

Prior Relationship, Information Leakage, and the Choice of M&A Advisor^{*}

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Abstract

This study examines the impact of prior bank-firm relationship and information leakage concern on the acquirers' choice of financial advisors in mergers and acquisitions. Using the sample including 856 merger deals announced during the period January 1995 to December 2004 that involved public U.S. firms, we show that the previous underwriting and M&A advisory relationships increase the likelihood of being chosen to advise a particular M&A deal. Large firms are found to avoid sharing the same banks with their product-market rivals, where strategically valuable information is at the risk of flowing to rivals through various services provided by the investment banks. We also find that M&A advisors are less likely to be chosen by the acquirers when the advisors previously represented the current targets in M&A deals. Taken together, our results suggest that informational frictions create a constraint on M&A advisory services competition.

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1. Introduction

A major source of revenue for investment banks comes from the provision of corporate mergers and acquisitions (M&A hereafter) advisory services. According to SDC Platinum, financial advisors were involved in merger transactions worth more than \$1 trillion in 2005 (representing more than 80% of all transactions by value) and the provision of these services earned the investment banks advisory fees of about \$2 billion. Given the economic magnitude and rapidly evolving nature of M&A advisory business, there has been an increasing effort by academic researchers to identify the key driving forces behind the advisor-firm relationship. Among others, financial advisor reputation, acquirer experience, deal complexity, and target business structure have been shown by prior studies to be the important concerns for firms when choosing financial advisors.¹

In this paper, we examine the determinants of the choice of merger advisor. In particular, we focus on two factors that have been largely unexplored in empirical work, prior bank-firm relationship and information leakage concerns. Hayward (2003) utilises organisation theory to suggest that prior firm-bank relationships may influence the likelihood of same advisor being hired for subsequent transactions. More recently, Francis, Hasan, and Sun (2006) also show that both the nature of prior firm-bank relationship (equity underwriting or advising on merger transactions) and the performance (as measured by abnormal returns) around such transactions affects the likelihood of a bank winning the M&A advisory mandate for a current transaction. Their results, however, also suggest that prior underwriting relationship does not

¹ Servaes and Zenner (1996) find that acquirer experience, deal complexity, and target business structure increase the likelihood of financial advisors being employed. Rau (2000) examines the effect of financial advisor reputation on acquirer wealth gain, but does not find any meaningful relationship. By contrast, Kale, Kini, and Ryan (2003) find that acquiring firms' shareholders' wealth gain is positively related to the relative reputation of financial advisors employed by the acquirer and the target. Kale et al. (2003)'s findings suggest the likelihood of an investment bank winning an M&A mandate is related to reputation.

necessarily translate to higher likelihood of winning the advisory role on a merger transaction.

The aforementioned studies suggest that it is likely that prior relationships are important in winning an M&A deal. However, it is still unclear how prior relationships would have an impact on the banks' competitiveness in M&A advisory service. We then first test how prior bank-firm relationships determine the likelihood of winning an M&A deal. Following Francis, Hasan, and Sun (2006), we examine the effect of prior underwriting relationship and prior M&A relationships separately.

We then investigate whether information leakage through banking relationships presents a concern for the acquiring firms when choosing a merger advisor.² A firm's strategically sensitive information (e.g. operational efficiency, customer/supplier relationships, progress on research and development projects etc.) is amongst its most valuable intangible assets. This firm-specific information is valuable to a product-market rival or a counterpart in a merger. Through due diligence before the execution of a deal, and certification of information process for investors when selling securities, investment banks gain access to this sensitive information. The information flow works in both directions, in that while a firm wishes to protect its own information from being leaked, it may employ a shared investment bank in the hope of learning valuable information about a competitor or a potential rival bidder.

Against this background, we examine how investment banks are chosen as M&A financial advisors for a sample of 980 M&A deals announced between January 1995 and December 2004. We utilise (and extend) the frameworks developed in Ljungqvist, Marston, and Wilhelm (2005, 2006) and Asker and Ljungqvist (2006) to test our hypotheses. We find that large firms in the M&A sample avoid sharing the

² See Rajan and Zingales (2001), and Zabochnik (2002), and Baccara and Razin (2003) for analyses of information leakage concern in situations in which the crucial information is leaked outside the firm through its employees or former employees.

same banks with their product-market rivals, where strategically valuable information is at the risk of flowing to rivals through various services provided by the investment banks. We also find that M&A advisors are less likely to be chosen by the acquirers when the advisors previously represented the current targets in M&A deals. Our remain unchanged if prior firm-bank relationships are measured over alternative horizons, and also remain unchanged if we use a more restrictive set of banks that provide advisory services. Overall, our results suggest that in addition to the well established reputational constraints, informational frictions also create a constraint on M&A advisory services competition and thus provides additional insights into the process underlying the choice of M&A financial advisors.

The rest of the paper proceeds as follows. Section 2 briefly reviews the relevant literature and develops our hypotheses. Section 3 describes the data sources, sample, variable construction, and the empirical methodologies. Results are presented in Section 4 and Section 5 concludes.

2. Literature Review and Hypothesis Development

2.1 Prior Relationship and the Choice of Financial Advisor

Several papers examine the link between investment banks receiving mandates for equity underwriting and prior relationships formed through provision of ancillary services such as debt offerings, loans, advising on merger activities, and analyst behavior. Ljungqvist, Marston, and Wilhelm (2005, 2006) examine U.S. debt and equity offerings completed between 1993 and 2002 for prior bank-firm relationships, and conclude that prior underwriting relationships, include lead-management and co-management appointments, increase the likelihood of winning a lead-underwriting mandate. Ellis et al. (2006) also provide supporting result suggesting that if firms

have used the banks in prior debt underwriting or lending, the banks are more likely to be retained. James (1992) finds that the marginal cost of the repeated underwriting business with the same firm is lower.³

The predictions for the effect of prior relationships on the likelihood of winning an M&A advisory mandate are, however, less clear. Hayward (2003) hypothesises that if a firm has used an investment bank in a previous M&A, the bank would abuse the power gained from its specialized expertise and lead the client towards complex problems, inducing the client to hire it (the investment bank) again for subsequent stock-financed acquisitions. Francis, Hasan, and Sun (2005) also examine this issue for a larger sample and their results imply that holding everything else constant, banks that have previously served as equity underwriters suffer a competitive disadvantage in competing for an M&A mandate. Their results also indicate that advisor choice may be affected by abnormal returns around prior transactions, but perhaps more importantly, they suggest that the nature of prior bank-firm relationships may lead different implications for the award of M&A advisory mandates.

We therefore begin by testing for the impact of prior underwriting and M&A relationships on the likelihood of a candidate bank winning a particular M&A mandate. Unlike previous studies however, we will also control for overall bank reputation and experience in our models. We expect that a candidate bank is more likely to win a particular M&A advisory mandate if the advisor conducted debt, equity and M&A deals for the acquiring firm in the past.

³ In later work, Drucker and Puri (2005) show that if the investment banks' clients are highly leveraged and non-investment grade issuers, the banks are more likely to receive future equity underwriting mandate from concurrent loan issuers, because the potential efficiency gains of these issuers are larger due to larger informational economies of scope from combining lending and equity writing.

2.2 Information Leakage and the Choice of Financial Advisor

It is also well recognised that in the process of providing services, investment banks gain access to sensitive firm-specific information.⁴ In addition, previous studies have noted and studied issues associated with the “leakage” of such information to other market participants. It is reasonable to assume that such information is most useful to firm’s direct competitors and that the likelihood of such leakage increases if the firm-bank relationship is terminated. Anand and Galetovic (2000), Baccara (2005) and Azoulay (2004) examine various aspects of this proposition. More recently Asker and Ljungqvist (2006) examine its influence on firms sharing underwriters with competitors and on the extent of competition amongst banks providing such services. Their results suggest that firms’ concerns about informational frictions make them reluctant to share a bank with product-market rivals. However if the firm is a price taker (defined as a smaller firm with little or no market power), industry expertise predominates in determining the likelihood of winning an underwriting mandate and such a firm is less concerned with information leakage. As is evident, industry expertise can only be obtained by advising firms within a given industry. Asker and Ljungqvist (2006) are careful to analyse the inherent conflict between a firm’s desire to inhibit information leakage through its advisor and its inclination to use a bank with industry expertise, and also conclude that these issues pose an endogenous limit on banks’ market power.

Thus, before examining the effect of information leakage concern, we test whether industry expertise is a predominant factor relative to information leakage concern in an industry, whereby the test includes all firms regardless of the level of the concern. If an experienced bank in a given industry is more likely to be chosen,

⁴ See Beatty and Ritter (1986), Booth and Smith (1986), Titman and Trueman (1986), and Chemmanur and Fulghieri (1994) for further discussions of investment banks act to certify by accessing private information.

then the industry expertise is shown to be valuable to the firms. This test incorporates two variables that represent previous security issuing relationship and M&A advisory services separately.

We then study the influence of information leakage on the likelihood of a bank winning the M&A advisory mandate. Arguably, the concerns regarding information leakage may be even more pronounced around a merger. Not only does the acquiring firm outlay significant amount of capital to complete a merger, but in the process it also engineers a restructuring of the industry. Under such circumstances the “loss” due to information leakage (and conversely, the “gain” by accessing information about its rivals) may indeed be quite large. Additionally, in an M&A context information about the targets may also be valuable, as it would be beneficial for the acquiring firm to learn as much as possible about its target. In this context, information leakage may actually be desired by the acquirer, and in turn may influence its choice of the investment bank.

In M&A context, not only horizontal information is privy, but also the information of the target firms’ in M&A deals. This information may be valuable to an acquisitive firm as it is common that it is beneficial for the acquiring firm to learn as much information as possible about its target. In the case that both counterparties in an M&A deal are not in the same industry, the acquirers’ advisors do not possess industry expertise, and the acquirers’ concern about information leakage is not contaminated by industry expertise. Thus, should the results show such a candidate bank is significantly less likely to win a particular M&A advisory mandate, it would provide a more solid indication that possession of client’s information presents a barrier in the competition. Thus, in the final test, we examine the role of bank-target

relationship and investigate whether investment banks protect their client's information, which impacts the probability of a bank being chosen by the acquirers.

3. Data and Empirical Methodology

3.1 Sample and Data

Our sample includes all the U.S. firms that have announced a merger or acquisition activity between January 1995 and December 2004. The M&A data is obtained from Thomson Financial's Securities Data Corporation (SDC) Mergers and Acquisitions database between January 1990 and December 2004. The reason the raw data collection starts in 1990 rather than the sample period 1995 is because certain variable construction needs prior five year financial advisor information for each firm.

Regarding information about financial advisors, SDC sometimes has more than one code for one particular investment bank. We manually match these codes that represent the same investment bank. Bank ranking is extracted from SDC league table over the sample period. SDC league table lists only the full name of the investment bank, thus we manually match the code from the raw data with the full name from the league table. A list of the banks examined is provided in Appendix Table A1.

Information about acquiring firms' previous underwriting activities is also collected from SDC. We then merge the SDC data with financial and accounting data and impose the following filters.

1. Both acquirers and targets' M&A advisor information is available in a given deal;⁵

⁵ According to SDC database, over our sample period, the availability of financial advisor information is about 60% number of financial advisor helped, and 85% of total transaction value.

2. M&A announcements in financial industry and governmental agencies are excluded;⁶
3. Acquirers must be publicly traded companies that, CRSP/Compustat financial information of the acquirer is available;
4. Acquiring firms' financial advisors are ranked top 50 in SDC by transaction value over the period 1995 to 2004.

After applying these filters, the final sample has 856 M&A deal announcements by 615 distinct acquiring firms in 230 different four-digit SIC industries remaining. The most acquisitive industries are listed in Appendix Table A2, where the acquirers' industries are those that make at least five M&A announcements during the sample period. In the sample, 42 industries have made at least five M&A announcements, and the most acquisitive industry is prepackaged software (SIC 7372) which has 79 M&A announcements. The number of M&A announcements by the 42 industries captures 60.75% of the total number of announcements.

Table 1 reports descriptive statistics about mergers by year, method of payment, attitude, and success rate. With 240 announcements (about 28% of all announcements) occur in two years of 1999 and 2000. Cash and stock financed mergers comprise about 64% of all transactions, and a vast majority of transactions are classified as friendly. Finally withdrawn mergers comprise of transactions whereby either the target or the acquirer terminated the planned acquisition.

3.2 Empirical Model

Our empirical methodology closely follows the one employed by Asker and Ljungqvist (2006). Each firm k is modelled as having a utility $u_{kit} = \alpha Y_{jt} + \beta x_{kit} + \varepsilon_{kit}$

⁶ Excluded are firms with SIC 6000-6999 (financial institutions, etc.) and SIC 9000-9999 (government agencies, etc.).

associated with giving each of the competing banks j a financial advisor mandate, where Y_{jt} is a set of variables of our interest, including prior relationship and information leakage concerns. x_{kjt} are control variables that proxy for other determinants of financial advisor, and ε_{kjt} is an observation-specific idiosyncratic shock that is assumed to be normally distributed. Faced with these utilities over choices, each firm chooses whether giving each bank a M&A financial advisory mandate generates more utility than not.

Our empirical model assumes that when an acquiring firm decides to choose an M&A advisor from a universe of banks, the banks are equal in all other respects *except* inasmuch they have prior relationship with the firm, have a prior relationship with a rival firm, have a prior relationship with the target, and have industry expertise. The probability that a bank j advises a firm i 's n th deal is modelled generally as,

$$Pr(\text{bank } j \text{ advises firm } i\text{'s deal } n) = f(\text{prior relationships; information leakage; industry expertise; } X),$$

Estimating a bank's probability of being selected to advise a particular M&A deal requires data for both the successful bank and its competitors. In the model, we use top 50 banks ranked by transaction values provided by SDC league table as the eligible banks competing for each M&A announcement.⁷ Probit models are employed to estimate the probability that a given bank is chosen to advise a particular M&A deal, whereby the dependant variable takes a value of one if the bank won the M&A advisory mandate, and zero otherwise.

⁷ In some subsequent models, only 48 banks are included because two banks in the top 50 were not in the competition during the whole sample Prudential Securities Inc stopped underwriting and M&A advisory services in 2001. BNP Paribas SA entered the market in 2000 after a successful merger with Société Générale and Paribas.

3.3 Variable Construction

We now describe the construction of the key variables used to test the hypotheses presented earlier.

A. Prior Relationship

We use two types of previous relationships to capture the fact that through prior relationships, clients' firm-specific information is kept with the banks. These are the prior underwriting and M&A advisory relationships. The acquiring firm's six-digit CUSIP and its SDC advisor code is matched with underwriting mandates in the last five years to determine if prior relationships exist. Bank-firm prior underwriting relationship is equal to one if a candidate bank competing to advise an acquirer has been the current firm's (acquirer's) previous underwriter at least once in the past five years. Bank-firm prior M&A advisory relationship captures whether a candidate bank has been the current firm's previous M&A advisor. Following exactly the same procedure, we also construct two bank-target variables to classify prior underwriting and M&A advisory bank-target relationships. These variables are constructed with the intention to test whether candidate banks protect target clients in mergers to avoid acquirers' motive of using shared service to gain inside information of the targets. Bank-target prior underwriting relationship is equal to one if a candidate bank competing to advise an acquirer has been the current target's previous underwriter at least once in the past five years. Bank-target prior M&A advisory relationship captures whether a candidate bank has been the current target's previous M&A advisors. The two variables are constructed by matching current target firms' six-digit CUSIP with previous M&A participants' six-digit CUSIP, and acquirers' SDC advisor code with current targets' previous M&A advisors and lead-managers' SDC advisor code.

B. Information Leakage

Provided that some firms may have more information leakage concern than other firms, it is important to separate out the firms that are most sensitive to information disclosure. Most firms in an industry are price-takers, so typically large firms who affect the market equilibrium should be most sensitive to leaked information as their information has the most strategic value, and hence large firms tend to protect their own information so it does not leak to its rivals. To test whether large firms avoid sharing its M&A advisor with other firms, we set a bank-rival relationship dummy variable equal to one if, the candidate bank has previously advised one or more firms among the top three M&A firms each industry, where top three firms are defined by the largest Compustat net sales in the calendar year of the merger announcement.

While firms' concern of sensitive information leaking to a competitor puts a constraint on the choice of M&A advisor, it is important to note that firms also attach importance to the industry expertise the banks garnered from dealing with their rivals when choosing an M&A advisor. We define a variable capturing industry expertise as follows. If, during the five years before the company's M&A announcement, candidate bank has advised one or more firms within the same industry (exclude the acquiring firm itself), the bank is deemed to have industry expertise. Consistent with the construction of previous variables, both underwriting and merger advisory are considered valid determinants of industry expertise.

C. Control Variables

Several variables are incorporated to control for other factors that have bearings on the advisor choice. First, to capture the fact that a bank is unlikely to advise an M&A deal that the transaction value is either unusually large or unusually

small given its average deal size over the sample period, one control variable compares the difference between size of the current deal and the candidate bank's average deal size. Second, to control for the size of the firms, acquirer's size is controlled by Compustat net sales in each year of the M&A announcements. Third, we also control for the bank's ranking by their overall ranking provided by SDC league table during the sample period.

3.4 Univariate Analysis

The summary statistics for the constructed variables and univariate comparisons are presented in Table 2. The results indicate that for the 856 merger announcements in the sample, there were 935 winning banks.⁸ As per the constructed variables that measure the existence of prior relationships, 235 banks had prior relationships with the acquirers and 33 banks had served the acquirers' current target in the past. With respect to prior relationships with industry competitors, 84 banks had advised such companies in the past and 16 banks had clients among the three largest firms in the industry. Taken together, there were 368 winning banks that also had some prior relationships with firms that are of interest to the analysis.

Table 2 also presents results from univariate comparisons between winning and losing banks, whereby the banks are further separated according to the nature of prior relationships. For example, a greater fraction of winning banks (6.31%) had previously advised on a merger by the acquirer, whereas a lower fraction (0.23%) of losing banks had done so. Similarly, higher proportion – 18.82% - of winning banks had been a lead manager for the current acquirer in the past, whereas only 1.09% of the losing banks had done so. The differences in the respective fractions are highly

⁸ Some transactions had multiple advisors, hence the total number of winning banks slightly exceeds that of total number of deals.

statistically significant ($p\text{-value} < 0.001$) suggesting that prior relationships exert significant influence over the advisor a firm chooses for a given merger.

4. Results

4.1 Prior Relationship Hypothesis

As stated earlier, our first hypothesis concerns the effect of prior bank-firm relationships on the likelihood of a candidate bank winning a particular M&A mandate. Table 3 shows the result of the probit analysis of the likelihood of a candidate bank winning a particular M&A deal. Consistent with Ljungqvist et al. (2006) and Hayward (2003)'s results, both prior relationships in underwriting and M&A advisory are shown to positively impact the banks' competitiveness. The coefficients are 1.403 and 1.447 for previous M&A advisor and underwriter, respectively, and both significant at the 1% level. This result is also consistent with the conjecture that firms protect their sensitive information, so their prior bank-firm relationships have a positive impact on the choice of the M&A advisor for their current M&A deals.⁹

Francis et al. (2006) show that acquirers that retain their previous underwriters in current M&A deals experience significantly lower abnormal returns in stock paid transactions. According to their result, the acquiring firms that have used the same investment bank for previous equity underwriting in last five years tend to switch, because retaining the same bank is likely to yield lower M&A announcement day abnormal return. Results in Table 3 does not conflict their findings, although in the sample previous underwriting relationships outnumber previous M&A advisory

⁹ There are, of course, potentially other reasons why firms might retain the same banks. For example, James (1992) suggests that the marginal cost of repeat business with the same firm is lower, and Drucker and Puri (2005) document that the underwriting spreads on SEOs are lower for issuers who concurrently borrow.

relationships.¹⁰ It is clear that the coefficient for M&A advisors that have been previously the lead managers is lower than that of the advisors who have previously been the M&A advisors in the last five years prior to the current M&A deals.

Hayward (2003)'s results show that bank tend to initiate a subsequent stock-paid merger, because the payment of stock allow banks to apply their abstract knowledge more intensively. To examine whether different payments in the current M&A deals lead to different results, we group the estimation sample into different M&A payment methods: all cash if the deal was 100% financed by cash, and all equity if the deal was 100% financed by equity. In Table 4, Panel A, B and C show that coefficients for previous equity underwriting activity are consistent across different payment methods. However, the impact of prior bank-firm relationships on stock-financed current deals is shown to be higher than the other payment methods. The coefficient for prior M&A advisory relationship in equity-financed deals is 1.647, and the coefficients for cash payments and all other payments are 1.541 and 1.447, respectively, and all coefficients are significant at the 1% level.¹¹ These results generally support Hayward (2003)'s findings.

4.2 Industry Expertise Hypothesis

Firms face a trade-off when choosing to share a bank with rivals. Our second test investigates the influence of the advisor's industry expertise on the likelihood of winning a particular M&A mandate, the test variables of industry expertise prior to

¹⁰ According to Table 2, prior the banks being current M&A deals, the number bank-firm relationship is 176 in previous underwriting, and 59 for previous M&A advisory.

¹¹ However, the slightly higher coefficient could be due to the fact that, in the sample, the number stock-financed deals is 15.8% more than cash-financed deals, and 2.4% more than other payments. Table 2 indeed shows that 39.7% deals are paid in stock, 23.9% deals are paid in cash, and 36.3% deals are paid by both cash and stock. Moreover, firms may choose equity payments for various reasons, for example, if the acquirer's stock price is currently overvalued, it would want to take advantage of this market misevaluation by paying stock (Shleifer and Vishny (2003)).

the current M&A announcements exclude experience gained from the current acquiring firm's previous deals, because previous bank-firm relationships bias the candidate banks towards winning. Industries that have only made one M&A deal announcement and no previous underwriting activities are excluded as the acquiring firms can not possibly choose a bank with industry expertise in the sample.

Table 5 reports the results from estimating the probit regression specifications, and the results reveal the following about industry expertise. The coefficients on the test variables are positive and significant indicating that banks with industry expertise have higher likelihood of winning the mandate. This finding of a positive relation between the industry expertise and probability of winning is consistent with the hypothesis as well as Asker and Ljungqvist (2006)'s result.

In sum, the choice made by the acquirers is positively affected if the bank has served other firms in the same industry, thus that banks' experience garnered in a particular industry from underwriting securities issues and M&A advisory mandates in previous five years is valuable to an acquirer. The further implication is that banks that possess industry specialization have a competitive advantage in winning an M&A mandate. However, industry expertise is contaminated by the existence of information leakage concern, which possibly contributes to the small coefficients. The analysis in the next subsection highlights the impact of information leakage concern.

4.3 Product-Rival Information Leakage Hypothesis

According to economic theory, dominant firms in each industry set the price, and the confidentiality of information has higher strategic value to them. Following the conjecture, it is assumed that key players are more sensitive towards information leakage. Our third test examines the impact of information leakage concern by

separating out top three firms in each industry. Industries that have only made one M&A deal announcement and no previous underwriting activities are excluded as the acquiring firms can not possibly have a product-market rival in the sample.

Results in Table 6 show that the coefficient on the test variable of bank-rival relationship prior to the current M&A announcement is negative and significant at the 1% level. The coefficient is shown to have an opposite direction to the coefficient of industry expertise as hypothesized. This suggests that top three players in the industry may value industry expertise differently due to concerns about confidential information being leaked, and they are reluctant to share banks with product market rivals. Fama and Jensen (1983) argue that larger-sized companies in general have greater agency problems, and hence it is not surprising that banks hired by large firms results in a negative impact on the choice made by other acquirers in the same industry. By “all other acquirers” we mean all top three players excluding the acquirer itself and other relatively smaller firms. This finding is important because it proves that information leakage concern presents a barrier in the investment banking industry, and firms certainly take information leakage concern into consideration when choosing an M&A advisor. As Asker and Ljungqvist (2006) argue, this finding of information leakage concern shows that the current view on investment banking industry is over-simplistic; information leakage is also a key determinant in addition to the prevailing explanations of bank’s reputation and prior relationships.

4.4 Bank-Target Hypothesis

In the context of M&A, it is also important to show the impact of vertical information leakage concern. When a firm proposes a merger, the acquirer is usually eager to gain inside information in order to execute a successful merger. Table 7

shows negative coefficient on the test variable of prior bank-target M&A relationships significant at the 1% level, but positive coefficient on prior bank-target underwriting relationships significant at the 0.1% level. This is consistent with the rationale that, securities underwriting and M&A advisory services are two different businesses, the investment bankers who underwrite securities for target firms should be less pressured than M&A investment bankers to maintain exclusive relationship with the clients. Thus the result shows that relatively more pressured investment banks tend to protect their clients' confidential information, thus bank-target relationships prior to the current deal have a negative impact on the likelihood of the bank being chosen, and this is consistent with Calomiris and Singer (2004)'s suggestion that banks do so to be better able to attract clients that might otherwise be concerned about potential conflicts with adversarial firms.

In the analysis, we attempt to test the impact in hostile takeovers which are assumed to involve more information leakage concern. However, in the sample of 856 merger announcements, only 33 winning banks have been the previous M&A advisors or underwriters, and in hostile M&As, only three successful banks in current M&A announcement previously won current target's security issues mandate. The small number of overlapping relationships between targets and acquirers with the banks also indicates that the firms are concerned with confidential information being leaked through bank-firm relationships.

4.5 A Joint Test

We then run the probit regression that includes all test variables and control variables. Not surprisingly, the coefficients and the levels of significance of all test variables are consistent with the results presented above. However, Pseudo R square

improves to 10.05% indicating reasonable fit of the model. The results of this regression are included in Table 8.

4.6 Robustness Checks

Our model has used 48 banks in the top 50 banks ranked by transaction value over the sample period provided by SDC league table. Numerous researchers have employed top 50 banks as first-tier banks in examining investment banks reputation in relation to performance and bank-firm relationships. Ljungqvist et al. (2005) and (2006) use top 50 by transaction value to examine the likelihood of winning underwriting mandate, and Kini et al. (2003) study the relationship between shareholders wealth gain and advisor's reputation also include the top 50 banks in their model. Prior relationship is considered as having a bank-firm relationship within the past five years in the main model of the study, and there is no uniform time span to define prior relationship. Nevertheless, five-year prior relationship is commonly used in the literature. Examples are, Francis et al. (2006) define previous five years as the prior relationship in studying different types of prior relationship relating to the choice of M&A financial advisor, Ljungqvist et al. (2005) use the same time span to control for previous relationship in underwriting business, and Calomiris and Singer (2004) also use five year relationship to analyse conflict of interests.

In order to check the robustness of the results, we have varied these two definitions to show the consistency of the findings. First, we re-construct the variables by using a three-year horizon for prior relationship. Second, we run the regression tests by using top 25 banks that have always stayed in the top 50 throughout the sample period. Untabulated results show that our main findings are essentially unaffected by alternative definitions of prior relationship and top banks. There is

coefficient merits further discussion is the coefficient of industry expertise. It becomes insignificant when the prior relationship horizon is defined as three-year. James (1992)'s finding shows that firm-specific information kept with the underwriter deteriorates over time. Thus, the sensitivity of information leakage concern should be higher as the horizon of previous relationships shortens, yet of course the industry expertise remains with the bank. This finding does not conflict with the results obtained from the main model which employs a five-year horizon for prior relationships; it highlights the issue that industry expertise is contaminated by information frictions, which further expresses the concern about information leakage.

5. Conclusions

This study investigates the impact of prior relationship and information leakage concern on the acquirers' choice of financial advisors in mergers and acquisitions. Overall, the results suggest that both prior relationship and acquiring firms' concerns about information leakage influence the likelihood of a candidate bank winning an M&A mandate.

We test four main hypotheses in this research. First, we find that previous underwriting and M&A advisory relationships increase the likelihood of being chosen to advise a particular M&A deal, this finding is consistent with the explanations for underwriting business in the current literature.¹² Second, according to organizational theory that professional firms are impartial conduits of organizational practices (DiMaggio and Powell, 1983), subsequently Hayward (2003) questions this argument by showing that investment banks lead clients to a decision that is self-serving to the

¹² As aforementioned in Section 2, Ljungqvist, Marston and Wilhelm (2005), (2006), Ellis, Michaely and O'Hara (2006) and Francis, Hasan and Sun (2006)'s studies highlight the importance of prior bank-firm relationship, especially in underwriting business.

investment bank. Nonetheless, results show that industry expertise is valuable to an acquiring firm whereby information leakage concern is relatively less, suggesting that industry specialization increases the banks' competitiveness. Third, as firms face a trade-off between industry expertise and the risk of its own information being leaked, it is important to show the impact of concerns about information leakage. The result suggests that large M&A firms in each industry are reluctant to share an M&A advisor with a rival. Finally, if a bank previously presented the current target as an M&A advisor, it makes a negative impact on the likelihood of being chosen as an M&A acquiring advisor, however, the opposite impact is shown in previous bank-target underwriting relationship.

In conclusion, these findings are supportive of the argument that informational frictions create a constraint on the banks' competitiveness, and it may overcome the reputational barrier that prevails in the current literature.

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Table 1 Summary statistics - M&A announcements during sample period

This table reports the number of observations by the year of announcement. Included in each year are the number of announced mergers, attitude of the announced mergers, successful mergers that are completed at a later date, withdrawn mergers in which either the target or the acquirer terminated the planned acquisition, and cash mergers and stock mergers in which 100% of the payment is made with cash or stock, respectively. (%) shows the percentage of the number of the particular type of deals relative to the total number of announcements.

Year	M&A announcements	Stock	Cash	Other payments	Friendly	Hostile	Completed	Withdrawn
1995	60	27	13	20	55	4	58	2
1996	66	28	15	23	59	6	59	7
1997	93	28	25	40	90	2	84	9
1998	94	40	17	37	88	2	85	9
1999	110	50	20	40	103	6	97	13
2000	130	65	26	39	125	1	121	9
2001	95	37	16	42	90	1	85	10
2002	58	23	18	17	55	0	55	3
2003	69	21	26	22	64	3	66	2
2004	81	21	29	31	78	2	57	4
(%)	100.0%	39.7%	23.9%	36.3%	94.3%	3.2%	89.6%	7.9%
Total	856	340	205	311	807	27	767	68

Table 2 Summary statistics - prior relationships (Three year prior relationship)

This table shows bank-deal pairs. The estimation dataset consists of 856 M&A deals announced by firms between 1995 and 2004, for each of which the 50 largest banks are deemed to compete to become M&A advisor (only 48 banks in the largest 50 banks are included due to that two banks were not in the competition throughout the whole sample period). N=935 shows that 935 banks were awarded an mandate, and N=43,945 shows that 43,945 candidate banks failed to win a particular mandate in the econometric model. The column headed 'winning banks' refer to the bank-deal pairs involving banks that were awarded for a mandate, while the column headed 'losing banks' refers to banks that were eligible to compete but not chosen as an M&A advisor. For each bank-deal pair, we report the explanatory variables used in the econometric models. A bank's industry expertise is proxied by the prior relationship the candidate bank has with the firms from the same industry of the acquiring company. The last column provides *t*-tests of differences in fractions comparing winning to losing banks. *** indicates 1% level of significance.

M&A transactions (Three year prior relationship)	Winning banks		Losing banks		<i>t</i> -test
	No. of deals	% of deals	No. of deals	% of deals	
	N=	935	N=	43,945	
Bank-firm relationships					
If bank has been the M&A advisor	58	6.20	98	0.22	37.37***
If bank has been the lead manager for security issues	141	15.08	420	0.96	41.81***
Bank-target relationship					
If bank has been the M&A advisor for the current target	6	0.64	361	0.82	1.79***
If bank has been the lead manager for the current target	20	2.14	167	0.38	8.94***
Industry Expertise					
If bank has been the M&A advisor for one or more clients in the industry	13	1.39	128	0.29	5.94***
If bank has been the lead manager for one or more clients in the industry	46	4.92	589	1.34	9.18***
Bank-rival relationships					
If bank has been the M&A advisor for one or more clients among the three largest firms in industry	16	1.71	1031	2.35	1.27***

Table 3 M&A advisor choice – Prior Relationship

Estimated is the probability that a given bank is chosen to advise a particular M&A deal using a probit model. The dependent variable equals 1 if the bank won the M&A advisory mandate. Z-statistics are shown in italics. The test variables are prior bank-firm relationships in M&A and underwriting. We use ***, **, and * to denote significance at the 1%, 5% and 10% level, respectively.

Bank-firm relationships	M&A Deals
Test Variables	
If bank has been the M&A advisor	1.447*** <i>13.67</i>
If bank has been the underwriting lead manager	1.403*** <i>25.08</i>
Control Variables	
log of Compustat net sales	-0.012 <i>-1.67</i>
ctrlsize (=actual deal value - bank's average deal value)	0.004 <i>1.86</i>
log of bank ranking	0.051 <i>4.84</i>
Diagnostics	
LR test: all coefficients = 0 (chi sqr)	847.97***
Pseudo R^2	9.36%

Table 4 M&A advisor choice – Method of Payment

Estimated is the probability that a given bank is chosen to advise a particular M&A deal. The dependent variable equals 1 if the bank won the M&A advisory mandate. The test variables are prior bank-firm relationships in M&A and underwriting. Panel A shows the probit regression coefficient for variables that the current M&A advisor was the acquirer's previous M&A advisor in last 5 years. Panel B shows the result of 100% equity financed deals. Panel C shows the result of 100% cash financed M&A deals. Z-Statistics errors are shown in italics. We use ***, **, and * to denote significance at the 1%, 5% and 10% level, respectively.

Bank-firm relationships	M&A deals
Panel A: All payment methods	
If bank has been the M&A advisor	1.447*** <i>13.67</i>
If bank has been the lead manager for security issues	1.403*** <i>25.08</i>
Diagnostics	
LR test: all coefficients = 0 (chi sqr)	847.97***
Pseudo R^2	9.36%
Panel B: Equity-financed payment	
If bank has been the M&A advisor	1.647*** <i>10.15</i>
If bank has been the lead manager for security issues	1.599*** <i>16.86</i>
Diagnostics	
LR test: all coefficients = 0 (chi sqr)	475.48***
Pseudo R^2	13.22%
Panel C: Cash-financed payment	
If bank has been the M&A advisor	1.541*** <i>7.34</i>
If bank has been the lead manager for security issues	1.094*** <i>8.75</i>
Diagnostics	
LR test: all coefficients = 0 (chi sqr)	180.92***
Pseudo R^2	8.66%

Table 5 M&A advisor choice – Industry Expertise

Estimated is the probability that a given bank is chosen to advise a particular M&A deal using a probit model. The dependent variable equals 1 if the bank won the M&A advisory mandate. The test variables are the bank's industry expertise prior to the current deal. Z-Statistics errors are shown in italics. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level, respectively.

Industry expertise	M&A Deals
Test Variables	
If bank has been the M&A advisor for one or more clients in the same SIC industry	0.559*** <i>4.37</i>
If bank has been the lead manager for one or more clients in the same SIC industry	0.596*** <i>9.15</i>
Control Variables	
log of Compustat net sales	-0.001 <i>-0.12</i>
ctrlsize (=actual deal value - bank's average deal value)	0.004 <i>2.19</i>
log of bank ranking	0.069 <i>6.79</i>
Diagnostics	
LR test: all coefficients = 0 (chi sqr)	151.06***
Pseudo R^2	1.66%

Table 6 M&A advisor choice – Information Leakage

Estimated is the probability that a given bank is chosen to advise a particular M&A deal. The dependent variable equals 1 if the bank won the M&A advisory mandate. Test variable is bank-rival relationship prior to the current M&A deal. Z-statistics are shown in italics. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level, respectively.

Bank-rival relationships	M&A Deals
Test Variables	
If bank has been the M&A advisor for one or more clients among the three largest firms in M&A deals in sample	-0.277** <i>-2.87</i>
Control Variables	
log of Compustat net sales	-0.002 <i>-0.36</i>
ctrlsize (=actual deal value - bank's average deal value)	0.004 <i>2.31</i>
log of bank ranking	0.076 <i>7.50</i>
Diagnostics	
LR test: all coefficients = 0 (chi sqr)	67.03***
Pseudo R^2	0.74%

Table 7 M&A advisor choice - Bank-target relationships

Estimated is the probability that a given bank is chosen to advise a particular M&A deal. The dependent variable equals one if the bank won the M&A advisory mandate. Test variables are bank-target relationships prior to the current M&A announcement. Z-statistics are shown in italics. we use ***, **, and * to denote significance at the 1%, 5%, and 10% level, respectively.

Bank-target relationships	M&A Deals
Test Variables	
If bank has been the M&A advisor for the current target	-0.459*** <i>-2.89</i>
If bank has been the underwriting lead manager for the current target	0.914*** <i>8.04</i>
Control Variables	
log of Compustat net sales	-0.003 <i>-0.52</i>
ctrlsize (=actual deal value - bank's average deal value)	0.004 <i>2.19</i>
log of bank ranking	0.073 <i>7.20</i>
Diagnostics	
LR test: all coefficients = 0 (chi sq)	116.49***
Pseudo R^2	1.28%

Table 8 M&A advisor choice – Joint Test

The probit regression includes all test variables and control variables. The dependent variable equals one if the bank won the M&A advisory mandate. The test variables are bank-firm prior relationship, the bank's industry expertise prior to the current deal, bank-rival relationship, and bank-target relationship. Z-statistics are shown in italics. We use ***, **, and * to denote significance at the 1%, 5% and 10% level, respectively.

	M&A deals
Bank-firm relationships	
If bank has been the M&A advisor	1.437*** <i>13.42</i>
If bank has been the lead manager for security issues	1.371*** <i>22.93</i>
Industry Expertise	
If bank has been the M&A advisor for one or more clients in the industry	0.658*** <i>4.65</i>
If bank has been the lead manager for one or more clients in the industry	0.215** <i>2.81</i>
Bank-rival relationships	
If bank has been the M&A advisor for one or more clients among the three largest firms in industry	-0.412*** <i>-3.91</i>
Bank-target relationship	
If bank has been the M&A advisor for the current target	-0.634*** <i>-3.68</i>
If bank has been the lead manager for the current target	0.300** <i>2.30</i>
Control Variables	
log of Compustat net sales	-0.012 <i>-1.69</i>
ctrlsize (=actual deal value - bank's average deal value)	0.004 <i>1.91</i>
log of bank ranking	0.051 <i>4.82</i>
Diagnostics	
Pseudo R^2	10.05%

Appendix Table A1. List of investment banks used in the tests

This table shows the list of investment banks considered as candidate banks for a particular M&A deal.

	1995- 2004	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Goldman Sachs & Co	1	3	7	1	2	1	1	1	6	1	5
Morgan Stanley	2	4	2	3	3	3	6	2	5	2	4
Merrill Lynch & Co Inc	3	7	1	2	1	2	2	3	7	8	8
Credit Suisse	4	1	3	5	5	5	3	4	9	5	11
Citigroup	5	10	4	4	4	4	4	6	3	3	3
JP Morgan	6	2	5	8	6	6	5	5	8	7	2
Lehman Brothers	7	12	8	6	8	7	7	8	4	4	1
Bear Stearns & Co Inc	8	5	14	9	7	9	11	10	1	13	14
Lazard	9	11	10	7	13	8	13	13	2	10	18
UBS	10	9	9	10	11	10	10	9	10	9	12
Deutsche Bank AG	11	6	13	11	10	14	15	7	11	11	9
Banc of America Securities LLC	12	8	19	12	9	15	8	12	14	6	10
Dresdner Kleinwort	13	13	6	14	15	12	9	14	24	25	28
Houlihan Lokey Howard & Zukin	14	29	24	13	17	18	18	17	21	12	15
CIBC World Markets Inc	15	31	28	41	22	19	12	28	15	18	21
Rothschild	16	21	11	21	16	22	16	16	19	27	20
Societe Generale	17	15	16	17	30	23	22	33	22	15	16
Greenhill & Co, LLC	18	32	22	20	18	17	36	15	37	26	31
Jefferies & Co Inc	19	28	26	29	21	26	31	29	29	23	24
The Blackstone Group	20	19	21	19	29	24	28	32	-	33	23
Keefe Bruyette & Woods Inc	21	14	38	16	32	33	38	21	27	17	30
Wachovia Corp	22	33	30	27	33	38	40	25	25	20	13
Stephens Inc	23	49	15	37	19	-	27	18	13	42	37
ABN AMRO	24	26	18	28	25	31	29	30	16	35	-
Sandler O'Neill Partners	25	34	43	26	24	43	33	45	28	22	17
Evercore Partners	26	-	32	18	44	16	20	-	-	45	7
Allen & Co Inc	27	41	20	36	37	13	-	-	20	-	22
RBC Capital Markets	28	16	25	31	41	27	34	19	30	34	42
Ryan Beck & Co	29	36	46	-	-	-	48	47	-	29	35
KPMG Corporate Finance	30	39	48	-	50	39	30	38	48	43	-
Thomas Weisel Partners LLC	31	45	-	-	-	28	14	23	39	40	-
Daniels & Associates Inc	32	46	35	40	43	20	32	24	17	44	-
Prudential Securities Inc*	33	22	37	32	23	29	26	-	-	-	-
Peter J. Solomon Co Ltd	34	-	33	35	14	25	21	-	38	-	45
Raymond James Financial Inc	35	27	34	22	-	40	49	11	-	24	6
William Blair & Co	36	37	-	24	35	35	25	39	47	21	44
Piper Jaffray Cos	37	47	31	33	28	34	41	20	26	30	36
BNP Paribas SA*	38	-	-	-	-	49	17	27	-	16	38
Petrie Parkman & Co Inc	39	42	36	23	34	-	43	22	-	32	-
PricewaterhouseCoopers	40	-	45	25	45	50	-	49	32	36	-
SunTrust Banks	41	40	47	43	38	36	42	40	46	38	19
Cazenove & Co	42	48	12	38	-	-	37	-	-	31	34
Robert W Baird & Co Inc	43	30	29	30	20	42	44	44	42	39	39
ING	44	38	39	-	-	30	19	-	23	28	-
Ernst & Young LLP	45	35	23	-	-	21	39	-	-	47	-
Needham & Co Inc	46	-	46	47	-	-	-	42	35	46	26
Simmons & Co International	47	44	-	-	36	37	23	-	44	19	-
KeyCorp/McDonald Investments	48	25	27	34	46	44	35	43	34	37	43
HSBC Holdings PLC	49	43	-	-	47	-	-	-	12	14	46
National Bank Financial Inc	50	50	44	44	31	45	45	-	36	39	50

Appendix Table A2 Summary statistics - the most acquisitive industries

This includes only the most acquisitive industries, whereby they make at least five times M&A announcements during the sample period. The table lists the SDC four-digit SIC industry code, and the number of announcements they make during the sample period. It is shown that those firms that make at least five M&A announcements take up to 60.75% of the total sample.

Industry SIC code	Number of M&A announcements	(%) of total sample	Industry SIC code	Number of M&A announcements	(%) of total sample
7372	79	9.23	7389	8	47.20
2834	34	13.20	2621	7	48.01
1311	29	16.59	2911	7	48.83
4813	26	19.63	3714	7	49.65
3674	23	22.31	7011	7	50.47
3661	22	24.88	7371	7	51.29
7375	19	27.10	3572	6	51.99
2836	18	29.21	3577	6	52.69
3845	16	31.07	3826	6	53.39
7373	16	32.94	4833	6	54.09
4911	15	34.70	4841	6	54.79
4931	13	36.21	5812	6	55.49
3663	12	37.62	2869	5	56.07
3571	11	38.90	2879	5	56.66
3841	10	40.07	3634	5	57.24
5122	10	41.24	3679	5	57.83
5311	10	42.41	5411	5	58.41
4812	9	43.46	5912	5	59.00
3812	8	44.39	5961	5	59.58
3829	8	45.33	7993	5	60.16
7376	8	46.26	8742	5	60.75

Appendix Table A3 List of variables

Variable name	Descriptions
usedadv	It has a value of one if the candidate bank has previously advised one or more M&A announcement for the current acquiring firm in the past five years.
deadv	It has a value of one if the candidate bank has previously underwritten one or more security issues for the current acquiring firm in the past five years.
sicdeadv	It has a value of one if the candidate bank has previously underwritten one or more security issues for firms other than the acquiring firm in the industry of the acquiring firm.
sicusedadv	It has a value of one if the candidate bank has previously advised firms other than the acquiring firm in the industry of the acquiring firm.
tgtusedadv	It has a value of one if the candidate bank has previously advised one or more M&A announcement for the current target firm in the past five years.
tgtdeused	It has a value of one if the candidate bank has previously underwritten one or more security issues for the current acquiring firm in the past five years.
tsicused	It has a value of one if the firm is among the largest three firms ranked by Compustat net sales in the sample in each industry, industries that only have one M&A deal in the sample are excluded.
lnsales	The firm size is defined by Compustat net sales, and the values are logged by natural log.
ctrlsize	This is the difference between the size of a certain M&A deal announcement and the candidate bank's average deal size.
lnranking	Overall ranking over the sample period by transaction value provided by SDC league table was used. The top ranked firm is given a value of 48 as only 48 banks were used, and the values are logged by natural log.