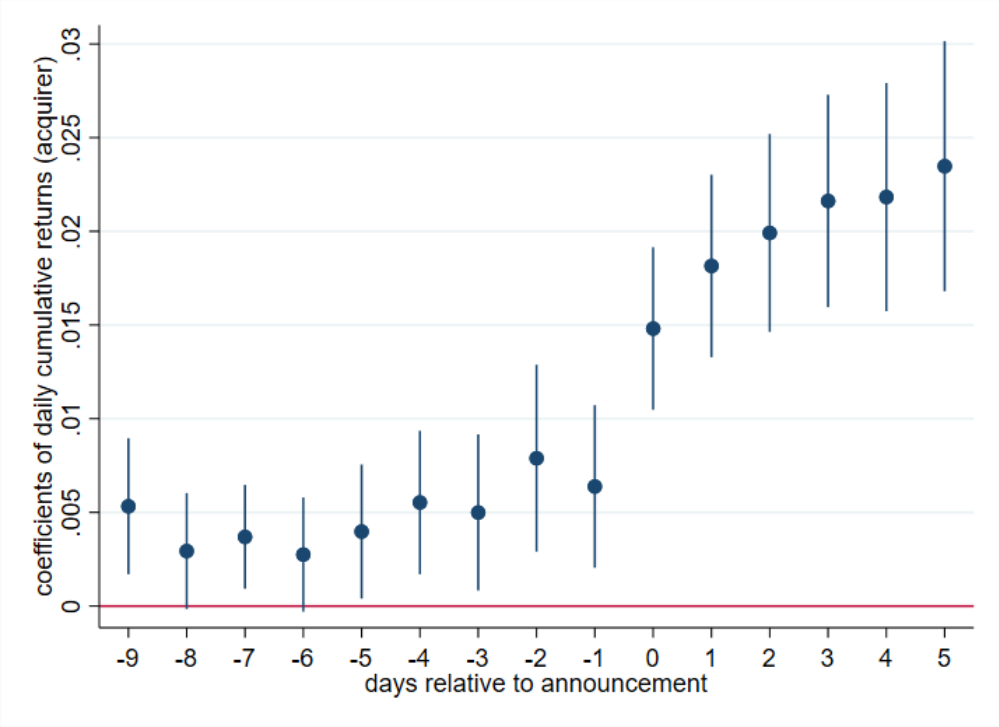

Figure 2: **Cumulative Returns of Acquirer Stocks around Takeovers.** The figure shows the point estimates and 95% confidence intervals for 9 days prior to the announcement and 5 days afterwards, based on the following regression specification: $Return\ (cumulative)_{st} = \beta_t \sum_{t=-9}^{5} Takeover_{st} + \delta_t + \gamma_s + \varepsilon_{st}$, on a sample at the security-date level from 30 days prior to 5 days after the announcement. Standard errors are double-clustered at the security and date level.

advising bank, and from the lending to the trading unit of the bank receiving the information—in spite of firewalls in place. Evidence in Acharya and Johnson (2007) and Haselmann, Leuz, and Schreiber (2023), among others, lends support to this assumption, especially for universal banks (see Neuhann and Saidi, 2018), the prevalent type of financial institution in our German data.

3 Data and Empirical Strategy

3.1 Data Description

Our main data source covers all securities trading by German financial institutions. In accordance with the Markets in Financial Instruments Directive (MiFID),[4] German financial institutions are

[4]See https://www.bundesbank.de/en/bundesbank/research/rdsc/research-data/mifid-617976.

required to report each security transaction to the German Federal Financial Supervisory Authority (BaFin). One of the main purposes of the reporting requirement is to detect market manipulation and insider trading.[5] The dataset contains information on the date, quantity, and price of a security traded by a given bank. In addition, we use bank-level balance-sheet data (covering, for instance, banks' total assets, capitalization, and asset composition) from BISTA[6] (Gomolka, Schäfer, and Stahl, 2020).

We merge these data with information on international M&A deals from Securities Data Company (SDC) Platinum, including information on takeovers such as the announcement and effective date, the percentage of the target acquired and owned after the transaction, the price paid, the medium of exchange (in particular cash vs. stock), and the advisors on the target and the acquirer side. We complement the merged dataset with security-specific daily return data from Thomson Reuters Eikon. As a final ingredient, we use syndicated-loan data from DealScan to empirically capture the possibility for information spillovers. In particular, we construct an exposure variable based on joint lending activity of trading banks and deal-specific advisors based on the year prior to the announcement of a given takeover.

We restrict our sample to proprietary trading of stocks by banks with a trading book and that are active in the international syndicated-loan market. This leaves us with 37 German banks. The average bank in our sample has assets amounting to 81 billion €, of which 5% are held in stocks, and an equity ratio of 10% (see Panel A of Table 1). More than half of these banks function at least once themselves as an advisor in an M&A transaction during our sample period from 2010 to 2016. For the main analysis, we exclude trading banks that are directly involved in takeovers as advisors, but analyze the trading behavior of target and acquirer advisors separately.

After restricting our sample to effective majority deals, leading to $> 50\%$ of the target shares being acquired and, thus, $> 50\%$ of the target being owned after the transaction, and excluding

[5] BaFin reports 353 procedures of insider trading during the sample period from 2010 to 2016. About one-third of all positive investigations of insider trading relate to M&A transactions. Cross-country investigations increased significantly during the same period: https://www.bafin.de/DE/PublikationenDaten/Jahresbericht/jahresbericht_node.html.

[6] Data ID: 10.12757/BBk.BISTA.99Q1-19Q4.01.01

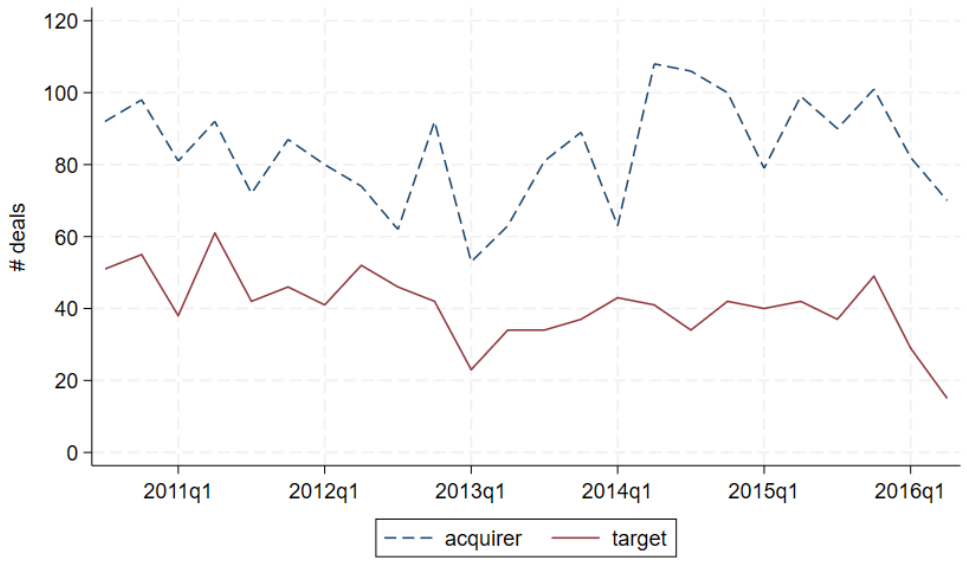

Figure 3: **Evolution of the Number of M&A Deals.** The figure shows the number of M&A deals in our sample between 2010 and 2016 with quarterly frequency. Deals are considered in the quarter of the announcement date. The red solid line represents the number of deals with information available on the target side, whereas the blue dashed line shows the number of deals with information available on the acquirer side.

deals in the financial sector, we are left with 3,052 M&A deals from 2010 to 2016 (Panel B of Table 1). Each deal can be viewed from the target or the acquirer side, data on which may not always be available. Target stocks have, on average, an announcement return (from one day before to one day after the announcement date) of 20%, the duration between effective and announcement dates is 112 days, and about two-thirds are cash deals (Panel B1). Acquirer stocks yield, on average, only a very small announcement return of 1% (Panel B2).

The distribution of M&A transactions over time and across countries is indicated in Figures 3 and 4, respectively. The coverage of M&A deals in our sample is fairly international (53 countries), with the majority of deals taking place in North America, Europe, Australia, and Japan.

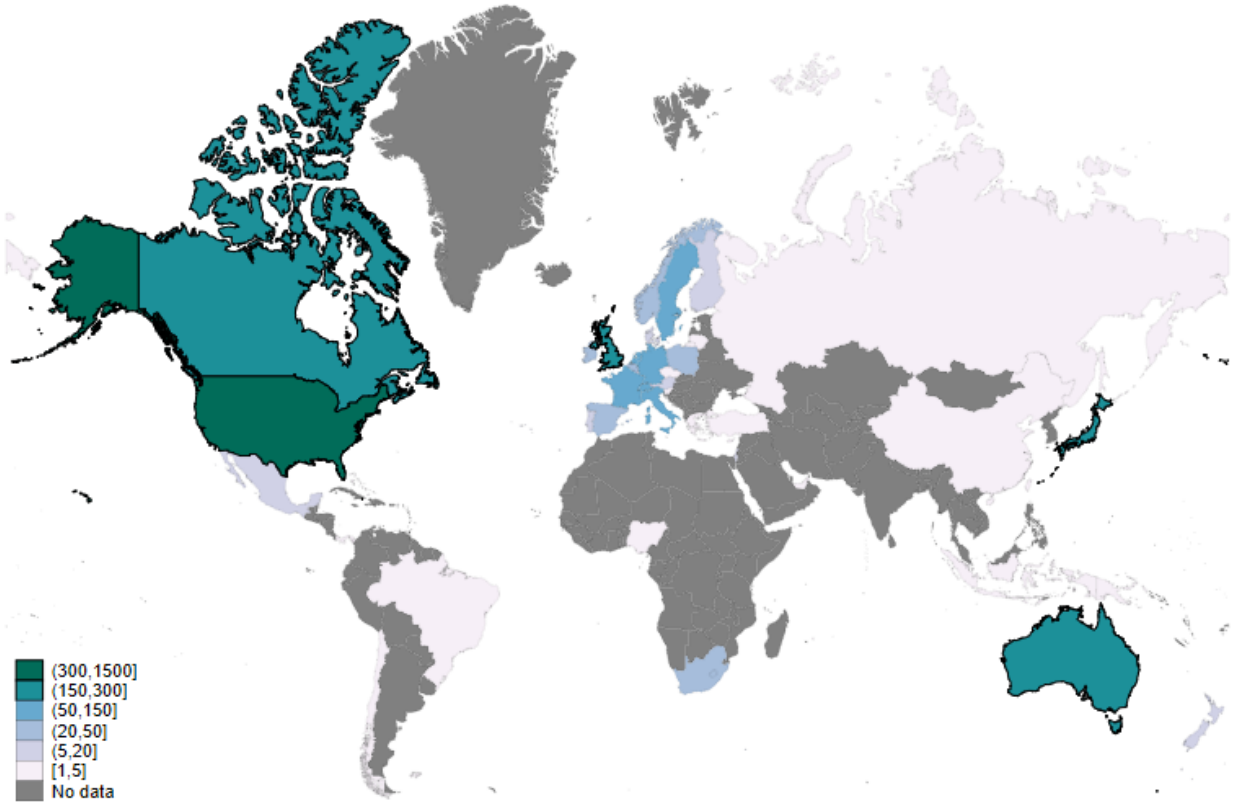

Figure 4: **Geographical Distribution of M&A Deals.** The figure visualizes M&A activity by country. The total number of deals in each country between 2010 and 2016 maps to the color indicated in the legend labels.

3.2 Empirical Specification

To test our main conjecture, we use data at the bank-security-date level and a symmetric time window of 30 days before and after a deal is announced. Descriptive statistics of the main dependent and explanatory variables are shown in Panel C of Table 1, separately for trading in target (Panel C1) and acquirer stocks (Panel C2).

Our most important explanatory variable of interest measures the intensity of a connection between a trading bank and a given deal's M&A advisor, namely by the number of joint syndicated loans scaled by the total number of syndicated loans granted by the advisor or the trading bank. As such, our measure captures the relative importance of the trading bank for the advisor's syndicated-loan business, or the other way around: $Intensity_{abt-1y}$ in the sense of advisor $a \rightarrow$ bank (trader) b is calculated as the number of joint syndicated loans by a and b relative to the number of syndicated loans by advisor a in the year prior to the deal announcement associated with security s.[7] Importantly, although we analyze the trading behavior of German banks, we do capture their relationships to international advisors (396 in total), which are also active in the syndicated-loan market.

To assess whether a trading bank b that is more important for the syndicated-loan business of target advisor a acquires more stocks of the target s prior to an M&A announcement, we estimate the following specification:

$$\begin{aligned} \text{sgn}(\ln(|Net\,nominal_{bst}|) = \beta_1 Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y} \\ +\beta_2 Intensity_{abt-1y} + \theta_{st} + \mu_{bt} + \varepsilon_{bst}, \end{aligned} \tag{1}$$

where $\text{sgn}(\ln(|Net\,nominal_{bst}|)$ is the signed natural logarithm of the net nominal amount of stock s traded by bank b on date t, $Intensity_{abt-1y}$ is the fraction of syndicated loans jointly issued by the target advisor a and bank b out of all syndicated loans of the target advisor a in the year prior to that associated with date t, $Pre\text{-}Announcement30_{st}$ is a dummy variable that

[7] In case of multiple advisor relationships maintained by a trading bank, we use the maximum for the same direction.

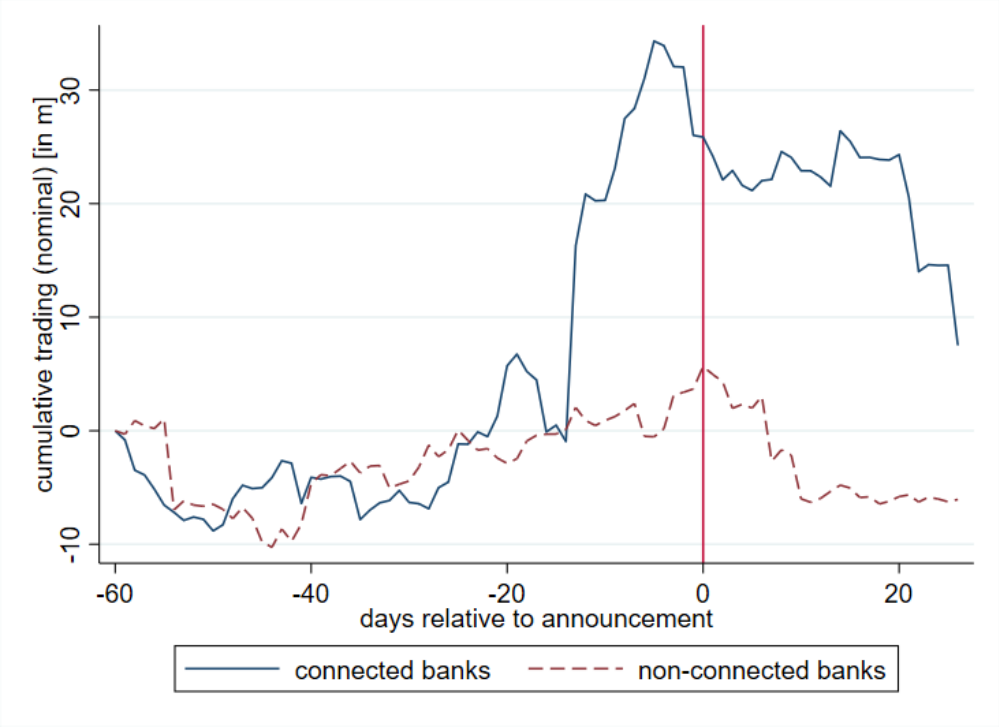

Figure 5: **Cumulative Nominal Trading (in m) in Target Stocks 60 days before and 30 days after the M&A Announcement.** Trading by connected banks refers to traders having joint syndicated-lending activity with at least one of the target advisors one year prior to the M&A announcement (solid blue line). Trading by non-connected banks is shown by the dashed red line.

is equal to 1 for the 30 days prior to the announcement of the takeover bid for the firm associated with stock s, and θ_{st} and μ_{bt} denote, respectively, security by date and bank by date fixed effects.

As a placebo test, we estimate the same specification for acquirer stocks. In addition, we can vary the direction of $Intensity_{abt-1y}$ by scaling the number of syndicated loans jointly issued by the target advisor a and bank b by the total number of syndicated loans of bank b. Finally, we can construct the same variable for acquirer advisors.

4 Main Results

We first analyze graphically the trading behavior of banks that differ in the degree to which they are connected to the advisor of the target firm in a given takeover. Figure 5 shows that connected traders start purchasing more target stocks roughly three weeks ahead of takeover

announcements, potentially reflecting that they take advantage of private information they have accrued through their joint syndicated lending with the target advisor.

To substantiate this finding, Table 2 shows our results from estimating (1). Columns 1 and 2 report the results for regressions with less restrictive sets of fixed effects, while column 3 presents the results of our preferred baseline specification. The coefficient β_1 on our variable of interest is statistically highly significant irrespective of the set of fixed effects, and varies only slightly in size across specifications. A trading bank that is more connected to the target advisor by one standard deviation purchases, on average, (0.1×5.4 =) 54% more of the target stocks in the 30 days prior to the announcement. This lends support to the view that banks that are more important for the target advisor's syndicated-loan business are more likely to obtain private information about the imminent announcement of the takeover bid. This allows the connected bank to buy target stocks and benefit from the substantive announcement effects.

In order to test whether this effect is specific to a trader's connection with the target advisor, in column 4 we estimate whether the importance of a trader for the acquirer advisor's syndicated-loan business can also explain the pre-announcement purchase of target stocks by the trader. When using the fraction of syndicated loans jointly issued by the acquirer advisor and the trading bank out of all syndicated loans of the acquirer advisor, we do not find a significant effect on pre-announcement stock purchases of traders more connected to the acquirer advisor. This suggests that only traders connected to the target advisor obtain private information.

Using the reverse importance of the target advisor for the trader's syndicated-loan business in column 5 yields similar results as before. In contrast, column 6 shows that traders that issued more syndicated loans with the acquirer advisor relative to the trader's total syndicated lending do not buy more stocks of the target prior to the announcement of the takeover bid.[8] This confirms that it is the connection to the target advisor that seems to matter for the diffusion of the insider information.

Since the announcement effect is much more emphasized for target stocks (Figures 1 and 2),

[8]This also suggests that central acquirer advisors' information advantage (Yawson and Zhang, 2021) is not driving our results.

traders would not benefit as much from any private information on an imminent takeover bid by purchasing stocks of the acquirer. In columns 7 and 8, we test whether connected traders purchase any acquirer stocks ahead of takeover announcements. We do not find any evidence of pre-announcement purchases of acquirer stocks by traders more connected to the target advisor (column 7) or by traders more important for the acquirer advisor's syndicated-loan business (column 8).

As a first main robustness check, we estimate, instead of the net amount purchased by a specific trader, its propensity to buy the target or acquirer stock, i.e., the extensive margin. For this purpose, we replace the dependent variable in our regressions with a dummy variable, Buy_{bst}, indicating whether trading bank b net-purchased stock s on date t. The results in Table 3 are qualitatively similar those in Table 2: the propensity to purchase the target stock prior to the takeover bid significantly increases the more the target advisor depends on the respective trading bank for its syndicated-loan business.

This is again robust to including various sets of fixed effects (columns 1 to 3), going so far as to control for time-varying unobserved heterogeneity at both the trader and the security level. In terms of economic magnitude, a trader with a one standard deviation more intense connection with the target advisor has, on average, a 2.6 percentage points higher propensity to purchase the target stock during the 30 days prior to the takeover announcement. As before, the pre-announcement propensity to purchase target stocks is only correlated with the connection to the target advisor (columns 1, 2, 3, and 5), but not the acquirer advisor (columns 4 and 6). We also do not find evidence that connected traders are any more likely to buy acquirer stocks prior to the announcement. This holds for connections to the target advisor as well as the acquirer advisor (columns 7 and 8).

Our identification strategy hinges on the fact that we distinguish bank connections to target advisors vs. acquirer advisors associated with the same takeover events. As the connected banks' trading motives are aligned only with the incentives of the target, but not of the acquirer, advisor, only the target advisor should have incentives to disseminate any private information about

imminent takeover announcements. To test this more directly, we estimate a horse race between trading banks' connections to the target vs. acquirer advisor. This also sheds light on whether the estimates in Tables 2 and 3 with respect to traders' connections to target advisors and acquirer advisors are only a mere result of the two being highly correlated, while connections to acquirer advisors are only more volatile.

In Table 4, we include the intensity of a trader's connection to the target advisor and to the acquirer advisor simultaneously, alongside the most restrictive set of fixed effects (as in columns 3/4 and 7/8 in Tables 2 and 3). The amount and propensity of a trader to buy target stocks before takeover announcements is only correlated with the intensity of its connection to the target advisor. The coefficient is still highly significant and even slightly larger in magnitude than before (columns 1 and 3). Conversely, there is no significant relationship between a bank's pre-announcement trading activity in a target stock and its connection to the acquirer advisor. Interestingly, when included in the joint estimation, the intensity of the trader's connection with the acquirer advisor now has a negative, albeit statistically insignificant, coefficient. This suggests that when a trading bank is connected to both the target and the acquirer advisor, it is less likely to obtain private information, or is less inclined to trade upon it. Columns 2 and 4 report the respective results for the placebo tests on the amount and the propensity to purchase stocks of the acquirer firm. Again, the intensity of a given bank's connection to both the target and the acquirer advisor do not carry any significant effect on its trading in acquirer stocks.

In sum, these results support the view that target advisors are more likely to disseminate information about an imminent takeover particularly to financial institutions with which they are closely connected in the syndicated-loan market. Traders that are more connected to the target advisor only buy target stocks, as acquirer stocks do not benefit on average from a positive announcement effect. This indicates that traders acquire positions prior to takeover announcements in an attempt to exploit their private information and to reap trading profits from positive announcement effects.

5 Robustness Checks

To further assess the robustness and validity of our results for connected banks' trades in target stocks, we perform a battery of robustness checks, which are summarized in Table 5. A main concern with respect to our key finding is that the intensity of the trading bank's connection to the target advisor may be, instead of a valid measure of private-information exchange, only a proxy for closer relationships that might involve institutional ties, such as the trader being the custodian bank or market maker for the advisor. To address this concern, we add to our baseline regression specification trader-advisor pair fixed effects. In this manner, we exploit only variation in the intensity of the trader's connection with the same target advisor over time. Interestingly, after including trader-advisor fixed effects, our key results do not only prevail, but the main effect is economically even more pronounced. Thus, our syndicated-loan based measure for banks' connectedness to target advisors is unlikely to explain their pre-announcement trading behavior through time-invariant aspects of their relationship. This renders it more likely that we, instead, capture (time-varying) information diffusion from the target advisor to connected banks.

A further concern relates to the fact that our trading data are confined to transactions of German banks only. German (universal) banks, however, maintain close ties to firms, i.e., they are represented on corporate boards and serve as relationship lenders. This might, in turn, imply that these banks may have at their disposal alternative sources of private information regarding takeovers of German firms. However, after dropping German deals from the sample in column 2, our results remain remarkably similar to our baseline estimates (see column 3 in Table 2). This also suggests that cultural similarity or other aspects of familiarity (Guiso, Sapienza, and Zingales, 2009; Bereskin, Byun, Officer, and Oh, 2018), which are typically viewed as facilitating information transmission in social networks, are unlikely to drive our results.

In order to improve upon the external validity of our trader-time and security-time fixed effects—which are in our setup naturally estimated using only observed, and not, for instance, intended, transactions—we next re-run our regression specification also on an unrestricted sample that comprises all trades in every stock by each reporting bank (column 3). On this extended

sample, we can also include trader-security fixed effects in our regressions (column 4). This allows us to control for instances in which banks serve as a market maker for the target stock and, as a consequence, hold inventory in this stock prior to the takeover announcement. Again, our key result remains unaffected: even with this much larger sample and additional fixed effects, traders more closely connected to the target advisor through their syndicated-loan business purchase more target stocks prior to the takeover announcement. The economic magnitude is roughly similar to that of our baseline estimates.

Mergers and acquisitions often affect certain industries and occur in waves. Banks may specialize in a certain industry and, as such, be in a better position to learn in advance about takeovers in this industry. At the same time, specialized banks might also be better connected to M&A advisors of deals in the same industry. To rule out that our results are confounded by trading banks' industry knowledge, we add interactions of trader by industry fixed effects with a dummy variable for a given merger's pre-announcement period (column 5), which control, among others, for a given trader's purchases of target stocks in a given industry prior to each takeover announcement. In column 6, we include even more granular trader by industry by date fixed effects to ensure that our findings are not driven by developments in a bank's trading strategy across stocks within a given industry. Interestingly, while the effects of our main variable of interest remain highly significant in both cases, their economic magnitude increases with this even more restrictive set of fixed effects.

Finally, we further probe whether it is indeed the connection of a trading bank to the target advisor that matters for the trader's pre-announcement target stock purchases, and whose relative importance matters more. For this purpose, we compute different measures for the intensity of the connection, varying the direction and type of advisor. First, we hold constant the (target or acquirer) advisor. For each type of advisor, we then re-define our intensity measure as the maximum of the fraction of syndicated loans jointly issued by the respective advisor and the trading bank out of all syndicated loans (i) of the advisor and (ii) of the trader. Second, we hold constant the direction of the intensity measure, and re-define the latter as the maximum of the

syndicated-loan portfolio overlap between the trader and (i) the target advisor and (ii) the acquirer advisor, relative to the respective advisor's or the trader's total syndicated lending.

The results using these alternative measures for the connection intensity between traders and M&A advisors are remarkably similar to those of our baseline regressions. First of all, we use the maximum of all four before-mentioned intensity measures. Doing so, we find in column 7 of Table 5 that the intensity in the syndicated-loan connection between a given trading bank and *any* advisor, irrespective of direction or type of advisor, matters for whether the trader purchases target stocks prior to the announcement. In the remaining columns, we use, in turn, the four concrete intensity measures. Columns 8 and 9 reveal that the trader's purchasing behavior is driven entirely by its connection to the target, rather than the acquirer, advisor. In addition, columns 10 and 11 suggest that the relative importance of the trader for the advisor's syndicated-loan business, rather than the other way around, is the more significant determinant for whether the connected bank trades on obtained private information. Therefore, the advisor's information transmission is—at least partly—incentivized by the trading bank's relative importance for the advisor's syndicated-loan business.

6 Variation in the Strength of Economic Incentives

If traders closely connected to a target advisor indeed buy target stocks pre announcement because they trade on private information obtained from the advisor, this effect should be more pronounced when expected profits from trading on private information are larger. This may be because in that case target advisors are more likely to leak information about imminent takeovers, or connected traders are more inclined to purchase target stocks.

In testing this idea, we remain agnostic as to whether informed traders can anticipate which takeover announcements will have a particularly high announcement return, or whether the target advisor's transmitted information also involves information suggestive of the size of the deal premium. Instead of actual announcement returns for target stocks, we use parameters of

takeovers that are more likely to be known by the trading bank and that are also correlated with announcement returns. For instance, deals that are unlikely to go through—e.g., difficult or more complicated transactions—tend to generate lower announcement returns, in part because the latter incorporate the reduced likelihood of deal success (Malmendier, Opp, and Saidi, 2016).

Columns 1 and 2 in Table 6 present the results when we run our key regression specification for banks' trading in target stocks on a split sample for M&A transactions that are effective within 120 days after announcement (column 1) and "difficult" transactions that take longer to come into effect (column 2). In line with a profit motive, traders more closely connected to the target advisor purchase stocks of targets solely ahead of takeovers that are executed within 120 days (column 1).

Similarly, the positive announcement return of target stocks is concentrated among takeover bids made as cash offers, in line with the model of Shleifer and Vishny (2003) and empirical evidence (Huang and Walkling, 1987; Yook, 2003; Malmendier, Opp, and Saidi, 2016). To examine whether trading banks exploit pre-announcement information primarily for cash takeovers with higher announcement returns, we split the sample into takeover bids with a cash component (column 3) vs. pure stock bids (column 4).[9] Indeed, the effect on connected banks' trading behavior is confined to takeover bids with a cash component.

To provide further evidence that these trades are induced by private information pertaining to imminent takeovers, and not any other events, we dissect the pre-announcement period and study whether the stock purchases of connected traders are particularly pronounced closer to the announcement date. Table 7 reports our regression results for banks' trading of target stocks, and considers only a 15-day (column 1), 30-day (column 2), 60-day (column 3), or 100-day (column 4) pre-announcement period. The comparison of the regression coefficients uncovers that the effect is economically substantially larger the shorter the definition of the pre-announcement period. This implies that closer to the announcement date connected traders' purchases of target stocks become increasingly prominent.

[9] As most deals have a cash structure, and for the sake of comparability across columns, we use a less restrictive fixed-effects structure so as to avoid having too few observations in column 4.

In column 5, we use in the same regression dummy variables defining disjoint time windows prior to the announcement, i.e., 100-61 days, 60-31 days, 30-16 days and 15-0 days before announcement, and interact those with the importance of the trader for the target advisors' syndicated-loan business. In line with our prior interpretation and conclusions drawn from Figure 5, we find that only in the 30 days prior to the announcement do connected traders purchase significantly more target stocks.

In columns 6 to 10, we re-estimate the same regression specifications for the extensive margin, i.e., traders' propensity to buy the target stock, and obtain very similar results. The propensity to buy target stocks is elevated closer to the announcement date. Long before the announcement (100-31 days before) there is no evidence that traders that are more connected to the target advisor have a stronger tendency to purchase target stocks. These results also hold up to replacing the continuous variable $Intensity_{abt-1y}$ with a dummy variable that equals 1 for any non-zero value thereof (Table 8). The effect—in terms of both statistical and economic significance—is concentrated in the 15 days prior to the announcement (see columns 5 and 10 of Table 8).

There exists empirical evidence that banks might exploit in their proprietary trading private information obtained from close relationships with their non-financial customers, even if it constitutes a violation of their fiduciary duties(as shown most recently by Haselmann, Leuz, and Schreiber, 2023). In our setting, this would correspond to advisors trading themselves on their private information about an imminent takeover. If this was the case, our results could reflect that connected traders only imitate advisors' trading behavior. In order to evaluate this possibility, in Table 9 we re-run regression specification (1) using, instead of the $Intensity_{abt-1y}$ measure, a dummy variable identifying whether a trader b is at the same time also either a target advisor (columns 1 and 3) or acquirer advisor (columns 2 and 4) in the deal involving stock s as the target (columns 1 and 2) or the acquirer (columns 3 and 4). As the results show, neither acquirer nor target advisors boost their stock positions prior to takeover announcements, irrespective of whether we consider target or acquirer stocks.

In columns 1-4, we effectively compare the trading behavior of advisors with that of other

traders that do not serve as advisors themselves but that might be closely connected to the respective advisors. If these connected traders only mimic the trading behavior of advisors (or trade on the same private information as the advisors), their trading behavior cannot serve as a control group to test whether advisors trade on private information. To address this concern, we restrict the sample to include only traders in the control group that are neither advisors in the deal nor connected to either one of the advisors (columns 5-8). Our results for the pre-announcement period remain robust in this restricted sample. After takeover announcements both target and acquirer advisors purchase more target shares, and acquirer advisors are less likely to buy acquirer shares than unconnected non-advisor banks. Overall, these trading patterns suggest that target advisors disseminate the information about an imminent takeover announcement to their peers without exploiting the private information themselves. In Section 8, we further investigate why particularly the target advisors may have an incentive to leak this private information.

Finally, we consider the possibility that in addition to trading in target stocks, connected banks may alter their trading in stocks of firms that are not directly involved in a takeover but may be affected by it, e.g., through competition effects or because of the resulting cross-holdings (Harford, Jenter, and Li, 2011). In doing so, one faces the challenge of identifying peer firms of the respective firm involved in a takeover bid. For this purpose, we consider for each M&A transaction the five competitors with the highest stock-return correlation with the target stock three years prior to deal announcement ($Corr_{st}$). That is, instead of considering trades in the target stock, we analyze a given bank's trading in these five competitor stocks.

In column 1 of Table 10, we re-run our baseline specification for these stocks, and find that connected banks reduce their exposure prior to takeover announcements. In column 2, we find—as before—no effect for banks connected to the acquirer advisor. Connected banks rebalance their loan portfolios within a given industry in favor of the target firm, which they deem to benefit the most from the imminent takeover.

At first glance, our evidence seems at odds with the hypothesis in Song and Walkling (2000) that rivals of targets may benefit from takeover announcements due to an increased probability

of becoming targets of takeovers themselves. To investigate potential heterogeneity among industry peers, we differentiate them by their correlation in comparison to the median across all takeovers in our sample. The underlying rationale is to identify the target's competitors whose stock prices should appreciate most likely in accordance with the target's stock price, potentially reflecting revaluation effects of industry peers due to reasons including, but not limited to, higher future acquisition probabilities. Irrespective of whether we use a dummy variable, $HighCorr_{st}$, for highly correlated stocks (above the median correlation) or the underlying continuous variable, our results in columns 3 and 4 indicate that connected banks are less likely to reduce their exposure to such stocks. All of these insights hold qualitatively when replacing the dependent variable by the indicator variable Buy_{bst}, capturing the extensive margin (as in Table 3).

7 Prices and Trading Gains

Figure 5, in conjunction with our baseline results, already suggests that traders closely connected to the target advisor buy more shares prior to the announcement and, thus, at a lower price. In order to more explicitly assess whether connected traders do pay less for target stocks than other traders, because they use the private information to time their purchases, we first calculate the volume-weighted average price a trader b pays for its purchases of stock s on date t. We then estimate a trader's daily purchase price of a target stock 30 days before and after the announcement as a function of its importance for the target advisor's syndicated-loan business, while using different sets of fixed effects and daily transaction controls at the stock by trader level sb (daily transaction volume and number of daily trades).

As our results in Table 11 show within the 60-day window around announcements, banks that are more connected to the target advisor pay significantly less when purchasing the target stock than do other traders. This finding not only holds when including security fixed effects (column 1), but also after adding trader fixed effects (column 2). The latter suggests that the trading gains earned by connected traders cannot be simply attributed to their time-invariant characteristics,

e.g., their size, general degree of connectedness, or any particular trading style. Our results are also robust to the inclusion of year fixed effects (column 3), taking care of variation in annual market returns, and to using trader by year fixed effects (column 4), accounting for changes in a bank's general trading strategy (e.g., deleveraging) and access to information. This also precludes that our results are driven by time-varying characteristics of trading banks that may be correlated with their connections in the syndicated-loan market. Overall, a trader more connected by one standard deviation to the target advisor earns a trading gain of 0.67 € per share on its average daily trades of the target stock (based on column 2).

In the last column, we compare trades by banks in the same security and on the same day by adding security by date fixed effects. After doing so, our key variable of interest, the connection between the trader and the target advisor, is no longer a significant determinant of the price at which the trader purchases target stocks around the announcement date. This lends further support to our interpretation that connected traders only make a trading profit because their private information permits them to buy stocks before the announcement. When trading on the same day as other traders, connected traders do not manage to purchase target stocks at a lower price. This also highlights that connected traders are not generally (through their connection to the target advisor) in a position to reap trading gains in target stocks, e.g., by front-running elevated order flow around the announcement.

8 Advisors' Incentives

Reciprocal favors—e.g., in their syndicated-loan business—might be a motive for banks to disclose confidential M&A-related information to their business partners. This reasoning would hold for both acquirer as well as target advisors. Our previous findings suggest, however, that primarily target advisors reveal such private information to connected banks, and somewhat more so if the connected banks are relatively more important for their syndicated-loan business (cf. column 10 vs. column 11 in Table 5).

This raises the question as to whether target advisors are particularly incentivized to leak private information of an imminent takeover. One reason might be that leaking such private information to connected traders helps drive up the pre-announcement stock price of the target and, thus, also the final price paid. Given that target advisors' fee income is linked to the transaction value (see, among others, McLaughlin, 1990), this would boost target advisors' revenues.

As premia are deal-level outcomes, we move our analysis to the cross section of M&A deals (indexed by d) with information on the target side. In particular, we differentiate target stocks by the trading activity therein of banks closely connected to the target advisor of the respective deal. To capture this empirically, we compute $Informed\ Trading\ Exposure_d$, which is the weighted sum of all of trading bank b's net purchases of target stock s within a 60-day window prior to the announcement of deal d ($Trading_{bst}$) relative to the total absolute transactions (both purchases and sales) by any bank of target stock s in this period ($|Trading_{st}|$), all scaled by 1,000 over the market capitalization of stock s.[10] For the weights we use the $Intensity_{aby-1}$ of the connection between the trading bank b and the target advisor a, which is defined as the respective bank b's number of joint syndicated loans with the target advisor in the year prior to the announcement (year $y-1$) relative to the total number of syndicated loans granted by the target advisor in the same period:

$$Informed\ Trading\ Exposure_d = \frac{\sum_b \sum_{t \in T(60)} Intensity_{aby-1} \times Trading_{bst}}{\sum_{t \in T(60)} |Trading_{st}|} \Big/ \frac{1,000}{MarketCap_s}.$$

In Figure 6, we decompose the observed runup in targets' stock prices ahead of takeover announcements (see Figure 1) for targets with above-median vs. below-median values of *Informed Trading Exposure*$_d$. Doing so, we find that not only is the runup more pronounced for targets whose stocks are traded more actively by banks closely connected to the target advisor, but also the level of post-announcement returns.

To test whether this also translates into higher deal premia, we estimate the relationship between the 60-day premium paid and the relative trading volume in the target stock by banks

[10] $Informed\ Trading\ Exposure_d$ is winsorized at -1 and 1.

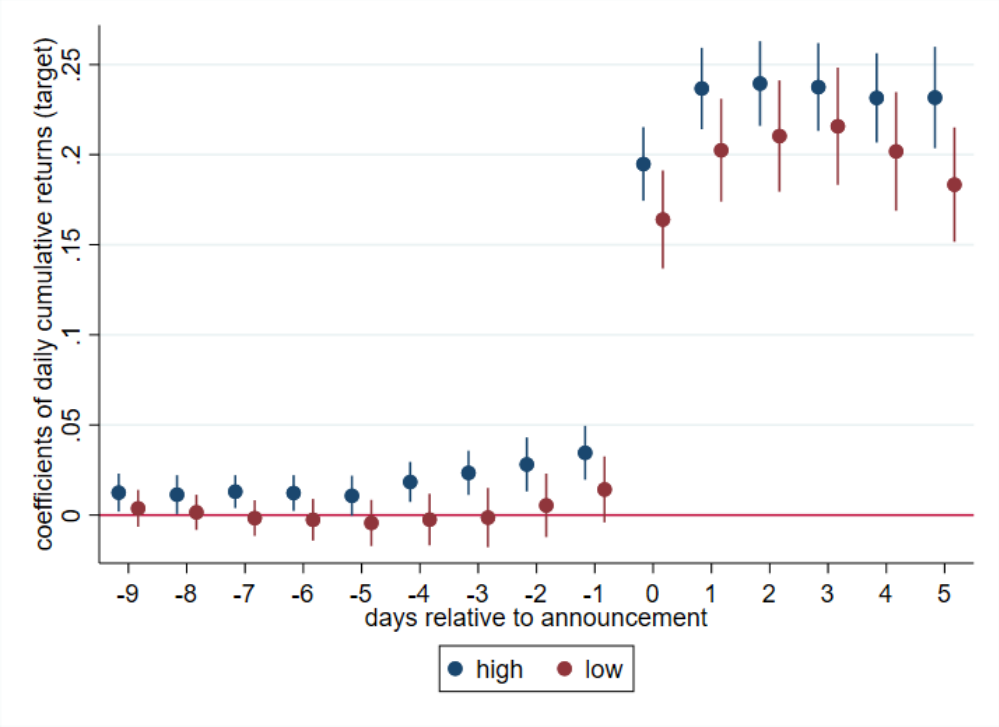

Figure 6: **Cumulative Returns of Target Stocks around Takeovers—High vs. Low Informed Trading Exposure.** The figure shows the point estimates and 95% confidence intervals for 9 days prior to the announcement and 5 days afterwards, based on the following regression specification: $Return\ (cumulative)_{st} = \beta_t \sum_{t=-9}^{5} Takeover_{st} + \delta_t + \gamma_s + \varepsilon_{st}$, on a sample at the security-date level from 30 days prior to 5 days after the announcement, separately for targets with above-median vs. below-median values of $Informed\ Trading\ Exposure_d$. Standard errors are double-clustered at the security and date level.

connected to the target advisor. More precisely, we use the premium paid for deal d, $Premium_d$, defined as

$$Premium_d = \frac{Price\ Paid_{st} - Price_{st-60}}{Price_{st-60}},$$

and regress it on $Informed\ Trading\ Exposure_d$.

Since our previous analysis has revealed that most of the transactions of informed traders occur 15 to 30 days before the announcement (Table 8), we hypothesize that the price 60 days before the announcement is not significantly affected by information leakage. Hence, if the dissemination of private information about an imminent merger indeed drives up the price paid, this should be captured by a higher 60-day premium paid.

The final sample consists of M&A deals between 2010 and 2016. Descriptive statistics of

the main dependent and explanatory variables are shown in Panel D of Table 1. For our cross-sectional analysis, the sample of target deals contains 538 takeovers of which 83% are effective and 11% are labeled as competing offers (4% in the sample of effective deals). For effective deals, we require available information on the price paid, and consider only deals with a premium between -20% and 200% (motivated by Officer, 2003, and in line with Hackbarth and Morellec, 2008).

Table 12 summarizes our regression results. As the trading volume of connected traders could also be elevated simply because there are (already) announced competing offers for the target, inducing banks to buy the target stock without having private information, we always include an indicator variable, $Competing\ Offer_d$, which equals 1 in case we record more than one bid per target security within one year.

In column 1, we control for year fixed effects, which capture aggregate trends in premia paid over time, as well as the target's industry by country fixed effects, and find a positive correlation between the premium and the transaction volume of traders closely connected to the target advisor. This suggests that by disseminating information about an imminent merger to connected traders, the target advisor can help achieve a higher premium. This estimate increases only further after including time-invariant (column 2) and time-varying fixed effects for the target's advisor (column 3), as well as time-varying fixed effects for the target's industry-country combination (column 4). This precludes that our results simply reflect merger waves in certain industries, or that they are a mere artefact of certain advisors gaining market share or other particular expertise at driving up deal premia.

Our estimates are not only statistically but also economically significant. For example, the estimate in column 4 implies that a one-standard-deviation increase in $Informed\ Trading\ Exposure_d$ is associated with a $0.339 \times 0.12 = 4.1$ percentage points higher premium paid, which corresponds to approximately one-quarter of the latter's sample mean.

The deal premium, measured as the percentage increase of the price paid over the target stock price 60 days prior to the announcement, is the sum of the initial runup up until the day prior to the announcement and the subsequent markup. While our results in Table 12 imply that

informed trading exposure is associated with higher premia, it does not reflect to what extent the effect stems from runups in target stocks due to connected banks' trades, as visualized in Figure 6.

To investigate this, in the first four columns of Table 13 we re-run the same specifications as in Table 12, but replace the dependent variable with $Runup_d$, the return from 60 days prior to the announcement to one day prior to the announcement. The estimates tend to be close to those in Table 12, but also exhibit some variation. As the premium can be decomposed into a runup and a markup component, i.e., $Premium_d = Runup_d + Markup_d$, our results imply that a large portion of the effect on premia is driven by higher runups rather than markups.

While higher premia stemming primarily from higher runups would be in the interest of target advisors, the latter's incentives to leak information about imminent M&A annoncements to connected banks would be reduced if by raising the premium, such informed trading led acquirers to postpone or cancel planned bids (as discussed in Schwert, 1996). Under the so-called markup pricing hypothesis, whereby the runup is an added cost to the bidder and, thus, induces a lower deal success probability, the coefficient on the runup is equal to zero (one) in a regression with the markup (premium) as the dependent variable. Using U.S. deals, Schwert (1996) presents evidence in favor of the markup pricing hypothesis, while Betton, Eckbo, Thompson, and Thorburn (2014), using more recent data and modified tests, firmly reject it.

To test the markup pricing hypothesis in our sample, we use as the dependent variable in the last four columns of Table 13 $Markup_d$, the return implied by the price paid compared to the stock price one day prior to the announcement, and regress it on $Runup_d$. All estimates are significantly different from zero, thereby rejecting the markup pricing hypothesis. Our estimates from a drastically different sample fall between those of Schwert (1996) and Betton, Eckbo, Thompson, and Thorburn (2014). They range from -0.36 to -0.57, which suggests that the higher runup is only partially offset by a lower markup and, thus, increases the total premium paid by the acquirer only as a fraction of the size of the runup (partial substitution).

Consistent with our rejection of the markup pricing hypothesis, elevated trading activity of

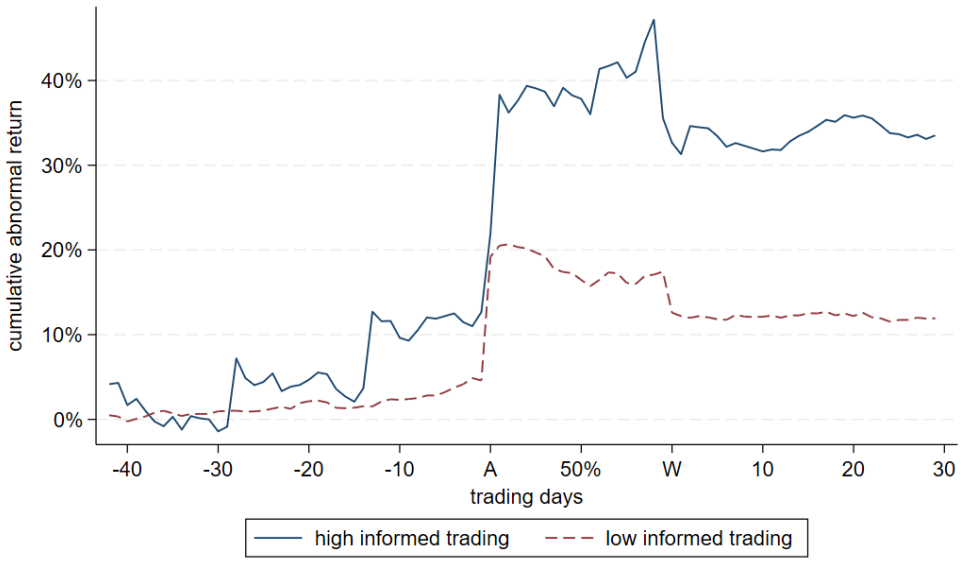

Figure 7: **Cumulative Abnormal Returns of Target Stocks in Failed Takeovers—High vs. Low Informed Trading Exposure.** The figure shows cumulative abnormal returns for 42 trading days prior to the announcement and 30 trading days after the withdrawal of the takeover bid, separately for targets with above-median vs. below-median values of $Informed\ Trading\ Exposure_d$. For the illustration of the period between announcement (A) and withdrawal (W), we normalize trading days (in percent) to accommodate different durations of the interim period. We calculate cumulative abnormal returns as $CAR_{st} = \sum_{j=1}^{t}(r_{sj} - r_{mj})$, where r_{sj} and r_{mj} denote the stock return of security s and the Thomson Reuters global stock benchmark on date j, respectively.

banks that are connected to the target advisor should not adversely affect the probability that a takeover is successful. To test this, we estimate a linear probability model on the sample of all successful *and* failed bids. We use the same regression specification as before, but replace the dependent variable with an indicator variable for a successful bid. As the results in Table 14 highlight, greater trading activity by connected and, thus, presumably better informed traders has no statistically significant effect on the probability that a takeover is completed.

Trading by connected—and, thus, better informed—banks is associated with higher pre-bid runups that are not offset by equal reductions in the markups and, therefore, translate into higher premia without reducing the success probability of the takeover. This suggests that target advisors can increase their expected revenues by leaking information about imminent M&A announcements to connected banks.

As such, both the target and its advisor benefit from a successfully executed takeover. Banks connected to the target advisor benefit as well, regardless of whether a takeover bid is successful or not. Based on our relatively small sample of 90 failed takeovers, Figure 7 shows that target stocks traded by connected banks see a much higher cumulative abnormal return (CAR) not only at announcement but also (at least 30 trading days) after the deal fails. According to Malmendier, Opp, and Saidi (2016), positive post-failure CARs reflect previous undervaluation of the target stock, and are prominent among cash, rather than stock, bids. In combination with our finding that banks closely connected to the target advisor are particularly prone to purchasing shares of targets of cash bids (see Table 6), Figure 7 implies that connected banks tend to trade in undervalued stocks. Given the generally strong financial incentive to purchase target stocks ahead of takeover announcements (see Figure 1), weakening the role for connected banks' otherwise-acquired private information, this suggests that target advisors leak information about imminent takeovers especially for targets they know to be undervalued.

9 Conclusion

In this paper, we provide evidence that M&A advisors share private information about imminent takeovers to closely connected banks, and that they do so in an incentive-compatible fashion. We uncover these connections using the network of banks in the international syndicated-loan market. Only target, rather than acquirer, advisors share the information with connected banks that purchase target stocks before the announcement and, thus, at lower prices. The additional pre-announcement demand drives up the pre-announcement price and thereby contributes to a higher premium paid, without sacrificing the probability of a successful takeover bid.

Information leakage benefits target shareholders and ultimately the target advisor, reflecting the idea that bank networks aid the establishment of mutually beneficial relations. Connected banks' trading profits will likely contribute to the stability of reciprocal exchange in loan-syndication networks, which we use to capture private-information flows. As such, our results

suggest that loan-syndication networks can use profitable private-information transmission in other markets to enforce repeat interaction in syndication, where banks take turns in arranging syndicated loans and former lead arrangers make sure to be invited as participants in the next iteration. Such a mechanism potentially informs theories of how firms' decision to syndicate with other firms sustains collusion even at low levels of market concentration (Hatfield, Kominers, Lowery, and Barry, 2020).

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Tables

Table 1: **Summary Statistics:** Panel A presents summary statistics at the bank level, for all German banks with a trading book that are also active in syndicated lending. Panel B presents summary statistics at the M&A deal level, separately for the target (Panel B1) and the acquirer side (Panel B2). Panel C presents summary statistics at the bank-security-date level based on the main regression sample covering 30 days before and after the announcement of a takeover. Panel C1 refers to trading in target securities, and Panel C2 refers to trading in acquirer securities. Panel D presents summary statistics for variables used in our cross-sectional analysis at the deal level.

Panel A: Bank level	Mean	SD	p25	p75	*N*
Total assets (in € bn)	81.37	122.10	3.36	115.74	37
Equity/Assets	.10	.16	.04	.06	37
Stocks/Assets	.05	.07	.01	.06	37
Advisor activity (in SDC)	.59	.50	0	1	37
Panel B1: Deal level (Target)	Mean	SD	p10	p90	*N*
Announcement return [-1,+1]	.20	.24	-.02	.52	963
Length (effective - announcement)	111.81	90.72	30	224	995
Cash structure (any)	.68	.47	0	1	995
Stock bid (pure)	.12	.33	0	1	995
German deal	.04	.18	0	0	995
U.S. deal	.44	.50	0	1	995
Panel B2: Deal level (Acquirer)	Mean	SD	p10	p90	*N*
Announcement return [-1,+1]	.01	.07	-.04	.07	1,956
Length (effective - announcement)	74.29	98.51	0	176	2,057
Cash structure (any)	.54	.50	0	1	2,057
Stock bid (pure)	.06	.25	0	0	2,057
German deal	.03	.18	0	0	2,057
U.S. deal	.45	.50	0	1	2,057
Panel C1: Trading level (Target)	Mean	SD	p10	p90	*N*
sgn(ln(|Net nominal|)	.29	7.44	-9.13	9.21	21,065
Buy (1 if net nominal > 0, else 0)	.49	.50	0	1	21,781
Intensity (Target Adv $\rightarrow$ Trader)	.05	.10	0	.15	21,781
Intensity (Acquirer Adv $\rightarrow$ Trader)	.04	.10	0	.15	21,781
Intensity (Trader $\rightarrow$ Target Adv)	.07	.13	0	.29	21,781
Intensity (Trader $\rightarrow$ Acquirer Adv)	.08	.14	0	.32	21,781
Panel C2: Trading level (Acquirer)	Mean	SD	p10	p90	*N*
sgn(ln(|Net nominal|)	.16	7.19	-8.84	8.93	79,278
Buy (1 if net nominal > 0, else 0)	.48	.50	0	1	81,583
Intensity (Target Adv $\rightarrow$ Trader)	.04	.10	0	.14	81,583
Intensity (Acquirer Adv $\rightarrow$ Trader)	.03	.09	0	.13	81,583
Intensity (Trader $\rightarrow$ Target Adv)	.05	.11	0	.25	81,583
Intensity (Trader $\rightarrow$ Acquirer Adv)	.05	.12	0	.27	81,583
Panel D: Cross section (Target)	Mean	SD	p10	p90	*N*
Premium (if Effective $= 1$)	.17	.31	-.12	.53	448
Runup (if Effective $= 1$)	.10	.22	-.11	.33	448
Markup (if Effective $= 1$)	.08	.32	-.19	.38	448
Informed trading exposure (if Effective $= 1$)	0	.12	-.01	.04	448
Competing offer (if Effective $= 1$)	.04	.21	0	0	448
Effective	.83	.37	0	1	538
Informed trading exposure	0	.11	-.01	.03	538
Competing offer	.11	.31	0	1	538

Table 2: **Effect of Bank Connectedness to Advisor on Stock Trading:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities 30 days before and after an M&A announcement of the given security. $Pre\text{-}Announcement30_{st}$ equals 1 for days within 30 days prior to an M&A announcement of security *s*, and 0 otherwise. $Intensity_{abt-1y}$ in the sense of advisor $a \rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by advisor *a* in the year prior to the deal announcement of security *s*. The dependent variable is $\text{sgn}(\ln(|Net\,nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. Specifications vary by their focus on target stocks (T) [columns 1-6]/acquirer stocks (A) [columns 7-8], $Intensity_{abt-1y}$ (type of advisor and direction), and fixed effects. Standard errors are double-clustered at the bank (trader) and security level.

$\text{sgn}(\ln(\lvert Net\,nominal_{bst}\rvert))$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$	5.536***	4.972***	5.386***	3.061	5.363**	2.303	0.359	-0.808
	(4.50)	(3.62)	(3.27)	(1.32)	(2.54)	(1.30)	(0.43)	(-0.78)
$Intensity_{abt-1y}$	-1.187	-1.198	1.785	-1.201	0.065	-0.378	0.004	0.503
	(-1.10)	(-1.02)	(1.04)	(-0.56)	(0.04)	(-0.30)	(0.01)	(0.49)
$Pre\text{-}Announcement30_{st}$	0.042							
	(0.25)							
N	20,937	13,205	6,141	6,141	6,141	6,141	48,882	48,882
R^2	0.135	0.262	0.633	0.631	0.632	0.631	0.531	0.531
Trader FE	✓	✓	-	-	-	-	-	-
Security FE	✓	-	-	-	-	-	-	-
Date FE	✓	-	-	-	-	-	-	-
Security-Date FE	-	✓	✓	✓	✓	✓	✓	✓
Trader-Date FE	-	-	✓	✓	✓	✓	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security
Target (T)/Acquirer (A) stock	T	T	T	T	T	T	A	A
$Intensity_{abt-1y}$	Target Adv → Trader	Target Adv → Trader	Target Adv → Trader	Acquirer Adv → Trader	Trader → Target Adv	Trader → Acquirer Adv	Target Adv → Trader	Acquirer Adv → Trader

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 3: **Effect of Bank Connectedness to Advisor on Stock Purchases:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities 30 days before and after an M&A announcement of the given security. $Pre\text{-}Announcement30_{st}$ equals 1 for days within 30 days prior to an M&A announcement of security *s*, and 0 otherwise. $Intensity_{abt-1y}$ in the sense of advisor $a \rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by advisor *a* in the year prior to the deal announcement of security *s*. The dependent variable is Buy_{bst}, which equals 1 for a positive net nominal amount traded by bank *b* in security *s* at date *t*, and 0 otherwise. Specifications vary by their focus on target stocks (T) [columns 1-6]/acquirer stocks (A) [columns 7-8], $Intensity_{abt-1y}$ (type of advisor and direction), and fixed effects. Standard errors are double-clustered at the bank (trader) and security level.

Buy_{bst} (1 if net nominal > 0, else 0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$	0.369***	0.312***	0.258**	0.172	0.289**	0.066	0.014	-0.021
	(4.86)	(3.70)	(2.63)	(1.09)	(2.64)	(0.64)	(0.28)	(-0.29)
$Intensity_{abt-1y}$	-0.094	-0.078	0.148	-0.001	0.016	0.045	-0.023	0.028
	(-1.31)	(-1.02)	(1.30)	(-0.01)	(0.17)	(0.59)	(-0.59)	(0.54)
$Pre\text{-}Announcement30_{st}$	-0.011							
	(-0.99)							
N	21,658	13,737	6,615	6,615	6,615	6,615	50,994	50,994
R^2	0.143	0.284	0.646	0.645	0.646	0.645	0.538	0.538
Trader FE	✓	✓	-	-	-	-	-	-
Security FE	✓	-	-	-	-	-	-	-
Date FE	✓	-	-	-	-	-	-	-
Security-Date FE	-	✓	✓	✓	✓	✓	✓	✓
Trader-Date FE	-	-	✓	✓	✓	✓	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security
Target (T)/Acquirer (A) stock	T	T	T	T	T	T	A	A
$Intensity_{abt-1y}$	Target Adv → Trader	Target Adv → Trader	Target Adv → Trader	Acquirer Adv → Trader	Trader → Target Adv	Trader → Acquirer Adv	Target Adv → Trader	Acquirer Adv → Trader

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 4: **Effect of Bank Connectedness to Target vs. Acquirer Advisor on Stock Trading:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities 30 days before and after an M&A announcement of the given security. $Pre\text{-}Announcement30_{st}$ equals 1 for days within 30 days prior to an M&A announcement of security *s*, and 0 otherwise. $Intensity_{abt-1y}$ in the sense of (target/acquirer) advisor $a \rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by (target/acquirer) advisor *a* in the year prior to the deal announcement of security *s*. The dependent variable in columns 1-2 is $\text{sgn}(\ln(|Net\ nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. In columns 3-4, the dependent variable is Buy_{bst}, which equals 1 for a positive net nominal amount traded by bank *b* in security *s* at date *t*, and 0 otherwise. Specifications vary by their focus on target stocks (T) [columns 1 and 3]/acquirer stocks (A) [columns 2 and 4] and fixed effects. Standard errors are double-clustered at the bank (trader) and security level.

	$\text{sgn}(\ln(\lvert Net\ nominal_{bst}\rvert))$		Buy_{bst} (1 if net nominal > 0, else 0)	
	(1)	(2)	(3)	(4)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$ (Target Adv $\rightarrow$ Trader)	6.204***	0.768	0.317**	0.045
	(3.08)	(0.83)	(2.69)	(0.87)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$ (Acquirer Adv $\rightarrow$ Trader)	-1.658	-1.170	-0.065	-0.043
	(-0.68)	(-1.01)	(-0.34)	(-0.63)
$Intensity_{abt-1y}$ (Target Adv $\rightarrow$ Trader)	1.405	-0.202	0.200	-0.027
	(0.80)	(-0.26)	(1.69)	(-0.63)
$Intensity_{abt-1y}$ (Acquirer Adv $\rightarrow$ Trader)	1.066	0.668	0.140	0.038
	(0.54)	(0.63)	(1.16)	(0.60)
N	6,141	48,882	6,367	49,587
R^2	0.633	0.531	0.649	0.535
Security-Date FE	✓	✓	✓	✓
Trader-Date FE	✓	✓	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security
Target (T)/Acquirer (A) stock	T	A	T	A

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 5: **Effect of Bank Connectedness to Target Advisor on Target Stock Trading—Robustness:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., target security *s* traded by bank *b* at date *t* with daily frequency. The sample in columns 1-2 and 5-11 contains trading in securities 30 days before and after an M&A announcement of the given target security. In column 2, German takeovers are excluded. In columns 3-4, the sample takes trading in all securities into account by replacing missing intensities with 0 (balanced sample). $Pre\text{-}Announcement30_{st}$ equals 1 for days within 30 days prior to an M&A announcement of security *s*, and 0 otherwise. $Intensity_{abt-1y}$ in the sense of advisor *a* → bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by advisor *a* in the year prior to the deal announcement of security *s*. Across columns 7-11, the definition of $Intensity_{abt-1y}$ varies as follows. Intensity *overall* is the maximum intensity between trader and advisor, irrespective of direction and type of advisor. Intensity *target (acquirer)* is the maximum of target (acquirer) advisor → trader and trader → target (acquirer) advisor. Intensity *advisor* is the maximum of target advisor → trader and acquirer advisor → trader. Intensity *trader* is the maximum of trader → target advisor and trader → acquirer advisor. The relevant period for the calculation always refers to the year prior to the deal announcement. The dependent variable is $\text{sgn}(\ln(|Net\,nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. Specifications vary by $Intensity_{abt-1y}$ and fixed effects. Industry-level fixed effects in columns 5 and 6 are based on security *s*'s two-digit industry code. Standard errors are double-clustered at the bank (trader) and security level.

$\text{sgn}(\ln(\lvert Net\,nominal_{bst}\rvert))$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$	10.454***	6.589*	4.770***	4.050***	14.829***	31.175**	3.111**	4.645***	1.190	4.521**	3.759**
	(3.22)	(1.97)	(3.21)	(2.88)	(2.85)	(3.04)	(2.21)	(3.17)	(0.85)	(2.42)	(2.20)
$Intensity_{abt-1y}$	3.572	1.699	-2.780**	-1.610	-5.990*	-25.947**	0.895	1.688	0.236	1.547	-0.758
	(0.16)	(0.53)	(-2.33)	(-1.34)	(-2.02)	(-2.67)	(0.61)	(1.09)	(0.19)	(0.89)	(-0.60)
N	6,141	2,840	7,064,681	7,035,796	5,749	432	6,141	6,141	6,141	6,141	6,141
R^2	0.698	0.696	0.293	0.310	0.696	0.679	0.632	0.633	0.631	0.632	0.632
Trader-Date FE	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓
Trader-Industry-Pre-Announcement FE	-	-	-	-	✓	-	-	-	-	-	-
Trader-Industry-Date FE	-	-	-	-	-	✓	-	-	-	-	-
Security-Date FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trader-Advisor FE	✓	-	-	-	-	-	-	-	-	-	-
Trader-Security FE	-	-	-	✓	-	-	-	-	-	-	-
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security
Sample adjustment	-	DE deals excluded	Filled	Filled	-	-	-	-	-	-	-
$Intensity_{abt-1y}$	Target Adv → Trader	Target Adv → Trader	Target Adv → Trader	Target Adv → Trader	Target Adv → Trader	Target Adv → Trader	Overall	Target	Acquirer	Advisor	Trader

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 6: **Effect of Bank Connectedness to Target Advisor on Target Stock Trading—Deal Heterogeneity:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., target security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities 30 days before and after an M&A announcement of the given target security. $Pre\text{-}Announcement30_{st}$ equals 1 for days within 30 days prior to an M&A announcement of security *s*, and 0 otherwise. $Intensity_{abt-1y}$ in the sense of target advisor $a \rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by target advisor *a* in the year prior to the deal announcement of security *s* (Target Adv $\rightarrow$ Trader). The dependent variable is $\text{sgn}(\ln(|Net\,nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. Deal heterogeneity is characterized by length (columns 1-2) and the medium of exchange (columns 3-4). Length refers to the period between effective and announcement date, and is split into $\leq$120 (column 1) and >120 days (column 2). In column 3, only deals with non-zero cash components are taken into account, whereas column 4 considers only pure stock bids. Standard errors are double-clustered at the bank (trader) and security level.

	Length ≤ 120	Length > 120	Cash structure	Stock bid
$\text{sgn}(\ln(\lvert Net\,nominal_{bst}\rvert))$	(1)	(2)	(3)	(4)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$	7.725**	-0.837	7.162***	-2.569
	(2.48)	(-0.16)	(4.38)	(-0.65)
$Intensity_{abt-1y}$	2.849	-4.741	-0.983	6.867
	(0.68)	(-0.81)	(-0.53)	(1.37)
N	2,266	857	8,310	1,151
R^2	0.631	0.721	0.269	0.379
Security-Date FE	✓	✓	✓	✓
Trader-Date FE	✓	✓	-	-
Trader FE	-	-	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 7: **Effect of Bank Connectedness to Advisor on Target Stock Trading—Timing:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., target security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities *X* days before and after an M&A announcement of the given target security. $Pre\text{-}AnnouncementX_{st}$ equals 1 for days within *X* days prior to an M&A announcement of security *s*, and 0 otherwise, where *X* equals 15 days in columns 1 and 6, 30 days in columns 2 and 7, 60 days in columns 3 and 8, and 100 days in columns 4 and 9. Time-period definitions used in columns 5 and 10 are disjoint. $Intensity_{abt-1y}$ in the sense of target advisor $a \rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by target advisor *a* in the year prior to the deal announcement of security *s* (Target Adv $\rightarrow$ Trader). The dependent variable in columns 1-5 is $\text{sgn}(\ln(|Net\,nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. The dependent variable in columns 6-10 is Buy_{bst}, which equals 1 for a positive net nominal amount traded by bank *b* in security *s* at date *t*, and 0 otherwise. Standard errors are double-clustered at the bank (trader) and security level.

	sgn(ln(|$Net\,nominal_{bst}$|))					Buy_{bst} (1 if net nominal > 0, else 0)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$Pre\text{-}Announcement15_{st} \times Intensity_{abt-1y}$	11.891***					0.572**				
	(2.95)					(2.37)				
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$		5.386***					0.252***			
		(3.26)					(3.01)			
$Pre\text{-}Announcement60_{st} \times Intensity_{abt-1y}$			3.420***					0.239***		
			(2.94)					(3.37)		
$Pre\text{-}Announcement100_{st} \times Intensity_{abt-1y}$				2.587**					0.146**	
				(2.41)					(2.19)	
$Pre\text{-}Announcement15_{st} \times Intensity_{abt-1y}$					5.643***					0.281**
					(3.14)					(2.43)
$Pre\text{-}Announcement30_{st}(disjoint) \times Intensity_{abt-1y}$					4.363*					0.355**
					(1.75)					(2.44)
$Pre\text{-}Announcement60_{st}(disjoint) \times Intensity_{abt-1y}$					1.766					0.100
					(1.04)					(1.09)
$Pre\text{-}Announcement100_{st}(disjoint) \times Intensity_{abt-1y}$					1.060					0.032
					(0.62)					(0.34)
$Intensity_{abt-1y}$	-3.545	1.785	1.067	-1.131	-1.159	-0.246	0.239**	0.063	-0.054	-0.057
	(-1.03)	(1.03)	(0.82)	(-0.93)	(-0.95)	(-0.94)	(2.35)	(0.78)	(-0.78)	(-0.83)
N	2,300	6,141	13,784	22,018	22,018	2,380	6,367	14,178	22,535	22,535
R^2	0.699	0.633	0.597	0.575	0.575	0.700	0.648	0.604	0.581	0.581
Trader-Date FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Security-Date FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 8: **Effect of Bank Connectedness to Target Advisor on Target Stock Trading—Timing and Discrete Intensity:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., target security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities X days before and after an M&A announcement of the given target security. $Pre\text{-}AnnouncementX_{st}$ equals 1 for days within X days prior to an M&A announcement of security *s*, and 0 otherwise, where X equals 15 days in columns 1 and 6, 30 days in columns 2 and 7, 60 days in columns 3 and 8, and 100 days in columns 4 and 9. Time-period definitions used in columns 5 and 10 are disjoint. $Relationship_{abt-1y}$ equals 1 if $Intensity_{abt-1y} > 0$, where $Intensity_{abt-1y}$ in the sense of target advisor *a* → bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by target advisor *a* in the year prior to the deal announcement of security *s* (Target Adv → Trader), and 0 otherwise. The dependent variable in columns 1-5 is $\text{sgn}(\ln(|Net\,nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. The dependent variable in columns 6-10 is Buy_{bst}, which equals 1 for a positive net nominal amount traded by bank *b* in security *s* at date *t*, and 0 otherwise. Standard errors are double-clustered at the bank (trader) and security level.

	$\text{sgn}(\ln(\lvert Net\,nominal_{bst}\rvert))$					Buy_{bst} (1 if net nominal > 0, else 0)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$Pre\text{-}Announcement15_{st} \times Relationship_{abt-1y}$	2.433**					0.150**				
	(2.36)					(2.59)				
$Pre\text{-}Announcement30_{st} \times Relationship_{abt-1y}$		0.799					0.040			
		(1.53)					(1.26)			
$Pre\text{-}Announcement60_{st} \times Relationship_{abt-1y}$			0.335					0.041**		
			(1.09)					(2.16)		
$Pre\text{-}Announcement100_{st} \times Relationship_{abt-1y}$				0.160					0.014	
				(0.49)					(0.74)	
$Pre\text{-}Announcement15_{st} \times Relationship_{abt-1y}$					0.757*					0.041
					(1.86)					(1.42)
$Pre\text{-}Announcement30_{st}(disjoint) \times Relationship_{abt-1y}$					0.145					0.013
					(0.35)					(0.41)
$Pre\text{-}Announcement60_{st}(disjoint) \times Relationship_{abt-1y}$					0.080					0.026
					(0.14)					(0.87)
$Pre\text{-}Announcement100_{st}(disjoint) \times Relationship_{abt-1y}$					0.006					-0.005
					(0.01)					(-0.18)
$Relationship_{abt-1y}$	-0.265	0.827*	0.621**	0.430	0.426	-0.035	0.052*	0.027	0.018	0.018
	(-0.31)	(1.73)	(2.28)	(1.45)	(1.44)	(-0.77)	(1.91)	(1.68)	(1.09)	(1.07)
N	2,300	6,141	15,161	28,289	28,289	2,380	6,367	15,571	28,943	28,943
R^2	0.699	0.632	0.590	0.553	0.553	0.700	0.648	0.596	0.562	0.562
Trader-Date FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Security-Date FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 9: **Trading by Advisors:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities 30 days before and after an M&A announcement of the given security (columns 1-4). In addition, the sample in columns 5-8 excludes trades by non-advisors that are connected to any non-zero extent to either one of the advisors (i.e., any $Intensity_{abt-1y} > 0$). $Pre\text{-}Announcement30_{st}$ equals 1 for days within 30 days prior to an M&A announcement of security *s*, and 0 otherwise. $Advisor_{bst}$ equals 1 if trader *b* is the target (acquirer) advisor of a deal involving security *s* in columns 1, 3, 5, and 7 (2, 4, 6, and 8), and 0 otherwise. The dependent variable is $\text{sgn}(\ln(|Net\ nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. Specifications vary by their focus on target stocks (T) [columns 1-2 and 5-6]/acquirer stocks (A) [columns 3-4 and 7-8], and the underlying sample restriction. Standard errors are double-clustered at the bank (trader) and security level.

$\text{sgn}(\ln(\lvert Net\ nominal_{bst}\rvert))$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Pre\text{-}Announcement30_{st} \times Advisor_{bst}$	-3.344***	2.387	-1.598	-1.297	-3.492	-5.854	-1.704	-1.338
	(-4.51)	(1.23)	(-0.47)	(-0.85)	(-1.21)	(-0.82)	(-0.44)	(-0.85)
$Advisor_{bst}$	0.936*	-0.793	1.658	-1.150	4.072***	9.227***	0.906	-1.617*
	(1.81)	(-1.15)	(1.37)	(-1.30)	(3.08)	(2.87)	(0.61)	(-1.83)
N	6,496	6,496	49,675	49,675	3,479	3,479	39,553	39,553
R^2	0.625	0.625	0.527	0.527	0.633	0.633	0.549	0.550
Trader-Date FE	✓	✓	✓	✓	✓	✓	✓	✓
Security-Date FE	✓	✓	✓	✓	✓	✓	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security
Excl. non-advisors with $Intensity_{abt-1y} > 0$	-	-	-	-	✓	✓	✓	✓
Target (T)/Acquirer (A) stock	T	T	A	A	T	T	A	A
$Advisor_{bst}$	Target Adv.	Acquirer Adv.	Target Adv.	Acquirer Adv.	Target Adv.	Acquirer Adv.	Target Adv.	Acquirer Adv.

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 10: **Effect of Bank Connectedness to Advisor on Stock Trading—Target Competitors:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., security *s* traded by bank *b* at date *t* with daily frequency. It contains trading in securities 30 days before and after an M&A announcement. The sample focuses on trading in the stocks of competitors of the target involved in the respective takeover. Five competitors with the highest stock-return correlations with the target security three years prior to deal announcement ($Corr_{st}$) are considered. Competitors directly involved in the M&A transaction as the acquirer are excluded. $HighCorr_{st}$ equals 1 for competitors of the target security if $Corr_{st}$ is above the median, and 0 otherwise. $Pre\text{-}Announcement30_{st}$ equals 1 for competitor securities *s* for days within 30 days prior to an M&A announcement of the target security, and 0 otherwise. $Intensity_{abt-1y}$ in the sense of advisor $a \rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by advisor *a* in the year prior to the deal announcement of the target security. The dependent variable in columns 1-4 is $\text{sgn}(\ln(|Net\,nominal_{bst}|))$. For positive net nominal amounts, it is calculated as the natural logarithm of the net nominal traded by bank *b* in security *s* at date *t*. For negative net nominal amounts, the natural logarithm is calculated for the absolute value and then multiplied by -1. The dependent variable in columns 5-8 is Buy_{bst}, which equals 1 for a positive net nominal amount traded by bank *b* in security *s* at date *t*, and 0 otherwise. Specifications vary by $Intensity_{abt-1y}$ (type of advisor). Standard errors are double-clustered at the bank (trader) and security level.

	$\text{sgn}(\ln(\lvert Net\,nominal_{bst}\rvert))$				Buy_{bst} (1 if net nominal > 0, else 0)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y}$	-3.357**	0.335	-6.202***	-16.610***	-0.225**	-0.042	-0.430***	-1.096***
	(-2.66)	(0.17)	(-3.36)	(-3.21)	(-2.50)	(-0.36)	(-3.37)	(-2.97)
$Intensity_{abt-1y}$	1.985	0.521	3.934*	14.469***	0.086	0.068	0.235	0.947***
	(1.18)	(0.23)	(1.72)	(3.28)	(0.75)	(0.50)	(1.41)	(3.22)
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y} \times HighCorr_{st}$			6.455***				0.463***	
			(2.66)				(2.74)	
$Intensity_{abt-1y} \times HighCorr_{st}$			-3.668				-0.281*	
			(-1.65)				(-1.76)	
$Pre\text{-}Announcement30_{st} \times Intensity_{abt-1y} \times Corr_{st}$				26.813***				1.758**
				(2.85)				(2.54)
$Intensity_{abt-1y} \times Corr_{st}$				-24.549***				-1.696***
				(-3.39)				(-3.68)
N	18,116	18,116	18,116	18,116	18,730	18,730	18,730	18,730
R^2	0.574	0.574	0.574	0.574	0.577	0.577	0.577	0.577
Security-Date FE	✓	✓	✓	✓	✓	✓	✓	✓
Trader-Date FE	✓	✓	✓	✓	✓	✓	✓	✓
SE Cluster	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security	Trader, Security
$Intensity_{abt-1y}$	Target Adv → Trader	Acquirer Adv → Trader	Target Adv → Trader	Target Adv → Trader	Target Adv → Trader	Acquirer Adv → Trader	Target Adv → Trader	Target Adv → Trader

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 11: **Effect of Bank Connectedness to Target Advisor on Target Stock Prices Paid:** The sample is a panel at the bank (trader) - security - date level *bst* from 2010 to 2016, i.e., target security *s* traded by bank *b* at date *t* with daily frequency. It contains purchases of securities 30 days before and after an M&A announcement of the given target security. $Intensity_{abt-1y}$ in the sense of advisor *a* → bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by advisor *a* in the year prior to the deal announcement of security *s* (Target Adv → Trader). The dependent variable, $Price\ (vol.wgt.)_{bst}$, is the volume-weighted price paid by trader *b* for a given security *s* at date *t*. All regressions control for the natural logarithm of the nominal amount purchased and the number of trades. Standard errors are double-clustered at the bank (trader) and security level.

$Price\ (vol.wgt.)_{bst}$	(1)	(2)	(3)	(4)	(5)
$Intensity_{abt-1y}$	-4.001**	-6.718**	-1.290*	-1.400*	0.545
	(-2.17)	(-2.06)	(-1.78)	(-1.85)	(0.90)
N	15,865	15,865	15,865	15,853	9,322
R^2	0.914	0.917	0.918	0.942	0.938
Security FE	✓	✓	✓	✓	-
Trader FE	-	✓	✓	-	-
Year FE	-	-	✓	-	-
Trader-Year FE	-	-	-	✓	✓
Security-Date FE	-	-	-	-	✓
Controls	ln(nominal) and number of trades				
SE Cluster	Trader, Security				

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 12: **Effect of Informed Trading on Premia Paid:** The level of observation is the deal level d. The sample contains effective M&A deals between 2010 and 2016. The dependent variable, $Premium_d$, is the premium paid for the acquisition of target *s* at date *t* and defined as $(Price\,Paid_{st} - Price_{st-60})/Price_{st-60}$, where $Price_{st-60}$ denotes the stock price of target *s* 60 days prior to the M&A announcement. We use connected trading 60 days before the deal is announced to construct the explanatory variable, $Informed\,Trading\,Exposure_d$, which is an intensity-weighted exposure measure to informed trading (scaled by 1,000 over the market capitalization of stock s, and winsorized at -1 and 1): $\sum_s \sum_{t\in T(60)} (Intensity_{abt-1y} \times Trading_{bst}) / \left(\sum_{t\in T(60)} |Trading_{st}|\right)$, where $Intensity_{abt-1y}$ in the sense of target advisor *a* → bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by target advisor *a* in the year prior to the deal announcement of security *s* (Target Adv → Trader), $Trading_{bst}$ captures all of trading bank b's net purchases of target stock s at date t, and $|Trading_{st}|$ denotes total absolute transactions (both purchases and sales) by any bank of target stock s at date t. $Competing\,Offer_d$ is a dummy variable that equals 1 if there exist multiple bids for the respective target of deal d within one year, and 0 otherwise. Fixed effects are based on a combination of the year of deal d, the target's country of incorporation, SIC industry division, and advisor. Standard errors are clustered at the security level.

$Premium_d$	(1)	(2)	(3)	(4)
$Informed\,Trading\,Exposure_d$	0.266***	0.311***	0.403***	0.339***
	(3.92)	(3.17)	(5.33)	(3.37)
$Competing\,Offer_d$	-0.082	-0.040	0.053	0.079
	(-1.56)	(-0.67)	(0.75)	(1.37)
N	411	326	257	208
R^2	0.220	0.373	0.494	0.586
Industry(T)-Country(T) FE	✓	✓	✓	-
Year FE	✓	✓	-	-
Advisor(T) FE	-	✓	-	-
Advisor(T)-Year FE	-	-	✓	✓
Industry(T)-Country(T)-Year FE	-	-	-	✓
Deals	Effective			
SE Cluster	Security			

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 13: **Effect of Informed Trading on Runups and the Markup Pricing Hypothesis:** The level of observation is the deal level d. The sample contains effective M&A deals between 2010 and 2016. The dependent variable in columns 1-4, $Runup_d$, is the runup for the acquisition of target *s* at date *t* and defined as $(Price_{st-1} - Price_{st-60})/Price_{st-60}$, where $Price_{st-60}$ denotes the stock price of target *s* 60 days prior to the M&A announcement. The dependent variable in columns 5-8, $Markup_d$, is the markup for the acquisition of target *s* at date *t* and defined as $(Price\ Paid_{st} - Price_{st-1})/Price_{st-1}$, where $Price_{st-1}$ denotes the stock price of target *s* 1 day prior to the M&A announcement. We use connected trading 60 days before the deal is announced to construct the explanatory variable, $Informed\ Trading\ Exposure_d$, which is an intensity-weighted exposure measure to informed trading (scaled by 1,000 over the market capitalization of stock s, and winsorized at -1 and 1): $\sum_s \sum_{t \in T(60)} (Intensity_{abt-1y} \times Trading_{bst}) / \left(\sum_{t \in T(60)} |Trading_{st}| \right)$, where $Intensity_{abt-1y}$ in the sense of target advisor *a* $\rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by target advisor *a* in the year prior to the deal announcement of security *s* (Target Adv $\rightarrow$ Trader), $Trading_{bst}$ captures all of trading bank b's net purchases of target stock s at date t, and $|Trading_{st}|$ denotes total absolute transactions (both purchases and sales) by any bank of target stock s at date t. $Competing\ Offer_d$ is a dummy variable that equals 1 if there exist multiple bids for the respective target of deal d within one year, and 0 otherwise. Fixed effects are based on a combination of the year of deal d, the target's country of incorporation, SIC industry division, and advisor. Standard errors are clustered at the security level.

	$Runup_d$				$Markup_d$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Informed\ Trading\ Exposure_d$	0.208**	0.306**	0.326***	0.208**				
	(2.29)	(2.59)	(3.08)	(2.11)				
$Runup_d$					-0.507***	-0.570***	-0.358***	-0.432***
					(-3.19)	(-3.75)	(-5.27)	(-4.20)
$Competing\ Offer_d$	0.053	0.038	0.128*	0.073	-0.114**	-0.049	-0.010	0.012
	(0.86)	(0.60)	(1.70)	(0.83)	(-2.17)	(-0.85)	(-0.16)	(0.22)
N	411	326	257	208	411	326	257	208
R^2	0.220	0.373	0.494	0.586	0.220	0.373	0.494	0.586
Industry(T)-Country(T) FE	✓	✓	✓	-	✓	✓	✓	-
Year FE	✓	✓	-	-	✓	✓	-	-
Advisor(T) FE	-	✓	-	-	-	✓	-	-
Advisor(T)-Year FE	-	-	✓	✓	-	-	✓	✓
Industry(T)-Country(T)-Year FE	-	-	-	✓	-	-	-	✓
Deals					Effective			
SE Cluster					Security			

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)

Table 14: **Effect of Informed Trading on Deal Success:** The level of observation is the deal level d. The sample contains effective and withdrawn M&A deals between 2010 and 2016. The dependent variable, $Effective_d$, is a dummy variable that equals 1 in case of a successful takeover, and 0 otherwise. We use connected trading 60 days before the deal is announced to construct the explanatory variable, $Informed\ Trading\ Exposure_d$, which is an intensity-weighted exposure measure to informed trading (scaled by 1,000 over the market capitalization of stock s, and winsorized at -1 and 1): $\sum_s \sum_{t \in T(60)} (Intensity_{abt-1y} \times Trading_{bst}) / \left(\sum_{t \in T(60)} |Trading_{st}| \right)$, where $Intensity_{abt-1y}$ in the sense of target advisor *a* $\rightarrow$ bank (trader) *b* is calculated as the number of joint syndicated loans by *a* and *b* relative to the number of syndicated loans by target advisor *a* in the year prior to the deal announcement of security *s* (Target Adv $\rightarrow$ Trader), $Trading_{bst}$ captures all of trading bank b's purchases of target stock s at date t, and $|Trading_{st}|$ denotes total absolute transactions (both purchases and sales) by any bank of target stock s at date t. $Competing\ Offer_d$ is a dummy variable that equals 1 if there exist multiple bids for the respective target of deal d within one year, and 0 otherwise. Fixed effects are based on a combination of the year of deal d, the target's country of incorporation, SIC industry division, and advisor. Standard errors are clustered at the security level.

$Effective_d$	(1)	(2)	(3)	(4)
$Informed\ Trading\ Exposure_d$	-0.025	-0.034	-0.004	-0.052
	(-0.36)	(-0.61)	(-0.09)	(-1.30)
$Competing\ Offer_d$	-0.446***	-0.101**	-0.069	-0.124
	(-8.06)	(-2.40)	(-1.16)	(-1.19)
N	501	371	290	228
R^2	0.365	0.804	0.769	0.814
Industry(T)-Country(T) FE	✓	✓	✓	-
Year FE	✓	✓	-	-
Advisor(T) FE	-	✓	-	-
Advisor(T)-Year FE	-	-	✓	✓
Industry(T)-Country(T)-Year FE	-	-	-	✓
Deals	Effective & Withdrawn			
SE Cluster	Security			

*** p<0.01, ** p<0.05, * p<0.1
(t-statistics in parentheses)