Available online at www.sciencedirect.com
ScienceDirect
Pacific-Basin Finance Journal 16 (2008) 341 – 369
PACIFIC-BASIN FINANCE JOURNAL
www.elsevier.com/locate/pacfin

The role of investment banks in M&A transactions: Fees and services ☆

Terry S. Walter [a,*], Alfred Yawson [b], Charles P.W. Yeung [c]

[a] *School of Banking and Finance, The University of New South Wales, and Market Design Research Director, Capital Markets CRC Limited, Australia*
[b] *School of Banking and Finance, The University of New South Wales, Australia*
[c] *Analyst, Macquarie Bank Limited, Australia*

Received 12 April 2006; accepted 19 April 2007
Available online 5 September 2007

Abstract

We examine the pricing and performance of advisers in M&A transactions. We determine adviser quality on the basis of a contemporaneous market share measure and show that high quality advisers receive higher M&A advisory fees. High quality advisers also complete deals faster, but their superiority is not reflected in increasing the likelihood of deal completion or delivering greater abnormal equity returns to their clients. It is well known that stock bids are received more negatively than cash bids, so we further partition the sample of acquirers by consideration type and examine the abnormal returns of each partition. We find that high quality investment banks are able to differentiate themselves by delivering greater abnormal returns to their acquirer clients in deals involving stock.

JEL classification: G34
Keywords: Investment banks; Quality premium; Advisory fees; Stock bids

☆ This paper was previously circulated under the title "Does a quality premium exist in M&A advisory fees?" We thank Ghon Rhee (the editor), an anonymous referee, Alex Frino, Graham Partington, Peter Pham, seminar participants at the University of Auckland, Griffith University, University of Sydney, 2005 Asian Finance Association, Malaysia and 2005 Financial Management Association Annual Meeting, Chicago (and the discussant, Olubunmi Faleye) for helpful comments and suggestions.
* Corresponding author. School of Banking and Finance, The University of New South Wales, Sydney NSW 2052, Australia. Tel.: +61 2 9395 5858; fax: +61 2 9385 6730.
E-mail address: t.walter@unsw.edu.au (T.S. Walter).

0927-538X/$ - see front matter © 2007 Elsevier B.V. All rights reserved.
doi:10.1016/j.pacfin.2007.08.002

1. Introduction

The fees that investment banks receive from providing merger and acquisition (M&A) advisory services are large.[1] According to the SDC Platinum database, M&A transactions completed in the U.S. during 2003 alone totalled more than $435 billion. Of these, investment banks acted as advisers on deals worth a combined value of $386 billion. The total amount of advisory fees that advisers earned exceeded $596 million, suggesting that investment banks derive a significant amount of income for providing M&A advice. Although advisory fees are of such substantial size, there has been very little research into the factors that determine the level of advisory fees paid. In this paper, we examine the factors that determine the level of fees charged in M&A transactions and further evaluate the performance of M&A advisers.

Prior research indicates that fees paid in advisory work may be related to the quality of the advisor. High quality advisers may signal their superiority by charging higher fees in providing M&A advice. Bowers and Miller (1990, p.36) suggest that for investment banks with greater prestige, "the enhanced reputation will differentiate that banker in the marketplace, thereby allowing superior bankers to charge higher fees". Consequently, this paper evaluates the determinants of M&A advisory fees and further investigates whether high quality advisers receive a premium in providing M&A services.

Given that investment banks possess different levels of reputation, we determine whether the performance of advisers differ systematically across different levels of advisers. Here, we focus on the performance of advisers on two key fronts. Consistent with Rau (2000) and Hunter and Jagtiani (2003), we compare advisers of different levels of quality on the basis of their deal completion rates and the time taken to complete deals. High quality advisers should be able to work more effectively than low quality advisers, leading to a successful outcome for deals that have been announced. In addition, deal completion should be faster when a high quality adviser is used because of the adviser's expertise and experience in handling M&A transactions. We further examine the abnormal returns delivered by advisers of different quality to their clients. In theory, any project, including M&A transactions, should only be undertaken if it adds value to the firm. Bowers and Miller (1990, p. 34) posit that "managers should use the same decision criterion in choosing an investment banker as in all other corporate decisions: by evaluating the impact on shareholder wealth". This makes the stock returns of an adviser's client an important measure of the adviser's performance. As a result, we expect high quality advisers to be able to deliver higher value to their clients.

There have only been a few studies investigating the level of advisory fees paid, and the results from these studies have been inconsistent. McLaughlin (1992) provides evidence that, depending on the fee contract type between the adviser and the client in a transaction, lower quality advisers may receive a greater amount of advisory fees than higher quality advisers. However, more recent studies find the opposite result, with the research by Rau (2000) and Hunter and Jagtiani (2003) reporting higher level of fees received by high quality advisers in M&A transactions. Furthermore, earlier studies report that wealth gains are greater in deals involving high quality advisers (Bowers and Miller, 1990). While this result is theoretically sound, the empirical evidence produced by later studies does not support this. McLaughlin (1992) finds that the abnormal returns to acquirers are lower when the acquirer uses a high quality adviser, and Rau (2000) finds no support for the hypothesis that high quality advisers deliver greater abnormal

[1] In this paper, the terms 'investment banks' and 'advisers' are used interchangeably.

returns to their clients. The anomalous results in the existing literature on both the level of advisory fees and the performance of advisers are a primary motivation for this paper.

Several reasons might account for the anomalous results in the existing literature. The findings that high quality advisers do not generate higher returns to their clients might be driven in part by the methodology used to rank the advisers. Previous studies such as McLaughlin (1992) and Rau (2000) use a static ranking system to determine adviser quality and a bank's ranking is allowed to remain fixed over the entire sample period. This ranking procedure ignores the dynamics of the M&A adviser market that could be relevant in measuring adviser quality (Da Silva Rosa et al., 2004). In this paper, we rank advisers based on their contemporaneous market share in a rolling window period of three years allowing adviser quality to vary over time. The level of complexity of a transaction can also influence the returns delivered by M&A advisers to their clients. For example, if high quality advisers are associated with more complex transactions they are likely to deliver lower returns to their clients. Consequently, we include several variables that control for the complexity and characteristics of the deals. Moreover, even though empirical evidence suggests that high quality advisers are not able to generate higher abnormal returns to their clients (McLaughlin, 1992; Rau, 2000), these studies fail to recognise that the wealth gain to the acquirer may be influenced by the form of consideration offered in the deal. As a result, we partition the sample of acquirer abnormal returns into three consideration types and further determine whether high quality advisers are able to deliver greater returns to their clients across all-stock, all-cash and all other bids. Furthermore, the current paper differs from prior studies in two other important respects. Previous studies have tended to focus their investigations on acquirer adviser performance (Servaes and Zenner, 1996; Rau, 2000). We analyse both acquirer and target advisers and thus provide a more complete analysis of M&A advisory fees. We further innovate by including the opposing party adviser's quality in the multivariate models to determine if it has any impact on the level of advisory fees and the performance of advisers.

Using a comprehensive sample of 15,422 U.S. M&A transactions announced between January 1980 and December 2003, we find strong evidence to suggest that a quality premium exists in M&A advisory fees. Our results indicate that first tier and second tier advisers receive substantially greater levels of advisory fees than third tier advisers. While high quality is reflected through the adviser's ability to complete deals more quickly, it appears that high quality advisers are not more likely to complete a given deal. In terms of client's abnormal stock returns, in general, high quality advisers do not deliver stronger gains to their clients, with lower gains for targets that hire high quality advisers. However, the abnormal returns to acquirers in bids involving stock are more positive when a high quality adviser is used as the acquirer's adviser.

The rest of the paper is structured as follows. Section 2 details the existing literature in M&A advisory fees. Sections 3 and 4 introduce the data and the results of our empirical analysis, respectively. Section 5 concludes with a summary of the main results.

2. Review of the literature

2.1. Measure of adviser quality

Firms usually select investment banks to provide financial advice on M&A transactions on the basis of perceived quality of the advisor. However, the quality of services provided by an adviser is not an attribute that is directly observable prior to the provision of the service. In economic terms, M&A advisory service can be described as an experience good, where the quality of the supplier's services can not be observed ex-ante. Due to this, high quality advisers need to be able

to demonstrate their superior quality to participants in the market through some other means. The findings drawn from the area of reputation signalling research reveal that investments into "brand-building" by a supplier are an effective measure in conveying the supplier's quality to market participants (eg., Klein and Leffler, 1981; Shapiro, 1983). A firm that builds a good reputation for providing high quality products will be able to increase its prices. Extending the same argument to the investment banking industry, Chemmanur and Fulghieri (1994) suggest that the quality of an investment bank should be determined largely by its past performance.

Previous studies in the area of M&A advisers have commonly separated investment banks into different groups based on their perceived quality and prestige. In a majority of studies, investment banks are grouped into a three tiered classification system in order of descending prestige (eg., McLaughlin, 1992; Rau, 2000; Hunter and Jagtiani, 2003). One of the most commonly cited measures to assess the reputation of an M&A adviser is league table rankings. The annual league table ranks advisers according to the value of M&A transactions completed by an adviser over the previous twelve-month period. Competition amongst advisers has led to great emphasis being placed on the league table rankings, which are often used by investment banks as a tool in marketing their prestige. Consequently, measures based on the league table rankings, or market share, have been the most commonly used proxies in recent research that measures adviser quality.

2.2. Pricing of M&A advisory services

There are a few studies that examine the pricing of M&A advisory services and the results obtained so far have been inconsistent. McLaughlin (1990) provides one of the first examinations of the level of M&A advisory fees by analysing the structure of contracts that are established between an adviser and its client in a transaction. McLaughlin reports that over the period 1978 to 1985, advisory fees paid in tender offers averaged 1.29% of deal value. In a subsequent study, McLaughlin (1992) examines the impact of the reputation of the investment banks on the amount of advisory fees paid. Using the Carter and Manaster (1990) measure of adviser quality, McLaughlin documents that neither the quality of the adviser nor the type of contract has any impact on the level of fees paid to target advisers. However, McLaughlin reports that the conditional payoffs for acquirer advisers are higher for low quality advisers with value-based contracts than low quality advisers with share-based fee contracts. In a somewhat surprising finding, McLaughlin finds no evidence that high quality advisers receive higher fees compared to low quality advisers. In a related study, Hunter and Jagtiani (2003) document results contrary to those obtained by McLaughlin (1992). Using M&A transactions from January 1995 to June 2000, they find that top tier advisers receive a greater amount of fees than lower tier advisers and that the level of fees is higher in tender offers.

2.3. Performance of M&A advisers

Given that there are substantial costs involved in the use of M&A advisers, advisers should be able to deliver quality service and performance for their clients. However, the issue of measuring the performance of M&A advisers is problematic. There is no single objective metric that has been agreed by all market participants to judge the performance of advisers. Empirical studies investigating the performance of M&A advisers usually concentrate on the wealth gains an adviser's client earns as a measure of adviser performance. The findings from earlier studies generally show that the wealth gains to acquirers who hire prestigious advisers are greater than

those that hire less prestigious advisers as documented by Bowers and Miller (1990) and Michel, Shaked and Lee (1991).

Later studies generally deliver opposite findings. For example, McLaughlin (1992) shows that announcement returns are significantly lower for acquirers who hire high quality advisers. With a caveat, McLaughlin (p. 258) interprets this result as a consequence of high quality advisers being "associated with more difficult transactions, requiring higher premiums and with lower benefits to bidding firms". In support of McLaughlin's finding, Rau (2000) and Rau and Rodgers (2002) show that in deals involving top tier advisers, announcement returns earned by acquirers are not higher and long run returns are lower than those generated by deals involving less prestigious advisers. Similar findings have been reported by Da Silva Rosa et al. (2004) for the Australian market. Some theoretical reasons have been offered in the literature to explain the inability of high quality advisers to deliver superior returns to their acquirer clients. For example, if managers intend to engage in acquisitions to increase their private benefits at the expense of shareholders wealth maximisation, they may seek the advice of a reputable investment bank as protection against potential litigations suggesting lower acquirer returns when high quality investment banks are employed (Servaes and Zenner, 1996). Moreover, McLaughlin (1992) argues that if the investment bank contract does not explicitly contain provisions to maximise the acquirer returns, and advisers are purely interested in their fee income, transactions completed with investment banks will result in lower returns to the acquirer.

The performance of M&A advisers has also been related to their ability to complete deals and the speed at which deals are completed (Rau, 2000; Hunter and Jagtiani, 2003). The deal completion hypothesis argues that M&A advisers only concentrate on completing deals and completing them faster and that, the abnormal returns earned by the client should have no relationship with the quality of the adviser. Rau (2000) documents that top tier investment banks are able to complete more deals in tender offers. In mergers, the difference in completion rate between the three tiers of acquirer advisers is found to be insignificant. Similarly, Hunter and Jagtiani show that deals involving top tier acquirer advisers are more likely to be completed and are completed faster than those involving lower quality acquirer advisers.

3. Data and methodology

3.1. Sample construction

The sample used in this paper consists of all M&A transactions involving U.S. acquirers and targets that are announced from January 1980 to December 2003. These M&A transactions are sourced from *Thomson Financials Securities Data Collection Platinum (SDC)* database. In all, we identified 154,205 transactions. For each transaction, there must be at least one listed party advised by an investment bank. This criterion is imposed to allow us to investigate the abnormal wealth gains resulting from the announcement of the deal. This leaves a total of 15,422 transactions in the sample. Out of these transactions, 10,279 involve an adviser for the listed acquirer, 8672 transactions involve an adviser for the listed target, and 3529 transactions involve both listed acquirers and targets with advisers.

3.2. Ranking the advisers

Previous studies on M&A advisers commonly use a static ranking system in determining adviser quality, with rankings for advisers remaining constant throughout the entire sample

period. For example, the methodology used by Rau (2000) involves allocating each investment bank a rank every year based on their market share in that year. A final ranking is then allocated to each adviser on the basis of an adviser's average yearly ranking across the entire sample period. Rau then groups advisers into three different tiers according to their relative positions. The use of such static ranking measures is prevalent in the M&A advisory literature (eg., Carter and Manaster, 1990; McLaughlin, 1992; Hunter and Jagtiani, 2003). This ranking system suffers from potential survivorship bias, as high quality advisers in the earlier periods that cease to exist will be ranked lowly using an average annual ranking across the entire sample period. We use a measure to rank advisers that mitigates this survivorship bias, as follows. Instead of ranking advisers using the normal league table we modify it in such a way that the rankings are based on the value of deals announced instead of the value completed. This is done to ensure that both successful and unsuccessful deals are included in calculating the market share of M&A advisers.

The market share of an adviser in a rolling window period is then used as the measure of rank. We use a three year rolling window such that the period to measure market share covers the year of the announcement plus the two years prior to that year e.g. for 1996, the measure will cover the market share of an adviser in the years 1994, 1995 and 1996. A three year period is chosen because we believe that the perceived prestige of an adviser does not fluctuate based on its performance in any single year, but rather as a gradual change that accumulates over several years.[2]

For each year, advisers are ranked based on their contemporaneous market share in the rolling window period of three years. Using this dynamic measure, advisers are grouped into tiers every year using a three-tier classification system. Similar to Rau (2000), the top tier (or first tier) advisers are those ranked 1st to 5th, second tier advisers are those ranked 6th to 20th, and third tier advisers include all other advisers. Consistent with previous studies, when more than one adviser is involved on the same side in a transaction, the tier of the highest ranked adviser in the group is taken to be the tier of that group.

3.3. Characteristics and complexity of the deal

We include several variables to account for the characteristics and complexity of deals. In general, firm specific and transaction attributes which contribute to the complexity of the deal should have a positive effect on fees, as advisers would need extra compensation for expending more effort and resources into the execution of the transaction. Furthermore, more complex deals should have a lower likelihood of being successful and should require longer time to complete.

The size of the deal is an important proxy for its complexity. As the value of an M&A transaction increases, the adviser needs to use a greater amount of resources in helping to ensure the success of the deal. Larger targets are frequently more complex and difficult to value than smaller targets, and hence greater compensation is required. Larger deals would also be harder for advisers to execute and would take more time to complete than smaller deals. In terms of the acquirer and target abnormal returns generated, we expect the level of abnormal returns to differ across relative transaction sizes.

[2] We adjust the advisers' market share data to accurately reflect the market share that individual advisers command. For example, SDC considers transactions advised by "Morgan Stanley" and transactions advised by "Morgan Stanley & Co" as being transactions advised by two different investment banks. To ensure the integrity of the data, adviser names such as these are combined to be one adviser throughout the sample period.

The number of industries a firm operates in has frequently been used in the auditing literature as a measure of deal complexity (e.g., Simunic, 1980). As the number of industries that the acquirer or the target operates in increases, the complexity of the deal increases. However, more diversified acquirers may have greater amounts of resources to ensure a speedy and successful deal. The number of acquirer industries may also have a positive effect on the abnormal returns generated due to investors being more confident in the acquirer's ability to successfully acquire or merge with the target and extract synergies. Furthermore, whether both the acquirer and target operate in the same primary industry is an important deal characteristic. The amount of future synergies may be easier to evaluate when both firms operate in the same industry, as advisers may find the task simpler in the sense that only one set of methods may be used in the valuation of both firms. The amount of future synergies may also be more evident in such deals, prompting a higher probability of success and a more positive response by the market.

The number of advisers involved in a deal may help explain the level of advisory fees as it is likely that a greater number of advisers are hired in transactions that are more complex. The larger number of advisers working on a deal should also increase the likelihood of the deal succeeding. However, the increase in the number of advisers would add to the time required in completing a deal due to the need for these advisers to discuss and cooperate on the deal.

The public status of the opposing party may also affect the complexity of the deal. For acquirers, a listed target is more difficult to acquire or merge with than a private firm due to the need to appeal to all the target's shareholders. Moreover, the acquirer adviser may need to expend more effort in effectively displaying the benefits of the bid to target shareholders rather than to concentrated groups of owners in the case of an unlisted target. Therefore, such deals would attract higher fees and are less likely to succeed and would also require more time to complete. However, for target adviser fees, the reverse relationship is expected. A public acquirer has more information available in the market than private acquirers. Therefore, target advisers would have more available information about the acquirer and need to expend less time and effort in analysing issues such as the acquirer's future growth prospects.

In tender offers, the acquirer bypasses the target's management and actively seeks target's shareholders acceptance of the bid. Rather than negotiating directly with the target's management, acquirer advisers would need to perform better in devising and formulating a bid to gain the wide acceptance of shareholders. Target advisers would also need to expend more effort because the option of cooperating and negotiating with the acquirer is unavailable in a tender offer. Due to the acquirer actively persuading and marketing the bid directly to target shareholders, it is more likely that these shareholders are enticed into accepting the bid, and in less time. Furthermore, it has been commonly found in M&A studies that the abnormal returns are higher in tender offers than mergers. Studies on merger offers (e.g. Asquith, 1983; Dennis and McConnell, 1986) show that acquirer returns are significantly negative or insignificantly positive, while studies on tender offers (e.g. Bradley et al., 1983) consistently show significant positive returns. Martin and McConnell (1991) report a large turnover of target managers for a period of 2 years after a tender offer, suggesting that acquirers in tender offers attempt to increase efficiency by removing inefficient managers. Therefore, we expect tender offers to be positively related to the abnormal returns generated.

Hostility makes a bid more complex to execute. In hostile transactions, the lack of communication between the acquirer and the target would require advisers to expend more effort gaining knowledge about the other firm. Also, with a rejection recommendation from the target's management, acquirer advisers would need to formulate an attractive package and be able to market this to target shareholders to entice them to accept the offer, while target advisers would

Table 1
Descriptive statistics

Variable	Acquirer adviser tier			Total	Target adviser tier			Total
	1	2	3		1	2	3	
Mean deal value ($M)	1357.29	658.50	127.07	760.78	1820.94	663.26	126.44	839.69
Median deal value ($M)	275.00	131.82	36.98	119.58	402.90	137.94	48.34	126.55
Mean market value ($M)	7641.70	5083.88	1020.48	4915.66	2106.43	1236.89	264.62	1394.73
Median market value ($M)	1764.64	710.95	213.05	736.25	440.16	251.14	65.04	241.38
Number of industries acquirer operates in	2.79	2.49	2.04	2.47	2.44	2.21	2.09	2.24
Number of industries target operates in	1.94	1.73	1.50	1.74	2.27	1.96	1.69	1.96
Number of acquirer advisers	1.20	1.11	1.03	1.12	0.84	0.67	0.49	0.66
Number of target advisers	0.90	0.77	0.59	0.76	1.34	1.16	1.06	1.18
Number of considerations	1.56	1.56	1.48	1.54	1.54	1.46	1.29	1.42
Proportion of acquirers and targets operating in same industry	63.56%	62.70%	65.92%	63.97%	48.98%	45.53%	60.47%	52.21%
Proportion of listed acquirers					64.53%	62.03%	72.03%	66.56%
Proportion of listed targets	58.52%	50.38%	43.29%	51.31%				
Proportion of tender offers	19.70%	17.70%	9.67%	16.07%	24.85%	23.13%	15.28%	20.77%
Proportion of hostile deals	3.56%	3.88%	0.83%	2.86%	10.39%	5.33%	1.99%	5.73%
Percentage of cash	47.33%	48.74%	42.18%	46.23%	53.04%	58.16%	48.80%	52.98%
Percentage of other	14.53%	14.34%	10.11%	13.11%	16.10%	14.03%	6.39%	11.81%
Percentage of stock	38.14%	36.92%	47.71%	40.66%	30.86%	27.81%	44.82%	35.22%
Proportion of all-cash deals	37.56%	38.29%	32.75%	36.33%	42.75%	48.62%	42.78%	44.53%
Proportion of all-stock deals	28.84%	27.84%	39.07%	31.64%	23.38%	22.09%	38.91%	28.86%
Number of observations	3315	2989	2638	8942	2636	2460	3018	8114
Observations with data on consideration types	2822	2604	2388	7814	2498	2349	2945	7792
Number of completed deals with fees information	733	672	591	1996	1124	1113	1695	3932
Number of observations with market values	2315	2034	1708	6057	1576	1185	827	3588

The sample consists of all M&A transactions involving U.S. acquirers and targets that are announced between January 1980 and December 2003 in which there is at least one listed party advised by an investment bank. The takeover transactions and information on advisers are extracted from the SDC Platinum database. Mean figures are reported for each category unless specified otherwise. A deal is classified as being advised by a bank of a particular tier based on the tier of the best ranked bank advising for the same party in that transaction. The 'Total' column displays statistics for all deals where an adviser is hired.

need to offer adequate reasons or alternatives in rejecting the acquirer's bid. Hostile bids are expected to be less likely to succeed as they lack the support of the target's management. In the event that these hostile bids are successful, presumably these deals would have required more time to complete as they involve a contest between the acquirer and the target. Similar to tender offers, hostile bids are known to generate a more positive market response due to the anticipation of increased efficiency as a result of hiring new management for the target, should the acquisition be completed.

The use of different types of consideration in an M&A transaction is a decision that should be made by the acquirer. Often this decision is based on the acquirer's own current capital structure. Cash bids should result in the deal being completed faster, as there is no need to value the

Table 2
Advisory fees and deal value

	Acquirer adviser tier			Total	Kruskal Wallis χ^2		Target adviser tier			Total	Kruskal Wallis χ^2
	1	2	3				1	2	3		
Panel A: fees paid to advisers ($ million)											
Mean	4.83	2.65	0.77	2.89	502.34**	Mean	6.47	2.79	0.97	3.06	1315.04**
Median	2.38	1.00	0.25	1.00	(0.000)	Median	3.70	1.40	0.44	1.13	(0.000)
N	733	672	591	1996		N	1124	1113	1695	3932	
Panel B: deal value ($ million)											
Mean	2494.30	1091.75	208.05	1345.16	405.10**	Mean	2177.17	749.08	149.68	898.93	1232.28**
Median	416.00	195.33	55.08	177.02	(0.000)	Median	525.33	180.54	57.60	143.70	(0.000)
N	733	672	591	1996		N	1124	1113	1695	3932	
Panel C: fees paid to advisers as a percentage of deal value											
Mean	0.91%	0.90%	0.93%	0.91%	8.14*	Mean	0.87%	1.13%	1.15%	1.06%	19.93**
Median	0.47%	0.58%	0.52%	0.52%	(0.017)	Median	0.67%	0.80%	0.82%	0.76%	(0.000)
N	733	672	591	1996		N	1124	1113	1695	3932	

The sample consists of all M&A transactions involving U.S. acquirers and targets that are announced between January 1980 and December 2003 in which there is at least one listed party advised by an investment bank. Panel A reports the amount of advisory fees in completed deals, while Panel B reports the value of completed deals, and Panel C reports the amount of advisory fees as a percentage of deal value for completed deals. A deal is classified as being advised by a bank of a particular tier on the basis of the tier of the best ranked bank advising for the same party in that transaction. *N* denotes the number of observations. The 'Total' column displays statistics for all deals where an adviser is hired. The non-parametric Kruskal Wallis statistic tests the null hypothesis that the sample follows the same distribution across all three tiers. Figures in parentheses denote *p*-values. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

acquirer's shares. Target shareholders would prefer cash as it is more certain and more liquid. Therefore, stock bids should take a longer time to complete. Similarly, it is more likely that a deal involving cash would have a higher probability of success than a deal involving stock. However, the above arguments ignore the tax effect of using different types of consideration. Under U.S. legislation, target shareholders in cash bids are liable for capital gains tax while there is a rollover relief in stock bids. If the value of a stock bid and a cash bid are the same, then target shareholders would prefer the bid involving stock because of the capital gains tax exemption. It is well known that issuing equity by a firm is perceived negatively by the market due to its information content (Myers and Majluf, 1984). Therefore, before-tax returns in stock bids should be lower than cash bids.

4. Results

4.1. Descriptive statistics

Table 1 provides descriptive statistics for the sample. The mean (median) size of transactions that first tier acquirer advisers are associated with is $1357.29 million ($275.00 million), a much larger figure than the mean (median) value of $658.50 million ($131.82 million) for second tier advisers and $127.07 million ($36.98 million) for third tier advisers. In general, acquirers are

about three to four times larger than targets, as measured by their market capitalisation at the announcement date. It appears first tier advisers are hired in more complex transactions. The acquirer and target firms in deals advised by first tier investment banks are larger, more diversified and operate in a greater number of industries compared to deals involving second tier and third tier advisers. In addition, deals advised by first tier investment banks require a higher number of advisers for both acquirers and targets. First and second tier investment banks advise on deals where there are more types of consideration offered, and are less likely to advise on deals where the acquirer and target operate in the same industry. These results suggest that high quality advisers are involved in more complex transactions. The results also show that an acquirer is more likely to hire a high quality adviser if the bid is for a listed target, if it is a tender offer or a hostile bid.

Table 3
OLS regression for advisory fees model

Variables	(1)	(2)	(3)	(4)
	Acquirer		Target	
Constant	−4.271**	−4.300**	−4.457**	−4.484**
	(0.000)	(0.000)	(0.000)	(0.000)
Acq Tier 1	0.775**	0.758**		
	(0.000)	(0.000)		
Acq Tier 2	0.628**	0.585**		
	(0.000)	(0.000)		
Tar Tier 1			0.753**	0.659**
			(0.000)	(0.000)
Tar Tier 2			0.516**	0.452**
			(0.000)	(0.000)
Log(Deal Value)	0.610**	0.595**	0.655**	0.649**
	(0.000)	(0.000)	(0.000)	(0.000)
Log(Acq Ind)	−0.068			0.021
		(0.085)		(0.405)
Log(Tar Ind)	−0.010			0.001
		(0.819)		(0.970)
No. Acq Adviser	0.123*			0.074**
		(0.021)		(0.003)
No. Tar Adviser	0.108*			0.105**
		(0.015)		(0.001)
Same Primary Ind	0.023			−0.049
		(0.630)		(0.110)
Listed Acq				−0.078
				(0.055)
Listed Tar		0.015		
		(0.818)		
Tender		0.389**		0.195**
		(0.000)		(0.000)
Hostile		0.084		0.170*
		(0.285)		(0.027)
Pct of Stock		−0.097		−0.090*
		(0.259)		(0.033)
N	1996	1671	3932	3810
R^2	0.70	0.72	0.71	0.72
F-statistic	197.92**	129.43**	354.42**	275.72**

4.2. M&A advisory fees

Table 2 reports the univariate results of the advisory fees paid in completed transactions. The mean (median) value of acquirer advisory fees is $4.83 million ($2.38 million) for first tier advisers, $2.65 million ($1.00 million) for second tier advisers, and $0.77 million ($0.25 million) for third tier advisers. However, as a percentage of deal value, first tier advisers receive a lower level of fees, with a mean (median) of 0.91% (0.47%) as compared to 0.90% (0.58%) for second tier and 0.93% (0.52%) for third tier advisers. The difference between the three tiers is statistically significant at the 5% level. The results are qualitatively similar for target advisory fees. This result is likely to be driven by the large size of transactions that first tier investment banks advise on. It is believed that economies of scale exist in larger transactions, such that the fees investment banks charge are a decreasing function of the size of the deal. Target fees in Table 2 show similar relationships, with mean and median fees for higher tier advisers being significantly higher than that for lower tier advisers. As was the case for acquirer advisers, this pattern is reversed when fees are scaled by target deal size.

4.2.1. Determinants of M&A advisory fees

We examine the factors that influence the advisory fees paid by either the acquirer or the target by estimating the following ordinary least squares (OLS) model:

$$\begin{aligned}\log(Fees) = {} & \beta_0 + \beta_1 \text{Acq Tier 1}(\text{Tar Tier 1}) + \beta_2 \text{Acq Tier 2}(\text{Tar Tier 2}) \\ & + \beta_3 \log(\text{Deal Value}) + \beta_4 \log(\text{No. Acq Ind}) + \beta_5 \log(\text{No. Tar Ind}) \\ & + \beta_6 \text{No. Acq Advisers} + \beta_7 \text{No. Tar Advisers} + \beta_8 \text{Same Primary Ind} \\ & + \beta_9 \text{Listed Tar}(\text{Listed Acq}) + \beta_{10} \text{Tender} + \beta_{11} \text{Hostile} + \beta_{12} \text{Pct of Stock} \\ & + \sum_{t=13}^{35} \beta_t \text{Year} + \varepsilon \end{aligned} \quad (1)$$

Notes to Table 3

This table reports the results from an ordinary least squares regression of the advisory fees model without controlling for the opposing party's adviser tier. The dependent variable is the natural logarithm of fees. Regressions 1 and 3 include the size of the deal as the only control variable, while regressions 2 and 4 include all the control variables as described in Section 3.3. Acq Tier 1 is a dummy variable taking the value of 1 if the acquirer adviser is a first tier adviser, and zero otherwise. Acq Tier 2 is a dummy variable taking the value of 1 if the acquirer adviser is a second tier adviser, and zero otherwise. Tar Tier 1 is a dummy variable taking the value of 1 if the target adviser is a first tier adviser, and zero otherwise. Tar Tier 2 is a dummy variable taking the value of 1 if the target adviser is a second tier adviser, and zero otherwise. Log(Deal Value) is the natural logarithm of the total value of the deal in millions of dollars. Log(Acq Ind) is the natural logarithm of the number of industries the acquirer operates in as identified by 2-digit SIC codes. Log(Tar Ind) is the natural logarithm of the number of industries the target operates in as identified by 2-digit SIC codes. No. Acq Adviser is the number of acquirer advisers involved in the deal. No. Tar Adviser is the number of target advisers involved in the deal. Same Primary Ind is a dummy variable equal to 1 if the acquirer and target operates in the same primary industry as identified by 2-digit SIC code, and zero otherwise. Listed Acq is a dummy variable taking the value of 1 if the acquirer is listed, and zero otherwise. Listed Tar is a dummy variable taking the value of 1 if the target is listed, and zero otherwise. Tender is a dummy variable equal to 1 if the deal is a tender offer, and zero otherwise. Hostile is a dummy variable taking the value of 1 if the deal is regarded as hostile, and zero otherwise. Pct of Stock is the percentage of the total value of consideration in the form of stock. All regressions are performed including dummy variables for the year of announcement (coefficient values of these are not reported). Figures in parentheses denote *p*-values which are calculated using Huber White sandwich robust standard errors. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

Here we analyse only completed transactions because the level of advisory fees that the SDC database records is the total value that an adviser would receive if the transaction is successful. The quality premium hypothesis argues that there exists a premium in M&A advisory fees, therefore high quality (first and second tier) advisers should receive a higher level of fees compared to low quality (third tier) advisers.

Table 3 presents the results from the advisory fees model and strongly demonstrates the existence of a quality premium in M&A advisory fees. The two coefficients for the quality of advisers, *Acq Tier 1* and *Acq Tier 2* are significantly positive in both models indicating that the result is robust to the inclusion of control variables. Furthermore, in Model 2 the magnitude of the coefficient of *Acq Tier 1* (0.758) is greater than that of *Acq Tier 2* (0.585), with the difference being statistically significant at the 1% level.[3] This finding indicates that while both adviser tiers charge a higher level of fees than third tier advisers, the fees that first tier advisers receive are higher than those of second tier advisers. Given the characteristics of the deal, first tier advisers charge 113.40% higher than the fees received by third tier advisers, while second tier advisers charge 79.50% higher than the fees received by third tier advisers.[4]

The size of the transaction is significantly positively related to the level of advisory fees across all models, showing that fees are higher if the transaction is larger. The inclusion of other control variables in the advisory fees model does not add much more explanatory power than the simplified model, with the R^2 for acquirer advisory fees only increasing slightly from 70% in model 1 to 72% in Model 2. Nevertheless, the results from Models 2 and 4 show that advisory fees are higher if there is a greater number of acquirer and target advisers and if the deal is a tender offer. For target advisory fees, the results show that advisory fees are higher in hostile bids and in bids where a lower proportion of the consideration is composed of stock.

We extend the advisory fees model to test whether advisers receive a higher level of fees if the adviser of the opposing party is of a higher quality by introducing the tier of the opposing party's adviser into the model. In the acquirer (target) advisory fees model, the *Acq Tier 1 (Tar Tier 1)* and *Acq Tier 2 (Tar Tier 2)* variables are replaced with dummy variables D_{11}, D_{12}, D_{13}, D_{21}, D_{22}, D_{23}, D_{31}, and D_{32}. D_{XY} are dummy variables for the nine combinations of acquirer and target adviser tiers, with D_{33} (the case where both the acquirer and target are being advised by third tier advisers) being omitted from the models. In unreported results, we find all of the D_{XY} dummy variables significantly positive, suggesting that the level of advisory fees received by advisers is lowest when both the acquirer and target are advised by third tier investment banks.

4.3. Completion rates and time to completion

Table 4 reports the completion rates and time to completion of deals advised by investment banks. Panel A reports the proportion of deals that are completed for acquirers on the basis of the acquirer adviser's tier. The results show that first tier advisers are less likely to complete deals, with 88.90% of deals being successful, compared to 89.20% for second tier and 91.84% for third tier advisers although the difference is not statistically significant. Similar results are obtained in Panel B for the completion rates for targets, however the differences are now statistically

[3] The Wald test is used to test whether the coefficient values for the two tiers in the regression are equal.

[4] The interpretation of coefficients of dummy variables in semi logarithmic regressions is not that straightforward. If the dependent variable is in log form, the coefficient of a dummy variable c is given by $c = \ln(1 + g)$. Halvorsen and Palmquist (1980) show that the relative effect of a dummy variable on a dependent variable is given by $g = \exp(c) - 1$ and the percentage effect equals $\{\exp(c) - 1\} * 100$.

Table 4
Completion rates and time to completion

	Adviser Tier			Total	Kruskal Wallis χ^2
	1	2	3		
Panel A: Probability of completion for acquirers by acquirer adviser tier					
Mean	88.90%	89.20%	91.84%	89.94%	5.28
N	3587	3407	3285	10279	(0.071)
Panel B: Probability of completion for targets by target adviser tier					
Mean	73.61%	79.50%	85.56%	79.82%	64.71**
N	2834	2624	3214	8672	(0.000)
Panel C: Time to completion for acquirers by acquirer adviser tier (number of days)					
Mean	116.22	100.55	102.04	106.44	42.12**
Median	88	74	81	81	(0.000)
N	3188	3039	3017	9244	
Panel D: Time to completion for targets by target adviser tier (number of days)					
Mean	141.34	132.00	148.12	141.22	85.97**
Median	114	110	139	122	(0.000)
N	2086	2086	2750	6922	

This table presents the completion rates and time to completion for both acquirer and target adviser tiers. Panel A and Panel B report the completion rates by acquirer and target adviser tier respectively, while Panel C and Panel D report the time to completion for successful deals by acquirer and target adviser tier respectively. A deal is classified as being advised by a bank of a particular tier on the basis of the tier of the best ranked bank advising for the same party in that transaction. *N* denotes the number of observations. The 'Total' column displays statistics for all deals where an adviser is hired. The non-parametric Kruskal Wallis statistic tests the hypothesis that the variable follows the same distribution across all three tiers. Figures in parentheses denote *p*-values. ** denotes statistical significance at the 1% level, using a two tailed test.

significant. Panel C of Table 4 reports the time to completion for acquirer advisers. The results show that second tier advisers (100.55 days) are able to complete deals faster than first tier (116.22 days) and third tier advisers (102.04 days). Similarly, transactions involving second tier target advisers are completed in less time than the other tiers of target advisers as reported in Panel D. The longer time required by first tier advisers to complete a deal may be due to their involvement in more complex deals, an issue we take up in our multivariate regressions.

4.3.1. Factors affecting the probability of deal completion

We perform a logistic regression to determine the factors that affect the likelihood of deal completion. The probability of completion model for acquirers (targets) is:

$$\begin{aligned}\text{Complete} = {} & \beta_0 + \beta_1 \text{Acq Tier 1(Tar Tier 1)} + \beta_2 \text{Acq Tier 2(Tar Tier 2)} \\ & + \beta_3 \log(\text{Deal Value}) + \beta_4 \log(\text{No. Acq Ind}) + \beta_5 \log(\text{No. Tar Ind}) \\ & + \beta_6 \text{No. Acq Advisers} + \beta_7 \text{No. Tar Advisers} + \beta_8 \text{Same Primary Ind} \\ & + \beta_9 \text{Listed Tar(Listed Acq)} + \beta_{10} \text{Tender} + \beta_{11} \text{Hostile} + \beta_{12} \text{Pct of Stock} \\ & + \sum_{t=13}^{35} \beta_t \text{Year}_t + \varepsilon \end{aligned} \quad (2)$$

The dependent variable is set equal to one if the deal is successful, and zero otherwise. The probability of completion hypothesis argues that high quality advisers have more expertise in M&A transactions and thus are more likely to complete deals than low quality advisers.

Therefore, we expect the coefficients of the *Acq Tier 1 (Tar Tier 1) and Acq Tier 2 (Tar Tier 2)* variables to be positive.

Table 5 reports the logistic regression results of the probability of completion model. For acquirers, the quality of an adviser does not play a significant role in explaining the likelihood of a deal's success. For targets, the results show that high quality advisers are less likely to complete a deal. Both the coefficients of *Tar Tier 1 and Tar Tier 2* in Models 3 and 4 are significantly negative, indicating that deals are less likely to be successful if the target is being advised by high quality advisers. The size of the deal is found to be significantly negative, indicating that larger-sized transactions are less likely to be successful. As expected, the number of acquirer industries is positive and the number of target industries is negative, showing that while deals involving diversified acquirers have a higher probability of completion, deals involving diversified targets

Table 5
Logistic regression results for probability of completion model

	(1)	(2)	(3)	(4)
	Acquirer		Target	
Constant	2.482**	2.277**	1.804**	1.170*
	(0.000)	(0.000)	(0.000)	(0.039)
Acq Tier 1	0.054	0.104		
	(0.602)	(0.402)		
Acq Tier 2	−0.085	−0.024		
	(0.398)	(0.841)		
Tar Tier 1			−0.546**	−0.321**
			(0.000)	(0.001)
Tar Tier 2			−0.332**	−0.182**
			(0.000)	(0.034)
Log(Deal Value)	−0.188**	−0.173**	−0.039	−0.146**
	(0.000)	(0.000)	(0.055)	(0.000)
Log(Acq Ind)		0.278**		0.426**
		(0.001)		(0.000)
Log(Tar Ind)	−0.307**			−0.173**
		(0.001)		(0.006)
No. Acq Adviser		−0.028		0.465**
		(0.814)		(0.000)
No. Tar Adviser		0.399**		0.209*
		(0.000)		(0.011)
Same Primary Ind		0.094		0.210**
		(0.306)		(0.004)
Listed Acq				0.238**
				(0.009)
Listed Tar		−0.811**		
		(0.000)		
Tender		0.532**		0.919**
		(0.002)		(0.000)
Hostile		−2.911**		−2.752**
		(0.000)		(0.000)
Pct of Stock		0.069		0.452**
		(0.558)		(0.000)
N	8942	7813	8114	7791
Pseudo R^2	0.02	0.13	0.04	0.16
Likelihood Ratio	118.80**	551.02**	272.45**	870.18**

are less likely to succeed. The results also show that hostile offers are significantly less likely to be completed. The number of target advisers is significantly positive, indicating that the higher number of advisers, the higher the likelihood of the deal being successful. Also, a deal is more likely to be successful if the acquirer is listed. The percentage of stock involved is significantly positive for targets, indicating that bids involving stock have a higher probability of completion.

In unreported results, we include the opposing party's tier in the probability of completion model. The only significant dummy variable for the combinations of adviser quality is D_{13} indicating that when the acquirer adviser is first tier and the target adviser is third tier, the probability of completion is higher. This finding suggests that it is the relative difference between the two advisers' quality that leads to an increased likelihood of a successful outcome.

4.3.2. Factors affecting time to completion

We use the following OLS model to determine the factors that affect the speed of completion of a deal. The time to completion model for acquirers (targets) is:

$$\begin{aligned}\text{Time} = {} & \beta_0 + \beta_1 \text{Acq Tier 1(Tar Tier 1)} + \beta_2 \text{Acq Tier 2(Tar Tier 2)} \\ & + \beta_3 \log(\text{Deal Value}) + \beta_4 \log(\text{No. Acq Ind}) + \beta_5 \log(\text{No. Tar Ind}) \\ & + \beta_6 \text{No. Acq Advisers} + \beta_7 \text{No. Tar Advisers} + \beta_8 \text{Same Primary Ind} \\ & + \beta_9 \text{Listed Tar(Listed Acq)} + \beta_{10} \text{Tender} + \beta_{11} \text{Hostile} + \beta_{12} \text{Pct of Stock} \\ & + \sum_{t=13}^{35} \beta_t \text{Year}_t + \varepsilon\end{aligned} \tag{3}$$

The time to completion measures the time between the announcement date of a deal to its effective date (in units of 100 days), and thus only completed deals are included in this analysis. The time to completion hypothesis argues that high quality advisers have more expertise and experience in M&A transactions and therefore are more likely to complete deals faster than low quality advisers. As a result, we expect the coefficients of the *Acq Tier 1 (Tar Tier 1)* and *Acq Tier 2 (Tar Tier 2)* variables to be negative.

Notes to Table 5

This table reports the results from a logistic regression of the probability of completion model without controlling for the opposing party's adviser tier. The dependent variable is a dummy taking the value of 1 if the deal is completed, and 0 otherwise. Acq Tier 1 is a dummy variable taking the value of 1 if the acquirer adviser is a first tier adviser, and zero otherwise. Acq Tier 2 is a dummy variable taking the value of 1 if the acquirer adviser is a second tier adviser, and zero otherwise. Tar Tier 1 is a dummy variable taking the value of 1 if the target adviser is a first tier adviser, and zero otherwise. Tar Tier 2 is a dummy variable taking the value of 1 if the target adviser is a second tier adviser, and zero otherwise. Log(Deal Value) is the natural logarithm of the total value of the deal in millions of dollars. Log(Acq Ind) is the natural logarithm of the number of industries the acquirer operates in as identified by 2-digit SIC codes. Log(Tar Ind) is the natural logarithm of the number of industries the target operates in as identified by 2-digit SIC codes. No. Acq Adviser is the number of acquirer advisers involved in the deal. No. Tar Adviser is the number of target advisers involved in the deal. Same Primary Ind is a dummy variable equal to 1 if the acquirer and target operates in the same primary industry as identified by 2-digit SIC code, and zero otherwise. Listed Acq is a dummy variable taking the value of 1 if the acquirer is listed, and zero otherwise. Listed Tar is a dummy variable taking the value of 1 if the target is listed, and zero otherwise. Tender is a dummy variable equal to 1 if the deal is a tender offer, and zero otherwise. Hostile is a dummy variable taking the value of 1 if the deal is regarded as hostile, and zero otherwise. Pct of Stock is the percentage of the total value of consideration in the form of stock. All regressions are performed including dummy variables for the year of announcement (coefficient values of these are not reported). Figures in parentheses denote *p*-values which are calculated using Huber White sandwich robust standard errors. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

The results for the time to completion model are presented in Table 6. In Models 1 and 2 the *Acq Tier 1* and *Acq Tier 2* are significantly negatively related to time to completion. These results confirm that first tier and second tier acquirer advisers complete deals faster than third tier advisers. Although it appears that second tier advisers are superior to first tier advisers due to the greater magnitude of the *Acq Tier 2* coefficient, the difference between the two coefficients is not statistically significant. Similarly, while first tier and second tier target advisers outperform third tier advisers, the difference between the coefficients is not statistically significant.

The size of the deal significantly adds to the time taken to complete a deal. The larger the number of acquirer and target advisers working on a deal, the more is the time required to complete a deal. This probably results from the need for the advisers to cooperate. It seems that the higher likelihood of completion comes at a cost of increasing the time required to complete the deal. Furthermore, the results indicate that the time taken to complete a deal appears to be longer

Table 6
OLS regression results for time to completion model

	(1)	(2)	(3)	(4)
	Acquirer		Target	
Constant	1.355**	1.211**	2.002**	1.956**
	(0.001)	(0.005)	(0.000)	(0.000)
Acq Tier 1	−0.230**	−0.132**		
	(0.000)	(0.000)		
Acq Tier 2	−0.249**	−0.158**		
	(0.000)	(0.000)		
Tar Tier 1			−0.248**	−0.178**
			(0.000)	(0.000)
Tar Tier 2			−0.265**	−0.172**
			(0.000)	(0.000)
Log(Deal Value)	0.139**	0.044**	0.083**	0.044**
	(0.000)	(0.000)	(0.000)	(0.000)
Log(Acq Ind)		0.022		−0.007
		(0.338)		(0.753)
Log(Tar Ind)		0.050		0.049
		(0.080)		(0.103)
No. Acq Adviser		0.206**		0.072**
		(0.000)		(0.004)
No. Tar Adviser		0.155**		0.119**
		(0.000)		(0.001)
Same Primary Ind		0.182**		0.212**
		(0.000)		(0.000)
Listed Acq				−0.037
				(0.342)
Listed Tar		0.406**		
		(0.000)		
Tender		−0.467**		−0.553**
		(0.000)		(0.000)
Hostile		0.329**		0.594**
		(0.004)		(0.000)
Pct of Stock		0.213**		0.154**
		(0.000)		(0.000)
N	8081	7119	6627	6352
R^2	0.06	0.15	0.04	0.11
F-statistic	19.63	34.01	12.46	28.21

for acquirers and targets that operate in the same primary industry. The time taken is also significantly greater for acquirers in bids where the target is listed. This is of no surprise as the acquirer needs to wait to gain acceptances from the more diverse groups of shareholders in a listed target. Transactions require more time to be successful if they are hostile and involve more stock, but are quicker to complete if they are tender offers.

We further control for the opposing party's adviser quality. In unreported results we find that all the D_{XY} dummy variables for adviser quality combinations are significantly negative, indicating that any combination of advisers will result in less time being required to complete a deal compared to the case of third tier investment banks advising both the acquirer and the target. This is evidence that in general high quality advisers require less time to complete a deal.

4.3.3. Robustness checks: probability of completion and time to complete the deal

We recognise that the quality of advisers in terms of completion rates and time to completion may matter differently for friendly and hostile deals. In the case of friendly deals, the adviser's job is almost completed prior to the announcement, hence one would expect lower completion times and higher completion rates relative to hostile deals. Consequently, we partition the data into friendly and hostile and evaluate the probability of completion and time to completion of each partition. In unreported results, we find that the acquirer adviser quality does not affect the likelihood of completing a deal in either hostile or friendly transaction when we control for complexity of the deal. For targets, tier 1 and tier 2 advisers are more likely to complete a deal if the transaction is hostile and less likely when it is friendly. Hostility of a bid might therefore be a strategy for the target to extract a higher premium from the bidder.

With the time to completion model, we find that high quality advisers for both bidders and targets complete friendly deals in less time than low quality advisers. The quality of adviser does not affect the time to completion in hostile transactions. It appears the results reported in Table 6 are driven by the large number of friendly transactions in the sample.

Notes to Table 6

This table reports the results from an ordinary least squares regression of the time to completion model without controlling for the opposing party's adviser tier. The dependent variable is the time between the announcement date and the completion date in units of 100 days. Regressions 1 and 3 only include the size of the deal as a control variable, while Regression 2 and 4 include all the control variables described in Section 3.3. Acq Tier 1 is a dummy variable taking the value of 1 if the acquirer adviser is a first tier adviser, and zero otherwise. Acq Tier 2 is a dummy variable taking the value of 1 if the acquirer adviser is a second tier adviser, and zero otherwise. Tar Tier 1 is a dummy variable taking the value of 1 if the target adviser is a first tier adviser, and zero otherwise. Tar Tier 2 is a dummy variable taking the value of 1 if the target adviser is a second tier adviser, and zero otherwise. Log(Deal Value) is the natural logarithm of the total value of the deal in millions of dollars. Log(Acq Ind) is the natural logarithm of the number of industries the acquirer operates in as identified by 2-digit SIC codes. Log(Tar Ind) is the natural logarithm of the number of industries the target operates in as identified by 2-digit SIC codes. No. Acq Adviser is the number of acquirer advisers involved in the deal. No. Tar Adviser is the number of target advisers involved in the deal. Same Primary Ind is a dummy variable equal to 1 if the acquirer and target operates in the same primary industry as identified by 2-digit SIC code, and zero otherwise. Listed Acq is a dummy variable taking the value of 1 if the acquirer is listed, and zero otherwise. Listed Tar is a dummy variable taking the value of 1 if the target is listed, and zero otherwise. Tender is a dummy variable equal to 1 if the deal is a tender offer, and zero otherwise. Hostile is a dummy variable taking the value of 1 if the deal is regarded as hostile, and zero otherwise. Pct of Stock is the percentage of the total value of consideration in the form of stock. All regressions are performed including dummy variables for the year of announcement (coefficient values of these are not reported). Figures in parentheses denote *p*-values which are calculated using Huber White sandwich robust standard errors. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

Table 7
Abnormal returns for acquirers and targets

Event Window	Tier 1 adviser			Tier 2 adviser			Tier 3 adviser			Total with adviser			Kruskal Wallis χ^2
	Mean	Median	*N*	Mean	Median	*N*	Mean	Median	*N*	Mean	Median	*N*	
Panel A: Abnormal CAR for acquirer													
(−1, +1)	0.25%	−0.03%	2451	1.26%**	0.47%**	2264	1.08%**	0.10%**	2025	0.84%**	0.17%**	6740	11.21**
	(0.136)	(0.764)		(0.000)	(0.000)		(0.000)	(0.003)		(0.000)	(0.000)		(0.004)
(0, +1)	0.29%	0.04%	2451	1.05%**	0.20%**	2264	0.87%**	−0.05%*	2025	0.72%**	0.07%**	6740	6.04*
	(0.057)	(0.570)		(0.000)	(0.000)		(0.000)	(0.016)		(0.000)	(0.000)		(0.049)
(0, +5)	0.16%	−0.02%	2447	0.51%	0.08%	2263	0.55%*	−0.31%	2025	0.40%**	−0.07%	6735	0.48
	(0.395)	(0.540)		(0.046)	(0.427)		(0.037)	(0.834)		(0.004)	(0.453)		(0.786)
(0, +270)	−18.45%**	−10.31%**	2267	−20.47%**	−12.52%**	2050	−20.85%**	−12.16%**	1856	−19.84%**	−11.61%**	6173	2.40
	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.301)
Panel B: Abnormal CAR for target													
(−1, +1)	15.47%**	11.31%**	2169	17.46%**	12.90%**	1968	19.97%**	15.71%**	2161	17.64%**	13.16%**	6298	51.47**
	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)
(0, +1)	13.99%**	9.38%**	2169	15.82%**	11.43%**	1968	18.08%**	13.51%**	2161	15.96%**	11.65%**	6298	40.65**
	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)
(0, +5)	14.08%**	9.63%**	2164	15.88%**	11.77%**	1962	17.92%**	13.70%**	2154	15.96%**	11.63%**	6280	31.94**
	(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)

The sample consists of all M&A transactions involving U.S. acquirers and targets that are announced between January 1980 and December 2003 in which there is at least one listed party advised by an investment bank. Panel A reports the CAR for acquirers across the different event windows, and Panel B reports the CAR for targets across the different event windows. The cumulative abnormal returns are generated from a market model using the CRSP value weighted index as the benchmark surrounding the announcement. Day 0 is defined as the announcement date of the deal. A deal is classified as being advised by a bank of a particular tier on the basis of the tier of the best ranked bank advising for the same party in that transaction. N denotes the number of observations. The 'Total' column displays statistics for all deals where an adviser is hired. Means are tested using parametric t-test, and medians are tested using non-parametric Wilcoxon sign rank test to test if the sample values are significantly different from zero. The non-parametric Kruskal Wallis statistic tests the hypothesis that the variable follows the same distribution across all three tiers. Figures in parentheses denote *p*-values. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

4.4. Abnormal returns

Here we examine the ability of high quality advisers to generate higher returns for their clients. We use the CRSP database to obtain the daily closing stock prices of all listed firms in the sample. We use CRSP data in conjunction with abnormal returns data from *Eventus* to analyse acquirer and target wealth gains. We compute abnormal returns for both bidders and targets using the standard event study methodology. We estimate the cumulative abnormal returns (CAR) over three event windows (−1, +1), (0, +1) and (0, +5) surrounding the announcement. We also examine an additional window (0, +270) to evaluate the long term effect of the acquisition. The CAR is calculated using a market model with the CRSP value weighted index as the benchmark and model parameters are estimated over the (−300, −91) period.

Table 7 provides the univariate analysis of the equally weighted acquirer and target abnormal returns. In the results for acquirer abnormal returns in Panel A, second tier advisers outperform both first tier and third tier advisers in most of the windows examined. For example, in the (−1, +1) window, the mean level of abnormal returns to the acquirer generated in deals involving second tier advisers is 1.26%, while for first tier advisers it is at an insignificant 0.25%. Third tier advisers clients record a significant 1.08% in this window. In the long run (0, +270) acquirers incur significantly negative returns, consistent with the takeover anomaly documented in Loughran and Vijh (1997).

Panel B reports the abnormal returns generated for target firms. While targets advised by investment banks from any tier gain significantly positive returns, the mean and median returns to targets who hire third tier advisers are always greater than those who hire first or second tier advisers. One possible reason is that while the returns to deals that first tier investment banks advise on are likely to be lower due to the greater level of complexity of the deal, the overall positive returns that targets generally receive in M&A transactions, diminishes the advisers' incentive to expend effort in differentiating themselves when advising targets.

The equally weighted abnormal return gives the same weight to both large and small firms. However, any abnormal return has more significant economic impact if it is obtained by a larger

Table 8
Value weighted abnormal returns

Event Window	Tier 1 Adviser	*N*	Tier 2 Adviser	*N*	Tier 3 Adviser	*N*	Total with Advisers	*N*
Panel A: Acquirers								
(−1, +1)	−1.16%	2451	−1.08%	2264	−1.03%	2025	−1.03%	6740
(0, +1)	−1.04%	2451	−0.82%	2264	−0.89%	2025	−0.89%	6740
(0, +5)	−1.39%	2447	−1.14%	2263	−1.25%	2025	−1.25%	6735
(0, +270)	−24.29%	2267	−29.57%	2050	−12.05%	1856	−24.67%	6173
Panel B: Targets								
(−1, +1)	9.98%	2169	9.94%	1968	13.82%	2161	10.18%	6298
(0, +1)	9.07%	2169	8.52%	1968	12.35%	2161	9.10%	6298
(0, +5)	9.14%	2164	8.65%	1962	11.67%	2154	9.14%	6280

The sample consists of all M&A transactions involving U.S. acquirers and targets that are announced between January 1980 and December 2003 in which there is at least one listed party advised by an investment bank. The value weighted abnormal return is computed separately for acquirers and targets across different event windows. The value weighted abnormal return is the sum of the dollar abnormal returns across the acquirers (targets) divided by the sum of market capitalisation of the acquirers (targets). Day 0 is defined as the announcement date of the deal. A deal is classified as being advised by a bank of a particular tier on the basis of the tier of the best ranked bank advising for the same party in that transaction. *N* denotes the number of observations. The 'Total' column displays statistics for all deals where an adviser is hired.

firm. As a result, we examine the value weighted abnormal return and present the results in Table 8. The value weighted abnormal return is defined as the sum of the dollar abnormal returns across targets or bidders divided by the sum of the market capitalisation across targets or bidders (Moeller et al., 2004). The results in Table 8 show that the value weighted return for acquirers when a deal is announced is negative across all event windows irrespective of the quality of the adviser. However, the equally weighted abnormal returns show that acquirer's in general gain on the announcement of a deal. As Moeller et al. (2004) note, the value weighted dollar abnormal return can differ in sign from the equally weighted returns if the percentage abnormal returns differs in signs for small and large firms. This is possible when the losses sustained by large bidders are larger than the gains made by small bidders. In all event windows, tier 3 advisers generate better abnormal returns for their acquirer clients than tier 1 advisers. The result is similar

Table 9
OLS regression for abnormal returns model

Event window	(−1, +1)	(0, +1)	(0, +5)	(−1, +1)	(0, +1)	(0, +5)
	Acquirer			Target		
Constant	0.031*	0.018*	0.029	0.155**	0.123*	0.158**
	(0.046)	(0.022)	(0.079)	(0.001)	(0.012)	(0.007)
Acq Tier 1	0.004	0.006	0.010*			
	(0.299)	(0.074)	(0.020)			
Acq Tier 2	0.008*	0.008*	0.007			
	(0.026)	(0.020)	(0.117)			
Tar Tier 1				−0.044**	−0.041**	−0.040**
				(0.000)	(0.000)	(0.000)
Tar Tier 2				−0.025**	−0.023**	−0.023**
				(0.002)	(0.005)	(0.007)
Log(Deal Value)	−0.005**	−0.005**	−0.006**	0.002	0.003	0.003
	(0.000)	(0.000)	(0.000)	(0.315)	(0.267)	(0.297)
Log(Acq Ind)	−0.002	−0.001	−0.001	0.018**	0.015**	0.014*
	(0.466)	(0.563)	(0.594)	(0.001)	(0.004)	(0.014)
Log(Tar Ind)	0.004	0.002	0.002	−0.009	−0.006	−0.007
	(0.163)	(0.384)	(0.602)	(0.133)	(0.305)	(0.295)
No. Acq Adviser	−0.002	0.000	0.003	−0.003	−0.002	−0.003
	(0.694)	(0.954)	(0.511)	(0.635)	(0.759)	(0.689)
No. Tar Adviser	0.003	0.003	0.005	−0.009	−0.011	−0.010
	(0.182)	(0.149)	(0.082)	(0.161)	(0.099)	(0.136)
Same Primary Ind	0.001	0.001	0.001	0.005	0.005	0.004
	(0.623)	(0.545)	(0.673)	(0.485)	(0.490)	(0.582)
Listed Acq				0.023*	0.021*	0.022*
				(0.012)	(0.024)	(0.021)
Listed Tar	−0.028**	−0.025**	−0.022**			
	(0.000)	(0.000)	(0.000)			
Tender	0.011**	0.009*	0.012*	0.095**	0.089**	0.094**
	(0.006)	(0.014)	(0.015)	(0.000)	(0.000)	(0.000)
Hostile	0.002	0.000	0.000	0.012	0.016	0.022
	(0.777)	(0.974)	(0.965)	(0.255)	(0.114)	(0.055)
Pct of Stock	−0.018**	−0.019**	−0.028**	−0.043**	−0.044**	−0.047**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	5185	5185	5183	5795	5795	5783
R^2	0.06	0.06	0.04	0.08	0.08	0.07
F-statistic	9.81**	9.87**	6.98**	12.45**	12.01**	11.30**

in the long run where Tier 3 advisers generate −12.05% for their client firms as opposed to −24.29% and −29.57% for tier 1 and tier 2 advisers, respectively. The results in Panel B show that target firms that employ tier 3 advisers generate higher abnormal returns than those hiring tier 1 and tier 2 advisers.

4.4.1. Determinants of abnormal returns

We perform OLS regressions to determine the factors that affect the level of market response surrounding the announcement to determine the factors that explain abnormal returns. The abnormal returns model for acquirers (targets) is:

$$\begin{aligned} \text{CAR} = {} & \beta_0 + \beta_1 \text{Acq Tier 1(Tar Tier 1)} + \beta_2 \text{Acq Tier 2(Tar Tier 2)} \\ & + \beta_3 \log(\text{Deal Value}) + \beta_4 \log(\text{No. Acq Ind}) + \beta_5 \log(\text{No. Tar Ind}) \\ & + \beta_6 \text{No. Acq Advisers} + \beta_7 \text{No. Tar Advisers} + \beta_8 \text{Same Primary Ind} \\ & + \beta_9 \text{Listed Tar(Listed Acq)} + \beta_{10} \text{Tender} + \beta_{11} \text{Hostile} + \beta_{12} \text{Pct of Stock} \\ & + \sum_{t=13}^{35} \beta_t \text{Year} + \varepsilon \end{aligned} \tag{4}$$

The abnormal returns hypothesis argues that high quality advisers are able to deliver more positive gains to their clients. Thus, we expect both the coefficients of the *Acq Tier 1 (Tar Tier 1) and Acq Tier 2 (Tar Tier 2)* variables to be positive in the acquirer (target) abnormal returns model.

Table 9 reports the findings for the analysis of abnormal returns to acquirers and targets. The results show a strong negative relationship between the target adviser tier and target abnormal returns, while only a weak positive relationship is found for the acquirer adviser tier. The lack of support for the superior deal hypothesis is not surprising, given that recent studies in M&A advisory markets also fail to find high quality advisers being able to deliver superior stock returns to their clients (e.g., Servaes and Zenner, 1996; Rau, 2000). Similarly, when the abnormal returns

Notes to Table 9

This table reports the coefficient values from an ordinary least squares regression of the abnormal returns model without controlling for the opposing party's adviser tier for acquirers and targets in selected event windows. The dependent variable is the cumulative abnormal return over the selected event window. Abnormal returns are generated using a market model with the CRSP value weighted index as the benchmark and model parameters estimated over the window (−300, −91). Acq Tier 1 is a dummy variable taking the value of 1 if the acquirer adviser is a first tier adviser, and zero otherwise. Acq Tier 2 is a dummy variable taking the value of 1 if the acquirer adviser is a second tier adviser, and zero otherwise. Tar Tier 1 is a dummy variable taking the value of 1 if the target adviser is a first tier adviser, and zero otherwise. Tar Tier 2 is a dummy variable taking the value of 1 if the target adviser is a second tier adviser, and zero otherwise. Log(Deal Value) is the natural logarithm of the total value of the deal in millions of dollars. Log(Acq Ind) is the natural logarithm of the number of industries the acquirer operates in as identified by 2-digit SIC codes. Log(Tar Ind) is the natural logarithm of the number of industries the target operates in as identified by 2-digit SIC codes. No. Acq Adviser is the number of acquirer advisers involved in the deal. No. Tar Adviser is the number of target advisers involved in the deal. Same Primary Ind is a dummy variable equal to 1 if the acquirer and target operates in the same primary industry as identified by 2-digit SIC code, and zero otherwise. Listed Acq is a dummy variable taking the value of 1 if the acquirer is listed, and zero otherwise. Listed Tar is a dummy variable taking the value of 1 if the target is listed, and zero otherwise. Tender is a dummy variable equal to 1 if the deal is a tender offer, and zero otherwise. Hostile is a dummy variable taking the value of 1 if the deal is regarded as hostile, and zero otherwise. Pct of Stock is the percentage of the total value of consideration in the form of stock. All regressions are performed including dummy variables for the year of announcement (coefficient values of these are not reported). Figures in parentheses denote *p*-values which are calculated using Huber White sandwich robust standard errors. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

model is extended to control for the opposing party's (results unreported) adviser quality, we find no combinations of acquirer and target adviser quality that generates significantly different levels of abnormal returns to either the acquirer or the target compared to the situation of a third tier acquirer and target adviser.

4.4.2. Robustness checks: acquirer abnormal returns

The inability to capture bidder abnormal returns might be driven by the negative returns sustained by bidders involved in a campaign of acquisitions during the sample period. If the market reacts negatively to the first bid, it is likely that subsequent bids by the same acquirer will attract similar negative reaction which can further drive down the accumulated wealth gain. To address this problem, we re-calculate the abnormal returns, allowing acquirers to enter the sample only once (first acquisition only). The findings (available upon request) are very similar to those reported in the previous Section 4.4.1. For the shorter event windows, tier 3 and tier 2 advisers generate higher abnormal returns than tier 1 advisers. Although acquirers generally perform poorly in the long run, tier 1 advisers generate less negative returns than tier 2 and tier 3 advisers. In the value weighted results tier 3 advisers perform better than tier 1 and tier 2 advisers in all event windows. In evaluating the determinants of the abnormal returns, we find no evidence that the abnormal returns are related to the quality of the advisers. *Acq Tier 1* and *Acq Tier 2* are insignificant across all event windows.

4.5. Abnormal returns by consideration type

Given no support for the superior deal hypothesis in the complete sample, we further partition the sample by consideration type and evaluate whether high quality advisers are able to differentiate themselves in particular types of bidding. Table 10 reports the results of the abnormal returns model applied to the three partitions (all-cash, all-stock, and all other bids). The results in

Notes to Table 10

This table reports the coefficient values from ordinary least squares regression of acquirer abnormal returns without controlling for the opposing party's adviser tier. Panels A, B and C report the results for all-cash bids, all-stock bids, and all other bids. The dependent variable is the cumulative abnormal return over the selected event window. Abnormal returns are generated using a market model with the CRSP value weighted index as the benchmark and model parameters estimated over the window (−300, −91). Acq Tier 1 is a dummy variable taking the value of 1 if the acquirer adviser is a first tier adviser, and zero otherwise. Acq Tier 2 is a dummy variable taking the value of 1 if the acquirer adviser is a second tier adviser, and zero otherwise. Tar Tier 1 is a dummy variable taking the value of 1 if the target adviser is a first tier adviser, and zero otherwise. Tar Tier 2 is a dummy variable taking the value of 1 if the target adviser is a second tier adviser, and zero otherwise. Log(Deal Value) is the natural logarithm of the total value of the deal in millions of dollars. Log(Acq Ind) is the natural logarithm of the number of industries the acquirer operates in as identified by 2-digit SIC codes. Log(Tar Ind) is the natural logarithm of the number of industries the target operates in as identified by 2-digit SIC codes. No. Acq Adviser is the number of acquirer advisers involved in the deal. No. Tar Adviser is the number of target advisers involved in the deal. Same Primary Ind is a dummy variable equal to 1 if the acquirer and target operates in the same primary industry as identified by 2-digit SIC code, and zero otherwise. Listed Acq is a dummy variable taking the value of 1 if the acquirer is listed, and zero otherwise. Listed Tar is a dummy variable taking the value of 1 if the target is listed, and zero otherwise. Tender is a dummy variable equal to 1 if the deal is a tender offer, and zero otherwise. Hostile is a dummy variable taking the value of 1 if the deal is regarded as hostile, and zero otherwise. Pct of Stock is the percentage of the total value of consideration in the form of stock. All regressions are performed including dummy variables for the year of announcement (coefficient values of these are not reported). Figures in parentheses denote *p*-values which are calculated using Huber White sandwich robust standard errors. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

Table 10
OLS regression for acquirer abnormal returns by consideration type

Panel A: All cash bids				
Event window:	(−1, +1)	(0, +1)	(0, +5)	(0, +270)
Constant	0.019	−0.007	0.005	−0.085
	(0.545)	(0.568)	(0.873)	(0.608)
Acq Tier 1	0.004	0.005	0.000	0.024
	(0.465)	(0.335)	(0.999)	(0.728)
Acq Tier 2	0.005	0.004	−0.004	−0.043
	(0.273)	(0.338)	(0.561)	(0.530)
Log(Deal Value)	−0.004*	−0.004*	−0.002	−0.008
	(0.029)	(0.014)	(0.318)	(0.667)
Log(Acq Ind)	−0.009**	−0.007*	−0.005	0.105**
	(0.003)	(0.012)	(0.172)	(0.009)
Log(Tar Ind)	−0.004	−0.001	0.001	0.002
	(0.316)	(0.705)	(0.879)	(0.973)
No. Acq Adviser	0.010	0.012	0.013	0.060
	(0.185)	(0.104)	(0.163)	(0.357)
No. Tar Adviser	0.009**	0.007*	0.008*	−0.002
	(0.003)	(0.013)	(0.018)	(0.950)
Same Primary Ind	0.003	0.003	0.006	0.009
	(0.428)	(0.394)	(0.155)	(0.792)
Listed Tar	−0.020**	−0.016**	−0.014**	−0.041
	(0.000)	(0.000)	(0.009)	(0.605)
Tender	0.007	0.005	0.008	0.077
	(0.147)	(0.286)	(0.218)	(0.333)
Hostile	0.001	0.000	−0.004	−0.055
	(0.865)	(0.984)	(0.641)	(0.427)
N	1955	1955	1953	1773
R^2	0.04	0.04	0.02	0.04
F-statistic	2.65**	2.96**	1.73**	3.23***
Panel B: All stock bids				
Event Window:	(−1, +1)	(0, +1)	(0, +5)	(0, +270)
Constant	0.007	0.023	0.021	−0.165
	(0.665)	(0.257)	(0.131)	(0.558)
Acq Tier 1	0.007	0.010	0.024**	0.112
	(0.298)	(0.134)	(0.004)	(0.283)
Acq Tier 2	0.018*	0.016*	0.025**	0.047
	(0.036)	(0.033)	(0.007)	(0.622)
Log(Deal Value)	−0.008**	−0.008**	−0.010**	−0.111**
	(0.002)	(0.001)	(0.001)	(0.001)
Log(Acq Ind)	0.009	0.007	0.004	0.296**
	(0.067)	(0.085)	(0.515)	(0.000)
Log(Tar Ind)	0.015	0.008	0.007	0.075
	(0.021)	(0.180)	(0.308)	(0.422)
No. Acq Adviser	−0.014	−0.009	−0.011	0.073
	(0.091)	(0.243)	(0.230)	(0.549)
No. Tar Adviser	0.002	0.003	0.004	−0.097
	(0.777)	(0.527)	(0.598)	(0.547)
Same Primary Ind	−0.010	−0.008	−0.009	0.108
	(0.124)	(0.147)	(0.236)	(0.147)
Listed Tar	−0.041**	−0.038**	−0.033**	0.249**
	(0.000)	(0.000)	(0.000)	(0.010)

(continued on next page)

Table10 (*continued*)

Panel B: All stock bids				
Event window	(−1, +1)	(0, +1)	(0, +5)	(0, +270)
Tender	0.013	0.001	−0.012	0.241
	(0.479)	(0.971)	(0.641)	(0.232)
Hostile	−0.006	0.002	0.000	0.112
	(0.732)	(0.910)	(0.983)	(0.628)
N	1582	1582	1582	1475
R^2	0.07	0.07	0.06	0.12
F-statistic	3.77**	3.91**	2.80**	4.05**
Panel C: All other bids				
Event window	(−1, +1)	(0, +1)	(0, +5)	(0, +270)
Constant	0.025	0.015	0.026	−0.051
	(0.131)	(0.215)	(0.233)	(0.736)
Acq Tier 1	−0.001	0.002	0.007	0.175*
	(0.887)	(0.736)	(0.332)	(0.027)
Acq Tier 2	0.004	0.004	0.001	0.165
	(0.554)	(0.478)	(0.862)	(0.054)
Log(Deal Value)	−0.004*	−0.002	−0.006*	−0.065*
	(0.030)	(0.126)	(0.041)	(0.013)
Log(Acq Ind)	0.001	0.002	0.001	0.053
	(0.752)	(0.640)	(0.811)	(0.352)
Log(Tar Ind)	0.003	0.001	−0.003	−0.042
	(0.554)	(0.763)	(0.591)	(0.452)
No. Acq Adviser	−0.004	−0.005	0.004	0.149
	(0.536)	(0.378)	(0.595)	(0.221)
No. Tar Adviser	−0.004	−0.003	−0.001	0.002
	(0.282)	(0.380)	(0.902)	(0.972)
Same Primary Ind	0.009	0.008*	0.003	−0.034
	(0.054)	(0.050)	(0.547)	(0.640)
Listed Tar	−0.026**	−0.024**	−0.020**	0.226**
	(0.000)	(0.000)	(0.001)	(0.009)
Tender	0.010	0.009	0.020*	0.006
	(0.085)	(0.085)	(0.017)	(0.921)
Hostile	0.003	−0.001	0.001	−0.045
	(0.764)	(0.854)	(0.955)	(0.623)
N	1648	1648	1648	1523
R^2	0.07	0.06	0.03	0.04
F-statistic	3.94**	3.21**	2.23**	3.30**

Panel A shows that acquirer advisers are not able to differentiate themselves in terms of the abnormal returns generated to their clients in all cash bids.

The results for all-stock bids are presented in Panel B. In the shorter event windows, the coefficient for *Acq Tier 2* is significantly positive, indicating that second tier advisers are able to generate more positive abnormal gains to their clients than third tier advisers. The *Acq Tier 1* coefficient is also significantly positive in the (0, +5) event window. The difference between these coefficients in the two windows is not statistically significant. Thus, while there is some support for the superior deal hypothesis for stock-based bids, it seems that second tier advisers outperform first tier advisers. The results from Panel B also show that the abnormal announcement returns in bids involving listed targets are lower in the short event windows. This is in line with the results

by Chang (1998), who finds that acquirers experience a lower return when offering stock to listed targets rather than unlisted targets over the period (−1, 0). However, over the longer term, there is a reversal in the relation, with the *Listed Tar* variable significantly positive in the (0, +270) window.

Further support for the superior stock deal hypothesis is provided in Panel C, where the results of the abnormal returns model on the acquirer returns of all other bids are reported. The *Acq Tier 1* variable is significantly positive in the (0, +270), showing that first tier advisers are able to deliver greater returns for acquirer clients in the long run. The results indicate that in general high quality advisers are able to deliver stronger gains in bids that involve part stock and part cash compared to third tier advisers.

The results (unreported) for the model controlling for the opposing party tier are qualitatively similar to that reported in Table 10. However, deals involving a second tier acquirer adviser against a third tier target adviser (D_{23}) deliver significantly stronger returns to the acquirer than deals involving a third tier acquirer adviser and a third tier target adviser. There is also some evidence that first tier advisers, when matched against third tier target advisers (D_{13}), generate more positive gains for acquirers compared to deals involving third tier advisers on both sides of the transaction.

4.6. Additional robustness checks

4.6.1. Alternative quality measure

It seems that the use of the market share measure as the quality of the adviser captures the superiority of advisers' performance in the area of deal completion but does not seem to explain the performance of advisers in terms of the abnormal returns earned by their clients. Consequently, we develop an alternate quality measure that rewards advisers for their consistency in delivering abnormal wealth gains to their clients. Mathematically, this "wealth gain consistency" measure is defined for adviser i in year t as:

$$\frac{\sum_{t-2}^{t} \#\text{ Deals Advised By Adviser i}}{\sum_{t-2}^{t} \#\text{ Total Deals}} \frac{\sum_{t-2}^{t} \frac{\text{Client Abnormal Wealth Gains}}{\#\text{ Advisers for Client}}}{\sum_{t-2}^{t} \frac{\text{Deal Value}}{\#\text{ Advisers for Client}}} \tag{5}$$

The calculation of this wealth gain consistency measure uses a rolling window methodology similar to the one used in the market share measure. This measure incorporates information on the deals that an adviser has been involved with in a 3-year window covering the year of announcement and the two years prior to that year.

There are two components to the wealth gain consistency measure. The numerator on the right hand side of Eq. (5) is the wealth added to the client, divided by the number of advisers working for the client on the deal. The abnormal wealth gain is measured over the (−5, +5) window, calculated as the product of the closing share price of the client on day −6 and the abnormal returns it experiences in the period (−5, +5). The division by the number of advisers in the numerator is performed to measure the contribution of each individual adviser in the transaction, assuming that all advisers contributed equally. The wealth gain consistency measure can be interpreted as a market share measure adjusted for the wealth gains generated by advisers. The right hand side of the wealth gain consistency measure rewards investment banks that deliver more positive gains to their clients. Advisers that on average deliver low or negative returns to the

clients are penalised by having a low or negative weighting, and thus such an adviser will be ranked lowly as it failed to deliver gains to its clients. The left hand side is a measure of an investment bank's market share based on the number of deals announced rather than the value of deals. The wealth gain consistency measure is calculated on an annual basis for each adviser, after which the advisers are ranked from highest to lowest. Similar to the market share measure, advisers are then classified into three tiers, with first tier advisers being those ranked 1st to 5th, second tier advisers being those ranked 6th to 20th, and third tier advisers being all other advisers.

The results reported in Table 11 show relatively stronger support for the superior deals hypothesis compared to the results obtained under the market share tiers. Here both *Acq Tier 1* and *Acq Tier 2* variables are significant and positive, even though the magnitude of the coefficients is small. When the abnormal returns model is applied on target abnormal returns, the new coefficient values are generally positive but insignificant. Although this is an improvement over the negative coefficients found for *Tar Tier 1 and Tar Tier 2* under the abnormal returns model with tiers based on market share, there is still a lack of strong evidence supporting the superior deal hypothesis that high quality advisers generate higher gains to its clients.

4.6.2. Continuous measures

Although the use of the three-tier classification system for investment banks is common practice in the M&A advisory literature, the system of allocating tiers is somewhat arbitrary. There is no specific justification for the ranks that are used as cut-offs for each of the tiers. To provide a further robustness check, the models are re-estimated using the continuous variable measure instead of the discrete dummies. This is performed for both the market share and the wealth gain consistency measures.

Notes to Table 11

The Table reports the coefficient values from an ordinary least squares regression of the abnormal returns model without controlling for the opposing party's adviser tier for acquirers and targets respectively. The dependent variable is the cumulative abnormal return over the selected event window. Abnormal returns are generated using a market model with the CRSP value weighted index as the benchmark and model parameters estimated over the window (−300, −91). Acq Tier 1 is a dummy variable taking the value of 1 if the acquirer adviser is a first tier adviser, and zero otherwise. Acq Tier 2 is a dummy variable taking the value of 1 if the acquirer adviser is a second tier adviser, and zero otherwise. Tar Tier 1 is a dummy variable taking the value of 1 if the target adviser is a first tier adviser, and zero otherwise. Tar Tier 2 is a dummy variable taking the value of 1 if the target adviser is a second tier adviser, and zero otherwise. Log(Deal Value) is the natural logarithm of the total value of the deal in millions of dollars. Log(Acq Ind) is the natural logarithm of the number of industries the acquirer operates in as identified by 2-digit SIC codes. Log(Tar Ind) is the natural logarithm of the number of industries the target operates in as identified by 2-digit SIC codes. No. Acq Adviser is the number of acquirer advisers involved in the deal. No. Tar Adviser is the number of target advisers involved in the deal. Same Primary Ind is a dummy variable equal to 1 if the acquirer and target operates in the same primary industry as identified by 2-digit SIC code, and zero otherwise. Listed Acq is a dummy variable taking the value of 1 if the acquirer is listed, and zero otherwise. Listed Tar is a dummy variable taking the value of 1 if the target is listed, and zero otherwise. Tender is a dummy variable equal to 1 if the deal is a tender offer, and zero otherwise. Hostile is a dummy variable taking the value of 1 if the deal is regarded as hostile, and zero otherwise. Pct of Stock is the percentage of the total value of consideration in the form of stock. All regressions are performed including dummy variables for the year of announcement (coefficient values of these are not reported). Figures in parentheses denote *p*-values which are calculated using Huber White sandwich robust standard errors. **, * denotes statistical significance at the 1% and 5% level, respectively, using a two tailed test.

Table 11
OLS regression results for abnormal returns model under wealth gain consistency tiers

Event window	(−1, +1)	(0, +1)	(0, +5)	(−1, +1)	(0, +1)	(0, +5
	Acquirer			Target		
Constant	0.032*	0.019**	0.032*	0.153**	0.121*	0.155**
	(0.031)	(0.010)	(0.044)	(0.001)	(0.014)	(0.008)
Acq Tier 1	0.006*	0.005*	0.013**			
	(0.029)	(0.038)	(0.001)			
Acq Tier 2	0.011**	0.010**	0.013**			
	(0.000)	(0.000)	(0.001)			
Tar Tier 1				−0.009	−0.009	−0.003
				(0.186)	(0.188)	(0.700)
Tar Tier 2				0.015	0.012	0.014
				(0.068)	(0.128)	(0.085)
Log(Deal Value)	−0.005**	−0.004**	−0.006**	−0.002	−0.002	−0.002
	(0.000)	(0.000)	(0.000)	(0.320)	(0.446)	(0.404)
Log(Acq Ind)	−0.002	−0.001	−0.002	0.018**	0.015**	0.014*
	(0.383)	(0.499)	(0.528)	(0.001)	(0.004)	(0.014)
Log(Tar Ind)	0.004	0.002	0.001	−0.009	−0.006	−0.007
	(0.182)	(0.430)	(0.647)	(0.138)	(0.305)	(0.283)
No. Acq Adviser	−0.003	−0.001	0.002	−0.003	−0.002	−0.003
	(0.544)	(0.840)	(0.661)	(0.631)	(0.751)	(0.680)
No. Tar Adviser	0.003	0.003	0.005	−0.013*	−0.015*	−0.015*
	(0.169)	(0.136)	(0.066)	(0.048)	(0.030)	(0.041)
Same Primary Ind	0.001	0.001	0.001	0.007	0.007	0.006
	(0.685)	(0.620)	(0.730)	(0.319)	(0.324)	(0.401)
Listed Tar	−0.029**	−0.026**	−0.023**			
	(0.000)	(0.000)	(0.000)			
Listed Acq				0.023*	0.021*	0.022*
				(0.011)	(0.023)	(0.020)
Tender	0.011**	0.009*	0.012*	0.096**	0.090**	0.095**
	(0.005)	(0.012)	(0.014)	(0.000)	(0.000)	(0.000)
Hostile	0.002	0.000	0.000	0.011	0.015	0.020
	(0.778)	(0.977)	(0.981)	(0.315)	(0.147)	(0.077)
Pct of Stock	−0.019**	−0.019**	−0.028**	−0.039**	−0.040**	−0.043**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	5185	5185	5183	5791	5791	5779
R^2	0.06	0.06	0.04	0.08	0.07	0.07
F-statistic	9.73**	9.86**	7.00**	11.64**	11.39**	10.60**

In unreported results,[5] both continuous variables (i.e., the market share measure and the wealth gain consistency measure) are significantly positively related to the level of advisory fees for both acquirers and targets. However, the two measures differ in its support of the quality effect hypothesis that the fees charged will be higher if the opposing party's adviser is of a high quality. When the opposing party's quality measure is included in the model, both the acquirer's market share and the target's market share variables are significantly positive, showing that the quality of the adviser and also the quality of the opposing party's adviser have a positive effect on fees. However, under the wealth gain consistency measure, only the acquirer's own measure is significant in explaining the level of fees. Therefore, although there is support for the quality

[5] These are available upon request.

premium hypothesis, there is no support for the quality effect hypothesis under the wealth gain consistency measure.

The continuous market share measure also supports the probability of completion hypothesis more strongly than the wealth gain consistency measure. The market share variable is found to be significantly positive in the probability of completion model, indicating that high quality advisers are more likely to complete deals. On the other hand, when the wealth gains consistency variable is used, it is found to be insignificant. When the opposing party's quality is introduced in the probability of completion model, under the continuous market share measure, the results show the acquirer adviser's quality is significant in determining the likelihood of completion. The target adviser's quality measure is insignificant when the model includes the acquirer adviser's quality, suggesting that it is the skill of the acquirer adviser that ultimately determines the outcome of the bid. Under the wealth gain consistency measure, both the acquirer and target advisers' quality measure is insignificant in explaining the likelihood of completion.

Moreover, there is strong support for the time to completion hypothesis. High quality advisers are able to complete deals in less time, with the coefficient of the market share measure being significantly positive for both acquirer advisers and target advisers. However, when the quality of both the acquirer adviser and target adviser is included in the model, it is the quality of the acquirer adviser that matters. The acquirer adviser quality variable is significantly negative, indicating that these advisers need less time to complete a deal, while the target adviser quality variable is insignificant.

No support for the superior deal hypothesis that high quality advisers are able to deliver stronger gains to their clients is found under the continuous market share measure. Controlling for the opposing party's quality, the acquirer market share and target market share measures are insignificant in explaining the level of acquirer returns across all event windows. Similar to previous results, the quality of the target adviser is found to be significantly negatively related to the level of target abnormal returns.

The adviser quality variable is statistically significant and positive in the regression of acquirer abnormal returns, indicating that the advisers with higher levels of quality measured this way are able to deliver greater gains to their clients. In explaining the target's abnormal returns, the variable for the target's quality is significantly positive in the (0, +5) windows, providing some evidence that high quality advisers are able to deliver greater gains to their target clients.

5. Conclusion

In this paper, we examine the determinants of the pricing of M&A transactions and further investigate whether a quality premium exists in advisory fees. The findings strongly support the hypothesis that a quality premium exists in M&A advisory fees. In particular, we find that first tier and second tier advisers receive substantially greater levels of advisory fees. We also find the level of advisory fees to be positively related to the size of the M&A transaction.

Consistent with Rau (2000), there is no evidence to suggest that high quality advisers are more likely to complete deals. The quality of the acquirer adviser has no significant impact on the probability of completion, while high quality target advisers seem less likely to complete deals. It would be worthwhile in subsequent research to partition the target analysis based on whether the investment bank has been hired to ward off an unwanted bid. However, first tier and second tier advisers are found to be able to complete deals in significantly less time than third tier advisers.

The results from the abnormal returns model show that high quality advisers are not able to generate higher positive abnormal returns to their clients. This result is not particularly surprising as the findings in this area have been inconsistent. For example, while Bowers and Miller (1990) find that the total abnormal returns to acquirers and targets are greater when a first tier investment

bank is involved in the transaction, McLaughlin (1992) finds that the level of abnormal returns is lower in deals associated with a first tier investment bank. The results from this paper are consistent with the findings by McLaughlin (1992) and Rau (2000), who also fail to find support for high quality advisers being associated with clients experiencing greater abnormal returns. However, when high quality investment banks are hired as acquirer advisers in stock deals, there are strong incentives for these advisers to protect their reputational capital due to the negative returns that acquirers generally experience. The findings in this paper show that the abnormal returns to acquirers in bids involving stock are indeed more positive when high quality advisers are used as acquirers' advisers.

References

Asquith, P., 1983. Merger bids, uncertainty, and stockholder returns. Journal of Financial Economics 11, 51–83.

Bowers, H.M., Miller, R.E., 1990. Choice of investment banker and shareholders' wealth of firms involved in acquisitions. Financial Management 19, 34–44.

Bradley, M., Desai, A., Kim, E.H., 1983. Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. Journal of Financial Economics 21, 3–40.

Carter, R., Manaster, S., 1990. Initial public offerings and underwriter reputations. Journal of Finance 45, 1045–1068.

Chang, S., 1998. Takeovers of privately held targets, methods of payment, and bidder returns. Journal of Finance 53, 773–784.

Chemmanur, T.J., Fulghieri, P., 1994. Investment bank reputation, information production, and financial intermediation. Journal of Finance 49, 57–79.

Da Silva Rosa, R., Lee, P., Skott, M., Walter, T., 2004. Competition in the market for takeover advisers. Australian Journal of Management 29, 61–92.

Dennis, D.K., McConnell, J.J., 1986. Corporate mergers and security returns. Journal of Financial Economics 16, 143–187.

Halvorsen, R., Palmquist, R., 1980. The interpretation of dummy variables in semilogarithmic equations. American Economic Review 70, 474–475.

Hunter, W.C., Jagtiani, J., 2003. An analysis of adviser choice, fees, and effort in mergers and acquisitions. Review of Financial Economics 12, 65–81.

Klein, B., Leffler, K.B., 1981. The role of market forces in assuring contractual performance. Journal of Political Economy 89, 615–641.

Loughran, T., Vijh, A.M., 1997. Do long-term shareholders benefit from corporate acquisitions? Journal of Finance 52, 1765–1790.

Martin, K., McConnell, J.J., 1991. Corporate performance, corporate takeovers, and management turnover. Journal of Finance 46, 671–687.

McLaughlin, R.M., 1990. Investment-banking contracts in tender offers: An empirical analysis. Journal of Financial Economics 28, 209–232.

McLaughlin, R.M., 1992. Does the form of compensation matter? Investment banker fee contracts in tender offers. Journal of Financial Economics 32, 223–260.

Michel, A., Shaked, I., Lee, Y., 1991. An evaluation of investment banker acquisition advice: The shareholders' perspective. Financial Management 20, 40–49.

Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2004. Firm size and the gains from acquisitions. Journal of Financial Economics 73, 201–228.

Myers, S.C., Majluf, N.S., 1984. Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics 13, 187–221.

Rau, P.R., 2000. Investment bank market share, contingent fee payments, and the performance of acquiring firms. Journal of Financial Economics 56, 293–324.

Rau, P.R., Rodgers, K.J., 2002. Do bidders hire top-tier investment banks to certify value? Working Paper, Purdue University, and Penn State University.

Servaes, H., Zenner, M., 1996. The role of investment banks in acquisitions. Review of Financial Studies 9, 787–815.

Simunic, D., 1980. The pricing of audit services: theory and evidence. Journal of Accounting Research 18, 161–190.

Shapiro, C., 1983. Premiums for high quality products as returns to reputations. Quarterly Journal of Economics 98, 659–680.