It Pays to Pay Your Investment Banker: New Evidence on the Role of Financial Advisors in M&As

Andrey Golubov, Dimitris Petmezas and Nickolaos G. Travlos*

May 2010

Abstract

This paper examines the effect of advisor reputation on bidder returns and advisory fees, after controlling for a comprehensive list of factors and for self-selection bias in bidder-advisor matching. In contrast with prior studies, our evidence shows that M&As advised by top-tier advisors are associated with relatively higher bidder returns. Further, top-tier advisors charge premium fees for their services. The effect of certain bidder- and deal-specific characteristics varies between top-tier and non-top-tier advisors, reflecting the superiority of the former in certifying value. Additionally, the degree of bidder information asymmetry is an important determinant for the decision to employ an advisor.

***JEL Classification*:** G14; G24; G34

***Keywords*:** Investment Banks; Reputation; Mergers and Acquisitions; Self-Selection Bias; Abnormal Returns; Advisory Fees

*Andrey Golubov is from the School of Management, University of Surrey, UK, E-mail: a.golubov@surrey.ac.uk. Dimitris Petmezas is from the School of Management, University of Surrey, UK, E-mail: d.petmezas@surrey.ac.uk. Nickolaos Travlos is from the ALBA Graduate Business School, Greece, E-mail: ntravlos@alba.edu.gr. We would like to thank Christos Cabolis, Thomas Chemmanur, Lily Hua Fang, Ioannis Floros, Robyn McLaughlin, Raghavendra Rau, Henri Servaes, David Stolin, Nicholas Tessaromatis and Athanasios Thanopoulos for helpful comments and suggestions. We would also like to thank Milos Stojanovic for valuable research assistance. Part of this project was conducted while Dimitris Petmezas was in the Durham University, UK. Golubov acknowledges financial support received from the School of Management, University of Surrey. Travlos acknowledges financial support received from the Kitty Kyriacopoulos Chair in Finance. All remaining errors are our own.

It Pays to Pay Your Investment Banker: New Evidence on the Role of Financial Advisors in M&As

Investment bankers play a major role in the finance world by facilitating capital raising activities and arranging special deals, such as M&As and other forms of corporate restructuring. The main responsibility of an investment banker towards clients is to maximize their wealth associated with the underlying transactions. The reputational capital of investment bankers constitutes a mechanism that motivates them to carry out this responsibility in accordance with the interests of their clients (Fang (2005)). Theoretical support for this mechanism is provided by Chemmanur and Fulghieri (1994) who develop a model of information production by financial intermediaries. Further, the authors review the empirical literature on equity underwriting (IPOs and SEOs) and conclude that, consistent with their model, high reputation underwriters provide better services in return for premium fees. Fang (2005) studies the effect of underwriter reputation on the price and quality of bond underwriting services of investment banks. After controlling for endogeneity in issuer-underwriter matching, she finds that high reputation underwriters obtain lower yields for their clients and charge higher fees in return.

Some other studies examine empirically the theoretical predictions of Chemmanur and Fulghieri's (1994) model in the other major investment banking service – M&A advisory. This application stems from the fact that takeover advisory services encompass the aspects of information production and reputation building by financial intermediaries in the financial markets (Kale, Kini and Ryan (2003)). Surprisingly, contrary to the predictions of this intuitive reputation-quality mechanism modeled by Chemmanur and Fulghieri (1994), the pertinent empirical evidence shows a negative (McLaughlin (1992) and Rau (2000)) or an insignificant (Servaes and Zenner (1996)) relationship between bidder advisor reputation and bidding firm returns. Naturally, this evidence raises the question of why bidders employ top-tier advisors if it does not pay off.

Motivated by the conflicting empirical evidence on the subject, this paper revisits the associated issues by using a larger and more recent sample to investigate how the quality of acquisition advice and the fees charged are related to advisor reputation, after taking into consideration a comprehensive list of control variables. It also controls for the endogenous nature of the bidder-advisor matching, arising –among others– from the possibility that top-tier investment banks advise large firms and are hired for relatively larger transactions. In addition, endogeneity might arise as a consequence of top-tier advisors being contracted by firms with high valuation and better performance. If the choice to employ a top-tier advisor is correlated with certain observed or unobserved bidder- and/or deal-specific characteristics (i.e. advisor reputation is endogenously determined), the advisor reputation measure confounds the effect of advisor quality with other determinants of acquisition performance or advisory fees, implying that the associated OLS estimates are unreliable. Therefore, a self-selection control is required to reveal the pure relationship between the reputation of advisors and the price and quality of their services in corporate acquisitions.

The OLS analysis shows that, after controlling for several bidder- and deal-specific characteristics, bidder announcement returns and advisory fees are positively related to advisor reputation. By employing a switching regression model with endogenous switching to control for the self-selection bias, it is confirmed that top-tier advisors provide better services and charge premium fees. In particular, announcement period abnormal returns associated with deals advised by non-top-tier advisors would have been improved by 1.05%, on average, if a top-tier investment bank had been employed instead. This improvement would have been priced in the advisory fee with an average premium of 0.23%. Contrary to the previous evidence, but consistent with Chemmanur and Fulghieri (1994), these findings lead to the conclusion that it pays off to pay for a top-tier financial advisor.

This study also documents substantial differences in the effect of several bidder- and deal-specific characteristics on announcement period returns between the top-tier and non-

top-tier advisors. For instance, the negative effect of bidder size is confined to the non-top-tier group only. Moeller, Schlingemann and Stulz (2004) suggest hubris as one of the explanations for the underperformance of large bidders. We argue that the presence of a top-tier advisor protects investors against managerial hubris associated with large firms. Also the negative effect of the premium paid on bidder returns disappears for the top-tier advisors. The same is true for the cash flows/equity ratio, suggesting that top-tier advisors have relatively stronger incentives to limit empire-building behavior fueled by free cash flow. Overall, these findings suggest superiority of top-tier financial advisors in certifying value, in parallel to the certification hypothesis of Booth and Smith (1986).

Additionally, this paper examines the so-called "in-house" acquisitions, where the bidding firm does not retain an investment bank for the transaction. Our probit analysis reveals that the decision to employ an advisor is strongly related to the degree of bidder information asymmetry. We also find that firms with low "in-house" M&A expertise are more likely to use external advice. Overall, the findings support the conjectures of Chemmanur and Fulghieri (1994).

This study has important contributions to the M&As and financial intermediation literature. First, it provides new evidence on the effect of investment bank reputation on bidding firm returns, which contrasts with prior work on the subject. Specifically, we find that bidding firms do gain more when employing top-tier advisors rather than non-top-tier advisors, after considering a more comprehensive list of factors relative to the earlier literature. We also show that this quality comes at a premium price in advisory fees. Second, this is the first study in corporate takeovers, to our knowledge, to explicitly account for self-selection bias in the relationship between financial advisor reputation and both the price (advisory fees) and quality of their services (bidder returns). Additionally, the utilized model has two regimes and two sets of parameters (one for top-tier and another for non-top-tier advisors), which effectively constitutes a non-linear approach to modeling the effect of

reputation, enabling us to make inferences beyond those documented by previous studies. Third, it offers further insights on the determinants of the decision to retain a financial advisor and it shows that the degree of bidder information asymmetry is an important determinant. Our findings also have important implications for practice. For instance, we provide justification for the current practice of constructing "League Tables" of financial advisors based on the value of deals they advised. This is consistent with the notion that the position of the investment bank in these rankings signals the quality of its services. In addition, the ability of top-tier financial advisors to charge premium fees provides incentives for advisors to build up and protect their reputational capital, encouraging them to render superior services in the future.

Our study is related to the work of Fang (2005), Servaes and Zenner (1996), Rau (2000), Kale et al. (2003), McLaughlin (1990, 1992) and Chemmanur and Fulghieri (1994). Fang (2005) uses a switching regression model with endogenous switching to control for self-selection in the issuer-underwriter matching in the bond market. We follow a similar approach in a different context – M&As – and document a positive association between advisor reputation and the price and quality of their services. McLaughlin (1992), Servaes and Zenner (1996), and Rau (2000) examine the relationship between advisor reputation and acquisition performance. We update their work by controlling for a larger number of factors, as well as for self-selection bias, and we offer new evidence on this relationship. Kale et al. (2003) argue that only the relative reputation of the merging parties' advisors is positively related to bidder gains. In contrast, we show that bidder advisor reputation on its own can explain bidder announcement period returns. McLaughlin (1990) examines investment banking contracts and fees in corporate acquisitions. We extend his work by distinguishing between top-tier and non-top-tier advisors and we show empirically, while controlling also for the endogenous nature of advisor reputation, that top-tier advisors charge fees at a premium for their services. We also examine and offer new evidence on other determinants

of the advisory fees. Finally, Chemmanur and Fulghieri (1994) suggest, among others, that issuer information asymmetry is an important determinant in the decision to employ an investment banker for equity issues. Our empirical findings show that a similar relationship holds in M&As.

The rest of the paper is organized as follows. Section I discusses the relevant literature. Section II describes the sample selection criteria and defines the variables. Section III analyzes the effect of advisor reputation on bidder abnormal returns and advisory fees in an OLS setting. Section IV develops the model that controls for self-selection bias in bidder-advisor matching. Section V presents the empirical results of the endogeneity analysis. Section VI examines the determinants of the decision to employ an advisor. Finally, Section VII concludes the paper.

I. Related Literature

A. Theoretical Framework

The relationship between reputation, quality and price was first modeled in the classical work of Klein and Leffler (1981), Shapiro (1983), and Allen (1984). These models are based on a situation where a producer repeatedly sells its products in the market. When the quality of the product can only be assessed after the purchase (i.e., it is ex-ante unobservable), a premium price arises as a signal of high quality. This premium exists to compensate the seller for the resources expended in building up reputation, and offers incentive to the seller against the "fly-by-night" strategy, whereby profit is maximized by lowering the quality and the associated costs in the short-run.

These models relate to product markets, but they are still applicable to the case of investment banking services. Indeed, quality of these services is ex-ante unobservable, and the banks need to sell their services to their clients repeatedly. Chemmanur and Fulghieri (1994) model this relationship specifically for the investment banking function, namely the

equity underwriting service. In their model, high reputation investment banks provide better quality services, and charge higher fees. Top-tier investment banks are also more effective in reducing information asymmetry. Theoretically, issuers would always prefer to use services of an investment bank, unless the degree of information asymmetry of the issuer in the equity market is low. Empirical evidence on underwriter reputation in IPOs and SEOs is largely consistent with the model. The authors also suggest that their theoretical predictions could be extended to other situations, where investment banks act as intermediaries aiming to reduce information asymmetry in the financial markets. Accordingly, the role of investment banks in the market for corporate control received a fair amount of attention in the literature.

B. Financial Advisors in M&As

Bowers and Miller (1990) show that top-tier advisors are able to identify deals with higher total synergies, but they are not able to provide a bargaining advantage to capture a larger share of these synergies. On the other hand, Michel, Shaked and Lee (1991) found that deals advised by Drexel Burnham Lambert (a relatively less prestigious advisor) outperformed bulge-bracket advised deals in terms of bidder Cumulative Abnormal Returns (CAR). Accordingly, McLaughlin (1992) notes that bidders using lower-quality bankers offer significantly lower premiums and enjoy higher announcement period gains.

Servaes and Zenner (1996) examined the role of investment banks in US acquisitions over the period 1981-1992. Interestingly, neither the use of an advisor, in general, nor the use of a top-tier advisor affects announcement abnormal returns. Bidders are more likely to employ advisors when the transaction is complex, and when they have less prior acquisition experience. However, the researchers acknowledge that using only the largest acquisitions per year – the focus of their study – might not be representative of all transactions.

Rau (2000) shows that first-tier investment banks do not complete better deals, as measured by the bidder abnormal returns. Also, the higher the proportion of contingent fees

in the contract, the worse is the post-acquisition performance of the bidding firm. Rau and Rodgers (2002) revisit the question of why top-tier investment banks are hired by bidders. In a sample of 223 tender offers announced between 1980 and 1994, announcement period returns to bidders advised by top-tier investment banks are lower than those earned by second and third-tier advised bidders.

In contrast with previous attempts, Kale et al. (2003) focus on the measure of the relative reputation of the merging parties' advisors. In doing so, the authors take into account the bargaining nature of a takeover contest. In their sample of 390 multiple bidder contests, the absolute wealth gains, as well as the share of total dollar gains accruing to the bidder, rise with the measure of bidder advisor's relative reputation.

Allen et al. (2004) examine the role of commercial banks as financial advisors and find that bidding firm returns are indifferent to the use of the firm's own commercial bank as a merger advisor. Finally, Bodnaruk, Massa and Simonov (2009) study the role of investment banks as insiders in the market for corporate control. The authors find that financial conglomerates, affiliated with the investment bank advising the bidder, often build up a stake in the target prior to the announcement and earn substantial profits. They also provide evidence that the size of this stake is positively (negatively) related to the probability of large announcement period losses (post-merger profitability) of the bidding firm.

C. Advisory Fees in M&As

McLaughlin (1990) studied investment banker advisory fees in 195 tender offers between 1978 and 1985. Target firm advisory fees average 0.77% of acquisition value, while fees for the bidding firm bankers average 0.56% of deal value. Total fees in an average acquisition are 1.29% of transaction value. However, there is considerable variation in fees for comparable transactions. Additionally, in 80% of the contracts, the advisory fees are

substantially contingent on offer outcome, giving investment bankers considerable incentives to complete the deal.

D. Endogeneity Issues

Fang (2005) shows that, in the bond underwriting market, investment banks and issuers do not select each other randomly; this choice is influenced by issue- and firm- specific characteristics. For instance, high reputation investment banks underwrite larger issues, those of longer maturity, issued by less risky firms. The author controls for the endogenous nature of investment bank reputation and reveals that highly reputable underwriters provide superior services, and charge higher fees.

II. Sample and Data

A. Sample Selection Criteria

We collect a sample of successful acquisitions announced during the period 1996-2005 from the SDC Mergers and Acquisitions Database. Both bidders and targets are public firms. The original sample contains 5,976 deals. We exclude repurchases, liquidations, restructurings, divestitures, leveraged buyouts, reverse takeovers, privatizations, bankruptcy acquisitions, and going private transactions. The remaining sample contains 3,291 observations. Since we are interested in transactions that represent a transfer of control, we require the bidder to own less than 10% before the deal and more than 50% upon completion as in Faccio, McConnell and Stolin (2006).[1] There are 3,024 transactions that satisfy these criteria. We further exclude deals worth less than $1 million and less than 1% of bidder market value. The remaining sample includes 3,008 deals. Then, we require the data on bidder advisor to be reported by SDC, which leaves 2,213 deals. Finally, the bidder has to be covered in CRSP database. The final sample contains 1,828 deals. Out of these, 1,623 deals

[1] We obtain similar results when using, as a criterion, the 100% acquisition of the target.

were advised by an investment bank, while 205 deals did not involve an investment bank on the part of the bidder ("in-house" deals, as defined by Servaes and Zenner (1996)). Advisory fees are disclosed in 596 cases.

B. Measure of Advisor Reputation

We download financial advisors league tables from SDC. Table I presents the list of the top-25 investment banks ranked according to the value of deals announced and completed by each of them. In fact, the top-12 advisors are the same in both announced and completed deals' rankings. In the spirit of Fang (2005), we classify the top-8 investment banks by the value of deals advised as top-tier and all other financial advisors as non-top-tier.[2] Fang (2005) argues that the binary classification is justified for two reasons. Economically, it captures the two-tiered structure of Wall Street, acknowledged by both the academic literature and the financial press. It is also preferable econometrically, because the use of a continuous measure would require the variable to capture reputation in precision, and to have a constant effect on the dependent variables. In our sample, the top-8 banks are the only financial advisors to surpass US$1 trillion in the value of deals they advised in the 10-year period. The top-8 banks are Goldman Sachs, Merrill Lynch, Morgan Stanley, JP Morgan, Credit Suisse First Boston, Citi/Salomon Smith Barney, Lehman Brothers, and Lazard. These are the same as in Fang (2005) and Bao and Edmans (2009).[3] These banks also appear in the "bulge bracket" specifications of earlier studies (Servaes and Zenner (1996) and Rau (2000)). Thus, there is a great deal of stability in the reputation of these advisors over time.

We also track mergers and acquisitions among financial advisors themselves, in order to correctly assign the reputation measure for each deal in the sample. For instance, Salomon Brothers, a top-tier financial advisor, was acquired by Travelers Group in 1998, which in turn

[2] Given that the top-8 specification of top-tier advisors is still arbitrary, we check the robustness of our results using alternative specification of top-5 banks as the top-tier group and find qualitatively similar results.
[3] The only difference with Fang (2005) is that Lazard, a prominent merger advisor, replaced DLJ.

merged with Citicorp to create Citigroup the same year (as part of Citigroup, Salomon Brothers was also known as Salomon Smith Barney up until October 2003). Thus, deals advised by Citicorp before the merger with Travelers Group are classified as advised by a non-top-tier advisor, whereas afterwards deals advised by Citigroup are classified as advised by a top-tier advisor. In case of multiple advisors, the deal is classified as advised by a top-tier advisor if at least one of the advisors belongs to the top-8 group; this approach is standard in the literature (see for example, Servaes and Zenner (1996) and Rau (2000)).

[Please Insert Table I About Here]

C. Sample Statistics and Variables Definitions

Table II presents descriptive statistics for the overall sample and for the top-tier and non-top-tier groups, respectively. Panel A illustrates statistics for bidder characteristics. *Size* is the bidder market value 4 weeks prior to the acquisition announcement. The mean (median) bidder size in our sample is 8,013.18 (1,331.79) US$ million. Clients of top-tier advisors are substantially larger (13.20 US$ billion) than those of non-top-tier banks (3,226.76 US$ million). Bidder announcement returns have been shown to be negatively related to firm size (Moeller et al. (2004)).

Book-to-market ratio is calculated as the bidder's net book value divided by its market value of equity four weeks prior to the acquisition announcement. Mean (median) book-to-market ratio for the bidders in our sample is 0.47 (0.41). Bidders advised by top-tier investment banks appear to have lower book-to-market values. Lang, Stulz and Walkling (1989) and Servaes (1991) show that bidders with high Tobin's Q, which is negatively related to book-to-market ratio, experience higher announcement period returns, while Moeller et al. (2004) report a negative but trivial relationship. Additionally, Moeller, Schlingemann and Stulz (2005) argue that wealth destruction during the 1998-2001 merger wave is associated with highly overvalued bidders.

Leverage is defined as bidder's total financial debt divided by total assets for the fiscal year prior to acquisition announcement. Mean (median) bidder leverage for our sample is 0.23 (0.20), while bidders advised by top-tier investment banks are more levered than clients of non-top-tier advisors. Dong et al. (2006) argue that leverage-induced constraints are likely to influence bidder behavior. For instance, higher leverage reduces free cash flow, limits managerial discretion, and provides incentives to improve firm performance. Accordingly, Masulis, Wang and Xie (2007) advocate a positive relationship between bidder leverage and acquisition performance.

Operating performance is defined as bidder's EBITDA divided by total assets at the beginning of the fiscal year before acquisition announcement. Mean (median) operating performance in our sample is 0.11 (0.11). Bidders advised by top-tier investment banks have higher operating performance than clients of non-top-tier financial advisors. Masulis et al. (2007) argue that prior operating performance is a proxy of management quality, and show that firms with higher operating performance have higher announcement period gains.

Cash flows/equity is the ratio of bidder's cash flow (computed as in Lehn and Poulsen, (1989)) to the market value of equity, and measures the ability of the firm to generate cash flows. The mean (median) value of the ratio in our sample is 0.07 (0.08). There is no difference between clients of top-tier and non-top-tier financial advisors. High free cash flow induces empire-building acquisitions (Jensen (1986)). Accordingly, Lang, Stulz and Walkling (1991) show a negative relationship between bidder returns and cash flows-to- equity ratio.

Run-up is the market-adjusted buy-and-hold bidder return over the period beginning 205 days and ending 6 days prior to the announcement date, consistent with Moeller, Schlingemann and Stulz (2007). Bidders exhibit an average run-up of 6%, while the median run-up is a negative 4%. Rosen (2006) finds that bidder returns are negatively related to the run-up.

Insider ownership is the percentage of bidder's stock owned by executive and non-executive directors. Data is collected from the Edgar database as for the latest proxy statement before the deal. Mean bidder insider ownership for our sample is 6.08%. Bidders advised by top-tier banks have lower insider ownership, which is not surprising given the larger size of these firms. According to the literature, firms with lower insider ownership experience lower acquisition returns in stock-financed transactions (Amihud, Lev and Travlos (1990)).

CEO/Chairman Split is an indicator variable taking the value of 1 if the roles of bidder's CEO and Chairman of the Board are split and 0 otherwise. This data is also from the Edgar database as for the latest proxy statement before the deal. Masulis et al. (2007) report that when bidders split these roles, they experience higher announcement period returns.

Sigma (or idiosyncratic volatility), which is used as a measure of information asymmetry (Dierkens (1991)), is the standard deviation of the value-weighted market adjusted residuals of the bidding firm daily stock returns measured during the period beginning 205 and ending 6 days before deal announcement. Bidders advised by top-tier investment banks have significantly lower sigma. Fang (2005) documents a similar relationship for the bond underwriting market. Moeller, Schlingemann and Stulz (2007), provide evidence that high sigma bidders generate lower announcement period returns in stock acquisitions.

Panel B presents statistics for deal characteristics. The average (median) *deal value* in our sample is $1,802.02 million ($252 million). As expected, deals advised by top-tier advisors are significantly larger ($3,444.91 billion) than those advised by non-top-tier advisors ($718.72 million).

Relative size is defined as the deal value divided by the bidder size. Mean (median) relative size of targets in our sample is 44% (24%). This measure does not differ across the two groups of advisors. Bidder's returns have been shown to decrease with the relative size of

the target in public acquisitions (Jensen and Ruback (1983), Travlos (1987), and Servaes (1991)).

Hostile deals represent acquisitions that are reported as "hostile" or "unsolicited" in SDC. Hostile offers represent only 1.09% of our sample, consistent with the evidence that late 1990s and 2000s were dominated by friendly deals in the global market for corporate control (Rossi and Volpin (2004)). However, 2.10% of top-tier advised deals were hostile, while only 0.35% of non-top-tier deals were resisted by target management. Servaes (1991) documents that hostile bids are associated with relatively lower bidder returns, while Schwert (2000) finds no significant effect.

Diversifying deals are those where the 2-digit SIC code of the bidder is different from that of the target. Based on this definition, almost 30% of acquisitions in our sample are diversifying deals. Morck, Shleifer and Vishny (1990) find that investors respond negatively to diversifying acquisitions. However, recent research on the "diversification discount" suggests that diversification may be associated with higher firm value (Campa and Kedia (2002) and Villalonga (2004)).

In terms of the method of payment, 48.03% of the transactions in our sample were *stock*-financed, 15.48% represent *cash* deals, while the remaining 36.49% involved a *mixed* consideration. Cash (stock) transactions are the ones that are financed with 100% cash (stock). All others are defined as mixed payments. Neither type of financing is associated with using a top-tier or a non-top-tier advisor. Travlos (1987) shows that acquirers offering stock in public acquisitions experience lower returns. The author attributes this to the fact that, due to information asymmetry, investors perceive stock-financed transactions as signals of bidding firm overvaluation (Myers and Majluf (1984)). Approximately 13% of the deals represent t*ender offers.* Jensen and Ruback (1983) document that tender offers are associated with higher bidder announcement returns.

Takeover premium is the difference between the offer price and the target stock price 4 weeks before the acquisition announcement divided by the latter (data is from SDC), after winsorizing values beyond the range of [0, 2] as in Officer (2003). Takeover premiums are quite high in our sample period. Mean premium is 43%, while the median premium is 35%. The premiums do not differ between deals advised by top-tier and non-top-tier advisors.

To measure bidder announcement returns, we calculate *bidder CAR*, which is the cumulative abnormal return of the bidding firm stock in the 5-day event window (-2, +2) where 0 is the announcement day. The returns are calculated using the market model with the market model parameters estimated over the period starting 240 days and ending 41 days prior to the announcement. The benchmark returns are the CRSP equally-weighted index returns.[4] To reduce the weight of outliers, we winsorize the CARs at the 1% and 99%. *Percentage fee* is the total advisory fee (which excludes any fees for financing the deal) as a percentage of the deal value.[5] Both values are from SDC.

Deals advised by top-tier banks generate a mean bidder CAR of -2.49%, and acquisitions advised by non-top-tier banks experience a mean bidder CAR of -2.19%. Both numbers are statistically significant and are in line with existing findings that acquisitions of public firms are associated with, on average, negative announcement period returns (Moeller et al. (2004)). The difference in CARs for the two categories of advisors is, however, statistically insignificant. In terms of fees, top-tier advisors charged their clients 0.54% of the transaction value, while non-top-tier advisors charged 0.71% of the deal value. The difference is statistically significant at the 5% level.

Univariate analysis is not able to uncover any relationship between advisor reputation and bidder returns or advisor fees, as it does not take into account confounding effects. For

[4] We perform robustness checks using i) alternative event windows such as (-1, +1) and (-5, +5); ii) the market model with value-weighted CRSP index returns as a benchmark; iii) market-adjusted returns. In all cases we obtain qualitatively similar results.

[5] If top-tier advisors are hired for their ability to finance the transaction, and if the advisory fees are cross-subsidized by the financing fees, then our measure of advisory fees for the top-tier category is biased downward, which will work against our finding a fee premium for the top-tier group of investment banks.

instance, top-tier advisors are usually hired by large firms. It has been shown that large bidders are associated with lower announcement period returns (Moeller et al. (2004)), while percentage fee is a decreasing function of the transaction value (McLaughlin (1990)). Therefore, firm and deal-specific characteristics need to be controlled for in order to reveal the net effect of advisor reputation on the variables of interest. Cross-sectional regression analysis is presented in the next section.

Panels C and D of Table II present the differences between "in-house" deals and those advised by investment banks. In-house deals are different in several aspects. For instance, these transactions are smaller in their absolute (258.42 US$ mil vs. 1,996.99 US$ mil) as well as relative size (0.11 vs. 0.48). In-house acquisitions are also less likely to be diversifying. Additionally, bidders that pursue deals without external advice appear to be, on average, less levered (0.19 vs. 0.24) and have lower operating performance (0.07 vs. 0.09). Finally, we present the variables correlation matrix in Table III.

[Please Insert Tables II & III About Here]

III. OLS Regression Analysis of Bidder CARs and Advisory Fees

A. Cross-Sectional Regression Analysis - CARs

We re-examine the relationship between advisor reputation and *bidder CAR* in multivariate OLS regression analysis. Table IV presents the results. Specification (1) includes only our main variable of interest – *top-tier*, which is an indicator taking the value of 1 if a Top-8 investment bank advised on the deal, and 0 otherwise. The coefficient is insignificant, at conventional levels, corroborating the results of univariate analysis.

Specification (2) includes bidder-specific characteristics. We use the natural logarithm of *size*, *book-to-market*, *run-up* and *sigma*. The coefficient on *top-tier* is still insignificantly different from zero, at conventional levels. Consistent with the prior literature, *book-to-market* has a positive effect, while *run-up* and *sigma* are negatively related to bidder CAR (all

at the 1% level). Specification (3) includes deal-specific characteristics, in addition to the variables used in specification (2): *Relative size, stock dummy, diversification dummy, hostile deals dummy, tender offers dummy* and *premium*. We also include an indicator variable (*98-2000 Dummy*) for deals announced in the 1998-2000 period, to control for the distortions associated with this bubble period. The coefficient on *top-tier* is positive and significant at the 5% level with the inclusion of these controls. From the newly added variables, *relative size, stock dummy, tender offers dummy* and *98-2000 dummy* are significant at conventional levels. The coefficient on the size variable also becomes significant (at the 1% level). All the coefficients have the expected signs, consistent with the existing literature.

Specification (4) includes ownership and governance characteristics of the bidding firm (*insider ownership* and *CEO/Chairman split*). Only insider ownership adds to the explanatory power of this regression, being positively associated with bidding firm returns (significant at the 5% level). The coefficient on *top-tier* remains virtually unchanged. Finally, specification (5) controls for accounting characteristics of the bidder: *Leverage, operating performance* and *cash flows/equity*. None of these variables are significant in this specification, while the top-tier indicator continues to positively affect bidder CARs.[6] So far, the results indicate that the use of a top-tier advisor results in a 1.36% CAR improvement, *ceteris paribus*.

[Please Insert Table IV About Here]

B. Cross-Sectional Regression Analysis - Advisory Fees

Table V presents the results for *advisory fees*. Model (1) includes only our main explanatory variable, the top-tier indicator. Advisory fees appear to be negatively related to advisor reputation in this specification (significant at the 5% level), corroborating the results of the univariate comparisons. However, McLaughlin (1990) shows that advisory fee as a percentage of deal value decreases with transaction value. To control for this effect,

[6] Since Table III reveals that *cash flows/equity* and o*perating performance* have a relatively high correlation (0.5085), we run two additional regressions by including each of them separately. The results are unchanged.

specification (2) includes the natural logarithm of the *deal value* as an additional explanatory variable. As expected, advisory fees are significantly (at the 1% level) negatively related to the transaction value. Additionally, the inclusion of this variable corrects the sign on the *top-tier* variable, which now becomes positive (significant at the 1% level). Specification (3) includes the *relative size* of the deal value to bidder size as an additional control for the size effect, as well as the *stock dummy*. Advisory fees are positively related to the relative size of the transaction, while they are lower when the payment includes stock, suggesting that advisors could indeed be cross-subsidizing advisory fees by the associated equity financing fees. Both variables are significant at the 5% level.

Specification (4) includes other deal-specific characteristics that are likely to influence advisory fees. Diversifying and hostile transactions, as well as tender offers, are likely to be more complex. Thus, we expect positive coefficients on these variables. We also control for the bubble period associated with the late 90s. From the newly added variables, only the diversification dummy appears to be significant (at the 5% level). The top-tier variable remains positive and significant, at the 1% level, in this regression.

Finally, specification (5) adds *sigma* as an additional explanatory variable, which represents uncertainty about the value of the bidder. We expect advisory fees to be higher for firms that are more difficult to value. As expected, advisory fees are positively related to the uncertainty about the value of the bidding firm. The coefficient is significant at the 1% level. The coefficient on *top-tier* is positive and significant, at the 1%, suggesting that, all else equal, top-tier advisors charge a fee that is, on average, 0.16% percentage points higher than non-top-tier investment banks. In addition, the explanatory power of this model is quite high, as it explains more than 36% of the variation in advisory fees.

[Please Insert Table V About Here]

So far, there is evidence that top-tier advisors complete better deals and charge higher fees for their services. Surprisingly, with regards to bidder returns, this is in contrast with the

evidence presented by McLaughlin (1992), Servaes and Zenner (1996), Rau (2000) and Kale et al. (2003). Several reasons might explain this finding. First, this may be due to the fact that our study is based on a relatively larger sample. Second, we control for additional firm- and deal-specific characteristics; failure to do so may have resulted in mis-specified models, affecting the results of earlier studies.

It should be emphasized that the above analysis is based on the assumption that the choice of the advisor is exogenously determined. However, as shown in Table II, there are significant differences in bidder- and deal-specific characteristics between the two categories of advisors, suggesting that the advisors could be determined endogeneously. Additionally, a decision to employ a top-tier or a less prestigious advisor is a matter of choice on the part of the bidder and the advisor. In this case self-selection bias emerges, producing unreliable OLS estimates, as shown by Heckman (1979). In fact, he argues that self-selection bias is similar in nature to specification error (omitted variable bias) and proposes a two-step procedure that controls for it.

IV. Modeling Endogeneity

A. The Model

Our analysis so far was based on the following model:

$$y_i = X_i'\beta + \gamma Top - tier_i + u_i, \quad (1)$$

where X_i' is a vector of firm and deal specific characteristics, $Top - tier_i$ is a dummy for top-tier advisors, and u_i is the error term. This setup implicitly assumes that top-tier is exogenous in equation (1). If $Top - tier_i$ is endogenous, then equation (1) cannot be consistently

estimated by OLS. Heckman (1979) proposed a simple two stage estimator to correct for this bias. First, the following equation is estimated by probit:[7]

$$Top - tier_i = Z_i'\delta + \varepsilon_i \quad (2)$$

Z_i' is a vector of characteristics that affect the choice between a top-tier advisor and a non-top-tier advisor, and ε_i is the error term of the selection equation. Given the binary nature of our reputation measure,

$$Top - tier_i = 1 \; iff \; Z_i'\delta + \varepsilon_i > 0 \quad \text{and} \quad Top - tier_i = 0 \; iff \; Z_i'\delta + \varepsilon_i \leq 0 \quad (3)$$

When u_i and ε_i are correlated, OLS estimates in equation (1) are biased. However, it has been shown that if equation (1) is replaced by:

$$y_i = X_i'\beta + \omega\frac{\varphi(Z_i'\delta)}{\Phi(Z_i'\delta)}Top - Tier_i + \omega\frac{-\varphi(Z_i'\delta)}{1-\Phi(Z_i'\delta)}(1 - Top - Tier_i) + v_i, \quad (4)$$

where φ (.) and Φ (.) are the density function and the cumulative distribution function of a standard normal, respectively, then equation (4) can be consistently estimated by OLS. Moreover, the coefficient ω will determine the effect of advisor reputation on y_i. This model appears in Puri (1996), Gande et al. (1997) and Gande, Puri and Saunders (1999) in their studies of commercial banks entry to the bond underwriting market.

However, this setup is somewhat restrictive, as it does not allow for any differences in the effect of bidder- and deal-specific characteristics on the outcome variables between the two types of advisors. A more general approach is to utilize a switching regression model with endogenous switching, whereby equation (4) is replaced by two equations:

[7] The reader can refer to Maddala (1983) for a detailed discussion of the model and the properties of the two-stage estimator.

$$y_{1i} = X_i^{'}\beta_1 + u_{1i} \tag{5}$$

$$y_{2i} = X_i^{'}\beta_2 + u_{2i} \tag{6}$$

Equation (5) is the outcome equation (bidder CAR or advisory fee) for the top-tier group, and (6) is the outcome equation for the non-top-tier group, but for the same deal. Of course, we only observe y_{1i} or y_{2i}, depending on the advisor used. Thus:

$$y_i = y_{1i} \;\; iff \;\; Top - Tier_i = 1 \quad \text{and} \quad y_i = y_{2i} \;\; iff \;\; Top - Tier_i = 0 \tag{7}$$

Endogeneity is modeled by allowing for the correlation between the residuals of the selection and outcome equations (ε_i and $u_{1i}(u_{2i})$). This implies that the unobserved determinants of the advisor choice can now affect the outcome variable of interest. The following covariance matrix is, thus, nondiagonal:

$$cov\,(u_{1i}, u_{2i}, \varepsilon_i) = \begin{pmatrix} \sigma_{11} & \sigma_{12} & \sigma_{1\varepsilon} \\ \sigma_{21} & \sigma_{22} & \sigma_{2\varepsilon} \\ \sigma_{1\varepsilon} & \sigma_{2\varepsilon} & 1 \end{pmatrix} \tag{8}$$

Since we only observe (5) or (6) depending on the outcome of (2), and never both, the observed y_i becomes a conditional variable, and the error terms in equations (5) and (6) do not have a zero mean. However, it turns out that if equation (5) is augmented with an additional regressor $\frac{\varphi(Z_i^{'}\delta)}{\Phi(Z_i^{'}\delta)}$, then the non-zero mean of u_{1i} is adjusted for and the equation can be consistently estimated by OLS. Accordingly, for equation (6) this is $\frac{-\varphi(Z_i^{'}\delta)}{1-\Phi(Z_i^{'}\delta)}$. These additional regressors represent the Inverse Mills Ratio.

This is a generalization of the classical Heckman (1979) two-stage procedure and appears in Lee (1978) in a study of unionism and wages, in Dunbar (1995) in a study on the use of warrants for underwriter compensation, and in Fang (2005) in a study of investment bank reputation and the price and quality of bond underwriting services.

Since we only observe a deal advised by a top-tier or a non-top-tier advisor, we need to resort to the following question: "what would have been the CAR (the advisory fee) for the same deal, had it been advised by an alternative advisor", to infer the effect of advisor reputation on y_i. This question can be answered by comparing the outcome under a top-tier advisor and the potential outcome with a non-top-tier advisor. Econometrically, the potential outcome can be estimated by evaluating $X_i'\beta$ in the alternative advisor outcome equation:

$$E[y_{2i}|Top-Tier_i=1] = E\left[X_i'\beta_2 + u_{2i}|Z_i'\delta + \varepsilon_i > 0\right]$$
$$= E\left[X_i'\beta_2 + u_{2i} + cov(u_{2i},\varepsilon_i)\frac{\varphi(Z_i'\delta)}{\Phi(Z_i'\delta)}\right] \quad (9)$$

The difference between the actual and hypothetical outcome is then computed and forms the basis of inference:

$$E[y_{2i}|Top-Tier_i=1] - y_{1i} \quad (10)$$

The hypothetical value $E[y_{1i}|Top-Tier_i=0]$ and the associated improvement are computed similarly.

B. Empirical Setup

One of the requirements of the Heckman two-stage procedure is a variable that is present in the first-stage equation but not in the second-stage equation(s) (Wooldridge (2009)). Ideally, it should be a variable that has an influence on the choice of advisor, but not on the outcome. In the spirit of Fang (2005), we construct a *scope* variable to serve as such identification restriction. Scope measures the extent to which the bidding firm used the services of a top-tier investment bank in the past.[8] To construct this variable, we download

[8] The extent to which the bidding firm used the services of the *same* advisor in the past may create an informational advantage for that advisor, possibly leading to better acquisitions. For this reason, the scope

data on equity issues, bond issues and mergers and acquisitions from the SDC database. The scope variable takes the value of 1 if in the 5 years prior to the deal the bidder employed a top-tier investment bank at least once for an equity issue, a bond issue or an acquisition. It takes the value of 2 if a top-tier bank was employed for two of the three types of transactions, and the value of 3 if in all three types of transactions a top-tier investment bank was employed. The scope variable takes the value of 0 if a top-tier bank was never employed for any of these corporate transactions in the 5-year period prior to the deal announcement. We exclude the tender offers dummy and the premium from the selection equation, as the acquisition technique and the valuations are, generally, determined by the advisor, not *vice versa*. [9]

V. Endogeneity Control - Empirical Analysis

A. Endogeneity and CARs

Table VI presents the results for the Heckman analysis. The *scope* variable is a highly significant determinant, at the 1% level, of the choice between a top-tier and a non-top-tier advisor, similar to Fang (2005). The extent to which the bidder used the services of a top-tier bank in the past is positively related to the decision to employ a top-tier bank again. *Size* is also positively related to the probability of choosing a top-tier advisor, as well as the *relative size* of the deal. Both coefficients are significant at the 1% level. In addition, *sigm*a and *hostility* indicators are positively related, at the 5% and 10% level, resepectively, to the choice of a top-tier advisor. This suggests that top-tier advisors are hired in more complex transactions (where the uncertainty about the value of the bidder is high and where the target resists the bid), consistent with Servaes and Zenner (1996). The choice of a top-tier advisor is not related, at conventional levels of significance, to the *insider ownership* variable and

variable measures the extent to which the bidding firm used the services of *any* top-tier advisor, rather than a particular investment bank.

[9] The results are unchanged when these variables are included in the probit regression.

CEO/Chairman split dummy. This contradicts Rau and Rodgers (2002) who suggest that top-tier advisors are hired by firms with more pronounced agency problems. Overall, Pseudo R^2 indicates that the model explains as much as 23.1% of the choice between a top-tier and a non-top-tier advisor.

From the first-stage equation, an i*nverse Mills ratio* is constructed and added as an additional regressor to the second stage equation. The coefficient on this endogeneity control is positive and significant at the 5% level (specification 2). This is an indication of self-selection bias which can be interpreted as follows: certain observed and unobserved characteristics increasing the likelihood of choosing a top-tier advisor contribute to further increase bidder CARs. If one interprets the unobserved component as advisor's skill, then it can be argued that top-tier advisors identify better acquisitions and/or negotiate better terms.

However, this setup is somewhat restrictive, since it does not allow for any interactions between advisor reputation and other determinants of the dependent variable of interest. There is no reason to believe that the effect of certain firm- and deal-specific characteristics should be the same for the two groups of advisors. An alternative way is to specify two second-stage equations – one for top-tier advisors, and one for non-top-tier advisors. Such a setup allows for a complete set of interactions. As before, inverse Mills ratio is constructed from the first-stage equation and added as an additional explanatory variable to the second-stage equations. It allows the coefficients to be reliably estimated by OLS. A significant coefficient on the inverse Mills ratio in one of the equations is an indication of self-selection being present. This coefficient is negative and significant, at the 5% level, in the non-top-tier equation, confirming the presence of self-selection. Given that the selection variable itself for this equation is negative by construction, the product of the coefficient and the inverse Mills

ratio is positive. This suggests that we only observe the upper sections of the non-top-tier CAR distribution given fixed bidder and deal-specific characteristics.[10]

One of the advantages of the two second-stage equations setup is that it allows relaxing the assumption of equality of the coefficients in the two equations for the two types of advisors, while the inverse Mills ratio corrects the coefficients for any self-selection bias. Effectively, our empirical model has two regimes and two sets of parameters (one for top-tier and another for non-top-tier advisors), which constitutes a non-linear approach to modeling the effect of reputation, allowing us to make inferences beyond those documented by prior studies. Interestingly, the well documented *size* effect appears to be confined to the non-top-tier advisor group. Moeller et al. (2004) suggest that large bidders are more prone to hubris and, thus, overpay for targets. However, reputation concerns of top-tier financial advisors provide an incentive for bankers to limit hubris-induced acquisition activity of the bidder. We argue that the presence of a top-tier advisor protects investors against hubris-related effects, resulting in the disappearance of the size effect. This is further confirmed by the negative and significant coefficient on the premium variable in the non-top-tier equation, but not in the top-tier, suggesting that higher premiums are not signals of overpaying when a top-tier advisor is on board.[11]

The same is true for the *cash flows/equity* variable, which is a measure of the bidder free cash flow. Again, top-tier advisors have the incentives to limit empire-building behavior, fueled by free cash flow, as they have more reputational capital at stake. Accordingly, investors do not penalize bidders with high free cash flow in the presence of a top-tier investment bank.

[10] In general, the selection effect needs not be positive or negative. The signs are determined by the second moments of ε_i, u_{1i} and u_{2i} (Lee (1978)).

[11] There could be an alternative explanation for the disappearance of the size effect in the top-tier category of investment banks. To the extent that top-tier (non-top-tier) investment banks advise larger (smaller) firms, the cross-sectional variation in bidder size is reduced in both sub-samples. This could work against our finding a significant relationship between bidder CARs and bidder size. However, for this explanation to be valid, we should expect the size effect to disappear in both sub-samples. In our case, the size effect is highly statistically significant (at the 1% level) in the non-top-tier sub-sample.

Finally, the *98-2000* indicator is negative and significant, at the 1% level, only in the non-top-tier advisors equation. Apparently, top-tier advisors are not responsible for the value-destroying acquisitions associated with this time period (Moeller et al. (2005)).

[Please Insert Table VI About Here]

B. Endogeneity and Advisory Fees

Table VII presents the Heckman two-stage procedure for advisory fees. *Hostility* variable was omitted from the selection equation as it perfectly predicts the choice of a top-tier advisor in the sub-sample where we have data on advisory fees. As for CARs analysis, we exclude *tender offers* dummy from the matching equation, as the acquisition technique is generally determined by the advisor, not *vice-versa*.[12] The coefficient on the inverse Mills ratio is positive and significant, at the 1% level, in specification (2) for the overall sample, while it is significant at the 5% level, in specification (3) for top-tier advisors only, confirming the importance of controlling for self-selection bias.

[Please Insert Table VII About Here]

To infer reputation effects, given the presence of self-selection bias, we need to resort to the following question: What would have been the outcome, had the same deal been advised by an alternative type of advisor?

C. What-If Analysis

We use a switching regression model with endogenous switching which allows us to answer the above *what-if* type of question. This can be done by evaluating bidder and deal characteristics of the acquisitions advised by top-tier advisors in the non-top-tier equation, and *vice versa*. Table VIII presents the results of this analysis. Reinforcing the insights gained from the coefficient on the inverse Mills ratio, the results point out that a non-top-tier advisor

[12] The results hold when the tender offers dummy is included in the regression.

would have delivered a significantly lower CAR and would have charged a significantly lower fee than a top-tier advisor. The improvement in CAR of the non-top-tier advisors is a negative 0.98%. Consistent with the lower quality of the service, the advisory fee is reduced by 0.12%. Both numbers are statistically, and economically, significant at the 1% level.

Similarly, deals advised by non-top-tier advisors would have been better by 1.05%, on average, if a top-tier investment bank had been employed. Interestingly, the magnitude of the improvement is very close to the effect estimated by OLS. Again, this improvement, introduced by the top-tier advisor, would have been priced in the fee (a premium of 0.23%).

Assuming market efficiency, bidder CAR incorporates all publicly available information regarding the NPV of the proposed transaction, including the advisory fee. Therefore, the *net wealth effect* of using the services of a top-tier advisor is positive. For a median bidder in our sample, a 1.05% improvement in bidder CAR translates into a non-trivial $13.98 million of shareholder value. Thus, we conclude that top-tier banks provide better services by completing superior deals, and charge premium prices for their work. This type of premium quality – premium price equilibrium is consistent with the product market literature (Klein and Leffler (1981), Shapiro (1983) and Allen (1984)) and the model of Chemmanur and Fulghieri (1994) on information production by financial intermediaries.

[Please Insert Table VIII About Here]

These findings have important practical implications. Firstly, they suggest that the current practice of constructing "League Tables" of financial advisors based on the value of deals they advised is consistent with the notion that the position of the investment bank in these rankings signals the quality of its services Secondly, the ability of top-tier advisors to charge premium fees provides them with an incentive to build up and protect their reputational capital, which in turn results in high quality services for their clients.

VI. Information Asymmetry and In-House Acquisitions

One of the theoretical predictions of Chemmanur and Fulghieri (1994) refers to non-underwritten equity issues. The model suggests that firms prefer to use an investment bank, and only decide to proceed with non-underwritten issues when information asymmetry faced by the issuer in the equity market is low. For example, only 10% percent of seasoned equity offerings did not involve an investment bank, despite the lower costs of doing so (Smith (1977)). Applying the same logic to the M&A market, we expect that: i) the majority of deals should involve financial advisors, and ii) "In-House" acquisitions should be associated with low information asymmetry faced by the bidding firm.[13]

Consistent with the first prediction, only 205 (or 11.2%) of the deals in our sample are "in-house" deals. We perform probit regression analysis of the decision to employ a financial advisor to test the second prediction. In our tests (specifications (1), (3) and (5)), we use *sigma* as a measure of bidder information asymmetry. For robustness reasons we estimate the regressions (specification (2), (4) and (6)) using an alternative measure of information asymmetry, namely the ratio of bidder *intangible assets to total assets* (as in Officer, Poulsen and Stegemoller (2009)). Table IX presents the results. In specifications (1) and (2) we include our information asymmetry measures alongside firm- and deal-specific characteristics. Both measures are positive and significant at the 1% level, indicating that the higher the bidder information asymmetry, the higher the chances that the bidder employs a financial advisor. In addition, large and high book-to-market bidders are also more likely to use an investment bank for an acquisition. *Relative size* also has a positive effect on the decision to employ an advisor, while the *98-2000* dummy is significantly negative, at the 1% level, implying that this time period was associated with in-house acquisitions.

[13] Since the value of the firm reflects its standalone value plus any synergies from potential acquisitions, bidders with relatively higher information asymmetry need investment banks, which have extensive knowledge of the takeover market, to reduce this information asymmetry.

Specifications (3) and (4) add accounting, ownership, and corporate governance characteristics of the bidding firm. More profitable firms are more likely to employ a financial advisor, as well as firms with more debt in their capital structure. Firms which split the roles of CEO and Chairman are also more likely to employ an advisor. *Insider ownership* does not seem to have a significant effect on the decision to retain financial advice, while sigma and intangibles remain positive and significant at the 1% and 5% level, respectively.

Finally, specifications (5) and (6) incorporate bidder in-house M&A expertise, and M&A experience in general. *In-house expertise* is the number of in-house acquisitions made by the bidder in the previous 5 years. *M&A exp*erience is the overall number of acquisition made by the bidding firm in the 5-year period prior to the deal. We use SDC data to construct both variables. We expect both variables to be negatively related to the decision to employ an advisor. The coefficient on in-house expertise is negative and significant at the 1% level. The firm's overall *M&A experience* is insignificant, at conventional levels, in specification (5), while it is positive and marginally significant in specification (6), contrary to Servaes and Zenner (1996). Apparently, it is not the overall M&A experience, but the "in-house" expertise of the bidder that affects this decision. In both specifications, our main variables of interest, *sigma* and *intangible assets to total assets*, remain positive and significant (at the 5% and 10% level, respectively). As a matter of fact, our regressions explain up to almost 30% of the decision to employ an advisor. We conclude that bidder information asymmetry is a significant determinant of the decision to employ a financial advisor for a corporate control transaction.

[Please Insert Table IX About Here]

VII. Conclusion

This paper presents new evidence regarding the effect of investment banks' reputation on M&As quality and advisory fees. The existing literature reports either a negative

(significant) or an insignificant relationship between financial advisors and bidder abnormal returns. In addition, advisory fees constitute a relatively less explored area. Contrary to prior evidence, but consistent with the theoretical implications of the model of Chemmanur and Fulghieri (1994), we show a positive relationship between advisor reputation and quality of their services. In particular, M&As advised by top-tier advisors are associated with relatively higher bidder abnormal returns. Also consistent with the above model, we also report a positive relationship between advisor reputation and advisory fees. The findings are economically, as well as statistically, significant and are based on models which include a comprehensive list of control variables. We also demonstrate the existence of endogeneity in the bidder-advisor matching, implying that OLS estimates are potentially inconsistent. This advocates the use of a model that explicitly controls for this bias. Moreover, we document interesting differences in the effect of several determinants of bidder abnormal returns across the two types of advisors (top-tier and non-top-tier). In particular, the well documented size effect appears to be confined to the non-top-tier category. The same is true for the variables measuring free cash flow and bid premium, which are significantly negative in the non-top-tier group, but not in the top-tier one. Additionally, the wealth destruction, based on abnormal bidder returns, associated with the 98-2000 period is limited to the non-top-tier advisors. All in all, these findings suggest superiority of top-tier advisors in information production and certifying value. We conclude that it pays off to pay for a top-tier financial advisor.

We also examine why some firms do not employ any financial advisor. Bidding firms do not retain external financial advice when their information asymmetry is low. Further, bidders do not hire an investment bank for a deal when it is relatively small, and when bidder "in-house" M&A expertise is high. Overall, this study is the first one in M&As to provide empirical support to the theoretical predictions of the Chemmanur and Fulghieri (1994) model of information production by financial intermediaries.

REFERENCES

Allen, Franklin, 1984, Reputation and product quality, *RAND Journal of Economics* 15, 311-327.

Allen, Linda, Julapa Jagtiani, Stavros Peristiani, and Anthony Saunders, 2004, The role of bank advisors in mergers and acquisitions, *Journal of Money, Credit & Banking* 36, 197-224.

Amihud, Yakov, Baruch Lev, and Nickolaos G. Travlos, 1990, Corporate control and the choice of investment financing: The case of corporate acquisitions, *Journal of Finance* 45, 603-616.

Bao, Jack, and Alex Edmans, 2009, Do investment banks have skill? Performance persistence of M&A advisors, Working Paper, Ohio State University and University of Pennsylvania.

Bauguess, Scott W., Sara B. Moeller, Frederik P. Schlingemann, and Chad J. Zutter, 2009, Ownership structure and target returns, *Journal of Corporate Finance* 15, 48-65.

Bodnaruk Andriy, Massimo Massa, and Andrei Simonov, 2009, Investment banks as insiders and the market for corporate control, *Review of Financial Studies* 22, 4989-5026.

Booth, James R., and Richard L. Smith, II, 1986, Capital raising, underwriting, and the certification hypothesis, *Journal of Financial Economics* 15, 261-281.

Bowers, Helen M., and Robert E. Miller, 1990, Choice of investment banker and shareholders' wealth of firms involved in acquisitions, *Financial Management* 19, 34-44.

Campa, Jose Manuel, and Simi Kedia, 2002, Explaining the diversification discount, *Journal of Finance* 57, 1731-1762.

Chemmanur, Thomas J., and Paolo Fulghieri, 1994, Investment bank reputation, information production, and financial intermediation, *Journal of Finance* 49, 57-79.

Dierkens, Nathalie, 1991, Information asymmetry and equity issues, *Journal of Financial & Quantitative Analysis* 26, 181-199.

Dong, Ming, David Hirshleifer, Scott Richardson, and Teoh Siew Hong, 2006, Does investor misvaluation drive the takeover market?, *Journal of Finance* 61, 725-762.

Dunbar, Craig G., 1995, The use of warrants as underwriter compensation in initial public offerings, *Journal of Financial Economics* 38, 59-78.

Faccio, Mara, John J. McConnell, and David Stolin, 2006, Returns to acquirers of listed and unlisted targets, *Journal of Financial & Quantitative Analysis* 41, 197-220.

Fang, Lily Hua, 2005, Investment bank reputation and the price and quality of underwriting services, *Journal of Finance* 60, 2729-2761.

Gande, A., M. Puri, A. Saunders, and I. Walter, 1997, Bank underwriting of debt securities: modern evidence, *Review of Financial Studies* 10, 1175-1202.

Gande, Amar, Manju Puri, and Anthony Saunders, 1999, Bank entry, competition, and the market for corporate securities underwriting, *Journal of Financial Economics* 54, 165-195.

Heckman, James J., 1979, Sample selection bias as a specification error, *Econometrica* 47, 153-161.

Jensen, Michael C., 1986, Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323-329.

Jensen, Michael C., and Richard S. Ruback, 1983, The market for corporate control, *Journal of Financial Economics* 11, 5-50.

Kale, Jayant R., Omesh Kini, and Harley E. Jr Ryan, 2003, Financial advisors and shareholder wealth gains in corporate takeovers, *Journal of Financial & Quantitative Analysis* 38, 475-501.

Klein, Benjamin, and Keith B. Leffler, 1981, The role of market forces in assuring contractual performance, *Journal of Political Economy* 89, 615-641.

Lang, Larry H. P., René M. Stulz, and Ralph A. Walkling, 1989, Managerial performance, Tobin's Q, and the gains from successful tender offers, *Journal of Financial Economics* 24, 137-154.

Lang, Larry H. P., René M. Stulz, and Ralph A. Walkling, 1991, A test of the free cash flow hypothesis: The case of bidder returns, *Journal of Financial Economics* 29, 315-336.

Lee, Lung-Fei, 1978, Unionism and wage rates: a simultaneous equations model with qualitative and limited dependent variables, *International Economic Review* 19, 415-433.

Lehn, Kenneth, and Annette Poulsen, 1989, Free cash flow and stockholder gains in going private transactions, *Journal of Finance* 44, 771-787.

Maddala, G.S., 1983. *Limited-Dependent and Qualitative Variables in Econometrics* (Cambridge University Press, Cambridge).

Masulis, Ronald W., Cong Wang, and F. E. I. Xie, 2007, Corporate governance and acquirer returns, *Journal of Finance* 62, 1851-1889.

McLaughlin, Robyn M., 1990, Investment-banking contracts in tender offers: An empirical analysis, *Journal of Financial Economics* 28, 209-232.
McLaughlin, Robyn M., 1992, Does the form of compensation matter?, *Journal of Financial Economics* 32, 223-260.
Michel, Allen, Israel Shaked, and You-Tay Lee, 1991, An evaluation of investment banker acquisition advice: The shareholders' perspective, *Financial Management* 20, 40-49.
Moeller, Sara B., Frederik P. Schlingemann, and René M. Stulz, 2004, Firm size and the gains from acquisitions, *Journal of Financial Economics* 73, 201-228.
Moeller, Sara B., Frederik P. Schlingemann, and René M. Stulz, 2005, Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave, *Journal of Finance* 60, 757-782.
Moeller, Sara B., Frederik P. Schlingemann, and René M. Stulz, 2007, How do diversity of opinion and information asymmetry affect acquirer returns?, *Review of Financial Studies* 20, 2047-2078.
Morck, Randall, Andrei Shleifer, and Robert W. Vishny, 1990, Do managerial objectives drive bad acquisitions?, *Journal of Finance* 45, 31-48.
Myers, Stewart C., and Nicholas S. Majluf, 1984, Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics* 13, 187-221.
Officer, Micah S., 2003, Termination fees in mergers and acquisitions, *Journal of Financial Economics* 69, 431-467.
Officer, Micah S., Annette Poulsen, and Mike Stegemoller, 2009, Target-firm information asymmetry and acquirer returns, *Review of Finance* 13, 467-493.
Puri, Manju, 1996, Commercial banks in investment banking: conflict of interest or certification role?, *Journal of Financial Economics* 40, 373-401.
Rau, Raghavendra P., 2000, Investment bank market share, contingent fee payments, and the performance of acquiring firms, *Journal of Financial Economics* 56, 293-324.
Rau, Raghavendra, and Kimberly J. Rodgers, 2002, Do bidders hire top-tier investment banks to certify value?, Working Paper, Purdue University and Penn State University.
Rosen, Richard J., 2006, Merger momentum and investor sentiment: The stock market reaction to merger announcements, *Journal of Business* 79, 987-1017.
Rossi, Stefano, and Paolo F. Volpin, 2004, Cross-country determinants of mergers and acquisitions, *Journal of Financial Economics* 74, 277-304.
Schwert, William G., 2000, Hostility in takeovers: In the eye of beholder?, *Journal of Finance* 55, 2599-2640.
Servaes, Henri, 1991, Tobin's Q and gains from takeovers, *Journal of Finance* 46, 409-419.
Servaes, Henri, and Marc Zenner, 1996, The role of investment banks in acquisitions, *Review of Financial Studies* 9, 787-815.
Shapiro, Carl, 1983, Premiums for high quality products as returns to reputations, *Quarterly Journal of Economics* 98, 659-679.
Smith, Clifford W., 1977, Alternative methods for raising capital, *Journal of Financial Economics* 5, 273-307.
Travlos, Nickolaos G., 1987, Corporate takeover bids, methods of payment, and bidding firms' stock returns, *Journal of Finance* 42, 943-963.
Villalonga, Belén, 2004, Diversification discount or premium? New evidence from the Business Information Tracking Series, *Journal of Finance* 59, 479-506.
Wooldridge, Jeffrey M., 2009. *Introductory Econometrics: A Modern Approach* (Thomson South Western, Mason, OH).

Table I

Top-25 US Financial Advisor Rankings by Transaction Value

This table presents financial advisor rankings for the Top-25 investment banks according to the value of M&A transactions announced and completed for the sample period 1996 to 2005 drawn from the SDC US Mergers and Acquisitions Database. Transaction value is in US$ mil. The number of deals announced or completed by each advisor is also presented. Credit is allocated fully to both bidder and target firm advisors and to each eligible advisor in case of multiple advisors for a single party. Equity carve-outs, exchange offers and open market repurchases are excluded.

Announced Transactions				Completed Transactions			
Rank	**Financial Advisor**	**Transaction Value**	**Number of Deals**	**Rank**	**Financial Advisor**	**Transaction Value**	**Number of Deals**
			Top-Tier Financial Advisors				
1	Goldman Sachs	4,268,118	2,353	**1**	Goldman Sachs	4,144,958	2,272
2	Merrill Lynch	3,370,968	2,990	**2**	Merrill Lynch	3,288,954	2,911
3	Morgan Stanley	3,130,148	2,092	**3**	Morgan Stanley	3,029,886	2,049
4	JP Morgan	2,845,649	2,791	**4**	JP Morgan	2,667,194	2,704
5	Credit Suisse First Boston	2,502,016	2,991	**5**	Credit Suisse First Boston	2,508,801	2,933
6	Citi/Salomon Smith Barney	2,404,067	2,347	**6**	Citi/Salomon Smith Barney	2,294,846	2,282
7	Lehman Brothers	1,386,188	1,209	**7**	Lehman Brothers	1,326,126	1,175
8	Lazard	1,056,073	1,027	**8**	Lazard	972,177	994
			Non-Top-Tier Financial Advisors (shown up to Top-25th)				
9	UBS	989,482	1,315	**9**	UBS	901,295	1,298
10	Deutsche Bank	775,590	1,283	**10**	Deutsche Bank	755,204	1,261
11	Commerzbank	599,292	485	**11**	Commerzbank	607,595	468
12	Houlihan Lokey Howard & Zukin	237,106	1,217	**12**	Houlihan Lokey Howard & Zukin	221,592	1,117
13	Evercore Partners	209,791	65	**13**	Rothschild	195,326	395
14	Rothschild	205,199	407	**14**	CIBC World Markets	184,247	514
15	CIBC World Markets	186,502	528	**15**	Evercore Partners	178,211	55
16	Greenhill & Co	160,024	118	**16**	RBS	149,732	473
17	RBS	148,029	465	**17**	Greenhill & Co	145,841	110
18	Blackstone Group	148,012	149	**18**	RBC Capital Markets	137,111	932
19	RBC Capital Markets	138,716	932	**19**	Societe Generale	133,483	320
20	Societe Generale	130,384	321	**20**	Jefferies	126,369	984
21	Jefferies	126,459	999	**21**	Allen	118,245	60
22	Wells Fargo	126,023	410	**22**	Blackstone Group	113,596	136
23	Allen	117,223	61	**23**	Nomura	106,947	207
24	Keefe Bruyette & Woods	113,249	421	**24**	Wells Fargo	101,722	396
25	Nomura	110,089	214	**25**	Thomas Weisel Partners	93,974	127

Table II
Sample Descriptive Statistics

The table presents sample descriptive statistics of US public acquisitions over the sample period between January 1, 1996 and December 31, 2005 drawn from the SDC US Mergers and Acquisitions Database. Panels A and B describe the mean, median and number of deals by firm and deal characteristics, respectively for the whole sample as well as top-tier and non-top-tier advisors. Accordingly, Panels C and D show the same statistics for "In-House" deals and deals advised by an investment bank. *Top-tier* advisors are defined as the Top-8 financial advisors (Goldman Sachs, Merrill Lynch, Morgan Stanley, JP Morgan, Credit Suisse First Boston, Citi/Salomon Smith Barney, Lehman Brothers, and Lazard) according to the value of deals announced and completed by each bank. All others are the *non-top-tier* financial advisors. "*In-House*" deals include transactions completed where no financial advisor was involved. S*ize* is the bidder market value in US$ mil. 4 weeks prior to the acquisition announcement. *Book-to-market* is calculated as the bidder's net book value divided by its market value of equity four weeks prior to the acquisition announcement. *Leverage* is defined as bidder's total financial debt divided by total assets. *Operating performance* is defined as bidder's EBITDA divided by total assets at the beginning of the fiscal year before acquisition announcement. *Cash Flows/Equity* is the ratio of bidder's cash flow (computed as in Lehn and Poulsen, 1989) to the market value of equity. *Run-Up* is the market-adjusted buy and-hold return over the period starting 205 days to 6 days prior to the announcement of the deal. *Insider ownership* is the percentage of bidding firm stock owned by executive and non-executive directors collected from the Edgar database as for the latest proxy statement before the announcement. *CEO/Chairman split* is a binary variable taking the value of 1 if the bidder separates the roles of company's CEO and Chairman of the Board, and 0 otherwise. S*igma* is the standard deviation of the bidding firm's stock return in excess of the value-weighted market index return starting 205 days before and ending 6 days before the announcement. *Deal Value* is the transaction value in US$ mil. as reported by SDC. *Relative size* is the deal value divided by the bidder size four weeks prior the announcement. *Hostile* deals is a dummy variable that takes the value of one if the deals are classified by SDC as "hostile" or "unsolicited", and 0 otherwise. *Tender offers* dummy is an indicator variable which takes the value of 1 if the deal is a tender offer and 0 otherwise. *Cash* and *stock* deals are dummies that take the value of 1 if transactions are made with 100% cash or 100% stock, respectively and 0 otherwise. All others are defined as *mixed*. *Premium* is the difference between the offer price and target's stock price 4 weeks before the announcement divided by the latter after winsorizing values beyond the range of [0, 2] as in Officer (2003) in percentage. *CARs (-2, +2)* are computed using daily data with a market model (equally-weighted CRSP index return as the benchmark). The market model is estimated over the period starting 240 days to 41 days before the announcement date. Values are winsorized at the 1% and 99%. *Percentage fee* is the total advisory fee paid by the bidder to its advisor (excluding any fees for financing the transaction), as reported in SDC, scaled by the deal value, also reported in SDC, in percentage. Stock price data is from CRSP, accounting data is from COMPUSTAT. Statistical tests for differences in means and equality of medians for each characteristic of top-tier versus non-top-tier and in-house versus advisor used are also presented.

Table II – Continued

	All Sample (1)			Top-Tier (2)			Non-Top-Tier (3)			Difference (2)-(3)	
	Mean	**Median**	**N**	**Mean**	**Median**	**N**	**Mean**	**Median**	**N**	**p-value Mean**	**p-value Median**
Panel A: Bidder Characteristics											
Size	8,034.177	1,331.794	1828	13,200.090	3,572.760	761	3,226.762	451.974	862	0.000	0.000
Book-to-Market	0.470	0.413	1754	0.418	0.376	737	0.525	0.464	816	0.000	0.000
Leverage	0.231	0.204	1637	0.257	0.241	689	0.219	0.177	755	0.000	0.000
Operating Performance	0.089	0.085	1621	0.115	0.119	688	0.070	0.044	740	0.000	0.000
Cash Flows/Equity	0.072	0.079	1667	0.067	0.073	714	0.074	0.085	759	0.718	0.406
Run-Up	0.062	-0.045	1828	0.085	-0.039	761	0.047	-0.052	862	0.303	0.466
Insider Ownership	6.084	0.000	1828	4.949	0.000	761	7.298	0.000	862	0.001	0.000
% CEO/Chairman Split	21.550	-	1828	18.530	-	761	25.520	-	862	-	-
Sigma	0.030	0.024	1600	0.029	0.023	723	0.033	0.027	728	0.000	0.000
Panel B: Deal Characteristics											
Deal Value	1,802.019	251.999	1828	3,444.909	774.367	761	718.722	122.300	862	0.000	0.000
Relative Size	0.436	0.242	1828	0.478	0.247	761	0.477	0.303	862	0.979	0.022
% Diversifying Deals	29.814	-	1828	31.932	-	761	30.046	-	862	-	-
% Hostile Deals	1.090	-	1828	2.100	-	761	0.350	-	862	-	-
% Tender Offers	13.200	-	1828	15.240	-	761	12.180	-	862	-	-
% Cash Deals	15.480	-	1828	14.550	-	761	16.130	-	862	-	-
% Stock Deals	48.030	-	1828	42.310	-	761	48.610	-	862	-	-
% Mixed Deals	36.490	-	1828	43.240	-	761	35.260	-	862	-	-
% Premium	43.000	35.000	1627	41.722	34.950	728	43.196	34.780	743	0.553	0.668
CAR (-2, +2)	-2.098%	-1.484%	1828	-2.494%	-1.707%	761	-2.194%	-1.506%	862	0.488	0.437
Percentage Fee	0.637%	0.468%	596	0.536%	0.409%	254	0.712%	0.508%	342	0.024	0.007

Table II – Continued

	"In-House" (4)			Advisor Used (5)			Difference (4)-(5)	
	Mean	**Median**	**N**	**Mean**	**Median**	**N**	**p-value Mean**	**p-value Median**
Panel C: Bidder Characteristics								
Size	9,071.908	1,352.894	205	7,903.102	1,329.033	1623	0.201	0.966
Book-to-Market	0.443	0.406	201	0.474	0.416	1552	0.231	0.475
Leverage	0.187	0.161	193	0.237	0.211	1444	0.003	0.000
Operating Performance	0.071	0.032	193	0.092	0.093	1428	0.026	0.004
Cash Flows/Equity	0.081	0.082	194	0.071	0.079	1473	0.797	0.292
Run-Up	0.033	0.001	205	0.065	-0.048	1623	0.550	0.383
Insider Ownership	5.191	0.000	205	6.197	0.000	1623	0.338	0.321
% CEO/Chairman Split	16.100	-	205	22.240	-	1623	-	-
Sigma	0.024	0.020	149	0.031	0.025	1623	0.000	0.000
Panel D: Deal Characteristics								
Deal Value	258.421	73.038	205	1,996.989	306.032	1623	0.001	0.000
Relative Size	0.110	0.053	205	0.477	0.289	1623	0.000	0.000
% Diversifying Deals	20.976	-	205	30.930	-	1623	-	-
% Hostile Deals	0.490	-	205	1.170	-	1623	-	-
% Tender Offers	8.290	-	205	13.620	-	1623	-	-
% of Cash Deals	16.590	-	205	15.340	-	1623	-	-
% of Stock Deals	66.830	-	205	45.660	-	1623	-	-
% of Mixed Deals	16.580	-	205	39.000	-	1623	-	-
% Premium	48.034	36.365	156	44.349	34.820	1471	0.243	0.109
CAR (-2, +2)	-0.222%	-0.580%	205	-2.335%	-1.595%	1623	0.001	0.001
Percentage Fee	N/A	N/A	N/A	0.637%	0.467%	596	N/A	N/A

Table III
Variables Correlation Matrix

The table presents pairwise correlations of the variables. The sample consists of US public acquisitions over the period between January 1, 1996 and December 31, 2005. All variables are defined in Table II.

	Top-Tier	CAR	Fee	Size	Deal Value	B/M	Run-Up	Sigma	Diversif.	Hostile	Tender Offers	Premium	IO	C/C Split	Leverage	CF/Equity	Operating Perf.	Stock
CAR	-0.0170																	
Fee	-0.0927	0.0728																
Size	0.2340	-0.0400	-0.1325															
Deal Value	0.1860	-0.1168	-0.1433	0.5075														
Book-to-Market	-0.1366	0.1598	0.0933	-0.1739	-0.0850													
Run-Up	0.0256	-0.1763	-0.0773	0.0655	0.0607	-0.1998												
Sigma	-0.1059	-0.1272	0.3601	-0.1252	-0.0756	0.1208	0.1565											
Diversification	0.0204	0.0144	0.1363	0.0343	0.0025	-0.0657	-0.0233	-0.0054										
Hostile Deals	0.0814	0.0215	-0.0062	0.0048	0.0172	0.0683	-0.0248	-0.0296	0.0349									
Tender Offers	0.0446	0.1198	0.0863	-0.0149	-0.0520	-0.0054	-0.0619	-0.0342	0.1316	0.1625								
Premium	-0.0205	-0.0533	0.0381	-0.0456	-0.0341	-0.0310	0.1582	0.1454	0.0229	0.0498	0.1335							
Insider Ownership	-0.0821	0.0486	0.1252	-0.0569	-0.0287	0.0141	0.0450	0.2167	0.0021	0.0363	0.0197	0.0150						
CEO/Chair Split	-0.0839	-0.0159	0.0925	-0.0335	-0.0322	0.0451	-0.0271	0.0371	-0.0246	0.0088	-0.0170	-0.0170	0.0967					
Leverage	0.1043	0.0533	0.0319	-0.0214	0.0459	0.0167	0.0226	-0.1719	0.0214	0.0186	0.0190	-0.0707	0.0516	-0.0228				
Cash Flows/Equity	-0.0094	-0.0614	-0.1835	0.0025	0.0102	-0.2139	0.0076	-0.2286	0.0260	0.0220	0.0442	0.0029	-0.0249	-0.0101	0.1601			
Operating Perf.	0.1593	-0.0149	-0.0997	0.1482	0.0675	-0.3363	0.0025	-0.3105	0.0600	0.0356	0.1888	-0.0004	-0.0587	-0.0037	0.0687	0.5085		
Stock	-0.0099	-0.1705	-0.1854	0.0155	0.0924	-0.0446	0.1213	0.1456	-0.1161	-0.0625	-0.5477	-0.1039	-0.0166	0.0258	-0.0675	-0.0487	-0.1682	
Relative Size	0.0006	-0.0594	-0.0613	-0.1103	0.1224	0.1804	-0.0305	0.0830	-0.0159	0.0330	-0.0249	-0.0242	0.1013	0.0538	0.2310	-0.0899	-0.0735	0.0627

Table IV
Cross-Sectional Regression Analysis (OLS) of Bidder CARs on Advisor Reputation and Bidder- and Deal-Specific Characteristics

The table presents the results of the cross-sectional OLS regression analysis of bidder 5-day CARs on advisor reputation and other bidder- and deal- characteristics for US public acquisitions over the sample period 1996-2005. Bidder CAR is the average cumulative abnormal return in the event window (-2, +2) around the acquisition announcement. CARs are computed using daily data with a market model (equally-weighted CRSP index return as the benchmark), with values winsorized at the 1% and 99%. The market model is estimated over the period starting 240 days to 41 days before the announcement date. See Table II for the definitions of the variables. 98-2000 dummy is a binary variable that takes the value of 1 if the deal is announced over the period 1998-2000 and 0 otherwise. The symbols a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. White's heteroskedasticity-adjusted t-statistics are reported in parentheses. N denotes the number of observations.

	(1)	(2)	(3)	(4)	(5)
Intercept	-0.0219[a]	-0.0031	0.0356[b]	0.0312[c]	0.0412[b]
	(-7.18)	(-0.18)	(2.01)	(1.76)	(2.13)
Top-Tier	-0.0031	0.0077	0.0106[b]	0.0105[b]	0.0136[b]
	(-0.69)	(1.48)	(2.00)	(1.99)	(2.44)
Size		-0.0027	-0.0043[a]	-0.0039[b]	-0.0052[a]
		(-1.62)	(-2.60)	(-2.34)	(-2.92)
Book-to-Market		0.0292[a]	0.0297[a]	0.0311[a]	0.0124
		(2.61)	(2.99)	(3.14)	(0.96)
Run-Up		-0.0156[a]	-0.0113[b]	-0.0116[a]	-0.0175[a]
		(-3.59)	(-2.55)	(-2.64)	(-4.58)
Sigma		-0.6256[a]	-0.5766[a]	-0.6454[a]	-0.3345
		(-3.32)	(-3.04)	(-3.36)	(-1.44)
Relative Size			-0.0120[a]	-0.0125[a]	-0.0125[b]
			(-2.85)	(-3.10)	(-2.08)
Stock Dummy			-0.0263[a]	-0.0250[a]	-0.0243[a]
			(-5.29)	(-5.06)	(-4.63)
Diversification Dummy			0.0039	0.0041	0.0000
			(0.77)	(0.81)	(0.00)
Hostile Deals			0.0020	-0.0013	0.0014
			(0.16)	(-0.10)	(0.12)
Tender Offers Dummy			0.0172[b]	0.0174[b]	0.0147[b]
			(2.52)	(2.57)	(2.14)
98-2000 Dummy			-0.0095[b]	-0.0103[b]	-0.0149[a]
			(-1.96)	(-2.12)	(-2.94)
Premium			-0.0126	-0.0121	-0.0130
			(-1.53)	(-1.46)	(-1.58)
Insider Ownership				0.0005[b]	0.0002
				(2.36)	(0.95)
CEO/Chair Split Dummy				-0.0040	-0.0054
				(-0.76)	(-0.95)
Leverage					0.0180
					(0.93)
Cash Flows/Equity					-0.0399
					(-1.05)
Operating Performance					0.0373
					(1.15)
Adjusted R^2	-0.000	0.062	0.107	0.111	0.091
N	1623	1390	1330	1330	1102

Table V

Cross-Sectional Regression Analysis (OLS) of Advisory Fees on Advisor Reputation and Bidder- and Deal-Specific Characteristics

The table presents the results of the cross-sectional OLS regression analysis of percentage advisor fee on advisor reputation and other bidder- and deal-specific characteristics for US public acquisitions over the sample period 1996-2005. Advisory fee is the total fee paid by the bidder to its advisor (excluding any fees for financing the transaction), as reported in SDC, scaled by the deal value, also reported in SDC, in percentage. See Table II for the definitions of the variables. 98-2000 dummy is a binary variable that takes the value of 1 if the deal is announced over the period 1998-2000 and 0 otherwise. The symbols a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. White's heteroskedasticity-adjusted t-statistics are reported in parentheses. N denotes the number of observations.

	(1)	(2)	(3)	(4)	(5)
Intercept	0.0071[a]	0.0179[a]	0.0205[a]	0.0261[a]	0.0147[a]
	(11.44)	(10.21)	(6.95)	(2.84)	(12.06)
Top-Tier	-0.0018[b]	0.0021[a]	0.0019[a]	0.0021[a]	0.0016[a]
	(-2.50)	(4.11)	(3.49)	(4.25)	(3.91)
Ln (Deal Value)		-0.0020[a]	-0.0020[a]	-0.0020[a]	-0.0017[a]
		(-8.78)	(-10.33)	(-11.15)	(-10.97)
Relative Size			0.0008[b]	0.0006	0.0009[a]
			(2.35)	(1.12)	(2.91)
Stock Dummy			-0.0039[b]	-0.0099	-0.0020[a]
			(-1.98)	(-1.19)	(-3.08)
Diversification Dummy				0.0026[b]	0.0010[b]
				(2.12)	(2.18)
Hostile Deals				0.0020	0.0020
				(1.01)	(1.34)
Tender Offers Dummy				-0.0075	0.0000
				(-0.96)	(0.07)
98-2000 Dummy				-0.0009	-0.0007[c]
				(-1.09)	(-1.65)
Sigma					0.0713[a]
					(3.51)
Adjusted R^2	0.007	0.131	0.150	0.179	0.366
N	596	596	596	596	548

Table VI
Heckman Two-Stage Procedure - Advisor Reputation and Bidder CARs

The table presents the results of the two-stage Heckman procedure for bidder CARs for a US sample of public acquisitions over the period 1996-2005. Bidder CAR is the average cumulative abnormal return in the event window (-2, +2) around the acquisition announcement. CARs are computed using daily data with a market model (equally-weighted CRSP index return as the benchmark), with values winsorized at the 1% and 99%. The market model is estimated over the period starting 240 days to 41 days before the announcement date. The first column is the first-stage selection equation estimated by probit regression, where the dependent variable is 1 if the bidding firm retained a top-tier advisor and 0 otherwise. The second column is a setup with one second-stage equation for all observations. Third and fourth columns are for top-tier and non-top-tier deals, respectively. See Table II for the definitions of the variables. The scope variable takes the value of 1 if in the 5 years prior to the deal the bidder employed a top-tier investment bank at least once for an equity issue, a bond issue or an acquisition. It takes the value of 2 if a top-tier bank was employed for two of the three types of transactions, and the value of 3 if in all three types of transactions a top-tier investment bank was employed. It takes the value of 0 if a top-tier bank was never employed for any of these corporate transactions in the 5-year period prior to deal announcement. 98-2000 dummy is a binary variable that takes the value of 1 if the deal is announced over the period 1998-2000 and 0 otherwise. The symbols a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. Inverse Mills Ratio adjusts for the non-zero mean of error terms; its construction is discussed in Section IV. T-statistics are in parentheses (Z-statistics for the probit regression). N denotes the number of observations.

Table VI – Continued

	Probit (1)	All (2)	Top-Tier (3)	Non-Top-Tier (4)
Intercept	-3.0712[a]	0.0309[c]	0.0465	0.1145[a]
	(-8.82)	(1.712)	(0.80)	(2.95)
Scope	0.3929[a]			
	(6.80)			
Size	0.3060[a]	-0.0033[b]	-0.0041	-0.0173[a]
	(8.92)	(-2.169)	(-0.90)	(-3.09)
Book-to-Market	-0.0540	0.0130	-0.0007	0.0110
	(-0.29)	(1.291)	(-0.04)	(0.84)
Run-up	-0.0501	-0.0180[a]	-0.0173[a]	-0.0186[a]
	(-0.74)	(-4.679)	(-3.33)	(-3.01)
Sigma	7.1926[b]	-0.3000[c]	-0.3216	-0.5394[b]
	(2.27)	(-1.685)	(-1.17)	(-2.06)
Relative Size	0.4357[a]	-0.0107[b]	-0.0154[b]	-0.0191[c]
	(4.49)	(-2.326)	(-2.29)	(-1.90)
Stock Dummy	0.0419	-0.0240[a]	-0.0275[a]	-0.0226[b]
	(0.42)	(-3.628)	(-2.95)	(-2.37)
Diversification Dummy	0.0340	0.0003	-0.0000	-0.0017
	(0.38)	(0.057)	(-0.00)	(-0.24)
Hostile Deals	0.7262[c]	0.0039	-0.0053	0.0252
	(1.81)	(0.210)	(-0.24)	(0.56)
Tender Offers Dummy		0.0148[c]	0.0073	0.0223[c]
		(1.846)	(0.66)	(1.91)
98-2000 Dummy	0.0676	-0.0145[a]	-0.0077	-0.0266[a]
	(0.77)	(-2.948)	(-1.12)	(-3.66)
Premium		-0.0133[c]	-0.0088	-0.0191[c]
		(-1.716)	(-0.87)	(-1.89)
Insider Ownership	-0.0050	0.0002	0.0002	0.0001
	(-1.47)	(0.967)	(0.90)	(0.50)
CEO/Chair Split Dummy	-0.0535	-0.0056	-0.0037	-0.0056
	(-0.51)	(-0.963)	(-0.43)	(-0.71)
Leverage	-0.2196	0.0189	0.0257	0.0005
	(-0.75)	(1.158)	(1.02)	(0.02)
Cash Flows/Equity	0.5513	-0.0374	0.0173	-0.0852[b]
	(0.97)	(-1.291)	(0.32)	(-2.32)
Operating Performance	0.2498	0.0384	0.0075	0.0661[c]
	(0.55)	(1.513)	(0.19)	(1.92)
Inverse Mills Ratio		0.0070[b]	-0.0008	-0.0438[b]
		(2.175)	(-0.04)	(-2.13)
Pseudo R^2 (Adj. R^2)	0.231	(0.089)	(0.065)	(0.118)
N	1148	1102	579	523

Table VII
Heckman two-stage procedure - Advisor Reputation and Fees

The table presents the results of the two-stage Heckman procedure for advisory fees for a US sample of public acquisitions over the period 1996-2005. Advisory fee is the total fee paid by the bidder to its advisor (excluding any fees for financing the transaction), as reported in SDC, scaled by the deal value, also reported in SDC, in percentage. The first column is the first-stage selection equation estimated by probit regression, where the dependent variable is 1 if the bidding firm retained a top-tier advisor and 0 otherwise. The second column is a setup with one second-stage equation for all observations. Third and fourth columns are for top-tier and non-top-tier deals, respectively. See Table II for the definitions of the variables. The scope variable takes the value of 1 if in the 5 years prior to the deal the bidder employed a top-tier investment bank at least once for an equity issue, a bond issue or an acquisition. It takes the value of 2 if a top-tier bank was employed for two of the three types of transactions, and the value of 3 if in all three types of transactions a top-tier investment bank was employed. It takes the value of 0 if a top-tier bank was never employed for any of these corporate transactions in the 5-year period prior to deal announcement. 98-2000 dummy is a binary variable that takes the value of 1 if the deal is announced over the period 1998-2000 and 0 otherwise. The symbols a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. Inverse Mills Ratio adjusts for the non-zero mean of error terms; its construction is discussed in Section IV. T-statistics are reported in parentheses (Z-statistics for the probit regression). N denotes the number of observations.

	Probit (1)	**All (2)**	**Top-Tier (3)**	**Non-Top-Tier (4)**
Intercept	-2.4834[a]	0.0140[a]	0.0115[a]	0.0154[a]
	(-7.75)	(9.64)	(3.94)	(5.87)
Scope	0.3992[a]			
	(4.77)			
Ln (Deal Value)	0.3266[a]	-0.0015[a]	-0.0012[a]	-0.0022[a]
	(7.19)	(-11.86)	(-4.32)	(-4.46)
Relative Size	0.0751	0.0009b	0.0005	0.0015[b]
	(0.70)	(2.52)	(1.28)	(2.37)
Stock Dummy	-0.2466	-0.0022[c]	-0.0018	-0.0015
	(-1.37)	(-1.74)	(-1.36)	(-0.77)
Diversification Dummy	-0.0967	0.0011[b]	0.0011[b]	0.0010
	(-0.73)	(2.40)	(2.13)	(1.46)
Hostile Deals				
Tender Offers Dummy		0.0001	-0.0011	0.0015
		(0.10)	(-0.84)	(0.73)
98-2000 Dummy	-0.1400	-0.0008[c]	-0.0005	-0.0009
	(-1.11)	(-1.92)	(-1.10)	(-1.43)
Sigma	5.9257	0.0739[a]	0.0713[a]	0.0660[a]
	(1.62)	(6.22)	(4.77)	(3.73)
Inverse Mills Ratio		0.0010[a]	0.0026[b]	-0.0023
		(3.44)	(2.25)	(-1.13)
Pseudo R^2 (Adj. R^2)	0.219	(0.368)	(0.505)	(0.299)
N	541	541	233	308

Table VIII
Actual and Hypothetical CARs and Advisory Fees for Top-Tier and Non-Top-Tier Advisors

The table presents actual mean CARs and fees, hypothetical mean CARs and fees and the improvement over the other category for top-tier and non-top-tier financial advisors, respectively, for a US sample of public acquisitions over the period 1996-2005. Top-tier advisors are defined as the Top-8 financial advisors (Goldman Sachs, Merrill Lynch, Morgan Stanley, JP Morgan, Credit Suisse First Boston, Citi/Salomon Smith Barney, Lehman Brothers, and Lazard) according to the value of deals announced and completed by each bank. All others are the non-top-tier financial advisors. Bidder CAR is the average cumulative abnormal return in the event window (-2, +2) around the acquisition announcement. CARs are computed using daily data with a market model (equally-weighted CRSP index return as the benchmark), with values winsorized at the 1% and 99%. The market model is estimated over the period starting 240 days to 41 days before the announcement date. Advisory fee is the total fee paid by the bidder to its advisor (excluding any fees for financing the transaction), as reported in SDC, scaled by the deal value, also reported in SDC, in percentage. Computation of the hypothetical values and the improvement is discussed in Section IV. N denotes the number of observations.

	Mean	N	p-value	Mean	N	p-value
Panel A: CARs	**Top-Tier Deals**			**Non-Top-Tier Deals**		
Actual	-2.49%	761	(0.000)	-2.19%	862	(0.000)
Hypothetical	-3.24%	579	(0.000)	-1.55%	523	(0.000)
Improvement	-0.98%	579	(0.003)	1.05%	523	(0.002)
Panel B: Fees	**Top-Tier Deals**			**Non-Top-Tier Deals**		
Actual	0.54%	254	-	0.71%	342	-
Hypothetical	0.44%	707	-	0.95%	725	-
Improvement	-0.12%	233	(0.000)	0.23%	308	(0.000)

Table IX
Information Asymmetry and In-House Acquisitions

The table presents the results for the probit regressions of the decision to employ a financial advisor for a US sample of public acquisitions over the period 1996-2005. The dependent variable is a dummy which takes the value of 1 if the bidding firm retained a financial advisor and 0 otherwise. See Table II for the definitions of the variables. Intangibles variable is defined as bidder intangible assets for the last twelve months divided by total assets from COMPUSTAT. In-House Expertise is the number of "in-house" deals completed by the bidder in the 5 years prior to the acquisition announcement. M&A Experience is the total number of deals completed by the bidder in the 5-year period prior to the deal. The symbols a, b, and c denote statistical significance at the 1%, 5%, and 10% levels, respectively. Z-statistics are reported in parentheses. N denotes the number of observations.

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-1.3478[a]	-0.7065[b]	-1.6900[a]	-1.1373[a]	-1.5601[a]	-1.1970[a]
	(-3.07)	(-2.31)	(-3.44)	(-3.07)	(-3.13)	(-3.16)
Sigma	17.1495[a]		17.9822[a]		13.7228[b]	
	(3.88)		(3.21)		(2.46)	
Intangibles		1.2123[a]		0.8796[b]		0.6434[c]
		(3.38)		(2.40)		(1.82)
Size	0.2299[a]	0.1888[a]	0.2044[a]	0.2029[a]	0.2202[a]	0.2324[a]
	(5.79)	(5.94)	(4.60)	(5.31)	(4.77)	(5.75)
Book-to-Market	0.3235	0.0989	0.4612[c]	0.2385	0.3727	0.1706
	(1.45)	(0.59)	(1.65)	(1.00)	(1.35)	(0.72)
Run-up	0.0174	0.0874	-0.0196	0.1069	-0.0322	0.0725
	(0.18)	(1.02)	(-0.18)	(1.02)	(-0.30)	(0.69)
Relative Size	2.7220[a]	3.2593[a]	2.8557[a]	3.4752[a]	2.8606[a]	3.4114[a]
	(8.72)	(10.71)	(8.03)	(10.01)	(7.91)	(9.72)
Stock Dummy	-0.1114	-0.1616	-0.0344	-0.1647	0.0098	-0.1006
	(-0.96)	(-1.51)	(-0.27)	(-1.38)	(0.07)	(-0.83)
Diversification Dummy	0.2198[c]	0.2549[b]	0.2261[c]	0.2783[b]	0.1517	0.1888
	(1.92)	(2.40)	(1.84)	(2.41)	(1.21)	(1.60)
Hostile Deals	-0.2133	-0.0733	-0.3483	-0.2651	-0.3637	-0.2947
	(-0.38)	(-0.12)	(-0.59)	(-0.41)	(-0.61)	(-0.45)
98-2000 Dummy	-0.6750[a]	-0.6703[a]	-0.6828[a]	-0.7209[a]	-0.6184[a]	-0.6642[a]
	(-6.43)	(-6.97)	(-5.94)	(-6.83)	(-5.28)	(-6.16)
Insider Ownership			-0.0008	0.0013	-0.0016	0.0009
			(-0.17)	(0.30)	(-0.34)	(0.21)
CEO/Chair Split Dummy			0.4313[a]	0.4928[a]	0.3692[b]	0.4119[a]
			(2.71)	(3.58)	(2.32)	(2.98)
Leverage			1.3164[a]	0.8897[b]	0.9338[b]	0.5273
			(2.97)	(2.30)	(2.09)	(1.35)
Cash Flows/Equity			-0.9919	-0.9464	-0.5169	-0.3453
			(-1.01)	(-1.34)	(-0.53)	(-0.49)
Operating Performance			1.3151[b]	0.7352	0.7725	0.2157
			(2.26)	(1.38)	(1.32)	(0.40)
In-House Expertise					-0.2850[a]	-0.3005[a]
					(-4.47)	(-5.34)
M&A Experience					0.0596	0.0576[c]
					(1.64)	(1.72)
Pseudo R^2	0.222	0.240	0.243	0.260	0.272	0.294
N	1537	1754	1283	1474	1283	1474