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ABSTRACT

Investment Banks as Insiders and the Market for Corporate Control*

We study holdings in M&A targets by financial conglomerates which affiliated investment banks advise the bidders. We show that advisors take positions in the targets before M&A announcements. These stakes are positively related to the probability of observing the bid and to the target premium. We argue that this can be explained in terms of advisors, privy to important information about the deal, investing in the target in the expectation of its price to increase. We document the high profits of this strategy. We also document a positive relationship between the advisory stake and the deal characteristics. The advisory stake is positively related to the likelihood of deal completion and to the termination fees. However, these deals are not wealth-creating: there is a negative relation between the advisory stake and the viability of the deal. These results provide new insights into the conflicts of interest affecting financial intermediaries simultaneously advising on deals and investing in equities.

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Investment banks play an important role in the market for corporate control. They advise the bidder and the target, evaluating the assets of the target firm and providing technical and tactical assistance throughout the takeover process. By effectively facilitating the deals and reducing the transaction costs, they can enhance external corporate governance. However, advisory banks are also privy to important information about target characteristics, bidder intentions, and terms of the deal. This information can be directly exploited in the market, for example, by taking a direct stake in the target. Once the advisory bank has a stake, it also has an interest in shaping the conditions of the deal so as to bring it to a successful conclusion that allows it to cash out under advantageous conditions.

In this paper, we study these issues. We provide empirical evidence of the behavior of the banks advising the bidder ("advisory banks"[1]) when trading the stocks of the target, and how this relates to characteristics of the deal. We focus on the U.S. M&A market. For every lead advisor in each deal we identify the stake that it holds in the target firm. This is based on the position the advisor holds either directly or through other financial entities—insurance firms, commercial banks, mutual funds, pension funds, and hedge funds—affiliated with the financial conglomerate to which the advisor belongs. We first provide evidence suggesting that advisory banks take positions in the target before the announcement of the deal. In fact, ownership by such advisors helps predict whether a firm will be a takeover target. Conditioning on firms with similar industry and size characteristics, firms in which advisory banks hold stakes are 45 percentage points more likely to become targets, with the probability of becoming a target increasing from the unconditional sample mean of 4.2% to 6.1%.

These results are consistent with the possibility that the advisory bank exploits its privileged information about the intention of the bidding company to acquire, the identity of the potential target and the reservation price of the bidder. This information—unavailable to other market players—gives the advisory bank an informational advantage ahead of the deal. The bank would exploit its privileged information by taking a position in the target firm, expecting its price to increase, and then realizing the gain due to the appreciation of the value of the target around the time of the M&A announcement.

While our results are consistent with this possibility, we also consider alternative hypotheses. It could be that the bank's position in the target is due to its proprietary trading desk and asset management arm's ability to perform good economic analysis of the target. To address this issue, we first compared the trading performance of the advisory bank with that of a standard merger arbitrage strategy. A merger arbitrage strategy based on selling the bidder and buying the target, conditional on information about advisor behavior, delivers a raw return of 4.50% per month (4.08% net of risk), versus a mere 0.97% per month

[1] In what follows, we refer to the position held by the asset management arm and proprietary trading desk of the advising investment bank as the advisory bank's position.

(0.48% net of risk) in the case of the standard merger arbitrage strategy. We then compare the trading performance of the advisory bank with that of other similar banks not advising the deal. That is, we compare the return on a portfolio based on the positions of the banks in deals on which they advise with the return on a portfolio based on the positions of the same banks in deals on which they do not advise. The return accruing to the advisory bank is 3.36% (2.59%) per month for the value-weighted (equally weighted) strategy, compared with 1.93% (1.21%) per month when the bank does not advise. Moreover, a strategy long in the positions of the advisory banks and short in the positions of the non-advisory banks delivers 1.40% per month (adjusted for risk), providing further evidence of information being embodied in the advisor holdings.

The fact that information seems to be related to the advisory relationship is also confirmed by a test that exploits the natural tendency of asset managers to invest less in firms located geographically far away (Coval and Moskowitz 1999, 2001, Chen et al. 2004). This tendency is attenuated in the case of asset managers affiliated with investment banks advising the bidder. That is, if asset managers can rely on the transfer of information provided by the investment bank advising on M&A deals, they are less conditioned by the smaller amount of information they would normally have about far-away targets.

Another alternative hypothesis is that the advisory bank takes a stake to help the bidder, i.e. by creating a "toehold." However, the limited size of the position—considerably smaller than what is generally defined as a toehold—and the fact that the advisor's stake often coexists with a bidder's toehold suggest that the "help" is unlikely to be in the direction of affecting the outcome of the vote to approve the deal or acquiring information useful to the bidder.

We then relate the advisory stake to the characteristics of the deal. We show that if the advisory bank holds a stake in the target firm, the target's premium is 551 basis points higher than when the advisory bank holds no such stake. An increase of one standard deviation in the average fraction (dollar value) of the target firm held by the advisor to the bidder is related to a premium 235 (220) basis points higher than average. Moreover, deals in which the advisory bank holds a stake in the target are more likely to involve target termination fees, which have been shown to increase the probability of deal success (Officer 2003). Also, the presence of the advisory bank among the shareholders of the target is related to a lower probability of deal failure. In particular, its presence reduces the probability of failure of the bid from 23.88% to 17.12%, or by 28 percentage points.

We interpret these findings as suggesting that advisors take advantage of their privileged position, not only by acquiring positions in the targets in the deals on which they advise, but also by directly affecting the outcome of the deal in order to realize higher capital gains from their positions.

These results, however, are also consistent with the alternative explanation: that of the bidder's board hiring a deal-advocate advisor with high-powered incentives with the mission to get the deal done. The gain on the advisory bank's stake—a stake too small to provide the service a toehold can offer—would provide the bank with compensation for such a service. While we cannot counter this argument, the evidence suggests that deals involving advisory stakes do not appear to be a good fit for bidders. Indeed, target firms in which the advisory bank holds a stake tend to be overvalued by more than 10% compared with targets in deals in which the advisor does not hold a stake. Moreover, mergers in which the advisor to the bidder has a stake in the target also have lower post-merger profitability. These deals experience a drop in ROE (net profit margin, ROA) of 1.9% (1.6%, 1.8%) in the year following the deal.

It would seem either that advisory banks induce bidders to enter wealth-destructive deals for their own interests, or that scarcely monitored and empire-building bidder managers choose overvalued targets and pay too much, using the highly incentivized—by the equity stake—advisor to rapidly close in on their goals. The fact that the corporate governance and board characteristics of the bidding firms do not differ between deals in which the advisor to the bidder has a stake and those in which it does not have a stake does not support the latter interpretation. In contrast, it seems that the bidders more likely to engage in these M&A deals are the less "experienced" ones. That is, bidders who in the past have conducted fewer corporate deals (e.g., SEO, M&A, and debt issues) and are more easily influenced by advisors with stakes in potential targets.

The insider trading gain could also be seen as part of the compensation of the advisory bank. The lack of any relationship between fees and the advisory stake, however, suggests that this remuneration is not provided in exchange for lower effective advisory fees.

Our results contribute to the literature on M&As by shedding new light on the role of advisors. Overall, this literature has mostly focused on the benefits of using financial intermediaries and on why firms select them. For example, Servaes and Zenner (1996) show that investment banks help to execute complex deals and reduce transaction costs. We consider a different aspect: the *insider* role of the advisory bank.

In addition, the literature has traditionally focused on the relationship between institutional ownership and M&As, assuming that institutional owners provide better governance and monitoring of managers (Stulz, Walkling, and Song 1990, Ambrose and Megginson 1992). We identify a subset of institutions that induce a *higher* premium not because of better governance, but because of their speculative behavior.

Our results also cast doubt on the corporate governance role of the M&A market. Advisors caught in conflicts of interest are less able to protect the interests of the bidder's shareholders; this follows the arguments of Jensen (1986, 1993). To the extent that one accepts that acquisitions are better explained by managerial hubris or empire-building, our findings indicate that advisors holding stakes in target firms may

actually give more leeway to managers. That is, the advisory banks exploit to their advantage the "bidding desire" of the managers.

Our paper also adds to the stream of literature investigating the coordinated behavior of different financial firms in the same financial conglomerate. Acharya and Johnson (2007), and Ivashina and Sun (2007) provide evidence of insider trading by banks by showing that lending banks use private information regarding corporate clients to trade credit default swaps or equity. Massa and Rehman (2005) show that mutual funds use the inside information available to the affiliated banks lending to firms around the time the loan is granted. Ritter and Zhang (2007) show that lead underwriters allocate hot IPOs to affiliated funds, and Ellis, Michaely, and O'Hara (2000), show that NASDAQ market makers belonging to a financial group support the stock price of those firms the IPOs of which have been underwritten by the investment bank belonging to the same group.

The remainder of the paper is structured as follows. Section 1 describes the data and variables used. Section 2 analyzes the impact of the presence of advisors among the shareholders of the target firm on the likelihood of the deal. Sections 3 and 4 test the informational content of the position of the advisory bank in the target and try to distinguish between the pure information hypothesis and the conditioning hypothesis. A brief discussion is provided in Section 5. A conclusion follows.

1. Data and Empirical Testing Issues

1.1 Sample construction

Our source of data on merger activity is the Securities Data Corporation (SDC) M&A database, from which we extract all merger transactions involving U.S. targets for the period between January 1984 and February 2003. To be included in the sample, we require that the target firm be listed on an exchange (NYSE, AMEX, or NASDAQ) and that it is possible to match the target's CUSIP with data from the Center for Research in Security Prices (CRSP). The accounting data come from COMPUSTAT. We exclude extreme outliers[2] and transactions for which the value recorded in the SDC database represents less than 1% of the target firm's equity value. Given that SDC does not provide information on the advisors to the proposed M&A transactions before 1984, we restrict ourselves to the period between 1984 and 2003. The resulting base sample comprises 10,458 M&A announcements. Only 4,280 projected M&As involve an advisor to either the target or the acquirer, or to both; we consider deals both with and without an advisor. The presence of a substantial number of unlisted targets and acquirers and incomplete information on either the

[2] We exclude events where (i) the target's P/E ratio, debt/equity ratio, market/book ratio, or ROE is greater than 100 (Schwert 2000); (ii) the target or the acquirer has more than 200% institutional ownership; (iii) the turnover measure of institutions is greater than 40.

target or the acquirer characteristics available in COMPUSTAT[3] reduces the sample to over 1,641 successful and unsuccessful takeover attempts.

We define the variables and construct the premium as does Schwert (2000).[4] The target premium is the market-adjusted return on the target's stock from three months before the bid announcement to two months after the deal announcement or resolution date, whichever comes first, i.e., –63 to min(+42, resolution date) trading days, as follows:

$$Premium = \sum_{-63}^{min(+42,resolution\ date)} R_{it} - \alpha_i - \beta_i F_t ,$$

where R_{it} is the continuously compounded return on target firm i on trading day t relative to the announcement date of the takeover bid (day 0) and F_t is the return on the market;[5] parameters α_i and β_i are estimated on the 253 trading days ending at day –64 (i.e., –316 to –64).[6]

Among the control variables, we include ratio of a firm's shares held by institutional investors relative to total shares outstanding (e.g., Stulz, Walkling, and Song 1990). We also construct a proxy for arbitrage capital (Cornelli and Li 2002, Baker and Savasoglu 2002, Hsieh 2001). Following Baker and Savasoglu (2002), we define *arbitrageurs* as the investors whose holdings in target firms go from zero to positive in at least 20 deals in our sample following the bid announcement.[7] The cumulative equity holdings of arbitrageurs correspond to the total supply of *arbitrage capital* in the market. We use the relative change in the amount of arbitrage capital on a quarter-to-quarter basis.

Summary statistics for the data are reported in Table 1, Panel A. The main variables capturing deal characteristics (e.g., premium) are in line with those reported in the literature (Andrade, Mitchell, and Stafford 2001, Schwert 1996, Officer 2003), although our sample is slightly different. The target premium averages 30.23% in our sample, while it is 37.9% (median) for Andrade, Mitchell, and Stafford (2001) and 23.4% for Schwert (1996). The fraction of cash deals and deals in the same industry are 33.2% and 60.8%, respectively, while they are 35.4% and 42.1% for Andrade et al. (2001), and 35% and 52% for Officer (2003). Toeholds, poison pills, and hostility are present in 9%, 3%, and 8%, respectively, of deals in our sample, as opposed to 10%, 2%, and 8% in Officer (2003). The average bidder (target) has a market

[3] We also exclude financials from our sample. All our results are invariant to this exclusion.
[4] Return on equity (ROE) is the ratio of earnings to average equity for the prior fiscal year, i.e., COMPUSTAT items 20/(60 + 60(t – 1))/2). Book/market (B/M) is the ratio of debt to equity for the prior fiscal year, i.e., COMPUSTAT items 9/60. Size is the market capitalization of the firm at the end of the year preceding the first bid, i.e., price × shares outstanding, COMPUSTAT items 24 × 25. Growth of sales is the proportional change in sales over the prior fiscal year, i.e., COMPUSTAT items 12/12(t-1). Accounting liquidity is the ratio of net liquid assets to total assets for the prior fiscal year, i.e., COMPUSTAT items (4–5/6). Price/earnings (P/E) is the ratio of the year-end stock price to earnings per share for the prior fiscal year, i.e., COMPUSTAT items 24/58. Debt/equity (D/E) is the ratio of debt to equity for the prior fiscal year, i.e., COMPUSTAT items 9/60.
[5] The results of the analysis of a four-factor premium are similar and omitted for brevity.
[6] We winsorize at 1% and 99% to avoid extreme outliers.
[7] We also expanded the set of arbitrageurs to include the financial conglomerates increasing their holdings in a target by at least 10% following bid announcement; this did not affect our results.

capitalization of $10,432 million ($1,012 million), compared $8,071 million ($711 million) in Officer (2003). The rate of success of takeover deals is 76%, as opposed to 77% in Schwert (1996) and 83% in Officer (2003). Overall, the characteristics of our sample are similar to those reported in recent studies.

The number of deals in which the advisors to the bidder and target have stakes is sizable, at 26% and 28%, respectively. Both the advisor to the target and the advisor to the bidder have sizable average positions equal to 0.13% and 0.26%, respectively, of the target firm's market capitalization; if we consider only those M&As in which there is a non-zero presence of institutional investors in the target, these positions increase to 0.63% and 0.90%.

1.2 The advisor's stake

Our main source of data on portfolio holdings is the 13F Spectrum database, which consists of the quarterly 13F filings of qualified money managers to the SEC. It contains the portfolio holdings (i.e., positions of more than 10,000 shares or $200,000) of institutions with more than $100 million under discretionary management (see Gompers and Metrick 2001).[8]

Our key variable—the stake in the target of the advisor to the bidder—is constructed by aggregating the stakes in the target firm of all financial firms affiliated with the investment bank advising the bidder. For each advisor, we identify the position of the advisor and of the other financial entities (e.g., insurance firms, commercial banks, mutual funds, and pension and hedge funds) affiliated with the financial conglomerate with which the advisor is affiliated.

Given that different divisions of a financial conglomerate (banks, insurance firms, mutual fund families, etc.) appear in 13F filings as separate entities lacking common identifiers, we had to construct a database of financial conglomerates grouping the different divisions of individual financial groups under single umbrellas, which we call "brands." This database was manually assembled using information from various public sources[9] and performing a name-by-name analysis. We assigned each financial conglomerate a brand name and created a set of identifiers for firms ("names" from Spectrum and SDC) affiliated with each brand; we then matched this information with information on deal advisors from SDC.

Let us consider, for example, the "AXA" brand. "AXA" corresponds to the AXA Financial conglomerate, which as of December 31, 2005 had approximately $643.3 billion in assets under

[8] The Spectrum Dataset does not report short positions or positions in derivatives. However, unless we assume that investment banks take large short positions (or buy put options) in M&A targets to hedge their large equity stakes, the lack of this information should not impede our research. Also, some 13F filings are missing from Spectrum. To deal with this, we extrapolate the missing positions as the average of positions in previous and following quarters. Alternately, we set them to be equal to the position of the previous quarter. The results are not affected.

[9] We used the directory of investment advisers maintained by SEC (www.adviserinfo.sec.gov), Morningstar's directory of mutual fund family websites (www.advisor.morningstar.com), and the websites of financial groups and mutual fund families. The completion dates of M&A transactions come from SDC. All affiliations, transaction dates, and missing information were then double-checked using extensive web querying.

management. AXA Financial includes the investment advisors AXA Advisors and Sanford C. Bernstein, the insurance firm AXA Equitable Life Insurance, the investment and mutual fund management firm AllianceBernstein, and the MONY group of firms (as of July 8, 2004). All these firms are assigned identifiers that uniquely match them to the "AXA" brand.

We also account for the evolution of brand affiliation. For example, "Morgan Keegan" is reported as an independent brand until March 30, 2001, when Regions Financial acquired it. Up to that date, "Morgan Keegan" was the unique brand of Morgan Keegan, but also included T.J. Raney, Scharff & Jones, Cumberland Securities and J. Lee Peeler, all of which had been acquired by Morgan Keegan between 1989 and 1994. Effective March 30, 2001, the "Morgan Keegan" brand was retired and all firms affiliated with it became the "Regions Financial" brand.

The total number of brands varies from 643 in 1984 to 2070 in 2003. The average (median) number of a brand's affiliates is 1.35 (1.00), and the average (median) brand has 269 (114) positions in its overall portfolio and holds $3.04 billion ($0.40 billion). In this paper, we will focus on the brands with affiliated investment banks. We identify 182 such brands. The average (median) brand with an affiliated investment bank has 2.13 (1.00) affiliates according to the SDC Spectrum database. The average (median) portfolio of such a brand contains 1279 (839) stocks and $22.82 billion ($6.58 billion) in equity.[10]

Our database of brand affiliations lets us investigate the behavior of financial conglomerates in terms of several important new dimensions. First, we are able to analyze the aggregate holdings of affiliated firms. Thus, if several divisions of a conglomerate (i.e., brand) hold positions in a certain firm, we can observe the brand's overall exposure to this firm. For example, Bear, Stearns & Co. (13F manager # 8238) held 172,232 shares of Automatic Data Processing Inc. (CUSIP 053015) as of September 30, 2001. At the same time, its affiliate Doerge & Smith Private Advisory LLC (13F manager # 23310) reported holdings of 138,958 shares in the same firm. The total exposure of the "Bear Stearns" brand to Automatic Data Processing Inc is the sum of the holdings of Bear, Stearns & Co. and Doerge & Smith Private Advisory LLC.

Second, we can look at the interrelationship between financial conglomerates' investment management and M&A advisory activities. We can connect the advisors to targets and bidders in proposed M&A deals to aggregate the shareholdings of individual affiliated firms. We can observe whether M&A advisors directly or indirectly hold positions in target firms around the time of deal announcement. For example, on July 17, 2000, Georgia Pacific Corp. (CUSIP 373298) made a friendly offer for Fort James Corp. (CUSIP 347471).

[10] It is worth noting that in most cases Spectrum already aggregates the positions of different subsidiaries that file jointly; for example, Morgan Stanley filings contain 28 different managers, including mutual funds, asset managers, and hedge funds while Spectrum reports only 1 institutional manager for Morgan Stanley. However, we failed to discern any regular rule that determines Spectrum dataset construction along this dimension.

The "Merrill Lynch" brand held 51,674 shares of Fort James Corp. as of June 30, 2000; Merrill Lynch was advisor to Georgia Pacific Corp.

To determine an advisor's stake, we aggregate the portfolio positions of its brand. To ensure that our measure is effectively constructed out-of-sample, we use data measured at the end of the quarter immediately preceding the announcement of the bid. We consider three alternative proxies for the advisor stake. The first, *Ownership by Advisor to Acquirer, $* (*Ownership by Adv., $*), is the logarithm of 1 plus the dollar value of the stake of the advisor to the bidder holding a position in the target firm. The second, *Ownership by Advisor to Acquirer* (*Ownership by Adv.*), is the fraction of the target's market capitalization held by a brand acting as an advisor to the bidder. The third measure (*Ownership by Adv. Dummy*) is a dummy taking a value of 1 if the fraction of target firm equity owned by the advisory bank is non-zero and 0 otherwise. We report summary statistics for the advisor stake in Table 1. Notably, the average advisor stake is relatively high. The median value (conditional on having the stake) is 0.16%, and the mean is 0.63%. The cross-correlation matrix for the other variables (not reported) indicates that the advisor stake is higher in big firms, firms with higher fractions of institutional investors, and firms with higher leverage and lower book-to-market value.

What can we say about the timing of the position building of the advisor? While we lack systematic information[11] on when the investment banks are actually approached by the bidder, we can still observe the positions of the advisory bank brand in the quarters prior to a deal announcement. We can calculate the percentage of deals in which the brands of the banks advising the bidder ("insiders") take a position and compare this with the percentage of deals in which brands not involved in the deal take a position; we do it for periods of one to seven quarters before the deal, for both insiders and non-insiders. We identify the position that each brand holds in upcoming targets over the period from seven quarters before the deal announcement until two quarters after the announcement, quarter "0" corresponding to the quarter preceding the deal announcement. For each position, we determine the size in terms of both fraction of shares outstanding and dollar volume.

In Table 2, Panel A, we report how the positions of advising and non-advising brands increase before M&A announcement for the top 50 brands. Each quarter, we identify the 50 brands that have been the most active in the M&A advisory market over the previous three years in terms of the number of deals in which

[11] We collected the details regarding negotiations between parties from 14A, S-4, 14D, SC TO and 424B SEC filings for 83 deals conducted in 2001. Those are all deals with position of advisory bank and deal background information. Out of 83 deals, in 59 the position increases significantly before the public announcement of the deal (in excess of 25%). Evidence suggests that the advisory banks start accumulating positions after M&A negotiations started, but well before information about the deal becomes public with the bid announcement. In fact, in about half of the deals the position is taken after initial negotiation started, but before the final proposal was submitted.

they acted as advisors. For both the insiders and non-insiders, we estimate the likelihood of observing a position in the target and the average size of the position.

The statistics in the table indicate that the advisors on average hold larger positions than non-advisors do. The position size increases in the quarters leading up to the bid announcement, peak around the time of the announcement, and then decline afterward. This provides some partial preliminary evidence of differential behavior between insider and outsider brands.

Brands are twice as likely to hold a stake in the target when they advise the bidder. If we consider the last quarter before announcement, brands that advise the bidder hold a stake in 29% of the deals, while the other brands hold a stake only in 14% of the deals. Similar results are obtained if we restrict our analysis to the positions taken (and deals advised) by the top 10 investment banks. This provides additional evidence that the stake is directly related to the privileged information status of the advising brand. Later, we will complement this univariate evidence with multivariate regressions.

Finally, in what companies is an advisor more likely to have positions? In Table 2, Panel B we report some descriptive statistics on this matter. The companies in which an advisory bank invests are on average larger (by a factor of about five) and have a higher market-to-book ratio (by approximately 25%) and sales growth (19% vs. 12%). To see whether the market values of these companies are smaller than those of other similar potential targets, we follow Rhodes-Kropf, Robinson, and Viswanathan (RRV) (2005) and estimate the degree of misvaluation of these companies. We use the sector-adjusted firm-specific valuation errors generated by a regression of firm market value on leverage, book value of assets, and net income for each industry ("Model 3" in RRV[12]). The results indicate that target firms in which advisory banks *do not* invest are on average 6% cheaper than the industry average, while firms in which advisory banks *do* invest are 12% more expensive than the industry average. These differences are strongly statistically significant for both the mean and median tests.

2. Advisor Stake and Probability of Becoming a Target

We start by testing whether there is a relationship between the stake of the advisor in the company and the probability of the latter being a takeover target. For each actual target, we define the set of all firms in the same two-digit SIC industry category of similar size (within a 30% band of market capitalization).[13] Then, we estimate a probability model as follows:

$$P_i = \beta_1 A_i + \gamma_1 \boldsymbol{X}_i + \varepsilon_i, \qquad (1)$$

[12] The results for models 1 and 2 of RRV are similar.
[13] We also tried another matching, based on size and book-to-market ratio and different band (i.e., 15% and 50%) and industry (two- and three-digit SIC codes) definitions; the results were not qualitatively different.

where the dependent variable, P_i, takes a value of 1 if there is a bid for the firm over the next three months and 0 otherwise, A_i is the advisor stake, and X_i is a vector of control variables. We use our three alternate definitions of advisor stake (i.e., *Ownership by Adv.*, *Ownership by Adv. $*, and *Ownership by Adv. Dummy*). The control variables include: *Institutional Ownership*—i.e., the fraction of a firm's stock owned by institutional investors required to report 13F filings; *Change in Arbitrage Capital*—i.e., the percentage change in total supply of arbitrage capital over the quarter before the bid announcement; *Return on Equity* (ROE); *Book-to-market* ratio (B/M); *Size* (in terms of market capitalization); *Growth of Sales*; *Accounting Liquidity*; *Price-to-earnings* ratio (P/E); *Debt-to-equity* ratio (D/E), *Return*, and *Volatility* over the prior six months, and *Industry Herfindahl Index*. We also use year and industry dummies (two-digit SIC codes).

Finally, it may be that a brand does not take a position simply because it does not have an affiliated asset management arm; this would be the case for independent advisors. We therefore control for whether the advisor to the bidder is an independent advisor. We identify all the advisors that are not part of any financial brand with an asset management arm. We then create a dummy taking the value of 1 if the deal is advised by an independent advisor and 0 otherwise. We use this dummy as a control variable.

The results are reported in Table 3. They indicate that the holdings of the advisors are strongly positively related to the probability of becoming a target. The coefficients of ownership by advisors to the acquirer are positive and strongly statistically significant for eight of the nine specifications. Only one specification, *Ownership by Adv.* (with deal fixed effects), is still positive, but not significant. The results are robust to different specifications and to the inclusion of deal fixed effects. The results are also economically significant: the fact that the advisory bank has a stake in the company increases the probability of a firm becoming a target from 4.2% to 6.1%, or by 45 percentage points.

The results indicate that the stake of the future advisor makes it more likely that a specific company will be selected as the target from among otherwise similar potential target firms. One interpretation of this result is that the advisory bank "pre-positions" itself before the deal, by exploiting its inside information. The alternative explanation is that the asset management arms of the advisory banks are able to *predict* future targets. Thus, potential advisors take positions ahead of the actual deal announcements, because they have good forecasting skills and good stock-picking abilities. We will now address this possibility.

3. Inside Information Content

One way of testing whether we are in the presence of inside information is to test whether the profitability of a trading strategy based on the holdings of the advisory banks outstrips those of other strategies based on *openly available* market information. We focus on two aspects of this: the short-term target firm premium and the profitability of a trading strategy based on insider stakes.

3.1 Advisory stake and short-term premium

We start with the short-term premium. We expect to find a positive relationship between advisor stake and premium; to test this, we estimate the following:

$$R_i = \beta_1 A_i + \gamma_1 \boldsymbol{X}_i + \varepsilon_i, \qquad (2)$$

where R_i is the target premium as defined in Section 1.1, A_i is the advisor stake in the target firm, and X_i is a vector of control variables. The control variables include those standard in the literature and used to estimate equation (1), augmented by an additional set. These are: a measure of hostility, *HOSTILE*, equal to 1 if the bid is recorded by SDC as ''hostile'' or ''unsolicited'' and 0 otherwise; a dummy, *PRECOMP (POSTCOMP)*, equal to 1 if another bid by a different bidder is recorded by SDC in the six months before (after) the current bid and 0 otherwise; *MERGER*, a dummy equal to 1 if the deal is a merger and 0 otherwise; *CASH*, a dummy equal to 1 if the bid involves a merger offer or was 100% financed with cash and 0 otherwise. We also include the following: *Same Industry*, a dummy that controls for whether the bidder is from the same industry as the target (industry being defined as the two-digit SIC code); *POISON,* a dummy equal to 1 if a poison pill affects the bidder's acquisition attempt and 0 otherwise; *PHELD*, the fraction of the target's common stock owned by the bidder as of the announcement date; *TOEHOLD,* a dummy equal to 1 if *PHELD* is greater than 5% and 0 otherwise, and *CLEANUP,* a dummy equal to 1 if *PHELD* is greater than 50% and 0 otherwise. Finally, to control for the quality of the advisor, we include a dummy that takes the value of 1 if the investment bank was ranked as one of the top three banks (by the number of M&As advised in the last three years) and 0 otherwise. We also include our dummy for independent advisor. We perform a robust OLS cross-sectional regression, with standard errors clustered at the (two-digit) industry level.

The results, reported in Table 4, indicate a strong and positive relationship between target premium and advisor stake in the target firm. The results are robust across the different specifications. They are not only statistically significant, but also economically relevant: an increase of one standard deviation in the advisor stake (corresponding to approximately a 0.60% ownership of the firms) raises the target premium from 30.6% to 33.0%, or by 7.7 percentage points in the case of *Ownership by Advisor to Acquirer*. The premium rises to 32.8% and 36.1% in the case of *Ownership by Advisor to Acquirer $* and *Ownership by Advisor to Acquirer Dummy*, respectively. The magnitude is similar across specifications and survives the different robustness checks. These results suggest that the higher the advisor stake in the target firm before the event, the higher the premium accruing to target shareholders.

We also separate cases in which the acquiring firm has previous experience with investment banks from cases in which there is no such experience. We do this by using an interactive dummy that takes a value of 1

if the firm has undertaken corporate transactions (e.g., M&As and share repurchases) or issued securities (via IPOs, SEOs, or debt issues) in the previous three years.[14] The results clearly indicate that the effect is mostly concentrated in firms that are not financially experienced.

In the interest of brevity, we do not report all the controls in the tables, but it is worth noting that the results are in line with those reported in the literature. The target firm's premium is negatively related to its book-to-market ratio and to the initial bidder's toehold (Schwert 2000) and positively related to the target's termination fee (Officer 2003).[15] The premium is higher if it is a merger offer. The level of institutional ownership of the target is negatively, but insignificantly, related to the premium (Stulz, Walkling, and Song 1990). The change in arbitrage capital is negatively related to the premium (Baker and Savasoglu 2002, Cornelli and Li 2002).

Given that the advisor's stake is directly related to the probability of the bid, there may be a selection bias. To address this issue, we re-estimate equation (2) using a two-step Heckman procedure, including among the explanatory variables the Heckman's lambda (λ) constructed from the estimates of equation (1) (Maddala 1983). The significance of λ provides a test of the null of no sample selection bias; we report this specification in columns 3–6. The results for our variables of interest are consistent with the previous results. That is, the existence of an advisor's stake in the target firm is positively related to the target premium. The coefficient of Heckman's lambda is not significant, suggesting a lack of selection bias.

It is important to note that it is only the positions in last quarter before the announcement that are significantly related to the premium. Unreported results indicate that the positions two quarters before the announcement are neither significant by themselves, nor does their inclusion alter the results. In other words, it is the recent—within three months of the announcement—positions that are related to the premium increase. This suggests that the insider stake is not related to a passive benchmark tracking strategy, but is the result of the active portfolio investment of insiders.

3.2 Advisory stake and profitability of advisors' trading strategies

We now consider the return on a trading strategy that uses the information contained in the advisor's stake in the target firm, and compare it with that of a standard merger arbitrage trading strategy that does not use such information. We adopt the methodologies developed by Baker and Savasoglu (2002) and Mitchell and Pulvino (2001). Following Mitchell and Pulvino (2001), we construct the calendar-time, value-weighted average returns accruing from individual mergers, restricting our analysis to stock-only and cash-only deals.

[14] All the data come from SDC. Alternatively, we used as a proxy a dummy equal to 1 if, in the previous six (three) years the firm had acquired other firms, used the same investment bank as an advisor in debt or equity issues, been involved in M&As, or gone public. The results do not differ.

[15] Given that the termination fee is a function of *Ownership by Advisor to Acquirer,* we use the residuals of a regression of a target termination fee dummy on the set of our variables in specifications 3–6. Alternatively, we also performed a 2SLS using the ownership variables as instruments; the results (unreported) are qualitatively similar.

The final sample consists of 1,529 transactions. For each deal, we determine the daily returns based on the closing market price on the day after the merger announcement. For cash deals, the daily return is

$$R_{it} = \left[P_{it}^{T} + D_{it}^{T} - P_{it}^{T}\right] / P_{it-1}^{T},$$

and for stock deals, the return is

$$R_{it} = \left[P_{it}^{T} + D_{it}^{T} - P_{it}^{T} - \Delta\left(P_{it}^{B} + D_{it}^{B} - P_{it-1}^{B} - R_{F,t}P_{it}^{B}\right)\right] / PositionValue_{it-1}$$

where R_{it} is the daily return for the ith deal, P^{T}_{it} (P^{B}_{it}) is the daily price of the target (bidder) firm at the close of the market on day t, D^{T}_{it} (D^{B}_{it}) is the dividend paid by the target (bidder) on day t, R_{ft} is the daily risk-free rate, and Δ is the hedge ratio (i.e., the number of bidder shares to be paid for each outstanding target share).

For each deal, we calculate daily returns for each transaction day up to the deal resolution. If the deal is successful, deal resolution is the day on which the stock of the target is delisted. If the deal does not go through, the resolution day is the day after public announcement of the failure. If the date of the public resolution of the failure is missing—SDC often does not provide it—we keep the stock for 126 trading days. We then aggregate these returns and calculate the monthly portfolio returns by averaging the returns of all the merger deals in a way similar to the calendar-time methodology.

We consider two types of weighting. First, we take the weighted average of the daily returns. Monthly portfolio returns are then calculated by compounding the average daily returns (this is consistent with Baker and Savasoglu, 2002, for example). Second, we follow Mitchell and Pulvino (2001), calculating monthly returns for each transaction by compounding daily returns. Monthly portfolio returns are then obtained by calculating a weighted average of transaction-month returns for each month, where the total market capitalization of the target firm is used as the weighting factor. For a more detailed description of the weighting schemes we refer to the cited papers.

We consider all the active dates. For each deal, we define as active trading days all the trading days between the beginning and the resolution dates. If part of the month contains no active trading days, we treat the capital as though it were invested in a zero-return account for that part of the month. This mitigates the bias induced by equal-weighted averages.

We start by providing the descriptive statistics for the strategies in Table 5, Panel A, reporting the returns of both strategies. The first goes long the target and short the bidder *the day after the announcement* of the deal if there are advisors that have a position in the target ("Advisors invest," AI). The second strategy goes long the target and short the bidder *at the end of the quarter before the deal* is announced if there are advisors who have a stake ("Advisors invest before," AIB). This strategy captures the gain that

would accrue to the advisor who has invested in the firm before the deal. Unlike the first strategy (AI), this is not replicable as it requires knowledge of whether the deal will take place.

The results indicate that the strategy that exploits all the information (AIB) delivers the highest return. Over our sample, the average return is a striking 69.58% per year. This is higher and better than most of the benchmarks and higher than the returns on the other trading strategies. For example, over our sample period, the average return is 12.68% for the HRFI M&A arbitrage index. These results are robust to the type of methodology (i.e., Baker and Savasoglu or Mitchell and Pulvino). We plot the cumulative arbitrage return of the AIB strategy based on Mitchell and Pulvino (2001) methodology in Figure 1 and compare it with the results of the HFRI and CRSP-VW indices.

We now focus on the net-of-risk returns. To do this, we estimate a four-factor model as follows:

$$R_{p,t} - R_{f,t} = \alpha + \boldsymbol{\beta F}_t + \varepsilon_t, \qquad (3)$$

where $R_{p,t}$ is the return on the arbitrage portfolio, $R_{f,t}$ is the risk-free rate, and $\boldsymbol{F_t}$ is a vector stacking the four risk factors (*Market*, *SMB*, *HML*, and *UMD*). The intercept, α, measures the average monthly abnormal returns on the risk arbitrage portfolio, which is zero under the null of market efficiency. A positive value of α implies that the risk arbitrageur earns excess returns.

The net-of-risk return of the AI strategy is 0.48% per month, or 5.94% per year. The net-of-risk return of the AIB strategy is approximately 4.08% per month, or 61.59% per year. The results using the Baker and Savasoglu (2002) weighting are similar.[16] The difference in performance between the strategies based on insider holdings and the conventional arbitrage strategies is given by the performance of a strategy that goes long AIB and shorts AI. This results in a sizable difference in monthly performance of 3.60% (3.69%) for the Baker–Savasoglu (Mitchell–Pulvino) methodology; the difference is strongly statistically significant.

Mitchell and Pulvino (2001) describe an upward bias in the value-weighted risk-arbitrage portfolio methodology due to transaction costs. We acknowledge this bias, although we expect it would be alleviated as both AIB and AI would also be subject to it. As well, the size of the bias—of the order of 0.5% per month—is clearly lower than the differential magnitude of our strategies. If we subtract Mitchell and Pulvino's estimate of post-announcement transaction costs (Mitchell and Pulvino 2001, Table 2), returns drop to approximately 3.5% per month—still far superior to those of standard M&A Arbitrage strategy.

[16] We also re-estimate (3) separately for subsamples for which the market return, net of the risk-free rate, has a value >–1% (<–1%). A choice of the MKTRF >–1% restriction is consistent with the continuity condition of Mitchell and Pulvino (2001). This split-sample analysis is meant to control for the nonlinearity of risk arbitrage returns. In flat and appreciating markets, α_H should be positive as it captures the put premium and β_H should be close to zero. The opposite should be true in market downturns, with β_L being greater than zero. Results (unreported) agree with those based on raw returns. The net-of-risk return of the AIB strategy is 4.15% per month in high and low markets, of the AI strategy is 1.42% per month in high markets and insignificant in low markets.

Moreover, given that post-announcement spreads are increasing (Conrad and Niden 1992), the use of post-announcement liquidity cost is likely to overstate the effect of transaction costs.

These results confirm that advisors with a stake in the target firm indeed realize a very relevant gain. It also provides evidence of the motivation of the advisor. However, it is not a direct test of whether information is contained in the advisors' holdings. Indeed, AIB contains the run-up and the abnormal returns around the time of the announcement, while AI does not. We will now provide a proper test of it.

3.3 Is it inside information?

We now tackle the question of whether the superior returns we observed in previous section indeed indicate the presence of inside information. We first test whether the returns indicate genuine information or simply better forecasting ability by asset management arm of financial conglomerate; then we conduct some indirect tests of whether any such information is "inside" information flowing within the conglomerate.

3.3.1 A first test of transfer of information. To assess whether the returns indicate the presence of information, we compare the performance of a strategy based on insider holdings with that based on the holdings of a control group. Defining an appropriate control group is tricky, as smaller independent advisors do not have asset management arms and the advisory business is extremely concentrated, with the top 10 advisors accounting for the lion's share of the business (e.g., Morrison and Wilhelm 2007). It is therefore almost impossible to define a proper control group of brands sharing similar characteristics. The way out is to focus directly on the portfolio position of the brand, comparing deals on which the brand advises with those on which the brand does not advise. This allows us to control almost perfectly for any other characteristics, such as size of brand, market power of brand, availability of a good research department/relation with analysts etc. Therefore, we construct two portfolios: the first comprises all the targets in M&A deals in which the brand is an advisor to the bidder ("advisor portfolio") and the second comprises all the targets in M&A deals in which the brand is not an advisor ("non-advisor portfolio"); we then compare the returns on the two portfolios.

In particular, at the beginning of each quarter, for each brand we identify the deals in which the brand is the advisor to the bidder and those in which it is not the advisor to the bidder for the deals announced over this quarter. The stocks of target firms when the brand advises the bidder are allocated to the advisor portfolio, while the stocks of target firms when the brand does not advise the bidder are allocated to the non-advisor portfolio; the portfolios are rebalanced every quarter. The returns on the portfolios are constructed as either the equally weighted or the value-weighted returns on all the stocks contained in them.

In the case of the equal-weighed portfolio, if a brand holds a position in the target at the end of the quarter preceding the bid announcement date, then we assign to this stock observation the target's return. If

the brand does not have a position in the target, we assume that the brand has a position in the market portfolio.[17] If the brand advises the bidder, this return will be part of the advisor portfolio, while if the brand does not advise the bidder, it will be part of the non-advisor portfolio. The non-advisor portfolio is equal to the sum of all the positions of the non-advisory brands. Each observation carries equal weight. For example, let us assume that there are ten M&A announcements in a given quarter, and that advisory brands have stakes in stocks "A," "B," and "C," while all non-advisory brands have positions in stock "D." In this case, the equally weighted advisor portfolio will be 10% invested in stock "A," 10% invested in stock "B," 10% invested in stock "C," and 70% invested in the market index; the non-advisor portfolio will be 10% invested in the stock "D" and 90% invested in the market index.

In the case of the value-weighed portfolio, if a brand takes a position in the target, the weight of this observation equals the size of the position. If a brand does not hold such a position, we assign to it the position of the closest (in terms of the number of deals advised on over the previous three years) brand with positive dollar holdings.[18] This approach lets us properly account for the fact that most of the gain for the insider comes from his ability to take an early position in the target, as opposed to just selecting high-return stocks. Portfolios are rebalanced every quarter. Once the returns on the various portfolios and their differences ("net") have been constructed, they are regressed on the four risk factors.

The results are reported in Table 6. Panel A shows the descriptive statistics for the portfolios and Panel B their performance. In all cases, the advisor portfolios deliver higher returns than the non-advisor portfolios. The advisor portfolio's risk-adjusted return is 3.36% (2.59%) per month for the value-weighted (equally weighted) strategy. The non-advisor portfolio's risk-adjusted return is 1.93% (1.21%) per month for the value-weighted (equally weighted) strategy. The net of the two strategies is approximately 1.40% per month, or 18.16% per year. This provides evidence in favor of information being contained in the holdings of the advisors and confirms our hypothesis that the inside information is only available to the advisors.

3.3.2 A second test of transfer of information. The previous results provide evidence that there is indeed superior information in the position of the brand advising the deal. Another test would be to focus directly on the transfer of information, that is, to see whether the asset managers of the brand receive information about the deal from the investment banking arm. While it is extremely difficult to obtain direct evidence, it is possible to construct some tests based on indirect evidence. We look at the probability of the brands in our sample owning target stock.[19] We know from the literature that asset managers tend to invest in the stock of geographically nearby companies, as proximity provides information (Coval and Moskowitz 1999,

[17] In effect we posit that if the brand does not hold a stake in the upcoming target, then a similar position is taken in the market. The results are stronger if we assume that the position is taken in risk-free assets.
[18] In the rare cases in which the match cannot be made, we assign a weight of $1 million, which is equivalent to the median non-zero positions of brands in the targets.
[19] We limit ourselves to brands that were in the list of top fifty investment banks in at least one year in our sample.

2001, Chen et al. 2004). This means that asset managers located far from targets are less likely to take positions in them than are asset managers located nearby; moreover, if they do take such positions, they are less likely to be profitable. This tendency would be attenuated if the asset manager could count on the transfer of information from the investment bank advising the deal. This helps us devise a new test of the flow of information.

We proceed as follows. We first compute the distance between the headquarters of the financial group and those of the target firm; the location of the former is obtained from SEC 13F filings and of the latter from SDC. We then obtain the corresponding latitude and longitude values using the Geographic Names Information System (GNIS) of the U.S. Geological Survey. Once latitudes and longitudes are in place for target firm *i* and financial group brand *j*, we calculate the distance in kilometers between the two as follows:

$$d_{i,j} = arccos(deg_{latlon}) \times \frac{2\pi r}{360}$$

where

$$deg_{latlon} = cos(lat_i) \cdot cos(lon_i) \cdot cos(lat_j) \cdot cos(lon_j) + cos(lat_i) \cdot sin(lon_i) \cdot cos(lat_j) \cdot sin(lon_j) + sin(lat_i) sin(lat_j)$$

and *lat* and *lon* are the target's and brand' latitudes and longitudes and *r* is the earth's radius. Summary statistics reveal that this distance ranges between 0 km and 9725 km[20] with a mean (median) distance of 1955 (1309) km.

Then, we estimate the probability of taking a position in the target as well as the size of this position as a function of the distance between the target and the asset manager, a dummy for whether the affiliated investment bank is advising the deal, the interaction between these first two variables, and the whole set of control variables—including the size and quality of the investor (measured by assets under management and being one of top three investment banks, respectively) and firm characteristics. Our working hypothesis posits that the coefficient of the interaction between the target–asset manager distance and the dummy for whether the affiliated investment bank is advising the deal is positive; that is, the negative impact of distance is attenuated if the asset manager and the advisor to the deal belong to the same brand.

The results are reported in Table 7, Panel A. The sample comprises top 50 investment banks, whether or not they are advising in specific deals This implies that we have multiple observations for each deal.

The results show that, in line with previous literature, distance is a strong determinant of the investment decision. However, while the impact of distance is significant for non-advisory investors, it fades in the case of advisory firms; this supports our working hypothesis. It is also interesting to note that being the advisor affects both the probability of taking a position and the size of the position. Being an advisor increases the

[20] This corresponds to the distance from New York City to Princeville, Hawaii.

probability of investing in the firm from 22.8% to 27.7%, or by 21 percentage points. The size of the position is also larger: the increase is 0.2% in terms of fraction of market capitalization and 3.45 times in terms of dollar value.

Finally, assessed that there is some information transfer, we study what pushes the bank to pursue this course of action. We focus solely on the banks advising on the deal. We want to relate the determinants of investment in the target to the market share of the advisory bank and therefore to the investment bank's reputation and marketing stance. The sample comprises only the investment banks that advise the bidders in the specific deals. That is, we have only one observation for each deal—the one of the advisory bank in the specific deal. The results are reported in Table 7, Panel B. They show that the determinants of investment in the target are related to the market share of the advisory bank. The top three investment banks hold positions significantly more often than do their lower ranked colleagues. The marginal effect of this is 18.3% in specification 1 and 7.4% in specification 2, the latter taking into account dependent variables that are lagged two quarters. Those marginal effects should be compared with the unconditional probability of having a position, in our sample, of 26%. We can interpret this as evidence of a trade-off for the investment bank. Less prominent investment banks and/or banks with lower market shares use their immunity to accusations of conflict of interest in marketing their services and trying to gain market share. Anecdotal evidence would be consistent with this. For example, Lazard Frères states "We are an independent firm, free of many of the conflicts that can arise at larger financial institutions as a result of their varied sales, trading, underwriting, research and lending activities. We believe that recent instances of perceived or actual conflicts of interest, and a desire to avoid any potential future conflicts, have increased the demand by managements and boards of directors for trusted, unbiased advise from professionals whose main product is advise."[21] Bigger banks can use the full clout of their conglomerate resources—analysts tracking the stocks, group market makers and asset managers of the group are supporting the stock price, a bank providing financing—to compensate for the potential negative effects for the bidder of the advisory acting as an insider.

Finally, it is also worth noting that the presence of a toehold significantly reduces the probability that the advisory bank holds a position, while the presence of previous rival bids significantly increases it. Additionally, the probability increases with target size and decreases with bidder size.

[21] This quotation comes from the website of Lazard Frères: www.lazard.com

4. The Effect on the Deal Structure

We now test whether the presence of an advisory bank with a stake in the target affects the structure of the deal. We relate the advisory bank's stake in the target to the characteristics of the deal, its probability of success, and its long-term viability.

4.1 Advisory stake and probability of success

We first consider the probability of success. We test whether the probability of success is higher if the brand of the advisory bank also has a stake in the target.

We start with univariate statistics. Table 8, Panel A shows that the probability of success is greater for deals in which the advisor to the bidder takes a position in the target firm. The probability of failure drops from 23.8% to 17.1%, or by 28 percentage points; that is, approximately one quarter of the completion risk is eliminated in deals in which the advisor has a stake. To examine this in greater detail and to control for confounding effects, we estimate as follows:

$$S_i = \beta_1 A_i + \gamma_1 \boldsymbol{X}_i + \varepsilon_i, \qquad (4)$$

where S_i is a binary variable taking a value of 1 if the deal goes through and 0 otherwise, A_i is the advisor's stake in the target, and X_i is a vector of the control variables as defined above. We consider alternate definitions of the advisor stake.

The results are reported in Table 8, Panel B. They indicate a strong and positive correlation between the probability of success and the advisor having a stake in the target; these results hold across the different specifications and are robust to the definition of advisor stake. That is, not only does the presence of the advisor to the bidder as a shareholder in the target firm increases the probability of success, but this impact increases with the size of the stake. These results are both statistically significant and economically relevant. An increase in the stake of one standard deviation increases the probability of success from 76.12% to 81.93% in the case of *Ownership by Advisor to Acquirer*. An analogous increase of the *Ownership by Advisor to Acquirer, $* and *Ownership by Advisor to Acquirer Dummy* raise the probability of success to 79.00% and to 81.43%, respectively.

Two other features are noteworthy. First, as with the premium, only the ownership in the last quarter before the deal announcement matters. Unreported results indicate that the positions two quarters before the announcement are not significant, nor does their inclusion alter the results. Second, the effect is mostly concentrated in deals involving inexperienced bidders.

These findings are consistent with the hypothesis that advisors directly affect the outcome of the deal in order to realize higher capital gains from their positions. However, they are also consistent with the

hypothesis that advising banks may invest in deals that already have a higher probability of success. To try to distinguish between these two possibilities, we now look at how advising banks can increase the probability of success of deals.

4.2. Advisory stake and termination fees

We know that deals with target termination fees involve significantly higher premiums and success rates (Officer 2003), so we would expect advisory brands with a stake in the target to be interested in them. That is, the presence of advisors with a stake in the target should be positively related to the presence of termination fees. To test whether this is the case, we estimate as follows:

$$T_i = \beta_1 A_i + \gamma_1 \boldsymbol{X}_i + \varepsilon_i , \qquad (5)$$

where T_i is a dummy that takes the value of 1 if the deal contains target termination fees and zero otherwise, A_i is the advisor's stake in the target firm, and X_i is a vector of the control variables as defined above. We consider alternate definitions of the advisor's stake.

The results are reported in Table 9; Panel A reports the descriptive statistics, while Panel B reports the estimates of equation (5). The findings indicate a strong and positive correlation between the existence of termination fees and the stake in the target firm of the advisor to the bidder. This result holds across the different specifications and is robust to the definition of the stake. Having the advisor to the bidder as a shareholder in the target increases the probability of observing termination fees, a result that is both statistically significant and economically relevant. An increase in the dollar stake of one standard deviation raises the probability of having target termination fees from 40.1% to 45.7%. The other variables are of almost the same magnitude as found by Officer (2003). We obtain qualitatively similar results, although of smaller economic magnitude, if we consider the use of collars, another contractual feature known to enhance the probability of success.

Overall, the findings regarding the probability of success and the link between the advisor's stake in the target and target termination fees provide some evidence that the advisory stake is related to the structure of the deal. They are consistent with the possibility that the advisory brands privilege their interests at the expense of the bidder's.

However, they are also consistent with the bidder's board hiring a deal-advocate/advisor with high-powered incentives to get the deal done. In this case, the positive relationship between the stake and the outcome of the deal is desirable from the bidder's perspective. It may be, for example, that a brand builds up its position in a target firm to help the bidder by affecting the outcome of the vote to approve the deal, to address the free-riding problem, or to help in another way to complete the deal. However, the generally small size of the stake, much smaller than that assumed to be effective as a toehold (e.g., Eckbo and Betton

2000), does not seem to support this interpretation. The fact that after controlling for the existence of a toehold (*TOEHOLD*) the main findings are unaffected[22] would suggest that the potential help is unlikely to be due to a need to acquire inside information for the bidder.

Overall, we think these findings suggest that advisors take advantage of their privileged position, not only by acquiring positions in the deals on which they advise, but also by directly affecting the outcome of the deal in order to realize higher capital gains from their positions. However, we cannot rule out the alternate explanation: that the bidder's board hires a deal-advocate/advisor with high-powered incentives to get the deal done. This raises the interesting question of the implications for the bidder. That is, regardless of whether it is the bidder's management or the advisor that is ultimately responsible for the advisory bank's stake in the target, is there any relationship between the latter and the viability of the deal? This is the topic of the next section.

4.3 Advisory stake and viability of the deal

We now consider the implications for the bidder, focusing on the viability of the deal. We start with some preliminary evidence linking value creation/destruction in M&As and insider positions. Moeller, Schlingemann, and Stulz (2005) document that the dollar loss experienced by acquiring firm shareholders is mostly concentrated in a "small number of acquisitions with negative synergy gains." Can it be the case that these big losses are related to the role of the insider brands? In Table 10, we report the probability that the acquiring firm will suffer a large loss. We identify the biggest loss-making deals and relate them to the stake in the target of the advisory bank before the deal. The statistics indicate a clear positive correlation between shareholder loss and advisor stake.

To investigate this in greater detail, we focus on the profitability of the new firm defined in terms of ROE, ROA, and net profit margin (NPM). We regress the profitability of the firm the year after the deal on the profitability before the deal, a set of control variables, and our proxies for advisory holdings. Our definitions of ROE, ROA, and NPM are consistent with those of, for example, Schwert (2000) and Hsieh and Walkling (2005). The other variables are defined as in previous sections.[23] We include both industry and year dummies.

The results are reported in Table 11. They indicate a strong negative correlation between the stake in the target held by the advisor to the bidder and the future profitability of the firm. These results hold across most of the specifications and are robust to the definition of the advisor stake. The advisory stake is related to lower profitability of the deal. The results are negative for all nine reported specifications and statistically

[22] We also re-estimate the main specifications interacting the advisory stake with the *TOEHOLD* variable. Results (unreported) indicate that the presence of a toehold does not affect the impact of the advisory stake.
[23] Given that the focus is on the combined entity, the controls are value-weighted target and bidder characteristics.

significant for seven of these nine.[24] The results are also economically relevant. The presence of an advisor's stake in the target firm is related to 1.9%, 1.6%, and 1.8% lower ROE, ROA, and net profit margin, respectively, over the year subsequent to the year of acquisition. For ROE, this reduction represents a 33% drop from the sample unconditional mean.

4.4 The role of the bidder's boards

The results so far are consistent with advisory banks inducing bidders to enter into wealth-destructive deals for their own interests, as well as with scarcely monitored, empire-building bidder managers choosing overvalued targets and paying too much, using highly incentivized—by the stake—advisors to fast pursue their goals. If the latter interpretation were true, we should find that better governance or more effective boards would limit the practice, that more watchful boards and/or better governance should restrict the maneuvering room of such managers. We would therefore expect the role of insider brands in predicting these deals, their success and the use of termination fees to be lower in the case of acquiring companies with more watchful boards.

To examine this issue, we relate the impact of the advisor stake to board quality. In particular, we identify a set of characteristics that the literature has related to board quality: fraction of independent board members, board size, fraction of board members with financial expertise, and average board average (Hermalin and Weisbach 2003). We also consider a broader measure of firm governance, namely, the Gompers–Ishii–Metrick index (Gompers, Ishii, and Metrick 2003).

In Table 12, we report univariate statistics on board and governance characteristics and tests of how they differ between deals in which the advisor to the bidder has a stake in the target firm and deals where this is not the case. The Gompers–Ishii–Metrick (Gompers, Ishii, and Metrick 2003) index and the board-related variables are taken from the Investor Responsibility Research Center, Inc. (IRRC). Financial expertise is defined as 1 if the PROFTYPE field indicates financial or banking expertise and 0 otherwise. We report the results of the *t*-test and Wilcoxon test. The results indicate that bidding firms in deals involving insider brands are not different in terms of board characteristics from the bidding firms in deals not involving insider brands. The only partial exception is for board member age; insiders tend to invest in firms with younger board members, but the effect is not economically significant, the difference being less than eight months.

As a further robustness check, we include these variables among the control variables in the main specifications, and the unreported results are consistent with those reported in the text: governance and board variables do not seem to affect the probability of the deal, its outcome, or the stock price reaction.

[24] The only exceptions are the cases in which the stake of the advisor to the bidder is defined in percentage terms, i.e., *Ownership by Advisor to Acquirer* for ROE and *Ownership by Advisor to Acquirer DUMMY* for profit margin.

5. Discussion

Overall, these results suggest that advisory banks take positions before the deals on which they advise, on the basis of their inside information about the deal. The results seem to be consistent with much anecdotal evidence about the potential insider trading behavior of financial intermediaries and the breach of Chinese walls. However, they are also consistent with banks creating stakes to help the bidder get the deal done quickly. This would explain the positive relationship between the stake and both the probability of success and both the existence and size of termination fees. According to this interpretation, bidders choose overvalued targets and pay too much, using the highly incentivized—by the stake—advisor to attain their goal rapidly.

In our view, the joint evidence of a negative link between deal viability and advisory stake, the fact that the board characteristics of bidding firms do not differ between deals involving and not involving insider brands, and the fact that the bidders more likely to engage in such M&A deals are less "experienced" would provide more credence to the former hypothesis.

It is also worth noting that there is no relationship between the level of the advisory fees and the size of the advisory stake in the target.[25] This suggests that the stake is not a way to compensate the advisory bank for its services while saving on fees.

We are unable to envision a scenario in which agency-ridden managers hire advisory banks, incentivizing them by the potential for insider gain, in order to pursue value-destroying deals, with no relationship at all with the quality of firm governance or the supervisory ability of the board. However, our data do not provide direct evidence of advisory banks influencing bidders to enter into bad deals. Such inferences would require direct observation of bank intervention with the bidder, involving direct observation of the linked "benefits" and "enticements" the bank may provide to the average bidder manager.

6. Conclusion

We study the trading in M&A targets undertaken by the parent conglomerates ("brands") of the investment banks acting as advisors to the bidders. We find that the advisors to the bidders have stakes in the target firms before the deal is announced. These stakes are positively related to the probability of deal success and to the target premium. We argue that this is consistent with the advisory banks using their privileged information for gain. The bank advising on a deal has access to privileged information that it may exploit by taking a position in the target firm, expecting its share price to increase, and then realizing the gain due to

[25] In the interest of brevity, we omit these results. While the dollar amount of such fees is higher in the deals with positions of advising bank, fees as a percentage of the target's market capitalization are smaller in such deals. Multivariate analysis failed to uncover any correlation between fee level and advisory bank position. In our opinion, the univariate results are mostly driven by the fact that targets in which advising investment bank holds position are on average larger.

the appreciation in the value of the target around the time of the M&A announcement. We document the very high returns of this strategy. We also document a positive relationship between advisory stake and deal characteristics. The size of the advisory stake is positively related to the probability of deal success and to both the existence and size of the termination fees.

We interpret these results as suggesting that advisors exploit their privileged position, not only by acquiring positions in the deals on which they advise, but also by directly affecting the outcome of the deal in order to realize higher capital gains from their positions. These results are, however, also consistent with the alternative explanation: that the bidder's board hires a deal-advocate/advisor with high-powered incentives to get the deal done. Therefore, the positive relationship between the stake and the outcome of the deal is also desirable from the perspective of the bidder. While we cannot counter this argument, the evidence suggests that advisory-induced deals do not appear to be a good fit for bidders.

These results provide new insights into the conflicts of interests affecting financial intermediaries that simultaneously advise on deals and invest in the equity market.

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Table 1: Descriptive Statistics for Advisor Holdings and Information on M&As

We report the descriptive statistics for the advisor holdings, as well as deal, target, and bidder characteristics. *Ownership by Advisor to Acquirer* (O*wnership by Advisor to Target*) is the fraction of target firm equity owned by a brand the investment bank of which advises the acquirer (target). *Ownership by Advisor to Acquirer $* (O*wnership by Advisor to Target $*) is the dollar value of the target firm equity owned by a brand the investment bank of which advises the acquirer (target). *Ownership by Advisor to Acquirer Dummy* (O*wnership by Advisor to Target Dummy*) is a dummy equal to 1 if the fraction of target firm equity owned by a brand the investment bank of which advises the acquirer (target) is greater than 0, and 0 otherwise. In the table we report the fraction of deals in which the advising investment banks retain positions in the target. Statistics for *Ownership by Advisor* variables are reported for the subsample with positive positions. *Success* is a dummy equal to 1 if the bid is successful, and 0 otherwise. *Premium* is the market-adjusted return on the target's stock over the period extending from three months before the bid announcement to two months after the deal announcement or to the resolution date, whichever comes first, i.e., –63; min(+42, resolution date) trading days. *Target Termination Fee* is a dummy equal to 1 if the deal involves a target termination fee, and 0 otherwise. *Institutional Ownership* is the fraction of the firm held by institutional investors. *Change in Arb. Capital* is the relative change in the overall supply of arbitrage capital in the market. *HOSTILE* is a dummy equal to 1 if the bid is recorded by SDC as ''hostile'' or ''unsolicited'' and 0 otherwise. *PRECOMP* (*POSTCOMP*) is a dummy variable equal to 1 if another bid by a different bidder is recorded by SDC in the six months before (after) the current bid, and 0 otherwise. *MERGER* and *CASH* are dummy variables equal to 1 if the bid is structured as a merger or is purely cash financed, and 0 otherwise. *Same Industry* is a dummy equal to 1 if the bidder is from the same industry as the target (industry being defined as the two-digit SIC code), and 0 otherwise. *POISON* is a dummy equal to 1 if a poison pill exists, and 0 otherwise. *PHELD* is the fraction of the target's common stock owned by the bidder as of the bid announcement date. *TOEHOLD* is a dummy equal to 1 if *PHELD* is greater than 5%, and 0 otherwise. *CLEANUP* is a dummy equal to 1 if *PHELD* is greater than 50%, and 0 otherwise. Following Schwert (2000), we use the following accounting measures of performance. *Return on Equity* (ROE) is the ratio of earnings to average equity for the prior fiscal year (COMPUSTAT items 20/(60 + 60(t – 1))/2). *Book to Market* (B/M) is the ratio of debt to equity for the prior fiscal year (COMPUSTAT items 9/60). *Size* is measured as the market capitalization at the end of the year preceding the first bid (price × shares outstanding, COMPUSTAT items 24 × 25). *Growth of Sales* is the proportional change in sales over the prior fiscal year (ln(COMPUSTAT items 12/12(t – 1))). *Accounting Liquidity* is the ratio of net liquid assets to total assets for the prior fiscal year (COMPUSTAT items (4–5/6)). *Price to Earnings* (*P/E*) is the ratio of the year-end stock price to earnings per share for the prior fiscal year (COMPUSTAT items 24/58). *Debt to Equity* (*D/E*) is the ratio of debt to equity for the prior fiscal year (COMPUSTAT items 9/60). We report the descriptive statistics for the sample of mergers and acquisitions. We report the mean, median, standard deviation, and inter-quartile range. The descriptive statistics for ownership variables are multiplied by 100. The number of observations is 1,641.

Variable	Mean	Median	Std. Dev.	Interquartile Range
Advisor Ownership				
Fraction of deals with ownership by Advisor to Acquirer	0.26			
Fraction of deals with ownership by Advisor to Target	0.28			
Ownership by Advisor to Acquirer, % of market capitalization	0.63	0.16	1.19	0.47
Ownership by Advisor to Target, % of market capitalization	0.90	0.29	1.77	0.83
Ownership by Advisor to Acquirer, $ million	13.89	0.81	43.32	5.69
Ownership by Advisor to Target, $ million	14.15	1.39	50.87	6.85
Deal Characteristics				
Success	0.76			
Premium	0.31	0.28	0.48	0.51
Target termination Fee Dummy	0.40			
Institutional Ownership	0.34	0.31	0.22	0.35
Change in Arb. Capital	0.04	0.05	0.10	0.09
CASH Dummy	0.33			
MERGER Dummy	0.21			
HOSTILE Dummy	0.08			
Same Industry Dummy	0.60			
TOIEHOLD Dummy	0.10			
POISON Dummy	0.03			
CLEANUP Dummy	0.04			
PRECOMP	0.12			
POSTCOMP	0.14			
Target				
ROE	0.06	0.09	0.27	0.19
B/M	0.64	0.54	0.61	0.48
Market Capitalization	1012.79	156.13	5303.63	519.72
Growth of Sales	0.13	0.10	0.29	0.23
Accounting Liquidity	0.27	0.26	0.22	0.34
P/E	13.15	12.86	36.18	23.31
D/E	0.57	0.29	1.14	0.75
Bidder				
ROE	0.13	0.15	0.17	0.13
B/M	0.50	0.41	0.42	0.40
Market Capitalization	10432.55	1405.30	36823.04	5126.68
Growth of Sales	0.19	0.12	0.30	0.23
Accounting Liquidity	0.23	0.20	0.19	0.28
P/E	18.58	16.35	38.82	15.77
D/E	0.61	0.40	0.82	0.67

Table 2: Brand Ownership in Upcoming M&A Targets

We report the descriptive statistics for the ownership by advisory and non-advisory brands in upcoming M&A targets. A brand is labeled "advisory" if its affiliated investment bank acts as an advisor to an acquirer in an upcoming bid (announced over the next quarter); otherwise the brand is labeled as "non-advisory." Each quarter we identify the 50 brands that were the most active in the M&A advisory market, in terms of number of deals, over the previous three years. We then consider the upcoming bids in which one of these top-50 brands advises the acquirer. We identify whether a top-50 brand has a position in an upcoming target over the period between seven quarters before and two quarters after a deal announcement (quarter 0 corresponds to the quarter immediately preceding the deal announcement) and the size of its position in terms of both fraction of shares outstanding and dollar value. Panel A presents the descriptive statistics for the likelihood of observing a position in the target and the size of the position for insiders and non-insiders belonging to the top-50 group of most active M&A advisors over time. In Panel B, we report univariate statistics for and tests of differences between the characteristics of bidder and target firms in cases in which the advisor to the acquirer does/does not take a position. We report univariate statistics and tests of differences between the Rhodes-Kropf, Robinson, and Viswanathan (2005) (RRV) measures of company misevaluation. These measures are sector-adjusted firm-specific valuation errors corresponding to Model 3 in the RRV study. We report the results of the *t*-test and Wilcoxon test and corresponding *p*-values.

Panel A: Likelihood and size of the position in the upcoming targets: advisory vs. non-advisory brands

Quarter, relative to bid announcement	*% of upcoming deals with positions in the target*					*Average size of the position: % of shares outstanding*						*Average size of the position: dollar volume ($ million)*					
	Advisory brand, %	*Non-advisory brand, %*	*Diff, %*	*Z-stat*	*p-val*	*Advisory brand, %*	*Non-advisory brands, %*	*t-stat*	*p-val*	*Z-stat*	*p-val*	*Advisory brands*	*Non-advisory brands*	*t-stat*	*p-val*	*Z-stat*	*p-val*
q(–7)	14.30	7.06	7.24	17.39	0.00	0.13	0.05	5.93	0.00	17.37	0.00	2.47	1.10	4.14	0.00	17.47	0.00
q(–6)	15.39	7.76	7.63	17.58	0.00	0.15	0.06	6.67	0.00	17.64	0.00	2.93	1.25	4.31	0.00	17.69	0.00
q(–5)	16.43	8.43	8.00	17.76	0.00	0.15	0.06	6.76	0.00	17.79	0.00	3.38	1.39	4.18	0.00	17.88	0.00
q(–4)	17.80	9.13	8.67	18.54	0.00	0.18	0.07	7.35	0.00	18.74	0.00	3.98	1.49	4.49	0.00	18.71	0.00
q(–3)	19.60	10.08	9.52	19.49	0.00	0.19	0.08	6.79	0.00	19.70	0.00	4.10	1.69	4.31	0.00	19.64	0.00
q(–2)	21.37	11.04	10.34	20.34	0.00	0.21	0.08	6.8	0.00	20.60	0.00	4.90	1.87	4.56	0.00	20.50	0.00
q(–1)	23.88	12.24	11.64	21.90	0.00	0.24	0.09	6.03	0.00	22.22	0.00	5.38	2.02	4.70	0.00	21.98	0.00
q(0)	28.85	14.70	14.16	24.66	0.00	0.26	0.10	6.12	0.00	24.97	0.00	6.94	2.28	3.49	0.01	24.71	0.00
q(1)	21.30	10.80	10.50	20.85	0.00	0.18	0.07	4.98	0.00	20.97	0.00	7.08	2.46	3.03	0.01	20.83	0.00
q(2)	11.87	6.10	5.76	14.84	0.00	0.12	0.04	3.57	0.00	14.90	0.00	6.83	1.89	2.48	0.02	14.83	0.00

Panel B: Insider brand stake and firm characteristics

Variable	*Advisor takes position*	*n*	*Mean*	*Std. Dev*	*t-test* (*p-value*)	*Wilcoxon Z* (*p-value*)
Bidder						
Book-to-Market	No	1217	0.56	0.44	5.04	6.63
	Yes	424	0.45	0.36	(0.00)	(0.00)
Log(Size)	No	1217	7.03	1.99	–10.38	–10.26
	Yes	424	8.13	1.91	(0.00)	(0.00)
ROE	No	1217	0.05	0.15	–1.82	–1.33
	Yes	424	0.08	0.48	(0.07)	(0.19)
Sales Growth	No	1217	0.20	0.53	–0.60	–2.11
	Yes	424	0.22	0.34	(0.552)	(0.04)
Cash Holdings	No	1217	0.24	0.17	4.59	5.49
	Yes	424	0.20	0.18	(0.00)	(0.00)
Target						
Book-to-Market	No	1217	0.79	0.83	5.22	7.71
	Yes	424	0.57	0.46	(0.00)	(0.00)
Log(Size)	No	1217	4.87	1.52	–18.82	–17.10
	Yes	424	6.45	1.66	(0.00)	(0.00)
ROE	No	1217	–0.03	1.39	–1.04	–3.76
	Yes	424	0.03	0.18	(0.30)	(0.00)
Sales Growth	No	1217	0.12	0.43	–2.99	–3.26
	Yes	424	0.19	0.39	(0.01)	(0.01)
Cash Holdings	No	1217	0.27	0.21	3.17	3.86
	Yes	424	0.23	0.21	(0.01)	(0.00)
RRV Valuation Error	No	1217	–0.06	0.42	–6.66	–6.17
	Yes	424	0.12	0.43	(0.00)	(0.00)

Table 3: Probability of Becoming a Target

We estimate the probability of becoming a target in the next quarter conditional on the firm belonging to a set of firms "matched" to the actual target. For each announced deal, we create a list of potential targets on the basis of firms similar to the actual target in terms of industry (two-digit SIC code) and size. The variables of interest measuring the ownership in the target of advisor to the acquirer (Ownership by Advisor, Ownership by Advisor $, and Ownership by Advisor Dummy) as well as the control variables are as defined in Table 1. *Lagged Return* and *Volatility* are calculated using CRSP daily data over the six months before the announcement. *Industry Herfindahl Index* is calculated using industry sales data (COMPUSTAT item 12) from the prior fiscal year. We report estimates, t-statistics (clustered at the two-digit SIC code), pseudo R-squared, and number of observations.

	Est.	*t-stat*	*Est.*	*t-stat*	*Est.*	*t-stat*	*Est.*	*t-stat*	*Est.*	*t-stat*	*Est.*	*t-stat*	*Est.*	*t-stat*	*Est.*	*t-stat*	*Est.*	*t-stat*
Ownership by Adv. ($)	0.09	(6.78)	0.07	(5.80)	0.14	(5.43)												
Ownership by Adv.							2.67	(2.19)	1.66	(2.07)	0.87	(0.63)						
Ownership by Adv. Dummy													0.14	(5.02)	0.10	(4.14)	0.22	(4.43)
Institutional Ownership	0.37	(4.30)	0.32	(4.33)	0.41	(3.06)	0.43	(4.67)	0.39	(5.32)	0.64	(4.86)	0.41	(4.81)	0.36	(4.96)	0.55	(3.97)
Change in Arb. Capital	–0.04	(–0.27)	–0.01	(–0.10)	5.55	(3.00)	–0.02	(–0.16)	0.02	(0.17)	3.79	(1.80)	–0.04	(–0.26)	–0.01	(–0.10)	3.92	(1.86)
ROE	–0.01	(–0.95)	–0.00	(–0.53)	–0.00	(–0.27)	0.00	(0.29)	0.00	(0.27)	–0.00	(–0.13)	–0.00	(–0.90)	–0.00	(–0.48)	–0.00	(–0.16)
Log(B/M)	0.09	(2.96)	0.05	(2.33)	0.09	(3.62)	0.08	(2.50)	0.04	(1.73)	0.09	(3.44)	0.09	(2.85)	0.04	(2.13)	0.09	(3.48)
Growth of Sales	–0.04	(–1.27)	–0.01	(–0.46)	–0.01	(–0.38)	–0.03	(–0.92)	–0.01	(–0.28)	–0.01	(–0.40)	–0.03	(–1.25)	–0.01	(–0.42)	–0.01	(–0.40)
Accounting Liquidity	–0.53	(–5.29)	–0.24	(–2.79)	–0.22	(–2.23)	–0.60	(–5.91)	–0.25	(–2.89)	–0.25	(–2.50)	–0.54	(–5.46)	–0.26	(–2.95)	–0.24	(–2.39)
P/E	0.00	(–0.75)	0.00	(–0.48)	0.00	(–1.11)	0.00	(–0.85)	0.00	(–0.56)	0.00	(–1.28)	0.00	(–0.92)	0.00	(–0.61)	0.00	(–1.32)
D/E	0.01	(2.84)	0.00	(0.60)	0.00	(2.42)	0.00	(2.43)	0.00	(0.10)	0.00	(2.18)	0.00	(2.78)	0.00	(0.34)	0.00	(2.42)
Volatility	–1.99	(–1.60)	–0.06	(–0.06)	0.23	(0.23)	–2.97	(–2.47)	–0.42	(–0.43)	0.06	(0.06)	–2.07	(–1.66)	–0.12	(–0.13)	0.14	(0.14)
Lagged Returns	–0.07	(–1.26)	–0.09	(–1.61)	–0.13	(–1.96)	–0.08	(–1.31)	–0.09	(–1.69)	–0.14	(–2.04)	–0.07	(–1.31)	–0.09	(–1.66)	–0.14	(–2.08)
Industry Herfindahl Index	1.92	(2.64)	1.07	(1.23)	3.68	(4.56)	1.97	(2.52)	0.92	(1.06)	3.51	(–4.33)	1.89	(2.64)	1.09	(1.25)	3.42	(4.35)
Time Fixed Effects		Y		Y		N		Y		Y		N		Y		Y		N
Industry Fixed Effects		N		Y		N		N		Y		N		N		Y		N
Deal Fixed Effect		N		N		Y		N		N		Y		N		N		Y
Pseudo R^2		0.04		0.10		0.10		0.04		0.10		0.10		0.04		0.10		0.10
n		23283		23283		23283		23283		23283		23283		23283		23283		23283

Table 4: Short-term Premium

We report the determinants of the takeover premium. The variables are as defined in Table 1. *Residual of target termination fees* is the residual of a linear probability model regressing a dummy equal to 1 on a set of explanatory variables if the deal involves a target termination fee, as in Table 9. We define EXPERIENCE as a dummy taking the value of 1 if the bidding firm conducted an IPO, SEO, debt issue, M&A deal, repurchase, etc., in the previous three years, and 0 otherwise. The term –* EXPERIENCE (–* NO EXPERIENCE) is the interaction between the variable of interest (e.g., Ownership by Advisor to Acquirer) and EXPERIENCE (1-EXPERIENCE). *Independent Investment Advisor to Acquirer* (*Target*) *Dummy* takes the value of 1 if the advisor to the acquirer (target) does not have holdings in the Spectrum database, and 0 otherwise. The other variables are as defined in the previous tables. The standard errors are clustered over industry (SIC2). Specifications 3–6 use industry (SIC2) fixed effects. The latter specifications are also corrected for sample selection. All estimates are multiplied by 100.

	Ownership by Advisor to Acquirer $								Ownership by Advisor to Acquirer		Ownership by Advisor to Acquirer Dummy	
	(1)		(2)		(3)		(4)		(5)		(6)	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Last Quarter Before the Announcement												
Ownership by Advisor to Acquirer	0.46	(2.59)	0.42	(2.33)	0.39	(2.17)			391.20	(3.20)	5.51	(2.16)
--- *NO EXPERIENCE							0.61	(2.91)				
----*EXPERIENCE							–0.05	(–0.21)				
Ownership by Advisor to Target	0.08	(0.55)	0.11	(0.82)	0.13	(0.96)	0.14	(1.07)	134.22	(1.52)	2.31	(1.10)
Institutional Ownership	–4.53	(–0.79)	–5.28	(–0.86)	–7.36	(–1.16)	–7.56	(–1.20)	–7.31	(–1.12)	–4.67	(–0.76)
Change in Arbitrage Capital	–24.70	(–3.19)	–23.10	(–2.85)	–23.20	(–2.84)	–23.83	(–2.85)	–22.85	(–2.71)	–29.03	(–3.52)
Top 3 IB Dummy	2.67	(1.03)	0.98	(0.39)	0.41	(0.16)	1.06	(0.42)	1.23	(0.51)	0.57	(0.22)
Indep. Inv Advisor to Acquirer Dummy					1.29	(0.27)	1.36	(0.28)	1.18	(0.25)	0.05	(0.01)
Indep. Inv Advisor to Target Dummy					1.33	(0.52)	1.44	(0.56)	1.17	(0.46)	2.41	(0.93)
Contractual Features												
CASH Dummy			–3.57	(–1.74)	–3.71	(–1.68)	–3.91	(–1.79)	–3.61	(–1.61)	–3.69	(–1.63)
MERGER Dummy			16.28	(7.88)	16.00	(6.70)	16.01	(6.51)	15.90	(6.76)	16.89	(7.33)
HOSTILE Dummy			2.02	(0.60)	1.07	(0.32)	0.95	(0.30)	1.66	(0.50)	0.58	(0.18)
Same Industry Dummy			–0.12	(–0.05)	0.01	(0.00)	0.16	(0.07)	–0.07	(–0.03)	0.51	(0.20)
TOEHOLD Dummy			–8.69	(–2.74)	–9.81	(–2.94)	–9.89	(–2.91)	–10.36	(–3.19)	–9.92	(–2.93)
POISON Dummy			12.71	(3.04)	15.14	(4.39)	15.93	(4.64)	15.00	(4.20)	14.92	(4.16)
CLEANUP Dummy			1.10	(0.21)	2.13	(0.40)	1.76	(0.33)	2.63	(0.53)	0.83	(0.15)
PRECOMP Dummy			2.97	(1.37)	2.73	(1.19)	3.10	(1.32)	2.88	(1.26)	2.16	(0.93)
POSTCOMP Dummy			8.60	(2.43)	9.92	(2.69)	9.63	(2.60)	9.73	(2.63)	9.43	(2.56)
Residuals of target term fee					9.93	(4.93)	9.88	(5.00)	10.02	(4.92)	10.30	(5.02)
Heckman Lambda					–30.66	(–1.09)	–29.25	(–1.02)	–33.41	(–1.16)	41.63	(1.60)
Target and Acquirer controls	Y		Y		Y		Y		Y		Y	
Time Fixed Effects	Y		Y		Y		Y		Y		Y	
Industry Fixed Effects	N		N		Y		Y		Y		Y	
Adj R^2	0.10		0.14		0.18		0.18		0.18		0.18	
F-test of the difference (*p*-value)							6.40	(0.014)				
n	1526		1526		1526		1526		1526		1526	

Table 5: Statistics of M&A Arbitrage Strategies Return
(based on unobserved actions of insider brands)

We report the returns of trading strategies that use the information contained in the target company stake of the brand of the advisor to the bidder, in the last quarter preceding the bid announcement. In Panel A we report the descriptive statistics, in Panel B we report the results of Fama-French-Carhart regression. We use a standard merger arbitrage trading strategy based on going long the target and short the bidder. Following Mitchell and Pulvino (2001), we construct the calendar-time value-weighted average of returns of individual mergers. We restrict our analysis to stock-only and cash-only deals, for a final sample of 1529 transactions. For each deal, we determine the daily returns based on the closing market price on the day after the merger announcement. For cash deals, the daily return on the portfolio is

$$R_{it} = \left[P_{it}^{T} + D_{it}^{T} - P_{it}^{T}\right] / P_{it-1}^{T},$$

and for stock deals, the return is

$$R_{it} = \left[P_{it}^{T} + D_{it}^{T} - P_{it}^{T} - \Delta\left(P_{it}^{B} + D_{it}^{B} - P_{it-1}^{B} - R_{F,t}P_{it}^{B}\right)\right] / PositionVa\ lue_{it-1}$$

where R_{it} is the daily return for the ith deal, P^{T}_{it} (P^{B}_{it}) is the daily price of the target (bidder) firm at the close of the market on day t, D^{T}_{it} (D^{B}_{it}) is the dividend paid by the target (bidder) on day t, R_{ft} is the daily risk-free rate, and Δ is the hedge ratio (number of acquirer shares to be paid for each outstanding target share).

For each deal, we calculate the daily returns for each transaction day up to the deal resolution. If the deal is successful, deal resolution is the day on which the stock of the target is delisted. If the deal does not go through, the resolution is the day after public announcement of the failure. If we do not have the date of the public resolution of the failure (SDC often does not provide it), we calculate the daily returns for 126 days. We then aggregate these returns and calculate the monthly portfolio return by averaging the returns for all merger deals in a way similar to the calendar-time methodology.

We consider two types of weighting. First, we take the weighted average of the daily returns. Monthly portfolio returns are then calculated by compounding the average daily returns. This is consistent with, for example, Baker and Savasoglu (2002). Second, we follow Mitchell and Pulvino (2001), calculating monthly returns for each transaction by compounding the daily returns. Monthly portfolio returns are then obtained by calculating a weighted average of transaction-month returns for each month, where the total market capitalization of the target company is used as the weighting factor. For more detailed description of the weighting schemes, see the cited papers.

We consider all the active dates. For each deal, we define as active trading dates all the trading days between the beginning and the resolution dates. If part of the month contains no active trading dates, we treat the capital as though it were invested in a zero-return account for that part of the month. This mitigates the bias induced by equal-weighted averages.

For benchmarks, we use the HFRI Merger Arbitrage Total Return Index; this is the longest running such index in existence, extending back to 1990. We augment it with the yearly index reported by Mitchell and Pulvino (2001). We also report statistics for CRSP Value Weighted Index (CRSP VW) and risk free rate (RF)

Panel A: Descriptive statistics of calendar portfolios returns

	n	Mean	Std. Dev.	Median	Min	Max
Value weighted (*Mitchell & Pulvino*)						
all deals	230	0.0060	0.0287	0.0081	–0.1753	0.1175
cash deals	230	0.0081	0.0377	0.0076	–0.2646	0.1271
stock deals	230	0.0066	0.0283	0.0074	–0.1718	0.1210
advisor takes position (ABI)	230	0.0450	0.0181	0.0873	–0.4130	0.4862
advisor takes position (1 day after) (AI)	230	0.0097	0.0065	0.0396	–0.2021	0.2904
Value weighted (*Baker–Savasoglu*)						
all deals	230	0.0102	0.0367	0.0114	–0.1821	0.1510
cash deals	230	0.0128	0.0497	0.0117	–0.2488	0.2347
stock deals	230	0.0096	0.0343	0.0107	–0.1829	0.1276
advisor takes position (ABI)	230	0.0511	0.1019	0.0243	–0.4130	0.6053
advisor takes position (1 day after) (AI)	230	0.0136	0.0470	0.0082	–0.2021	0.2899
Benchmarks						
HRFI M&A Arbitrage Index	230	0.0100	0.0111	0.0117	–0.0646	0.0290
CRSP-VW	230	0.0097	0.0459	0.0141	–0.2249	0.1284
RF	230	0.0044	0.0016	0.0044	0.0009	0.0100

Panel B: Fama–French–Carhart regressions, full sample

	alpha	t-stat	mktrf	t-stat	smb	t-stat	hml	t-stat	umd	t-stat	Adj R2
Value weighted (*Mitchell & Pulvino*)											
All arbitrage deals	–0.0003	(–0.16)	0.1761	(3.67)	0.0585	(0.99)	0.1163	(1.64)	0.0624	(1.50)	0.06
Advisor takes position (ABI)	0.0408	(6.65)	0.0740	(0.49)	–0.0493	(–0.26)	–0.0276	(–0.12)	–0.0583	(–0.44)	–0.01
Advisor takes position (1 day after) (AI)	0.0048	(1.73)	0.0637	(0.93)	0.0631	(0.75)	0.0447	(0.44)	0.0000	(0.00)	–0.01
Long ABI, short AI	0.0368	(5.92)	0.0276	(0.18)	–0.1084	(–0.58)	–0.0542	(–0.24)	–0.0584	(–0.45)	–0.02
Value weighted (*Baker-Savasoglu*)											
All arbitrage deals	0.0036	(1.45)	0.2146	(3.47)	0.0774	(1.01)	0.1438	(1.56)	0.0590	(1.10)	0.04
Advisor takes position (ABI)	0.0461	(6.44)	0.1255	(0.71)	0.0694	(0.32)	0.1050	(0.40)	–0.0456	(–0.30)	–0.01
Advisor takes position (1 day after) (AI)	0.0091	(2.75)	0.0368	(0.45)	0.0871	(0.87)	–0.0096	(–0.08)	–0.0009	(–0.01)	–0.01
Long ABI, short AI	0.0382	(5.39)	0.1099	(0.63)	–0.0098	(–0.05)	0.1443	(0.56)	–0.0453	(–0.30)	–0.02

Table 6: Returns on Advisor vs. Non-Advisor Investment Brands Positions

We report the returns of portfolio strategies based on the holdings of the advisory and non-advisory brands. For each brand, we define the "advisor portfolio" ("non-advisor portfolio") as that constructed using holdings in all target firms in deals in which the investment bank affiliated with the brand acted (did not act) as advisor to the bidder. Portfolios are rebalanced every quarter. We consider equally weighted and value-weighted strategies. In the case of equal-weighed portfolio, if a brand holds a position in the target at the end of the quarter preceding the bid announcement date, we then assign to this stock observation the target's return; if, however, the brand does not have a position in the target, we assume that the brand has a position in the market portfolio. If the brand advises the bidder, this return will be part of the advisor portfolio, while if the brand does not advise the bidder, it will be part of the non-advisor portfolio. The non-advisor portfolio is equal to the sum of all the positions of the non-advisory brands. Each observation carries equal weight. In the case of the value-weighed portfolio, if a brand takes a position in the target, the weight of this observation equals the size of the position. If a brand does not hold such a position, we assign to it the position of the closest (in terms of the number of deals advised on over the previous three years) brand with positive dollar holdings. This approach lets us properly account for the fact that most of the gain for the insider comes from an ability to take an early position in the target, as opposed to just selecting high-return stocks. Portfolios are rebalanced every quarter. The descriptive statistics is reported in Panel A. Once the returns on the various portfolios and their differences ("net") have been constructed, they are regressed on the four risk factors. The results of Fama-French-Carhart regression are reported in Panel B.

Panel A: Descriptive statistics of returns

	n	Mean	Median	Std. Dev.	Min	Max
Equally Weighted portfolios						
Advisor – risk-free rate	230	0.0300	0.0313	0.0537	–0.2362	0.2140
Non-advisor – risk-free rate	230	0.0176	0.0212	0.0466	–0.2287	0.1249
Advisor – Non-advisor	230	0.0125	0.0098	0.0217	–0.0212	0.1313
Value-weighted portfolios						
Advisor – risk-free rate	230	0.0389	0.0292	0.0766	–0.2346	0.3466
Non-advisor – risk-free rate	230	0.0263	0.0241	0.0596	–0.2337	0.3356
Advisor – Non-advisor	230	0.0126	0.0051	0.0578	–0.1768	0.2609

Panel B: Fama–French–Carhart regressions

	alpha	t-stat	mktrf	t-stat	smb	t-stat	hml	t-stat	umd	t-stat	adj R^2
Equally Weighted portfolios											
Advisor – risk-free rate	0.0259	(13.58)	0.9270	(19.84)	0.3152	(5.48)	–0.0056	(–0.08)	–0.1014	(–2.51)	0.74
Non-advisor – risk-free rate	0.0121	(18.02)	0.9844	(59.69)	0.1206	(5.94)	0.0429	(1.74)	–0.0385	(–2.70)	0.95
Advisor – Non-advisor	0.0138	(9.51)	–0.0574	(–1.62)	0.1946	(4.46)	–0.0485	(–0.92)	–0.0629	(–2.05)	0.10
Value-weighted portfolio											
Advisor – risk-free rate	0.0336	(7.30)	0.9329	(8.29)	0.3891	(2.81)	0.3808	(2.27)	–0.1028	(–1.06)	0.27
Non-advisor – risk-free rate	0.0193	(6.54)	0.9982	(13.81)	0.1020	(1.15)	0.2322	(2.15)	0.0475	(0.76)	0.50
Advisor – Non-advisor	0.0142	(3.53)	–0.0654	(–0.66)	0.2871	(2.36)	0.1486	(1.01)	–0.1502	(–1.76)	0.02

Table 7: Choice of Position

In Panel A, we estimate the probability of institutional investors (brands) taking positions in the targets and the determinants of the size of their positions. In the probit estimates (specifications 1 and 2), the dependent variable takes the value of 1 if the brand takes a position, and 0 otherwise. In the tobit specifications, the dependent variable is either the natural logarithm of the dollar amount invested (specifications 3 and 4), or the fraction of the market capitalization of the firm (specifications 5 and 6). The *Advisor Dummy* takes the value of 1 if the brand is the advisor to the deal, and 0 otherwise. The *Independent Investment Advisor to Acquirer* (*Target*) *Dummy* takes the value of 1 if the advisor to the acquirer (target) does not have holdings in the Spectrum database, and 0 otherwise. *log(TNA)* is defined as the logarithm of the total assets under management in dollars (calculated using the Spectrum database). *Log(distance to HQ)* is defined as the natural logarithm of the distance from the target company headquarters to the headquarters of the financial conglomerate to which the advisory bank belongs, plus 1. In specifications 2, 4, and 6 we interact the distance variable with advisor and non-advisor dummies. We also report the tests of the difference between the advisor and non-advisor dummies in the interaction term. σ is the estimated standard error of the tobit regression. The other variables are defined as in Tables 1 and 2. Standard errors are clustered over deals. We use time and industry fixed effects. In specifications 5 and 6, estimates are multiplied by 10000. The number of observations is 78610.

In Panel B, we estimate the determinants of the positions by advisory investment bank. We report probit estimates for the probability of having a position, tobit estimates of the dollar value of the position, and the position as fraction of market capitalization; tobit estimates are multiplied by 100.

Panel A: Determinants of holdings of institutional investors

	Probit Estimates				Tobit Estimates, $				Tobit Estimates, %			
	(1)		(2)		(3)		(4)		(5)		(6)	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Advisor Dummy	0.21	(4.28)			1.24	(4.14)			19.97	(3.33)		
Top 3 IB Dummy	0.02	(1.07)	0.02	(1.07)	0.01	(0.09)	0.01	(0.08)	1.94	(0.65)	1.97	(0.66)
Indep. Inv Advisor to Acquirer Dummy	–0.03	(–0.90)	–0.03	(–0.91)	–0.23	(–1.08)	–0.23	(–1.09)	–5.30	(–1.35)	–5.34	(–1.36)
Indep. Inv Advisor to Target Dummy	0.01	(0.36)	0.01	(0.36)	–0.04	(–0.21)	–0.04	(–0.21)	–3.44	(–0.95)	–3.47	(–0.96)
log(distance to HQ)	–0.03	(–2.62)			–0.17	(–2.00)			–2.88	(–1.94)		
log(distance to HQ)*Advisor Dummy			0.04	(1.96)			0.26	(2.00)			3.55	(1.47)
log(distance to HQ)*non-Advisor Dummy			–0.03	(–2.72)			–0.18	(–2.09)			–3.00	(–2.02)
log(TNA)	0.47	(74.37)	0.47	(74.37)	3.48	(75.12)	3.48	(75.10)	56.57	(44.89)	56.57	(44.89)
ROE	–0.01	(–3.17)	–0.01	(–3.18)	–0.07	(–2.70)	–0.07	(–2.71)	–1.42	(–4.50)	–1.42	(–4.51)
Size	0.51	(56.70)	0.51	(56.70)	3.73	(58.61)	3.73	(58.62)	43.72	(31.10)	43.72	(31.11)
IO	0.58	(10.52)	0.58	(10.52)	5.04	(12.53)	5.04	(12.52)	105.61	(14.06)	105.58	(14.06)
log(b/m)	0.08	(5.53)	0.08	(5.52)	0.42	(4.46)	0.42	(4.46)	5.33	(3.17)	5.33	(3.17)
Sales growth	–0.05	(–2.34)	–0.05	(–2.34)	–0.29	(–2.26)	–0.29	(–2.25)	–0.97	(–0.45)	–0.97	(–0.45)
Liquidity	–0.04	(–0.84)	–0.04	(–0.84)	–0.05	(–0.15)	–0.06	(–0.15)	6.59	(1.00)	6.56	(1.00)
P/E	0.00	(0.05)	0.00	(0.05)	0.00	(0.58)	0.00	(0.57)	0.01	(1.16)	0.01	(1.15)
D/E	0.00	(5.86)	0.00	(5.87)	0.03	(5.27)	0.03	(5.28)	0.44	(4.20)	0.44	(4.20)
Change in arbitrage capital	0.08	(0.77)	0.08	(0.77)	0.52	(0.69)	0.52	(0.69)	0.25	(0.02)	0.24	(0.02)
Volatility	4.41	(9.52)	4.41	(9.51)	25.38	(7.65)	25.37	(7.64)	371.43	(6.81)	371.28	(6.81)
Past return	–0.17	(–3.68)	–0.17	(–3.67)	–0.75	(–2.30)	–0.75	(–2.30)	–19.59	(–3.47)	–19.58	(–3.46)
Industry concentration	0.38	(1.44)	0.38	(1.44)	2.32	(1.19)	2.32	(1.19)	32.40	(1.02)	32.39	(1.02)
σ					7.89	(75.84)	7.89	(75.87)	146.83	(46.68)	146.83	(46.61)
Time Fixed Effects	Y		Y		Y		Y		Y		Y	
Industry Fixed Effects	Y		Y		Y		Y		Y		Y	
			F-stat	*p*-value			F-stat	*p*-value			F-stat	*p*-value
Test of advisor = non-advisor			19.98	0.00			19.75	0.00			11.07	0.00
Pseudo R^2	0.37		0.37		0.18		0.18		0.06		0.06	

Panel B: Determinants of holdings by advisor to acquirer

	Probit Estimates				Tobit Estimates, $				Tobit Estimates, %			
	(1)		(2)		(3)		(4)		(5)		(6)	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Institutional Ownership	0.74	(3.28)	0.96	(3.20)	9.84	(3.83)	7.45	(3.11)	1.11	(3.55)	0.72	(2.38)
Change in Arbitrage Capital	–0.16	(–0.32)	–0.27	(–0.37)	–1.68	(–0.29)	–0.49	(–0.09)	–0.32	(–0.58)	–0.38	(–0.73)
Top 3 IB Dummy	0.73	(5.56)	0.38	(2.20)	7.70	(5.42)	3.06	(2.47)	0.55	(4.63)	0.37	(3.25)
Indep. Inv Advisor to Acquirer Dummy	–0.47	(–3.61)	–0.37	(–2.78)	–5.68	(–3.36)	–2.83	(–2.74)	–0.43	(–3.09)	–0.41	(–2.92)
Indep. Inv Advisor to Target Dummy	0.25	(1.73)	0.30	(2.27)	3.16	(1.82)	1.66	(1.62)	0.15	(1.09)	0.08	(0.70)
Dependent Variable Two Quarters Before the Announcement			1.99	(19.29)			1.26	(18.28)			52.29	(5.03)
Contractual Features												
CASH Dummy	0.06	(0.46)	0.17	(1.33)	0.61	(0.42)	1.31	(1.41)	0.02	(0.13)	0.03	(0.27)
MERGER Dummy	–0.05	(–0.35)	–0.16	(–0.80)	–0.13	(–0.07)	–0.75	(–0.50)	0.03	(0.22)	0.05	(0.43)
HOSTILE Dummy	0.28	(1.44)	0.24	(1.18)	2.25	(0.99)	0.63	(0.36)	–0.04	(–0.21)	0.05	(0.33)
Same Industry Dummy	0.08	(0.83)	0.19	(1.70)	0.74	(0.71)	1.20	(1.35)	0.12	(1.15)	0.13	(1.30)
TOEHOLD Dummy	–0.76	(–3.50)	–0.82	(–2.66)	–9.48	(–3.79)	–6.83	(–3.08)	–0.65	(–2.87)	–0.51	(–2.48)
POISON Dummy	0.24	(0.54)	0.04	(0.10)	3.45	(0.71)	1.05	(0.37)	0.47	(1.12)	0.24	(0.80)
CLEANUP Dummy	0.51	(1.19)	0.45	(0.83)	6.25	(1.27)	3.42	(0.86)	0.38	(0.92)	0.07	(0.16)
PRECOMP Dummy	0.34	(2.89)	0.37	(2.46)	3.75	(2.86)	2.90	(2.60)	0.28	(2.02)	0.32	(2.44)
POSTCOMP Dummy	–0.12	(–0.59)	0.08	(0.42)	–1.00	(–0.43)	1.02	(0.65)	–0.10	(–0.45)	–0.09	(–0.55)
Residuals of Target Term Fee	0.05	(0.44)	0.00	(0.03)	0.43	(0.34)	0.50	(0.49)	–0.01	(–0.08)	0.08	(0.69)
Target and Acquirer controls	Y		Y		Y		Y		Y		Y	
Time Fixed Effects	Y		Y		Y		Y		Y		Y	
Industry Fixed Effects	Y		Y		Y		Y		Y		Y	
Pseudo R^2	0.36		0.54		0.16		0.24		0.25		0.37	
n	1641		1641		1641		1641		1641		1641	

Table 8: Determinants of Success

We estimate the probability of success of the M&A deal. Panel A reports univariate statistics, while Panel B reports the results of the probit estimate. The dependent variable is a dummy equal to 1 if deal is completed, and 0 otherwise. The main variables are defined as in Tables 1 and 2. We define EXPERIENCE as a dummy taking the value of 1 if the bidding firm conducted an IPO, SEO, debt issue, M&A deal, repurchase, etc., in the previous three years, and 0 otherwise. The term --*NO EXPERIENCE is the interaction between the variable of interest (e.g., Ownership by Advisor to Acquirer) and (1-EXPERIENCE). All coefficients except for *Ownership by Advisor to Acquirer/Target* in specification 5 are multiplied by 100. Standard errors are clustered over industry (SIC2). We use time fixed effects. Specifications 3–6 also used industry (SIC2) fixed effects. The number of observations is 1641.

Panel A: Univariate statistics

			Mean test		*Median test*	
	n	*Mean*	*t-stat*	*p-value*	*Wilcoxon Z*	*p-value*
No holdings by adv. to acquirer	1217	0.76	2.43	0.02	7.69	0.00
Holdings by adv to acq.	424	0.82				

Panel B: Probit estimates

	Ownership by Advisor to Acquirer $								Ownership by Advisor to Acquirer		Ownership by Advisor to Acquirer Dummy	
	(1)		(2)		(3)		(4)		(5)		(6)	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Last Quarter Before the Announcement												
Ownership by Advisor to Acquirer	1.28	(1.99)	1.59	(2.14)	2.07	(2.31)			40.44	(3.54)	23.27	(2.28)
--- *NO EXPERIENCE							3.03	(3.02)				
----*EXPERIENCE							0.40	(0.32)				
Ownership by Advisor to Target	–1.13	(–1.40)	–1.34	(–1.55)	–0.93	(–1.02)	–0.85	(–0.95)	3.89	(0.75)	–7.53	(–0.65)
Institutional Ownership	–20.45	(–0.81)	0.76	(0.03)	–3.70	(–0.15)	–4.92	(–0.19)	–9.34	(–0.36)	5.93	(0.24)
Change in Arbitrage Capital	–14.49	(–0.26)	–26.30	(–0.49)	–25.16	(–0.40)	–27.95	(–0.43)	–20.28	(–0.33)	–40.51	(–0.72)
Top 3 IB Dummy	28.28	(2.98)	33.90	(3.42)	25.16	(2.29)	26.68	(2.30)	25.12	(2.30)	28.21	(3.17)
Indep. Inv Advisor to Acquirer Dummy					33.68	(2.58)	33.28	(2.53)	31.73	(2.29)	34.36	(2.71)
Indep. Inv Advisor to Target Dummy					2.74	(0.18)	3.09	(0.20)	5.43	(0.36)	6.12	(0.42)
Contractual Features												
CASH Dummy			9.08	(1.08)	10.17	(1.03)	8.93	(0.90)	11.24	(1.10)	12.51	(1.31)
MERGER Dummy			71.30	(6.71)	81.73	(5.80)	82.31	(5.78)	82.43	(5.97)	82.25	(5.97)
HOSTILE Dummy			–100.42	(–6.07)	–110.77	(–6.20)	–111.64	(–6.19)	–107.84	(–6.01)	–108.70	(–6.20)
Same Industry Dummy			–0.63	(–0.09)	–2.41	(–0.28)	–2.05	(–0.24)	–2.75	(–0.32)	–0.50	(–0.06)
TOEHOLD Dummy			4.44	(0.37)	10.29	(0.76)	10.16	(0.74)	8.61	(0.61)	8.83	(0.65)
POISON Dummy			–14.17	(–0.55)	–24.31	(–1.00)	–21.71	(–0.89)	–30.45	(–1.21)	–25.10	(–1.05)
CLEANUP Dummy			8.74	(0.46)	–14.83	(–0.69)	–17.39	(–0.82)	–10.69	(–0.46)	–2.34	(–0.11)
PRECOMP Dummy			–45.70	(–4.38)	–43.06	(–3.54)	–42.49	(–3.54)	–41.32	(–3.38)	–42.63	(–3.31)
POSTCOMP Dummy			–79.68	(–5.63)	–85.73	(–5.55)	–87.03	(–5.69)	–86.13	(–5.62)	–84.37	(–5.75)
Residuals of target term fee					99.69	(6.81)	99.62	(6.75)	102.58	(6.83)	102.89	(7.15)
Target and Acquirer controls	Y		Y		Y		Y		Y		Y	
Time Fixed Effects	Y		Y		Y		Y		Y		Y	
Industry Fixed Effects	N		N		Y		Y		Y		Y	
Pseudo R^2	0.14		0.25		0.29		0.29		0.30		0.29	
F-test of the difference (p-val)							4.27	(0.039)				
n	1641		1641		1641		1641		1641		1641	

Table 9: Determinants of Target Termination Fee

We estimate the probability of having target termination fees. Panel A reports univariate statistics regarding frequency of occurrence, termination fee (in millions of dollars and as a percentage of target market capitalization), and mean and median tests of the difference between groups with and without stakes in the target held by the advisor to the acquirer. Panel B reports multivariate estimates for such variables. For probit estimates, the dependent variable equals 1 if there is a target termination fee, and 0 otherwise. For tobit estimates, the dependent variables are the log of the dollar amount of the termination fees (Tobit $) and their value, defined as percentage of market capitalization of target (Tobit, %). σ is the estimated standard error of the tobit regression. The number of observations is 1641. The standard errors are clustered at the industry (SIC2) level. We use time fixed effects. The other variables are defined as in the previous tables. All the coefficients, exception for *Ownership by Advisor to Acquirer/Target*, are multiplied by 100.

Panel A: Univariate statistics

			Mean test		Median test	
	n	Mean	t-stat	*p*-value	Wilcoxon Z	*p*-value
Frequency of deals with termination fees						
No stake by Advisor to Acquirer	1217	0.33	9.62	0.00	9.36	0.00
Stake by Advisor to Acquirer.	424	0.59				
Termination fee, million $						
No stake by Advisor to Acquirer	401	17.58	10.53	0.00	14.03	0.00
Stake by Advisor to Acquirer	250	82.38				
Termination fee, % of market cap						
No stake by Advisor to Acquirer	401	6.43	3.76	0.00	4.26	0.00
Stake by Advisor to Acquirer	250	4.59				

Panel B: Multivariate estimates

	Ownership by Advisor to Acquirer $			*Ownership by Advisor to Acquirer*			*Ownership by Advisor to Acquirer Dummy*		
	Probit	Tobit, $	Tobit, %	Probit	Tobit, $	Tobit, %	Probit	Tobit, $	Tobit, %
Last Quarter before the Announcement									
Ownership by Advisor to Acquirer	3.06	6.94	0.12	12.64	19.46	0.46	44.21	95.02	1.66
	(4.26)	(6.52)	(5.25)	(1.98)	(1.85)	(1.86)	(4.51)	(7.04)	(5.55)
Ownership by Advisor to Target	1.68	3.80	0.05	4.85	1.21	0.13	28.07	56.90	0.82
	(1.97)	(2.42)	(1.36)	(0.88)	(0.10)	(0.55)	(2.39)	(2.62)	(1.54)
Institutional Ownership	63.09	145.07	3.17	64.21	179.33	3.59	62.60	145.71	3.15
	(2.36)	(2.23)	(2.20)	(2.39)	(2.68)	(2.52)	(2.33)	(2.27)	(2.20)
Change in Arb. Capital	–93.40	–107.94	–3.33	–104.70	–122.68	–3.89	–94.88	–108.87	–3.36
	(–2.40)	(–1.61)	(–2.05)	(–3.19)	(–1.94)	(–2.50)	(–2.40)	(–1.60)	(–2.05)
Top 3 IB Dummy	45.51	60.64	1.05	57.78	81.50	1.36	44.49	59.47	1.01
	(3.23)	(2.69)	(2.42)	(5.17)	(3.30)	(2.94)	(3.17)	(2.70)	(2.37)
Indep. Inv Advisor to Acquirer Dummy	39.46	55.72	1.62	36.51	41.88	1.33	38.73	52.89	1.58
	(3.44)	(2.73)	(4.30)	(3.33)	(1.91)	(3.44)	(3.37)	(2.59)	(4.22)
Indep. Inv Advisor to Target Dummy	14.82	19.67	0.31	16.00	21.55	0.44	16.61	23.85	0.38
	(1.26)	(0.95)	(0.59)	(1.34)	(1.07)	(0.95)	(1.39)	(1.14)	(0.71)
σ		206.18	4.84		211.43	4.85		206.21	4.84
		(15.49)	(19.30)		(15.93)	(19.38)		(16.16)	(19.32)
Contractual features, Target and Acquirer controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time and Industry Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adj R^2	0.37	0.47	0.10	0.37	0.44	0.10	0.37	0.45	0.10
n	1641	1641	1641	1641	1641	1641	1641	1641	1641

Table 10: Large Loss Deals

We report the fraction of the deals in which the advisor to the acquirer holds a position, broken down into groups based on subsequent aggregate dollar returns and percentage returns. We focus on large loss deals, i.e., acquisitions corresponding to a loss of at least $1 billion (Panel A) or 50% of the market capitalization of the acquirer (Panel B) selected from the sample of successful acquisitions by publicly listed U.S. acquirers from the SDC database. We consider only successfully completed deals where there is a known advisor to the acquirer. *Aggregate Dollar Return* is calculated by subtracting the market value of publicly traded equity at the close of the announcement date +1 year, minus the market value on the close of announcement day –2 days; refer to Moeller, Schlingemann, and Stulz (2005) for details. *Total Return* is the cumulative return on the acquirer stock over the –2 to +256-trading-day event window relative to the deal announcement. We report by group the fraction of the deals in which the advisor to the acquirer holds a position in the target as well as the t-statistics for the difference between Large Loss groups and the rest.

Panel A: Aggregate dollar return for the deal

Aggregate Dollar Return	*n*	*Fraction of the deals with positions by Advisor to Acquirer, %*
positive gain	1021	29.48
loss under 200 million	205	23.41
loss 200 million–1 billion	138	30.43
large loss / loss over 1 billion	131	49.62

t-stat (large loss vs. the rest)	Prob
4.60	0.00

Panel B: Total return for the deal

Percentage Return	*n*	*Fraction of the deals with positions by Advisor to Acquirer, %*
positive	1019	29.44
negative: between –20% and 0%	229	33.19
negative: between –50% and –20%	171	29.24
large loss / negative: less than –50%	76	39.47

t-stat (large loss vs. the rest)	prob
1.74	0.09

Table 11: Post-merger Performance

For the fiscal year after the successful completion of the deal, we estimate the Profitability (ROA, ROE, and Profit Margin) for our variables of interest and a set of control variables (these are as defined in Tables 1 and 2). Firm characteristics are the market-capitalization-weighted average of target and bidder characteristics in the last fiscal year before the deal announcement. The estimates are multiplied by 100. The standard errors are clustered at the industry (SIC2) level. We use time and industry fixed effects.

	Ownership by Advisor to Acquirer $			*Ownership by Advisor to Acquirer*			*Ownership by Advisor to Acquirer Dummy*		
	ROA	ROE	Profit Margin	ROA	ROE	Profit Margin	ROA	ROE	Profit Margin
Last Quarter before the Announcement									
Ownership by Advisor to Acquirer	–0.14	–0.14	–0.14	–148.14	–77.94	–187.77	–1.84	–1.91	–1.56
	(–3.71)	(–2.81)	(–2.28)	(–3.12)	(–1.82)	(–3.19)	(–3.42)	(–2.62)	(–1.79)
Ownership by Advisor to Target	–0.08	–0.02	–0.02	3.80	36.76	72.44	–1.18	–0.68	–0.95
	(–2.02)	(–0.87)	(–0.25)	(0.10)	(1.96)	(1.80)	(–2.17)	(–1.61)	(–0.83)
Institutional Ownership	3.87	2.40	1.91	3.09	1.29	1.17	3.68	2.42	1.97
	(3.58)	(2.55)	(0.87)	(2.95)	(1.22)	(0.55)	(3.47)	(2.59)	(0.89)
Change in Arb. Capital	1.32	6.11	–1.94	1.16	6.26	–2.12	1.30	6.05	–1.94
	(0.39)	(1.33)	(–0.41)	(0.34)	(1.34)	(–0.44)	(0.39)	(1.32)	(–0.41)
Top 3 IB Dummy	–0.69	–0.29	–0.64	–1.07	–0.75	–0.95	–0.70	–0.26	–0.62
	(–1.10)	(–0.65)	(–0.74)	(–1.67)	(–1.46)	(–1.09)	(–1.16)	(–0.58)	(–0.74)
Indep. Inv Advisor to Acquirer Dummy	–1.17	–1.73	–1.46	–1.10	–1.65	–1.39	–1.14	–1.71	–1.43
	(–1.05)	(–1.77)	(–0.88)	(–0.97)	(–1.70)	(–0.84)	(–1.03)	(–1.75)	(–0.86)
Indep. Inv Advisor to Target Dummy	0.36	–0.89	–0.53	0.59	–0.88	–0.48	0.31	–0.97	–0.70
	(0.39)	(–0.71)	(–0.35)	(0.63)	(–0.71)	(–0.32)	(0.33)	(–0.78)	(–0.46)
Contractual features, Target and Acquirer controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Time and Industry Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adj R^2	0.31	0.12	0.20	0.31	0.11	0.20	0.30	0.12	0.20
n	1217	1217	1217	1217	1217	1217	1217	1217	1217

Table 12: Insider Brand Stake and Firm Governance Characteristics

We report univariate statistics for and tests of the differences between the characteristics of bidder and target firms in cases when the advisor to the acquirer does/does not take a position in the target. The Gompers–Ishii–Metrick (2003) index and board-related variables are taken from IRRC. *Financial expertise* is defined as 1 if the PROFTYPE field indicates Financial or Banking expertise, and 0 otherwise. We report the results of the *t*-test and Wilcoxon test and corresponding *p*-values.

Variable	*Advisor takes position*	*n*	*Mean*	*Std. Dev*	*t-test (p-value)*	*Wilcoxon Z (p-value)*
GIM Index	No	803	9.38	2.75	0.79	0.86
	Yes	468	9.26	2.68	(0.43)	(0.39)
Board independent	No	520	0.61	0.19	–0.50	–0.50
	Yes	411	0.62	0.19	(0.62)	(0.62)
Board Size	No	520	11.14	3.97	0.92	0.16
	Yes	411	10.91	3.52	(0.36)	(0.87)
Percentage of Board members with Financial Expertise	No	520	0.01	0.04	0.67	0.25
	Yes	411	0.01	0.03	(0.50)	(0.81)
Presence of Board members with Financial Expertise	No	520	0.07	0.25	0.25	0.25
	Yes	411	0.06	0.24	(0.81)	(0.81)
Board Average age	No	520	58.66	4.06	2.65	2.28
	Yes	411	57.93	4.34	(0.01)	(0.03)

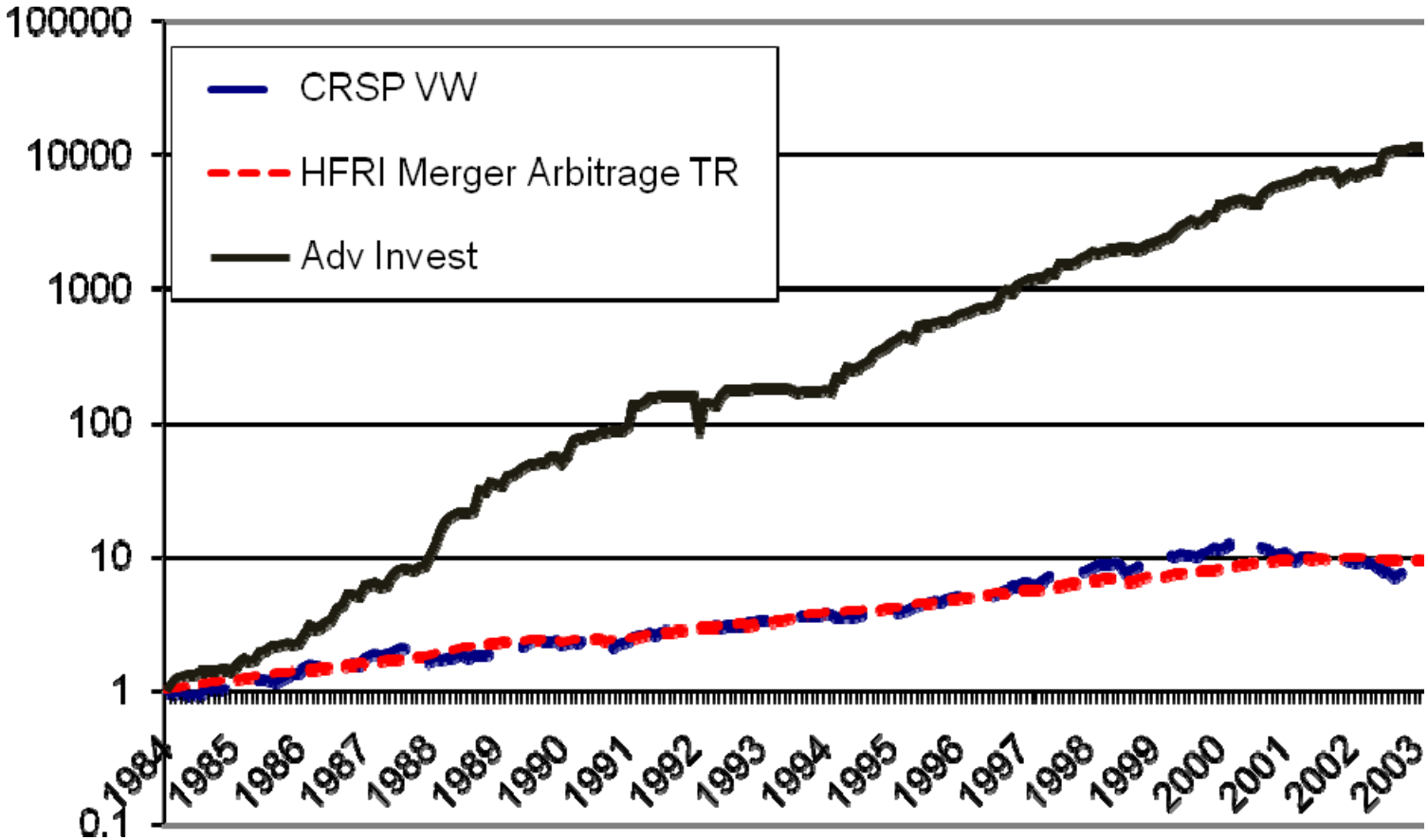

Figure 1: The bold black line represents the cumulative returns of the strategy replicating the trading strategy of investment banks that advise the bidder. It is based on investing before the deal announcement and holding the position for one quarter after the announcement. We also report the cumulative returns for the HFRI Merger Arbitrage Total Return Index (dotted red line) and the CRSP value-weighted index (CRSP-VW; dashed blue line). The sample extends from 1984 to 2003.