Do Investment Banks Have Skill? Performance Persistence of M&A Advisors

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Abstract

We document significant persistence in the average announcement returns to acquisitions advised by an investment bank. Advisors in the top quintile of returns over the past two years outperform the bottom quintile by 1.04% over the next two years, compared to a full-sample average return of 0.72%. Persistence continues to hold after controlling for the component of returns attributable to the acquirer. These results suggest that advisors possess skill, and contrast earlier studies which use bank reputation and market share to measure advisor quality and find no link with returns. Our findings thus advocate a new measure of advisor quality – past performance. However, acquirers instead select banks based on market share, even though it is negatively associated with future performance. The publication of league tables based on value creation, rather than market share, may improve both clients' selection decisions and advisors' incentives to turn away bad deals.

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Mergers and acquisitions (M&A) are among the most critical decisions a CEO can make. Successful mergers can create substantial synergies through the combination of complementary assets and economies of scale and scope. By contrast, misguided acquisitions can lead to overinvestment in declining industries, and misallocation of companies to parents unable to reap their full potential. In addition to these large effects on shareholder value, a value-destructive takeover can cost the CEO his job. Lehn and Zhao (2006) find that a bad acquisition significantly increases the likelihood of CEO firing. A prominent example is the departure of Carly Fiorina from Hewlett Packard, which was widely attributed to her acquisition of Compaq. The quality of M&A transactions is also of great importance to the economy as a whole. The total value of M&A announced by a U.S. acquirer in 2007 was $2.1tr, around 15% of GDP.

Since CEOs make M&A decisions rarely, they typically lack experience and seek counsel from investment banks. The *skilled advice* hypothesis is that banks help clients to identify synergistic targets and negotiate favorable terms. If banks indeed provide valuable advice, the highest-quality advisors should lead to the best deal outcomes. However, existing research generally fails to find such a relationship. Bowers and Miller (1990) and Michel, Shaked and Lee (1991) measure an advisor's quality by its reputation and find no link with acquirer returns; Rau (2000) uses market share to measure quality and documents a negative relationship. Servaes and Zenner (1996) find no benefit of hiring any advisor at all (compared to executing the deal in-house). These findings seem inconsistent with the skilled advice hypothesis and instead appear to support the *passive execution* hypothesis, that advisors do not matter for M&A outcomes but are simply "execution houses" who undertake deals as instructed by the client. If true, such a conclusion has several troubling implications. The investment banking industry, which consumes a significant proportion of an economy's talented human capital, is mainly a deadweight loss to society. Relatedly, the substantial fees paid by clients are unnecessary expenses with little corresponding benefit. Moreover, CEOs' inexperience in M&A is not mitigated by hiring an advisor, which may explain why so many acquisitions destroy value.

This paper reaches a different conclusion. Prior studies investigate skill by correlating returns against certain variables (e.g. market share or reputation), and thus will only find significance if ability (if it exists) is associated with their hypothesized variables. We instead start with a fixed effects analysis, similar to Bertrand and Schoar (2003). This is a broader approach which investigates whether banks exhibit differential deal returns, without having to specify variables with which any differential will be correlated. Indeed, we find significant bank

fixed effects to a deal's 3-day cumulative abnormal returns (CAR). Over 1980-2007, the difference between the 25th and 75th percentile bank is 1.5%, which is economically meaningful applied to the mean bidder size of $10 billion and compared with the mean CAR of 0.72%.

Having documented that banks are associated with different CARs over the entire time period, we next investigate whether these differences are predictable based on historic data, and thus can be exploited by clients in their advisor selection decisions. The fixed effect implies a persistent component to a bank's CAR and thus motivates us to predict future returns using past returns, rather than the market share and reputation measures previously studied. Indeed, we find significant performance persistence: for example, the top quintile of banks based on CAR over the past 2 years outperforms the bottom quintile by 1.04 percentage points over the next 2 years.

Persistence analyses have also been used to evaluate skill in mutual funds, hedge funds and security analysts. Our setting shares two challenges also faced by studies of stock-picking ability. The first is performance attribution – observed returns are not purely the responsibility of the financial intermediary. In an investment setting, returns depend also on the portfolio's factor loadings and realized factor outcomes. Since investment performance is a long-run concept, investment studies typically investigate long-horizon returns.[1] Therefore, the results are highly contingent on the factors included in the benchmark asset pricing model (Fama (1998)).

Risk adjustment is a less severe issue in our setting, since performance can be measured by short-horizon returns: in an efficient market, the announcement return captures the full value impact of an acquisition. Instead, the performance attribution challenge takes a different form – CAR may be the responsibility of either the bank or the client. Returns can be attributed primarily to the bank in two main categories of deals. First, in "bank-initiated deals", the advisor proposes the transaction to the client as well as negotiating terms. Second, in a "standard client-initiated deal", the client proposes the transaction but lacks skill in identifying value-creating deals and thus suggests both good and bad acquisitions. It wishes the bank to turn down the unattractive deals, and so the advisor is again responsible for CAR. A negative CAR occurs either because the bank lacks the expertise to identify deal quality, or knows that the deal is undesirable but accepts the mandate anyway to maximize its own fee income and market share rather than the client's interests. Many prior investment banking studies (e.g. Bowers and Miller (1990), Michel, Shaked and Lee (1991), Rau (2000), Hunter and Jagtiani (2003)) do not tackle

[1] However, see Baker, Litov, Wachter and Wurgler (2009) for an analysis of mutual fund skill using short-horizon returns to earnings announcements.

the issue of performance attribution and instead assume CAR results entirely from the bank. Under this interpretation, the findings of persistence support the *skilled advice* hypothesis.

However, the bank is not wholly responsible for CAR in a "fixated client deal", where the client decides on the target and wishes the bank simply to execute it. This occurs in two main cases. First, it is the client (rather than the bank) that has skill in identifying good deals. Second, the client does not seek to maximize shareholder value, perhaps as it is empire building. A bank may caution that returns will be negative, but the client demands that the deal be undertaken anyway. Thus, a bank may exhibit positive (negative) CAR not because of its own skill, but because it is systematically mandated by high-quality (value-destroying) clients. Persistence in raw CAR may thus still be consistent with the *passive execution* hypothesis.

Some authors have recognized this potential endogeneity issue and control for deal characteristics (e.g. Servaes and Zenner (1996), Kale, Kini and Ryan (2003)). They acknowledge that this solution may go too far the other way, since deal characteristics are the advisor's responsibility in bank-initiated or standard client-initiated deals.[2] We therefore control for the component of CAR that can be explained by *acquirer* characteristics. We choose characteristics that proxy for the likelihood that the client is empire-building (such as free cash flow and various governance measures, as used by Masulis, Wang and Xie (2007)) and high-quality (such as stock and operating performance, and Tobin's *Q*). The orthogonal component is within the bank's control – even if a fixated client has decided on an inappropriate target, the bank can minimize the negative value impact by skilled negotiation of terms. We find significant persistence in both the component of CAR attributable to client characteristics, and also the orthogonal component attributable to the bank, consistent with the *skilled advice* hypothesis. Similarly, the bank fixed effects remain robust to controls for both acquirer characteristics and acquirer fixed effects which absorb unobservable differences across clients.

A second challenge shared with investment studies is that average returns depend not only on skill, but also scale. In Berk and Green (2004), a skilled mutual fund is able to attract inflows. If there are diminishing returns to scale, the fund will deliver moderate returns despite its skill. Applied to our setting, this *limited capacity* hypothesis posits that banks differ not in their skill, but their capacity to accept mandates. Small banks can only work on the highest-return transactions; large banks can also accept mandates with small (but still positive) value and

[2] For example, Servaes and Zenner (1996) caveat their conclusion by acknowledging "it is not certain that the [deal characteristics] affecting investment banking choice are exogenous. For example, it is possible that investment banks influence the form of payment or the decision to pursue the acquisition."

consequently exhibit lower average returns. We refute this hypothesis by showing that the low CARs of the bottom-quintile banks do not arise from executing small but positive transactions, but double the proportion of value-destructive deals as the top quintile.

In addition to returns, clients may also place importance on the speed and probability of completion. We show that these performance measures are also generally persistent. Moreover, choosing on either of these variables does not lower returns. Banks with perfect completion records over the past two years are associated with higher CARs by 0.5%. This suggests that certain banks are skilled along multiple dimensions, and thus clients do not face trade-offs between objectives when selecting advisors.

Given that past returns are correlated with future performance, we finally investigate whether bidders indeed use them in their selection decisions. Our evidence points to the contrary. A bank's market share is independent of its past returns (also documented by Rau (2000)), completion ratio and speed. Instead, it is significantly determined by past market share, which both we and Rau find is negatively related to future performance.

Our findings may be of interest to multiple parties. For managers, they guide the important decision of advisor selection, suggesting that they be chosen not on the basis of market share or reputation, but prior performance. Similarly, while academic research typically uses market share or reputation to measure quality, our results suggest a new measure – past returns. By using this measure, we are the first study to find large-scale evidence that quality does improve future M&A outcomes. Our results thus imply a double-edged sword for academics and policymakers. On the one hand, they suggest that certain investment banks possess skill, and are not simply a deadweight cost. On the other hand, they imply inefficiencies in the allocation of M&A mandates, since clients are not selecting on the basis of this skill. While this result may seem puzzling at first glance, it is entirely consistent with (and indeed a necessary condition for) the persistence that we find. If clients chase past performance and there are diminishing returns to scale, there is no persistence, as modeled by Berk and Green (2004) for mutual funds. It is the lack of performance-chasing that allows returns to be persistent in M&A. The insignificance of past returns can potentially reconcile why persistence exists in M&A returns but not mutual funds (e.g. Carhart (1997)). Moreover, the use of market share is fully consistent with real-life practices in the investment banking industry. Market share league tables are widely publicized by both the media and the banks themselves, and so the industry has grown to use them as a measure of expertise; many academic studies also take it for granted that market share proxies

for quality. The current exclusive publication of market share league tables may both lead acquirers to select based on an erroneous variable, and encourage banks to accept value-destructive mandates to maximize their league table position. Our results therefore suggest that clients (and, if necessary, policymakers) should promote the dissemination of league tables of past shareholder returns, as it positively predicts future performance. This may not only improve client selection decisions through providing relevant information, but also deter a bank from accepting a bad deal because this will worsen its position in the performance table.

This paper proceeds as follows. Section 1 reviews the literature, Section 2 discusses potential sources of persistence and Section 3 describes the data. Section 4 illustrates the persistence of CAR and thus its appropriateness as a measure of advisor quality. Section 5 shows that clients overlook this criterion in favor of market share, and Section 6 concludes.

1. Literature Review

Existing literature on investment bank advisors is broadly divided into two segments. The first strand investigates whether clients can improve M&A outcomes by hiring high-quality banks. It thus answers two questions: the positive question of whether investment banks have skill, and the normative question of how acquirers should select advisors.

Bowers and Miller (1990) and Michel, Shaked and Lee (1991) define advisor quality by the prestige of the bank's name and find that bidder returns are not increasing in advisor reputation. Ma (2006) shows that the target's use of a reputable bank does not hurt the acquirer. Measuring bank quality using market share leads to similarly mixed findings. Rau (2000) discovers that bidders advised by market-leading banks earn lower CAR in mergers and pay higher premia in tender offers; Ismail (2008) finds similar results. Hunter and Jagtiani (2003) show that acquirer gains decrease in the use of large advisors by the target, but also in their use by the bidder. Servaes and Zenner (1996) find no benefit to hiring any investment bank in the first place, compared to seeking advice in-house. To our knowledge, Kale, Kini and Ryan (2003) is the only paper to find gains to employing market-leading advisors. They focus on 324 contested takeovers of public targets, and find that large banks are more likely to withdraw when the price becomes too high. By contrast, both we and Rau (2000) find a negative link between market share and performance when examining all M&A transactions, the vast majority of which are private deals. One reason may be that the incentives to act in the client's interest are far stronger in public situations, where "honest" advice to withdraw from a deal is widely observed.

In sum, existing literature finds little systematic evidence that banks have skill, since high-quality advisors do not lead to better M&A outcomes. Therefore, the question "how should acquirers select advisors?" appears unresolved, as it seems that there is no criterion that clients can select on to improve future M&A outcomes. We address this open issue by identifying a measure of bank quality that is correlated with higher future M&A returns – past returns – in turn suggesting that investment banks do have skill.

The second strand of the literature addresses the question "how *do* acquirers select advisors?" The central paper is Rau (2000), who finds that a bank's market share is positively related to its deal completion rate. However, it is unaffected by the average market reaction to its past transactions. Servaes and Zenner (1996) and Kale, Kini and Ryan (2003) study the factors that lead a client to hire an external advisor in the first place. Francis, Hasan and Sun (2008) show that bidders tend to remain with banks that have advised their M&A transactions or underwritten their equity issues in the past.

While the two questions, of how acquirers do and should select advisors, have been pursued largely independently, we believe they are highly complementary. For example, Rau's finding that clients ignore past performance is not surprising and does not suggest inefficiency if returns are not persistent. To evaluate whether advisor selection practices are efficient, we must understand how the very characteristics clients are focusing upon, or ignoring, impact future M&A performance. Indeed, if banks do not have skill, or skill cannot not be predicted using observable measures, then acquirers' selection criteria are irrelevant and the question "how do acquirers select advisors?" becomes moot. This question becomes particularly interesting with the knowledge of how bidders *should* choose banks. By investigating acquirers should choose advisors, we also shed light on existing findings on how clients select advisors in practice. Rau's (2000) finding that past CAR is ignored becomes even more important since CAR is persistent.

Ertugurul and Krishnan (2008) also study the existence of skill in investment banking. They focus on individual bankers who switch between companies, rather than banks themselves.[3] Another difference is that, in addition to identifying a fixed effect in the full sample, we also

[3] We study banks rather than individual bankers for two reasons. First, a transaction typically leverages resources across the entire bank (e.g. a debt-financed acquisition of a German chemicals target by a UK pharmaceuticals firm may involve the M&A, debt capital markets and credit ratings product groups and the pharmaceuticals, chemicals, UK and Germany coverage teams). Second, it is difficult to know which particular banker worked on a certain deal. A bank's pharmaceuticals team consists of several bankers, many of whom will not be involved in the deal. If a bank's skill hinges on particular star bankers (who often move between firms) rather than the whole organization, we should find weak bank fixed effects and bank-level persistence.

investigate persistence and thus the predictability of future outcomes using past performance. Jaffe, Pedersen and Voetmann (2009) demonstrate persistence in M&A performance at the client (rather than advisor) level, especially in firms that retain their CEO. Mikhail, Walther and Willis (2004) and Hoberg (2007) document persistence in two other services offered by investment banks: security analysis and equity underwriting, respectively.

2. Motivation: Why Might Persistence Arise?

This section discusses the theoretical motivation for why a bank's average returns may be persistent. To understand the possible sources of persistence, we first outline the role that advisors play in M&A deals. Their actual level of involvement can vary significantly across transactions, and is unobservable in the data.[4] There are three broad categories of involvement.

At the most active extreme is a "bank-initiated deal". The advisor proposes an acquisition to the client, based on analyses of strategic fit and valuation. If the client agrees to proceed with the transaction, the bank negotiates the terms; if necessary, it advises the client to withdraw if the terms become unfavorable. In such a case, the transaction does not appear in the data. For bank-initiated deals, the advisor is predominantly responsible for CAR.

A second broad category is a "standard client-initiated deal". Here, the client proposes the transaction, but lacks the skill to identify value-creating deals. It therefore relies on the bank to advise it on which deals to pursue. Since the bank can reject a value-destructive transaction, it is again responsible for deal selection in addition to negotiation, and thus the entire CAR.[5] Not all banks will reject the deal, but this will be for reasons which are their responsibility. Some lack the skill to identify value-adding transactions ex ante; others know that the deal will destroy value but accept the mandate as they wish to maximize their own fee income rather than pursuing the client's interests. A bank cannot blame low CARs on having to work on non-synergistic deals, since it controls the transactions on which it advises – just as a lender cannot blame poor operating performance on an adverse selection of credit quality, since the loans it chooses to write are under its control.

[4] Our data source, Securities Data Company (SDC), lists the advisor(s) hired for each transaction but not their level of involvement. SDC does record a field called "Acquirer Advisor Assignment", but this field is almost always labeled as "Advisory", which provides little information on the actual role played.

[5] For example, Morgan Stanley states that "we take a serious and long-term view of our client relationships. Sometimes the best advice is not to do a deal and we do not hesitate to provide that advice if we think it right". JP Morgan similarly claims "objectivity is central to the advice we provide clients – sometimes the best deal is not to do a deal". Not all banks will act in this manner because some will pursue their own interest; our performance measure captures banks' differing propensity to turn down bad deals.

The final classification is a "fixated client deal". Here, the acquirer has already decided on the target and thus does not seek advice on its appropriateness; instead, it uses the bank simply to execute the transaction on the best terms possible. This may occur in two cases. First, the client may be skilled in identifying value-creating deals and does not need the bank's input to do so. Second, the client is empire-building or hubristic and wishes to pursue a negative-CAR transaction even if the bank cautions otherwise. By accepting the deal, the bank may still be adding shareholder value compared to the non-zero counterfactual of the client pursuing the acquisition with a rival. The bank is not responsible for the component of CAR that can be attributed to the acquirer's skill or empire-building intent. It remains responsible for the orthogonal component, since it should negotiate the transaction on the best possible terms.

Given the varying extent to which investment banks may be involved in a transaction, persistence in average returns may stem from three main sources. The first is the *skilled advice* hypothesis, that certain advisors possess underlying skill, either in identifying synergistic acquisitions (for bank-initiated deals) or in negotiating transactions (regardless of the deal category). Alternatively, persistence may stem from systematically turning away value-destructive transactions. This in turn requires skill in identifying such deals ex ante, combined with trustworthiness to turn down a mandate. We use the term "skilled advice" to include these three qualities of deal identification, transaction negotiation and trustworthiness.

The second is the *passive execution* hypothesis, that banks lack skill in either selecting targets, or negotiating terms given a target. Instead, persistence in CAR arises because the bank is systematically mandated by skilled (empire-building) clients: it is an "execution house" that does not offer advice but simply executes deals according to a client's instructions (similar to an execution-only stockbroker compared to a with-advice broker). In reality, banks exert substantial effort in pitching deals to clients: they employ significantly more bankers in client coverage groups (e.g. pharmaceuticals coverage or Latin American coverage) than product groups (e.g. M&A); the former are primarily responsible for business development (i.e. pitching). Therefore, it seems unlikely that fixated client deals are sufficiently prevalent to cause persistence, and so previous papers' approach of attributing the entire CAR to the bank may be satisfactory. However, since it is impossible to observe which party initiates a transaction and thus provide direct statistics on this prevalence, to be conservative we also report results removing the component of returns attributable to acquirer characteristics. The passive execution hypothesis would also be supported if there is no persistence or bank fixed effect in the first place.

Finally, the *limited capacity* hypothesis posits that banks differ not in skill, but their ability to accept mandates. A bank may exhibit a high average CAR because it can work on only the highest value-creating deals, whereas a bank's persistently low CAR may arise because it has the capacity to execute all desirable deals, including those that create small value. This echoes Maksimovic and Phillips (2002) who argue that conglomerate firms' lower productivity arises since they are able to accept all projects with positive NPV (including those with modestly-positive NPV), whereas single-segment firms with financing constraints can only pursue those with high NPV. Berk and Green (2004) make a similar argument for mutual funds.

We evaluate this hypothesis by investigating whether a bank's low average CAR stems from advising on deals with small but positive value, or value-destructive deals. We should also note that this hypothesis is less likely for investment banks than corporations or mutual funds. Most mutual funds have a single manager; small corporations may be unable to accept projects that create modest value owing to a lack of funds. By contrast, banks' capacities are relatively flexible. The key inputs are humans, who can be hired much more rapidly than physical capital. Bankers' hours can be escalated when required, and a number are primarily designated for client coverage but can be rapidly reassigned to transaction execution. Deal size is rarely an issue for small banks, since boutique advisors often work on very large transactions.[6] Numerous conversations with investment bankers have found no case where a bank has turned down a mandate owing to a lack of capacity for either deal size or deal volume.

3. Performance Metrics, Data and Descriptive Statistics

3.1. Data Sources

We use *Thomson Financial*'s Securities Data Company (SDC) data for mergers announced between January 1980 and December 2007. We wish to identify deals that involve a change of control, as these are most likely to affect acquirer returns. We therefore retain only transactions categorized as "Merger", "Acquisition", "Acquisition of Assets" or "Acquisition of Majority Interest" and drop all deals for which the acquirer's initial stake exceeded 50%, or its final stake was below 50%. We also drop transactions for which the acquirer had no stock returns on CRSP or the deal value was below $1m (as in Rau (2000)). Our final sample contains 15,424 deals.

[6] For example, the boutique Gleacher employs 50 staff and advised on Bank of Scotland's $40b merger with Halifax, AT&T's $22b sale to SBC Communications and MFS Communications' $14b merger with WorldCom.

3.2. Measures of Performance

3.2.1. Cumulative Abnormal Returns

Our principal measure of performance is the (-1, +1) CAR to acquirers above the CRSP value-weighted index, which we winsorize at 1% and 99%.[7] Stock returns are the relevant performance measure as they represents the change in shareholder wealth, capitalizing all of the future effects of an acquisition; they are thus used in the vast majority of investment banking studies (see, e.g., Rau (2000), Bowers and Miller (1990), Servaes and Zenner (1996)). [8] (Note that the use of CAR does not assume that investors accurately predict every future effect at announcement, only that they react in an unbiased manner – i.e. overlook positive and negative future consequences equally.) While CAR refers to one specific deal, *RET* is the average CAR to all deals advised by a bank that were announced in a certain period. To be included in the analysis, a bank must have announced at least three deals within the applicable period.[9]

Some papers attribute the entire CAR to the bank (e.g. Bowers and Miller (1990), Michel, Shaked and Lee (1991), Rau (2000), Hunter and Jagtiani (2003)). As previously discussed, this may constitute an over-attribution in fixated client deals. Others remove the component of CAR that can be explained by deal characteristics (e.g. Servaes and Zenner (1996), Kale, Kini and Ryan (2003)). However, this leads to an under-attribution, since deal characteristics may be chosen by the advisor, either directly by initiating the deal or indirectly by accepting a client-proposed mandate. Our approach is to control for acquirer characteristics that proxy for client quality or empire-building since they are outside a bank's control, taking its client base as given. Note that banks may be able to control their client base to some degree: if a bidder takes the bank's advice to abandon a bad deal, it does not enter the advisor's client base. Therefore, controlling for acquirer characteristics is conservative: since they are not completely outside the bank's control, it under-attributes the component of returns for which a bank is responsible.

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[7] We also obtain beta model returns from Eventus and find similar results. The correlation between beta model returns and returns above the CRSP value-weighted index is 99%. Since the beta model cannot be calculated for several acquirers, we use returns above the CRSP value-weighted index. In addition, Hackbarth and Morellec (2007) show that betas change substantially upon a merger, and so a beta calculated based on historical data is likely to be misleading. We use the CRSP value-weighted index as a benchmark as Rau and Vermaelen (1998) document biases when using size and book-to-market adjusted CARs.

[8] One alternative, used by Morck, Shleifer and Vishny (1990), is the "return on investment" of an acquisition: the dollar change in the bidder's market value, divided by the transaction price. The differences are similar to the distinction between NPV and IRR for capital budgeting. NPV is preferred as it measures the value added to shareholders, thus leading to correct decisions when projects are of different size. It is redundant to divide by the purchase price, since the cost of acquisition is already accounted for in the bidder return.

[9] Where a deal has multiple advisors, the deal is credited to each advisor separately. This is consistent with how SDC constructs market share league tables.

A number of our characteristics are related to governance. Masulis, Wang and Xie (2007) find that governance mechanisms are significantly related to acquirer returns. Their primary measure is the shareholder rights index of Gompers, Ishii, and Metrick (2003). Unfortunately, this variable is not suitable for our study since it is only available from 1990 and we require a long time series to test for persistence. We therefore include other governance mechanisms studied by Masulis et al.: institutional ownership, leverage, and product market competition (as measured by the Herfindahl index and the industry's median ratio of selling expense to sales). The second main group of characteristics are proxies for acquirer quality, also from Masulis et al: Tobin's *Q*, pre-announcement stock price run-up, and operating performance. We also use the other bidder characteristics studied by Masulis et al.: free cash flow (which may facilitate empire-building) and size (which Moeller, Schlingemann and Stulz (2004) show is negatively correlated with returns)).

Since omitted acquirer characteristics may over-attribute CAR to the bank, we add additional controls over and above those featured in prior literature. We include inside ownership from Compact Disclosure, to measure management's alignment with shareholders. Where it is missing, we impute it using firm sales and age.[10] To proxy for empire-building intent, we include the number of distinct acquirer SIC codes and a dummy for whether it made an acquisition in the previous five years. Finally, we include dummies for the bidder's Fama-French industry.[11] Full variable definitions are given in Table 1 of Appendix A. All variables are calculated for the fiscal year ending the year before deal announcement. [12]

Total CAR from each deal is split into an explained component, CAREXP, and a residual component, CARRES. We define *RETEXP* (*RETRES*) as the average CAREXP (CARRES) over a particular time period. The regression results are shown in Panel A of Table 2. Most of the coefficients are of the expected sign: returns are increasing in leverage, firm operating performance and insider ownership, and decreasing in free cash flow and the number of acquirer

[10] Specifically, we winsorize sales at 1% and 99% and regress inside ownership on sales and age. We then use the coefficients to predict inside ownership for the firms where it is missing. The R^2 of the first-stage regression is 13%.
[11] We use acquirer industry fixed effects rather than running the analysis for each industry separately (i.e. studying persistence of a particularly bank-industry group) because very few banks undertake at least three transactions within a given industry in the required timeframe, the minimum required to calculate an accurate *RET* measure.
[12] Appendix B addresses bank mergers. Our regression of CAR on characteristics is run on the entire sample with year-fixed effects. Using a rolling window would cause data from the early period of the sample to be dropped and would also produce less precise estimates. Full-sample regressions are thus often used in asset pricing (e.g. Fama and French (1992)). We are not assuming that CEOs use past data to estimate the characteristics parameters for themselves when choosing banks. Instead, we posit that CEOs already have in mind a model of the effect of acquirer characteristics on returns, which they use to isolate the portion of CAR that is outside the bank's control. As econometricians, we are attempting to estimate this model, for which we require the full sample.

SIC codes.[13] The R^2 of 3% is commensurate with Masulis et al.'s R^2 of 5%. Their R^2 is higher as they include deal characteristics, which are not appropriate for our context since they are under the bank's control.

Since the bank is responsible for raw CAR in all but fixated client deals, it constitutes our core measure. As with any investment decision, an M&A transaction should be undertaken if the NPV, *irrespective of project characteristics*, exceeds zero. A bank cannot justify a negative-NPV transaction by arguing that other clients with (say) the same number of SIC codes undertook even worse deals, if it had the option to turn away the deal in the first place.

3.2.2. Completion Ratio and Time

A CEO wishing to maximize shareholder value may place weight on performance measures other than CAR. We therefore investigate two further performance measures: the deal completion ratio and the average speed of completion.

The deal completion ratio is motivated by Rau's (2000) finding that it is a significant determinant of market share. A bidder's concern with completion may result from managerial self-interest, but can also be fully consistent with value maximization: a CEO who has identified a value-adding deal will justifiably place weight on the probability of eventual completion.

There are three stages to a transaction: the initial award of the *mandate* by the client to the bank, the *announcement* of the deal, and eventual *completion*. An announced deal may not be completed for reasons such as antitrust rulings; these deals are classified as "withdrawn". Rau's measure of completion ability is the number of completed deals as a percentage of announced deals. One alternative metric would be completed deals as a percentage of mandates awarded, as this would take into account banks' failure to bring mandates even to the announcement stage. However, such a measure cannot be used since we only observe announcements, not mandates. More importantly, it may not capture true completion ability. For private deals and negotiated mergers (89% of our sample), the seller has agreed on the transaction terms by the time the deal is announced and appears in SDC. A bank can bring a high proportion of mandates to announcement simply by advising its clients to overpay, thus winning bidding auctions and overcoming target management resistance. By contrast, whether

[13] While runup and Tobin's *Q* may proxy for acquirer quality, they may also represent an acquirer's ability to stock-finance a large value-destructive deal. This may explain why these variables are not positively related to CAR.

an announced deal is subsequently completed depends not on the price paid, but other factors such as the bank's ability to negotiate regulatory hurdles.[14]

When computing future performance, we calculate the completion ratio, *CR*, as the percentage of announced deals that is completed. However, for past performance, we use the percentage of *resolved* deals that is completed. A deal is resolved when it is completed or withdrawn. This methodology is to avoid look-ahead biases, since resolution occurs after announcement. For example, a client at the end of 1999 is unable to observe the proportion of deals announced in 1999 that will be eventually completed, since many deals announced in late 1999 will not be resolved until early 2000. We assume that a deal has been withdrawn if it was announced more than two years prior to the end of our sample and is not yet completed. The resolution date for such deals is then coded as two years from the announcement date. Pending deals announced within 2006 and 2007 are as yet unresolved and not used for the calculation of *CR*. 14,164 deals are labeled as complete, 1,093 as withdrawn, and 167 as pending.

We also analyze completion speed as CEOs may wish to accelerate the realization of synergies or reduce distractions from core operations. As in Hunter and Jagtiani (2003), we calculate SPEED, the number of days between announcement and completion. We winsorize SPEED at 2 years, obtaining an average time to completion of 97 days. Less than 0.5% of deals are affected by the winsorization. When calculating past (future) performance, *TIME* is the average SPEED for all deals resolved (announced) by a bank in a specified period.

Banks may exhibit low completion ratios and slow speeds because they are systematically given transactions that are difficult to complete. If these deals are also positive-NPV, the bank should not be advising against them. Therefore, difficult deal characteristics are a justifiable explanation for poor *CR* and *TIME*, even though they are under the bank's control and do not excuse negative *RET*. Therefore, we construct *CRRES* and *TIMERES* by regressing on deal, rather than acquirer, characteristics. Our chosen deal characteristics proxy for deal complexity, as this affects ease of completion. We include dummy variables for whether the transaction was hostile, was a tender offer, involved no target advisors, was executed in two tiers

[14] For tender offers, the target board has not agreed on the terms upon announcement. The transaction may not be completed if the target board does not recommend the deal to shareholders or a counter-bid arises, and the bank advises the client not to make a higher offer. A high ratio of completed to announced tender offers may thus stem from advising clients to overpay. However, tender offers comprise only 11% of our sample. Even if they were sufficiently frequent to affect the results, the above explanation for high completion rates would imply a negative relationship between completion ratio and returns, contrary to our findings. Indeed, this relationship is unchanged when dropping all tender offers.

(all used by Hunter and Jagtiani (2003)), or was challenged (Rau (2000)). We also include the number of target SIC codes, the bidder's toehold (both Servaes and Zenner (1996)), target size relative to the acquirer (Masulis et al. (2007)), percentage of stock financing[15] (both Servaes and Zenner (1996)), a public target dummy (Chang (1998), Officer (2007)) and a diversification dummy. We also include dummies for the Fama-French industry of the target.

4. Persistence in Investment Bank Performance

4.1. Full-Sample Fixed Effects

Most prior research on investment bank skill attributes a deal's CAR entirely to the advisor's ability, and studies the association between average CAR and market share or reputation. Such analyses will only uncover a significant relationship if skill is correlated with their chosen measures of advisor quality. Therefore, the absence of a link between CAR and market share or reputation need not imply that banks lack skill.

We therefore start by taking a broader approach. Rather than hypothesizing what variables skill is correlated with, we investigate whether banks exhibit differential announcement returns in the first place. Table 3 displays summary statistics for the entire sample and for the top 15 banks by number of deals. The average bidder return across all deals is a significantly positive 0.72%, and 93% of deals are completed; both figures are commensurate with Rau (2000). We can also see significant variation in the average returns to each bank, which range from -0.13% (UBS) to 1.37% (Bank of America). Nine of the top 10 banks are associated with below-average returns, but three of the next five are above average. The table also illustrates significant variation in completion rate and speed of completion.

The full-sample results in Table 3 could be driven by certain banks executing deals in time periods where the market was less enthusiastic about M&A, or being systematically mandated by high quality or value-destructive clients. We therefore estimate the bank fixed effect component of a deal's CAR, for the 140 banks that advised on at least 10 deals over 1980-2007. We regress CAR on time fixed effects and then successively add acquirer characteristics

[15] The percentage of stock financing is the one deal characteristic that is potentially also important for the *RET* regressions, since a firm may engage in a stock-financed acquisition to exchange overvalued equity for hard assets (Shleifer and Vishny (2003)) – i.e. the takeover is a disguised equity issuance. Even if returns are negative, the transaction may be value creating as the stock price would fall further without the transaction (when the overvaluation is corrected). We therefore conduct an additional robustness check by constructing RETRES controlling for the percentage of stock financing in addition to acquirer characteristics, and find very similar results.

(to proxy for observable measures of quality or empire-building) and acquirer fixed effects (to proxy for unobservables). Table 4 illustrates the results. Panel A finds that the fixed effects are strongly jointly significant using an F-test. In addition to this statistical significance, Panel B demonstrates that the bank-specific differences are economically significant. The difference between the 25th and 75th percentile banks is 1.5%, compared with the average CAR of 0.72% and the mean bidder size of $10 billion.

4.2. Selection on Past Announcement Returns

While significant bank fixed effects are suggestive of advisor skill, the results of Table 4 are not actionable by clients in their selection decisions, since they are based on the full 28-year sample. We therefore analyze whether clients can predict positive future returns based on historic data. The existence of a bank fixed effect implies a persistent component to a bank's average CAR, and thus motivates us to predict future returns using an advisor's past returns, rather than the market share and reputation measures previously studied. We calculate persistence in advisor performance in a similar manner to Jegadeesh and Titman (1993) for individual stocks and Carhart (1997) for mutual funds. At the start of each year, we sort the banks into quintiles based on *RET* for the past j calendar years, where j = {1,2,3}. Next, for each quintile, we calculate *RET* for all banks within the quintile over the next k calendar years, where k = {1,2,3}. We report the difference in *RET* between the top (Q5) and bottom (Q1) quintiles.[16]

Table 5 illustrates the results. Panel A documents significant persistence in raw CAR in 8 out of the 9 time horizons. For example, when j=k=2, the difference between the top and bottom quintiles is a statistically significant 1.04 percentage points. This result need not imply skill, if fixated client deals comprise a substantial proportion of all transactions. To investigate the sources of persistence, we therefore control for acquirer characteristics, and the results are in Panels B and C. They illustrate persistence in both the component attributable to acquirers (*RETEXP*), and that attributable to advisors (*RETRES*). The results for *RETRES* suggest that the persistence in *RET* does not arise because banks are systematically mandated by fixated acquirers, and are consistent with the skilled advice hypothesis.

However, the existing results admit other interpretations than the existence of differential bank skill. A notable feature of Panel A is that the average returns are positive for even the

[16] Appendix C describes an autocovariance correction procedure for overlapping future returns.

bottom quintile of banks. Therefore, it is consistent with the limited capacity hypothesis that the bottom quintile's low returns arise not due to low skill, but because these banks have the capacity to accept mandates with small but positive value.

In addition, while the announcement return measures the full value impact of a deal in an efficient market, in reality it may understate the impact if part of it is incorporated into prices either before or after announcement. The former will occur if news of the deal leaks out early, bringing the measured returns of both good and bad deals towards zero. The latter will occur if investors do not notice certain effects of the transaction until later and this failure is not unbiased (i.e. they fail to notice more good than bad effects, or vice-versa). While long-run returns would capture a greater proportion of the transaction's impact, they would also incorporate many other corporate events (e.g. dividend changes and earnings surprises not due to the acquisition) and hence suffer from a high noise-to-signal ratio.[17] Moreover, errors resulting from failure to use the "true" benchmark model of stock returns are compounded over long horizons and distort inference (Fama (1998)). Long-horizon drift for corporate events is typically in the same direction as the original announcement (see Barberis and Thaler (2003) for a survey of the literature). If similar underreaction occurs for M&A[18], this will also bring measured returns of both good and bad deals towards zero.

In the classical "errors-in-variables" problem, where measurement error is symmetric (i.e. over-measurement is as likely as under-measurement and so the average error is zero) and similar across observations, mismeasurement simply attenuates the results. However, our setting differs from the standard problem in two dimensions. First, mismeasurement is asymmetric: positive (negative) true returns are associated with negative (positive) errors. If the mean return is zero, positive and negative true returns are equally likely and so the average error is also zero – thus, the results would again be attenuated. By contrast, in our setting, the mean CAR is positive and so the average error is negative, biasing reported returns towards zero and thus below the mean. This would not be a problem if mismeasurement was constant across banks, since it would reduce measured *RET* evenly across the sample. However, it is exacerbated by the second difference of our setting: mismeasurement may be more serious for some banks rather

[17] Even in the rare case in which there are no other confounding corporate events in the long-horizon window after the acquisition, long-run returns to an M&A transaction are affected by the acquirer's success in integrating the target, realizing the expected synergies etc. The advisor is not involved in post-merger integration but the selection of the target and deal terms, which the short-horizon return reflects.

[18] We are not aware of any studies that compare short-run and long-run stock returns to an M&A deal.

than others. For example, certain banks may systematically advise on deals that are more prone to leakage (e.g. because their clients are large and attract media coverage), or are more complex and thus the market fails to appreciate their true value immediately. In both cases, the measured announcement return understates the deal's value creation. Thus, persistently low *RET* may result from persistent measurement error rather than persistent underperformance.[19]

Both the limited capacity and mismeasurement interpretations have similar predictions: bottom-quintile banks' *RET* are low not because of value-destructive deals, but deals with small but positive measured returns – either because these transactions actually generate small value and the bank has the capacity to undertake them, or they actually generate large value which is under-measured. We address both interpretations by calculating the "success ratio" of each bank: the percentage of deals which have a positive CAR. The correlation between bank success ratio and *RET* is strongly significant 0.68 at a one year horizon. Panel D illustrates that the top quintile of banks by *RET* has approximately double the success ratio of the bottom quintile (65-70% compared to 30-35%), a strongly significant difference. Therefore, inconsistent with these hypotheses, the low returns of banks in the bottom quintile stem from a high proportion of value-destructive deals, rather than deals with small but positive measured returns.

Additional suggestive evidence against the limited capacity hypothesis is in Table 3. It shows that, while the very top banks by number of deals have low *RET*, there are a number of large banks within the top 15 with high *RET*, e.g. Bank of America and Citi. It is unlikely that these banks suffer capacity constraints. As additional evidence against the leakage explanation, it is reasonable to assume that transactions with measured CARs exceeding 10% in absolute value did not suffer from attenuation. The remaining 87% of deals is the subset for which attenuation may be present. The mean CAR for this subset is -0.01%, very close to zero. Hence, any attenuation is indeed towards the mean, and leads to our results being understated. [20] [21]

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[19] For example, assume banks A and B both execute deals with true value creation of 1.5%, 1.0% and -1.0% (i.e. a positive mean). Bank A's announcement returns fully capture the value, and so its *RET* is 0.5%. Bank B's announcement returns capture only half of the value due to leakage or underreaction, and so its CARs will be 0.75%, 0.5% and -0.5%, yielding a *RET* of 0.25%. Note that even if low past returns are driven by deal leakage rather than poor negotiation or non-selectivity, a client may still wish to avoid such banks. Leakage attracts the risk of interlopers, distracts employees, causes unrest among the current shareholder base, and may be particularly harmful if the client eventually decides against the deal. Hence minimizing leakage is seen as a key role of an M&A advisor.

[20] Continuing the earlier example, assume banks A and B both execute deals with true value creation of 12%, 1% and -1.0%. Bank A's announcement returns fully capture the value and Bank B's announcement returns for the final two deals are halved. Since the deals that exhibit attenuation have a zero average return, both banks will have the same *RET*.

[21] A further hypothesis is that banks differ not in skill, but the fees that they charge: low *RET* banks may be adding the same value as their rivals, but charging higher fees. We are unable to calculate "pre-fee" CARs as fees are only

Table 5 is a bank-level analysis, which calculates future performance across banks in each quintile and averages across banks. It thus considers each bank equally, irrespective of the number of deals it has undertaken. A different approach is a deal-level analysis, which considers each deal equally. Table 6 allocates each deal to a quintile according to the past performance of the advisor over the past 1, 2 or 3 years, and then calculates the average return of deals with top (bottom) quintile advisors. For this table, we restrict the deals to those with only one advisor.[22] Consistent with the results in Table 5, we find statistically and economically significant evidence of persistence. For example, deals where the advisor was in the top quintile based on 2-year prior performance outperform the bottom quintile by 0.85%, which is significant at the 1% level. This persistence continues to hold after controlling for acquirer characteristics.

4.3. Selection on Past Completion Ratios and Time

Rau (2000) finds that acquirers hire banks on the basis of past completion ratios. Even if the CEO's main goal is completion, such a selection method is logical only if completion ratios are persistent. The same argument applies for selection according to past speed.

Panel A of Table 7 therefore examines persistence in other performance measures. The left-most column studies the raw completion ratio. Since substantially more than 20% of banks have a completion ratio of 1 over a particular time period, we cannot divide banks into quintiles. Instead, we create a dummy variable, *ALLCOMP*, that equals 1 if *CR* is l over the past j calendar years, and 0 otherwise. We group banks according to *ALLCOMP* and study whether they complete all of the deals they announce in the next j calendar years. (We use the same timeframe for past and future performance in Table 7 for brevity).

The left-most column of Table 7 shows significant persistence in completion ratios. A bank that completed all of its deals in the past j calendar years is over 30% more likely to do so over the next j years than one that did not. All of these results are significant at the 1% level. While our use of *ALLCOMP* is enforced by the inability to use quintiles, it may proxy for the

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available for 2,048 deals within our sample. However, we can use the fee data that is available to show that fees are too small to explain our results. Our average fee is \$3.7m and the 90th percentile is \$10m, which is only 0.1% of the average acquirer size and thus low compared to the average return to a deal and to differences in returns between quintiles. Similarly, Hunter and Jagtiani (2003) find average fees of \$2.3m; even a fee of four times the average is only 0.1% of the average acquirer size.

[22] This is for two reasons. First, a deal with multiple advisors may have advisors in different quintiles. Second, it achieves consistency with Table 9 which is also a deal-level analysis. In Table 9, we need to restrict deals to those with one advisor, to allow us to cluster standard errors at the advisor level.

bank's market share rather than true completion ability – banks that announce few deals are particularly likely to complete all deals. The analysis of *CRRES* addresses this issue, since *CRRES* is an unbounded variable and thus allows us to conduct the standard quintile analysis. We find no persistence in completion ability, controlling for deal characteristics. By contrast, *TIME* is persistent both in raw terms, and after controlling for deal characteristics.

Panel B of Table 7 examines the shareholder value consequences of selecting advisors on the basis of other performance measures. The left-most column illustrates that banks with perfect past completion ratios are associated with an increased *RET* by 0.2-0.5%, which is significant for j=2. Banks with higher *CRRES* and lower *TIME* and *TIMERES* are also associated with higher future returns; four of the nine results are statistically significant. This result suggests that the selection criteria documented by Rau (2000) need not be inefficient. Good advisors appear to be skilled across multiple dimensions, and so clients need not face a tradeoff between objectives when selecting banks. In particular, selecting on completion speed and rate does not negatively impact future shareholder returns, and may modestly increase them.

This conclusion differs from Rau, who hypothesizes that banks can either focus on "completing the deal", or on "preventing poor deals" – those which choose the former (latter) will have high (low) completion rates but low (high) measured returns because they are (not) completing poor deals, and so there is a negative correlation between completion ratio and returns. As discussed in Section 3.2.2, a bank intent upon executing all transactions would complete a high percentage of *mandates* awarded. However, both here and in Rau (2000), *CR* is the percentage of deals *announced* that are eventually completed. A high *CR* can result from skill in negotiating regulatory hurdles, for example by finding creative ways to dispose of assets to overcome antitrust barriers. Hence the pursuit of *RET* and *CR* need not be inconsistent.

4.4. Regression Analysis

In addition to the univariate results of Tables 5-7, we estimate a multiple regression model to allow us to compare the explanatory power of different determinants of future *RET* performance. We estimate the following pooled regression across all banks:

$$RET_{t,t} = \alpha_t + \beta_{RET} RET_{t-j,t-1} + \beta_{CR} CR_{t-j,t-1} + \beta_T TIME_{t-j,t-1} + \beta_S SHARE_{t-j,t-1}. \quad (1)$$

$SHARE_{t-j,t-1}$ is the market share over the past j calendar years, by dollar value of deals (using number of deals leads to similar results). Since we have shown that bank fixed effects are significant, and past performance measures may not capture the full fixed effects, the residuals for deals advised by the same bank might be correlated. We therefore cluster standard errors at the bank level.

The results are illustrated in Table 8. In three specifications, lagged *RET* is the only explanatory variable; in the other three we include all of the regressors in (1). The regressions replicate the positive correlation between future *RET* and past *RET* documented in the quintile analysis. Market share is significantly negatively related to future returns in all three specifications in which it is included. This finding is consistent with Rau (2000), who does not investigate the effect of past *RET*. While Table 8 considers each bank equally, regardless of the number of deals it has executed, Table 9 is a deal-level analysis which regresses a deal's CAR on advisor characteristics; as in Table 6, this analysis is restricted to deals with only one advisor.[23] Past *RET* is positive and significant for $j \geq 2$, regardless of whether other regressors are included, and *SHARE* is negatively significant in all specifications. In sum, our results suggest that past performance is a superior measure of advisor quality to the market share measure typically used in the literature, insofar as it positive predicts future returns.

5. How Are Advisors Selected in Practice?

Section 4 addressed the question "How should acquirers select advisors?". It finds that deal returns have a significant bank fixed effect, and that this association is predictable by clients – they should select positively on past CAR performance and negatively on past market share. This section investigates whether bidders actually use these criteria in practice, i.e. "How do acquirers select advisors?" Existing papers typically focus on either the first or the second question. Coordinating both issues within the same framework allows us to investigate whether the very characteristics that do predict future performance are actually used by clients, i.e. whether they select banks as they should.

Table 10 investigates whether the three performance measures analyzed in Section 4, *RET*, *CR* and *TIME*, affect a bank's future market share. Since bank-client relationships take a

[23] An alternative would be to include deals with multiple advisors, and calculate average performance measures across the different advisors. However, this would not allow us to cluster standard errors by the advisor to correct for correlation is residuals for deals advised by the same bank.

long time to develop, large banks are likely to have persistently high market shares irrespective of past performance. We therefore either include a bank fixed effect or the bank's past market share as explanatory variables. Standard errors are clustered at the bank level.

Strikingly, even though *RET* is a significant positive predictor of future performance, it is an insignificant determinant of market share in all six specifications.[24] By contrast, even though market share negatively predicts performance, it is strongly significantly related to future share. These results suggest that clients are doing precisely the opposite of what they should – ignoring the positive predictor and selecting on the negative predictor. In unreported results, the three performance measures are also insignificant when changes in market share are the dependent variable (aside for one specification in which time is significant in the wrong direction.)

We caveat that, while past market share is a predictor of future performance, it may not be a determinant (i.e. actively be used by acquirers) but simply proxy for persistent unobservable determinants of advisor selection, or a temporally dependent disturbance. Moreover, even if clients are actively selecting on the basis of market share, it may be efficient if clients build up relationship-specific capital when working with a particular bank (e.g. comfort in working with certain bankers), which can be leveraged by continuing to use the same advisor for future deals. Table 11 investigates this hypothesis by studying repeat acquirers, who have conducted at least one acquisition in the prior five years. Using a previously-mandated advisor is associated with a lower CAR of 0.28 percentage points (t-statistic of 2.00). If the advisor had generated a negative average CAR for that particular client in question, the CAR is 0.80 percentage points lower than using past advisors that generated positive CARs (t-statistic of 4.12). As with the *RET* persistence results of Section 4, this finding suggests that certain banks are systematically associated with poor advice or non-selectivity. Moreover, it suggests that the use of repeat advisors may reflect entrenchment, rather than leveraging relationship-specific capital.

Given the substantial impact an acquisition can have on shareholder value, and the CEO's own continued employment, such inefficient selection of M&A advisors appears puzzling at first glance. However, the insignificance of past performance is entirely consistent with the

[24] The insignificance of *RET* is consistent with Rau (2000). However, our insignificantly positive coefficients on the completion ratio contrast with Rau, who finds a significantly positive coefficient. This difference may result from a number of methodological differences. First, our data covers the period 1980-2007 whereas Rau's sample extends from 1980-1994. Second, we calculate the completion ratio according to the year of resolution, rather than the year of announcement, to avoid a "look-ahead" bias. Third, if there are multiple advisors, Rau credits the transaction to the most senior bank only. We choose to credit a transaction to all banks since we do not wish to impose *a priori* beliefs over which banks are the most important in a deal.

persistence results of Section 4. If clients did award mandates on the basis of past returns, and there are diminishing returns to scale in M&A advice, then there would be no persistence – as modeled by Berk and Green (2004) for mutual funds. The strong performance-chasing by mutual fund investors, and the absence of such behavior by acquirers, may thus reconcile the persistence of performance in M&A with the lack of persistence in mutual funds.

In addition, both the insignificance of *RET* and the significance of market share are fully consistent with standard practices in the investment banking industry, where *Thomson Financial* league tables on market share are widely publicized and used as a proxy for experience and expertise.[25] Therefore, industry participants have grown to equate market share with quality; similarly, many academic studies such as Rau (2000), Kale, Kini and Ryan (2003) and Hunter and Jagtiani (2003) use market share as their measure of quality. However, practitioners appear to be using market share as a measure of quality without having verified that it is actually correlated with superior performance. Indeed, our results suggest that it is a poor proxy. By contrast, there exist no league tables for returns, which may explain why clients do not appear to be selecting on this measure.

The significance of market share can also be explained by legitimacy reasons. Even if the CEO is aware that it is a negative predictor of future performance, or well-performing banks break from the industry trend and attempt to advertise their past value creation, shareholders and the board may follow the industry standard practice of equating league table position with ability. The CEO is an agent of shareholders and the board, and may find it easier to justify hiring a bulge bracket advisor to his principals. If a transaction turns out to be unsuccessful, the CEO can defend himself by claiming to have sought market-leading advice, similar to the adage that "no-one gets fired for choosing IBM".

Since clients ignore the very measures that do predict future performance and instead focus on market share, it is entirely logical for banks to maximize their league table position – in particular, by accepting even value-destructive mandates. Not only will the mandate boost fee income today, but it will also increase market share and the ability to earn fee income in the future, since clients award mandates based on market share. (Indeed, the market share motive is

[25] For example, banks typically include league tables at the back of "pitchbooks" used when pitching for deals. They try to present the league table that gives them the highest ranking (e.g. excluding particular types of deals if this increases their position) as the client will infer quality from its ranking. Similarly, banks employ staff whose principal duty is to ensure that *Thomson Financial* gives them full league table credit for each transaction, and that rival banks are not given undue credit for any deal, because the league table position is so important for winning business.

sufficiently strong that banks sometimes advise on deals for free.) Even though accepting bad deals will depress *RET*, this is not taken into consideration by clients. Indeed, if certain banks are systematically non-selective and accept value-destructive deals, this would lead to the negative correlation between market share and *RET* that we find in the data.

Our results suggest that it may be desirable for the investment banking industry to reduce its focus on market share. Instead, clients (and, if necessary, policymakers) should propose acquirer returns as the primary measure of expertise and encourage the publication of league tables based on this measure. This would more closely align the M&A industry with equity underwriting, where league tables for after-market performance of past IPOs are prominent and may explain why Dunbar (2000) and Hoberg (2007) find that performance is positively correlated with future market share. It is interesting that returns are publicized for IPOs and not M&A, even though they are arguably a more accurate performance measure in the latter: while high *RET* is unambiguously desirable, strong post-IPO performance may reflect excessive underpricing. Similarly, in markets for other expensive goods and services where quality is important and uncertain, such as autos, manufacturers acquire a "brand name" based on product quality rather than sale volume.

The findings also have implications for the nature of contracts between acquirers and advisors. McLaughlin (1990) finds that banks are paid primarily for deal completion with no explicit link to returns. He suggests that reputational concerns may be sufficient to align banks with shareholder value. However, the insignificance of *RET* implies that banks' implicit incentives are also low, and so explicit incentives would be valuable. In a similar vein, clients frequently solicit fairness opinions to verify that the transaction price, negotiated by the advisor, is "fair" (Kisgen, Qian and Song (2009)). As part of its mandate, an advisor should ensure that the client is undertaking only favorable deals in the first place, and there should be no need for a separate fairness opinion. The prevalence of such opinions is consistent with the view that implicit and explicit incentives to act in clients' interests are insufficient.

6. Conclusion

This paper finds a significant investment bank fixed effect in the announcement returns to an acquisition. Moreover, the positive association between certain banks and high returns can be predicted by clients using past performance – a bank's returns are persistent. The low returns of the bottom quintile banks result from value-destructive transactions rather than advising on deals

with small but positive-NPV. While most prior research attributes the entire CAR to the advisor, we remove the component that can be explained by acquirer characteristics; the orthogonal component remains persistent. These results suggest that certain banks have skill in identifying acquisitions or negotiating terms, or trustworthiness in turning down bad deals. They contrast with prior findings that bank quality, as measured by market share or reputation, have no positive effect on M&A outcomes, thus suggesting that banks do not matter. Instead, they suggest that a new measure of advisor quality – past performance. Clients should select positively on this measure, and negatively on market share.

However, acquirers in fact appear to ignore past performance and choose upon market share. These seemingly inefficient practices may result from the extensive publication of market share league tables, both by the financial media and by banks during their marketing activities. Given such client behavior, banks have incentives to accept all mandates non-selectively. The dissemination of league tables based on past value creation may both help clients identify the high-quality advisors and improve banks' incentives to turn down bad deals.

Some caveats must be noted when interpreting our results. While the event-study return is the best available performance measure and is thus standard in the M&A literature, it still remains imperfect and the issues present in all event studies (including the M&A literature) may also apply here.[26] First, event-study returns reflect the market's perception of the transaction's value, rather than the actual value; this perception may be swayed by the perceived reputation of the advisor. If anything, this would work against our results – it would inflate the reaction to deals advised by leading banks, with the strongest reputation, and weaken the negative correlation between market share and returns. Second, evaluating a deal using its CAR implicitly assumes that the counterfactual in the absence of an acquisition is a zero return.[27] However, the counterfactual may be negative, e.g. if not acquiring allows a rival to buy the target and boost its competitive position. Since the counterfactual is unobservable for the vast majority of deals[28], this issue is suffered by any performance measure. It does not affect the results if negative-counterfactual acquirers are randomly distributed across banks; it is unclear that they will be systematically associated with certain advisors. Third, stock returns capture only the

[26] See Prabhala (1997) and Li and Prabhala (2007) for an analysis of inference from event studies.
[27] In some cases, the counterfactual may not be not pursuing the acquisition, but executing it with a rival bank. This is the case of a fixated client deal, considered earlier.
[28] Savor and Lu (2009) are able to estimate a counterfactual for the small subset of deals cancelled for regulatory reasons by using the performance of rivals whose deals were completed. However, this method is only possible for deals cancelled for exogenous reasons; Savor and Lu only find 148 such deals from 1978 to 2003.

unexpected component in the deal announcement. A destructive deal may be associated with a *positive* CAR if the market expected the acquirer to consummate an even more destructive transaction – e.g. because it is weakly governed and has high free cash. (The reverse applies to synergistic deals). This concern provides another motivation for controlling for acquirer characteristics, such as governance and free cash flow, which the market may use to form expectations of deal value creation. Note that the same point also alleviates concerns that low *RET* stems from being mandated by empire-building clients. Since such firms are already expected to undertake a value-destructive deal, announcement returns will be less negative.

A separate issue relates to performance attribution. Even though we have used a long list of controls (over and above prior literature) for acquirer characteristics, the R^2 of our regression in Table 2, Panel A is low, consistent with existing research: since CAR is the unanticipated value creation, it is inherently difficult to predict. If the residual proportion of returns arises from deal-specific characteristics, the low R^2 is not a concern as these are under the advisor's control. However, if a significant part of the residual is the result of unobservable acquirer characteristics (an omitted variable), than our *RETRES* measure overstates the portion of CAR that is attributable to banks. The standard way of controlling for unobservables is to use acquirer fixed effects and identify only on repeat acquirers. The issue with this approach in our setting is that fewer than half of the 5,603 in acquirers in our sample are repeat acquirers, and fewer still switch banks between deals; thus, identifying off repeat acquirers significantly reduces the number of deals used to calculate *RETRES* and leads to substantial noise. This is less of a problem for the estimation of bank fixed effects, since this analysis uses 28 years of data and so there are sufficient deals even when identifying only using repeat acquirers; indeed, our results are robust to acquirer fixed effects. However, we cannot use acquirer fixed effects for the persistence analyses, since they use shorter windows of 1-3 years. Thus, there are few deals to begin with: hence using raw CAR is already noisy, as can be seen by the high economic significance of our persistence results but moderate t-statistics. Further restricting deals to those undertaken by repeat acquirers would prohibit identification. In addition, a *RETRES* based on full-sample acquirer fixed effects would not be actionable by clients. For omitted variables to drive our results, this requires fixated client deals to be sufficiently prevalent that they dominate bank-initiated and standard client-initiated transactions (contrary to the significant resources banks expend on pitching deals) and thus account for the persistence in raw *RET*, *and* that persistence in *RETRES* arises because fixation is uncorrelated with our acquirer characteristics.

Even in this case, past returns remain useful information. If negative-CAR banks are persistently used by clients to push through value destructive deals, boards should particularly scrutinize deals for which they are mandated.

In addition, this paper leaves a number of questions unanswered, which may be interesting topics for future research. First, it is unclear *why* clients appear to be choosing advisors incorrectly. While the "innocent" use of market share league tables may be a reason, agency variables such as corporate governance or managerial incentives may also explain advisor selection practices, just as they do for acquirer returns (Morck et al. (1990), Masulis et al. (2007)). The prestige of working with a bulge-bracket bank may constitute a private benefit and be an important determinant for entrenched managers. Second, the low returns to skill appear puzzling. While superior underwriting performance is rewarded with higher future market share (Dunbar (2000), Hoberg (2007)), banks seem to be obtaining little benefit from advising on value-creating deals. If mandates were awarded on the basis of past returns, a skilled advisor should be able to increase its deal flow to the point where performance is no longer persistent (Berk and Green (2004)). One potential explanation is that certain advisors may be "ethical" and pursue the principal's objective even in the absence of explicit financial rewards: see Bénabou and Tirole (2003) for a model of intrinsic motivation. Even so, it seems that high-return banks should voluntarily try to publish league tables based on past performance. Third, we have focused on persistence in acquirer returns since these are frequently negative, and so advisor selection is particularly important for bidders to ensure positive value creation; in addition, substantially more bidders are publicly traded than targets. However, it would also be interesting to investigate whether target returns are equally persistent, and whether the banks that consistently create value for bidders are also skilled at defense mandates. Finally, awards such as "M&A advisor of the year" are highly prized by banks. Whether these awards are granted on the basis of past performance, and whether star banks indeed generate strong future performance, warrants investigation.

Appendix

A. Description of Variables

Table 1

Panel A: Used in the calculation of residuals for CAR[29]	
Variable	Definition
RUNUP	Log stock return for the acquirer from -210 to -11.
Q	Q = Market value of assets / Total assets (#6) Market value of common stock = Common shares outstanding (#25) * Price (#199) Market value of assets = Book value of assets (#6) + Market value of common stock – Book value of common stock (#60) – Balance sheet deferred taxes (#74)
LEVERAGE	LEVERAGE = Book debt / (Total assets (#6) – Book equity + Market equity) Book equity = Total assets (#6) – Total liabilities (#181) – Preferred stock (#10) + Deferred taxes (#35, if available) Substitute Redemption value of preferred stock (#56) if Preferred stock is missing. Book debt = Total assets (#6) – Book equity Market equity = Common shares outstanding (#25) * Price (#199)
FCF	FCF = Free cash flow / Total assets (#6) Free cash flow = Operating income before depreciation (#13) – Interest expense (#15) – Income taxes (#16) + Δ Deferred taxes and investment tax credit (#35 - #35 from previous year) – Preferred dividends (#19) – Common dividends (#21)
SIZE	Log of Total assets (#6)
HERFINDAHL	$\sum_i (\frac{firm\_sales_i(\#12)}{industry\_sales})^2$, where industries are defined by the Fama-French 49 industries.
SELLEXP	SELLEXP = Firm's selling expenses (#189) over Sales (#12) minus the industry median, where industries are defined by the Fama-French 49 industries.
INST	Fraction of outstanding common shares owned by institutions from Thomson Financial 13f filings.
OPPERF	Firm operating performance minus the industry median in the past year, where industries are defined by the Fama-French 49 industries. Operating performance = Operating income before depreciation (#13) / 0.5(Total assets + last year's total assets (#6))
INSIDER	Insider ownership as a % of total shares outstanding, from

[29] Where applicable, we include the Compustat item number in the description.

	Compact Disclosure. Where this is missing, we impute it using Sales (#12) and firm age (from CRSP)
ACQSIC	Log of 1 + number of acquirer SIC codes
REPEAT ACQUIRER	Dummy variable that equals 1 if the acquirer announced or completed an acquisition in the previous 5 years

Panel B: Used in the calculation of residuals for completion rate and speed

Variable	Definition
TRANSVAL	Log of transaction value
RELSIZE	Transaction value / acquirer market cap one day before announcement
TARSIC	Log of number of target SIC codes
PERSTOCK	Stock financing as a percentage of bidder's market cap
TWOTIER	Dummy variable that equals 1 if deal was executed in two tiers
TO	Dummy variable that equals 1 if deal was a tender offer
HOSTILE	Dummy variable that equals 1 if deal was hostile
NOTARADV	Dummy variable that equals 1 if target had advisors
DIVERS	Dummy variable that equals 1 if acquirer and target share at least one two-digit SIC code
CHALLENGED	Dummy variable that equals 1 if deal was challenged
PUBLIC	Dummy variable that equals 1 if target was public
TOEHOLD	Acquirer's percentage ownership of target before announcement

Panel C: Constructed for direct use in quintile analysis and regressions

Variable	Definition
RET	Average CAR (3-day cumulative abnormal return) for deals advised by an investment bank over a given number of years
RETRES	Residual from a regression of CAR on deal characteristics defined in Panel A
CR	Fraction of deals completed for deals by an investment bank or investment bank-acquirer pair over a given number of years
CRRES	Residual from a regression of whether a deal was completed on deal characteristics defined in Panel B
TIME	Average time to completion for deals by an investment bank or investment bank-acquirer pair for a given number of years
TIMERES	Residual from a regression of time to completion of deals on deal characteristics defined in Panel C
SHARE	Market share by value of acquirer-advised deals for an investment bank over a calendar year

B. Mergers Between Investment Banks

The effect of advisor mergers on our performance variables is best illustrated by an example. Consider the merger of Deutsche Bank and Bankers Trust, which occurred in June 1999, and a regression of 2-year *RET* on past 2-year *CR*. For any observations where *RET* ends

in 1998 or earlier, Deutsche Bank and Bankers Trust enter separately and both *RET* and *CR* are calculated on a standalone basis. For any observations where *RET* ends in 1999 or later, we drop the two standalone observations and create one combined observation. Specifically, *RET* for 1998-1999 will include all deals advised by either Deutsche Bank, Bankers Trust or the merged entity during this period. To be consistent, the *CR* used as an explanatory variable will also include all deals advised by either bank or the merged entity in 1996-1997. Since a client hiring the merged entity knows that it will be accessing the pooled resources of both banks, it should consider their combined past performance. If anything, combining measures should make it more difficult to find persistence, as the number of observations is reduced.

C. Autocovariance Correction

For our quintile analysis in Section 4, we rely on a *t*-test to test the equality of means between banks classified as quintile 5 past performance and quintile 1 past performance. The standard *t*-test is:

$$t = \frac{\bar{x} - \bar{y}}{\sqrt{\frac{s_x^2}{n_x} + \frac{s_y^2}{n_y}}}$$, where $\frac{s_x^2}{n_x}$ is the variance of $\bar{x}$ and $\frac{s_y^2}{n_y}$ is the variance of $\bar{y}$.

However, in many cases, we measure future performance over multiple years while sorting on past performance each year. Thus, if a bank is in the same quintile for consecutive years, their future performance variables will be correlated by construction. Specifically, we may have $X_{1,\ 1990\text{-}1992}$, $X_{1,\ 1991\text{-}1993}$, and $X_{1,\ 1992\text{-}1994}$ in our sample, where $X_{i,j}$ is the performance for bank i in years j. Thus, we have:

$$Var(\bar{X}) = \frac{Var(X)}{n_x} + \frac{2a}{n_x^2} Cov(X_{i,j}, X_{i,j+1}) + \frac{2a}{n_x^2} Cov(X_{i,j}, X_{i,j+2})$$, where a is the number of cases with overlapping future returns.

Note that the second and third terms are the autocovariance corrections. We estimate these terms by using pooled covariance estimates.

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Table 2

Results from first stage regression of performance variables on acquirer or deal characteristics. CAR is the return in excess of the CRSP value-weighted index over a (-1,+1) window relative to the announcement date. COMP is a dummy variable that equals 1 if the deal was completed. SPEED is the number of days between announcement and completion for completed deals. The regressors are described in Table 1. The sample period is 1980-2007.

Panel A	**CAR**
RUNUP	-0.0008
	(0.47)
Q	-0.0054
	(2.71)***
LEVERAGE	0.0133
	(2.85)***
FCF	-0.0451
	(5.92)***
SIZE	-0.0031
	(7.80)***
HERFINDAHL	0.0374
	(3.41)***
SELLEXP	-0.0246
	(3.59)***
INST	-0.0039
	(1.77)*
OPPERF	0.0282
	(3.54)***
INSIDER	0.0149
	(2.63)***
NUMSIC	-0.0026
	(2.04)**
REPEAT ACQUIRER	-0.0023
	(1.53)
Year Fixed Effects	Yes
Acquirer Industry Fixed Effects	Yes
Observations	11,478
R-squared (%)	2.61

Panel B	**COMP**	**SPEED**
TRANSVAL	-0.0041	1.4449
	(2.22)**	(2.01)**
RELSIZE	-0.0001	0.0837
	(0.33)	(0.69)
TARSIC	-0.0209	3.3310
	(3.54)***	(1.44)
PERSTOCK	-0.0002	0.3840
	(2.92)***	(16.44)***
TWOTIER	0.0366	35.7883
	(0.96)	(2.40)**
TO	0.0333	-28.3689
	(3.81)***	(8.10)***
HT	-0.3451	24.1517
	(19.12)***	(2.64)***
NOTARADV	-0.0350	-11.8867
	(6.51)***	(5.67)***
DIVERS	-0.0095	-9.8349
	(1.63)	(4.34)***
CHALLENGED	-0.2477	29.6914
	(18.49)***	(4.82)***
PUBLIC	-0.0376	36.1328
	(6.44)***	(15.80)***
TOEHOLD	0.0020	0.7700
	(5.16)***	(5.23)***
Year Fixed Effects	Yes	Yes
Target Industry Fixed Effects	Yes	Yes
Observations	9,615	9,068
R-squared (%)	10.62	21.39

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3

Summary statistics for the top 15 investment banks by number of announced deals from 1980-2007. The averages provided in the last row include deals for all investment banks in the sample.

Investment Bank	Number of Deals	Market Share by Value of Deals	RET	RETRES	RETEXP	CR	TIME
Goldman Sachs	1,133	10.62%	0.08%	0.18%	-0.09%	92.58%	110.34
Morgan Stanley	1,117	10.49%	0.11%	-0.06%	-0.16%	92.41%	106.82
Merrill Lynch	1,001	8.99%	0.19%	-0.15%	0.19%	91.38%	119.49
CSFB	833	7.30%	0.37%	-0.41%	0.24%	90.38%	104.15
Lehman Brothers	618	5.38%	0.53%	-0.07%	0.21%	93.01%	104.51
JP Morgan	617	5.42%	0.23%	-0.02%	0.17%	92.12%	108.30
Salomon Smith Barney	546	4.84%	0.40%	-0.14%	0.29%	92.49%	112.46
Lazard	428	3.26%	0.47%	0.36%	0.15%	90.57%	100.89
DLJ	411	3.42%	0.70%	-0.55%	0.75%	92.94%	100.65
Bear Stearns	375	2.89%	0.99%	0.01%	0.74%	90.08%	116.03
UBS	369	3.50%	-0.13%	-0.46%	0.28%	91.04%	102.84
Citi	313	2.73%	0.92%	0.74%	0.05%	92.79%	100.21
Salomon (pre-merger)	286	2.38%	0.66%	-0.37%	0.33%	89.51%	138.96
Bank of America	255	2.35%	1.37%	0.86%	0.57%	93.63%	83.83
Deutsche Bank	246	2.03%	1.03%	0.50%	0.45%	94.56%	87.20
Avg over entire sample	15,424		0.72%	0.00%	0.46%[30]	92.84%	96.87

[30] This number is less than the 0.72% over the entire sample, since 3.946 deals do not have full acquirer characteristics and thus have missing RETEXP.

Table 4

Bank fixed effects to a deal's CAR. Panel A reports F-tests for the joint significance of bank fixed effects from a regression of (-1, +1) abnormal returns on bank fixed effects and listed controls. F-statistics, p-values, and numbers of constraints are listed. Panel B reports the distribution of bank fixed effects.

Panel A: Investment Bank Fixed Effects

	Controls	Bank FE F-test	N	Adj-Rsqd (%)
(1)	Time FE	1.63(0.0000,139)	15,424	0.93
(2)	Acq chars, time FE	1.52(0.0001,139)	11,478	3.58
(3)	Acq chars, acq FE, time FE	1.65(0.0000,138)	11,478	30.92

Panel B: Distribution of Bank Fixed Effects

	Std Dev	25th	75th	Interquartile Range
(1)	1.42%	-0.89%	0.64%	1.53%
(2)	1.77%	-0.72%	0.76%	1.47%
(3)	4.34%	-0.56%	0.95%	1.52%

Table 5

Persistence in a bank's average returns and source of low returns. Panel A sorts banks into quintiles based on their *RET* (average CAR) over the past j calendar years, where j = {1,2,3}. To be included in the analysis, a bank must have announced at least three deals over the relevant period. Q1 represents the banks with the lowest past *RET*, Q5 the highest. For each quintile, we then calculate the average CAR to future acquisitions announced by the banks in that quintile over the next k calendar years, where k = {1,2,3}. The sample period is 1980-2007. Autocovariance corrected t-statistics are in parentheses. Panels B and C repeat the analysis for *RETEXP* (average of CAREXP, the acquirer characteristic explained return) and *RETRES* (average of CARRES, the acquirer characteristic unexplained return). Panel D studies the correlation between *RET* and the percentage of positive CAR deals.

Panel A: Persistence in Raw Returns

	Future RET Measured Over		
Quintiles Measures Over	1yr	2yrs	3yrs
1yr RET			
Q1	0.69%	0.60%	0.68%
Q5	1.05%	1.15%	1.19%
Q5 - Q1	0.37%	0.55%	0.51%
	(1.10)	(1.87)*	(1.68)*
2yrs RET			
Q1	0.67%	0.59%	0.64%
Q5	1.30%	1.63%	1.44%
Q5 - Q1	0.63%	1.04%	0.80%
	(1.74)*	(2.90)***	(2.16)**
3yrs RET			
Q1	0.41%	0.49%	0.37%
Q5	1.55%	1.56%	1.48%
Q5 - Q1	1.14%	1.06%	1.11%
	(3.09)***	(3.03)***	(3.07)***

Panel B: Persistence in Explained Returns

	Future RETEXP Measured Over		
Quintiles Measured Over	1yr	2yrs	3yrs
1yr RETEXP			
Q5 - Q1	0.92%	0.83%	0.80%
	(10.56)***	(8.99)***	(7.54)***
2yrs RETEXP			
Q5 - Q1	0.97%	0.95%	0.95%
	(11.04)***	(9.37)***	(8.12)***
3yrs RETEXP			
Q5 - Q1	1.03%	1.02%	1.00%
	(11.43)***	(9.69)***	(8.23)***

Panel C: Persistence in Unexplained Returns			
	Future RETRES Measured Over		
Quintiles Measured Over	1yr	2yrs	3yrs
1yr RETRES			
Q5 - Q1	0.73%	0.95%	0.89%
	(1.84)*	(2.90)***	(2.70)***
2yrs RETRES			
Q5 - Q1	0.81%	0.99%	0.36%
	(2.12)**	(2.53)**	(0.90)
3yrs RETRES			
Q5 - Q1	1.13%	0.85%	0.46%
	(2.61)***	(1.96)*	(1.13)

Panel D: Percentage of Positive CAR deals, by RET Quintile			
	RET Measured Over		
	1yr	2yrs	3yrs
Q1	32.24%	32.19%	32.80%
Q5	68.34%	68.45%	67.11%
Q5 - Q1	36.10%	36.26%	34.31%
	(21.21)***	(20.80)***	(18.42)***

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6

Relationship between deal returns and past advisor performance. We take deals that hired only one advisor in our list of 140 advisors and sort them into quintiles based on their advisor's *RET*, *RETEXP* and *RETRES* over the past j calendar years, where j = {1,2,3}. We report the CAR, CAREXP and CARRES of deals in the top and bottom quintile by advisor. t-statistics are in parentheses.

Predicting CAR, CAREXP, and CARRES using Bank Past Performance

	Measure of Past Performance		
Quintiles Measured Over	RET	RETEXP	RETRES
1yr			
Q1	0.81%	0.02%	-0.83%
Q5	1.25%	1.09%	0.39%
Q5 - Q1	0.45%	1.07%	1.22%
	(1.59)	(20.52)***	(3.85)***
2yrs			
Q1	0.60%	0.02%	-0.47%
Q5	1.45%	1.18%	0.72%
Q5 - Q1	0.85%	1.16%	1.19%
	(2.77)***	(22.10)***	(3.46)***
3yrs			
Q1	0.62%	0.03%	-0.56%
Q5	1.78%	1.23%	0.70%
Q5 - Q1	1.16%	1.20%	1.26%
	(3.39)***	(22.17)***	(3.26)***

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7

Persistence in other performance measures, and relationship between these measures and future returns. Panel A examines persistence in four other measures of performance. To be included in the analysis, a bank must have resolved at least three deals over the relevant period. *ALLCOMP* is a dummy that equals 1 if a bank successfully completed all deals resolved in the past j years and 0 otherwise, for j = {1,2,3}. *CRRES* is the average completion residual for deals resolved by the bank over the past j years. The completion residual for each transaction is calculated by regressing a completion dummy variable on a set of deal characteristics. *TIME* is the average time between announcement and completion for deals resolved by the bank over the past j calendar years. *TIMERES* is the average time residual, where the time residual for each transaction is calculated in an analogous manner to *CRRES*. In the first column, we sort banks into two groups based on *ALLCOMP*. For each group, we calculate the average *ALLCOMP* for deals announced by the banks over the next j years. The reported number is the difference between the two groups. In the second column, we sort banks into quintiles based on *CRRES*. For each quintile, we then calculate the average *CRRES* to future acquisitions announced by the banks in that quintile over the next j calendar years. The reported number is the difference between Q5 and Q1. The third and fourth columns are calculated analogously.

Panel B examines the relationship between the four other performance measures and future CAR. The groups and quintiles are as in Panel A. For each group (quintile), we calculate the average CAR to future acquisitions announced by the banks in that group (quintile) over the next j calendar years and report the difference between the two groups (Q5 and Q1). The sample period is 1980-2007. Autocovariance corrected t-statistics are in parentheses.

Panel A: Completion Ratio and Time vs. Past Levels

	ALLCOMP	CRRES	TIME	TIMERES
1yr on 1yr	0.3200	-0.0130	44.82	4.48
	(9.45)***	(0.89)	(8.87)***	(0.90)
2yrs on 2yrs	0.3164	-0.0115	60.03	17.60
	(7.51)***	(0.88)	(8.61)***	(2.88)***
3yrs on 3yrs	0.3130	-0.0047	68.92	18.94
	(6.46)***	(0.40)	(8.80)***	(2.91)***

Panel B: RET vs. Past Completion Ratio and Time

	ALLCOMP	CRRES	TIME	TIMERES
1yr on 1yr	0.27%	-0.12%	-0.65%	0.28
	(1.46)	(0.43)	(2.05)**	(0.97)
2yrs on 2yrs	0.50%	0.62%	-0.35	-0.44
	(2.27)**	(1.81)*	(0.98)	(1.27)
3yrs on 3yrs	0.37%	0.43%	-1.14	-0.64
	(1.48)	(1.19)	(3.02)***	(1.72)*

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8

Determinants of a bank's average returns. The dependent variable is *RET*, a bank's average CAR across all deals announced by the bank over a single calendar year. *RET* is the average CAR over the past j years. *CR* is the average completion ratio for deals resolved by the bank over the past j calendar years. *TIME* is the average time between announcement and completion over the past j calendar years. *SHARE* is the bank's market share, by value of deals, over the past j calendar years. The data is pooled across all banks and regressions are estimated using year fixed effects. To be included in the univariate regressions, a bank must have announced at least three deals over the relevant period. To be included in the multivariate regressions, a bank must have announced and completed at least three deals over the relevant period. The sample period is 1980-2007. Standard errors are clustered by bank and t-statistics are in parentheses.

	Determinants of RET					
	1yr	1yr	2yrs	2yrs	3yrs	3yrs
Past j years						
RET	0.0517	0.0305	0.1259	0.1004	0.1350	0.1046
	(1.34)	(0.71)	(2.11)**	(1.72)*	(1.95)*	(1.63)
CR		0.0072		0.0163		0.0169
		(0.82)		(1.44)		(1.19)
TIME		-2.3E-05		1.55E-06		-2.3E-05
		(1.12)		(0.06)		(1.06)
SHARE		-0.0349		-0.0542		-0.0356
		(2.10)**		(3.26)***		(2.13)**
# obs	811	749	910	878	931	903
R^2 (%)	6.82	6.94	6.61	6.79	6.56	6.62

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 9

Determinants of deal returns, for deals that hired only one advisor in our list of 140 advisors. The dependent variable is a deal's cumulative abnormal return. *RET* is the bank's average CAR over the past j years. *CR* is the average completion ratio for deals resolved by the bank over the past j calendar years. *TIME* is the average time between announcement and completion over the past j calendar years. *SHARE* is the bank's market share, by value of deals, over the past j calendar years. Regressions include year fixed effects and standard errors are clustered by bank. t-statistics are reported in parentheses.

	Determinants of Announcement Returns					
	1yr	1yr	2yr	2yr	3yr	3yr
RET	0.0590	0.0221	0.1524	0.1005	0.1781	0.1312
	(1.46)	(0.48)	(3.09)***	(1.90)*	(3.66)***	(2.58)**
CR		0.0136		0.0051		0.0065
		(1.58)		(0.44)		(0.46)
TIME		-3.1e-05		-1.0e-05		-2.6E-05
		(1.46)		(0.41)		(1.05)
SHARE		-0.0578		-0.0714		-0.0651
		(4.68)***		(5.51)***		(5.33)***
# obs	10,631	10,291	11,124	10,946	11,217	11,078
R^2 (%)	0.57	0.77	0.62	0.77	0.65	0.79

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 10

Determinants of market share. The dependent variable is a bank's market share, by value of deals, in one particular year. *RET* is the bank's average CAR over the past j calendar years. *CR* is the average completion ratio for deals resolved by the bank over the past j calendar years. *TIME* is the average time between announcement and completion over the past j calendar years. *SHARE* is the bank's market share, by value of deals, over the past j calendar years. The data is pooled across all banks and regressions are estimated using bank fixed effects and clustering standard errors at the bank level. To be included in the results, a bank must have announced and completed at least three deals over the relevant period. The sample period is 1980-2007. t-statistics are in parentheses.

	1yr	2yrs	3yrs	1yr	2yrs	3yrs
Constant				-0.0014	-0.0020	-0.0015
				(0.28)	(0.46)	(0.65)
RET	-0.0001	0.0065	0.0044	-0.0140	-0.0015	-0.0030
	(0.01)	(0.30)	(0.20)	(0.73)	(0.10)	(0.29)
CR	0.0021	0.0067	0.0053	0.0026	0.0046	0.0039
	(0.29)	(0.95)	(0.71)	(0.50)	(0.94)	(1.46)
TIME	2.8E-05	1.6E-05	-4.7E-06	7.6E-05	1.1E-05	-4.7E-07
	(1.48)	(0.80)	(0.24)	(2.74)***	(1.02)	(0.08)
SHARE				0.6715	0.8177	0.8683
				(11.71)***	(21.92)***	(29.71)***
Bank FE	Yes	Yes	Yes	No	No	No
# obs	874	1,191	1,356	874	1,191	1,356
R^2 (%)	72.23	72.10	73.27	59.81	68.50	73.82

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 11

Relationship between a deal's CAR and the use of a past advisor. Deals in which the acquirer has made an acquisition in the last five years are considered. Panel A divides deals into groups according to whether the acquirer retained an advisor from a past transaction. Panel B examines the differences in average CAR between groups. t-statistics are in parentheses.

Panel A

	(1)	(2)	(3)	(4)
	Did not retain an old advisor	Retained an old advisor	Retained only advisors with positive past performance	Retained an old advisor with negative past performance
CAR	0.35%	0.07%	0.45%	-0.35%
t-statistic	(3.54)***	(0.76)	(3.30)***	(2.53)**
# obs	3,886	4,244	2,243	2,001

Panel B

	(1) - (2)	(1) - (3)	(1) - (4)	(3) - (4)
CAR	0.28%	-0.10%	0.70%	0.80%
t-statistic	(2.00)**	(0.58)	(4.12)***	(4.12)***