**Extraordinary acquirers**

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*Preliminary Version*

**Abstract**

Firm fixed effects alone explain more of the variation in acquirer returns than all the firm and deal specific characteristics combined. An inter-quartile range of acquirer fixed effects is over *six times* the average acquirer return of about 1% in our sample. Acquirer returns persist over time, but mainly at the extremes. The attributes of the top management team fail to explain the fixed effect. Firm-specific heterogeneity in acquirer returns suggests that some organizations are extraordinary acquirers irrespective of the leadership at the top and the deal structures they choose. Implications for the M&A research are discussed.

**JEL classification:** G14; G34

**Keywords:** Mergers and Acquisitions; Acquirer Returns; Performance Persistence; Fixed Effects

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*“Finally, knowledge of the source of takeover gains still eludes us” (Jensen and Ruback, 1983, p.47)*

Thirty years after the seminal work by [Jensen and Ruback (1983](#_ENREF_28)) their conclusion as to the elusive nature of takeover gains is relevant as ever. Despite the explosion in large sample studies of mergers and acquisitions (M&A) over the last three decades, the variation in returns to acquisition activity has not been explained in any major way. For example, a widely cited study by [Moeller, Schlingemann and Stulz (2004](#_ENREF_33)) examines over 12,000 M&A deals, and, employing an extensive list of determinants, is able to explain just over 5% of the variation in acquirer returns (as judged by the Adjusted *R2* of their main regression models).[[1]](#footnote-1) Similar, albeit smaller sample studies such as [Masulis, Wang and Xie (2007](#_ENREF_31)) and [Harford, Humphery-Jenner and Powell (2012](#_ENREF_22)) report comparably low explanatory powers. If an exhaustive list of factors in combination does not explain the variation in acquirer returns in a systematic way, then what does?

In this paper we show that acquirer returns are best explained by an unobserved, time-invariant, firm-specific factor. In line with prior research, we show that the explanatory power of a comprehensive regression specification employing most of the widely used firm and deal specific characteristics explains only 5.0-6.4% (Adjusted *R2*, 3.6-6.0%) of the variation in acquirer returns. However, the same regression model augmented with acquirer fixed effects explains almost half of the variation in acquirer returns. These findings suggest that the source of acquirer gains is not deal but rather firm-specific. That is, some firms are stellar acquirers irrespective of their time-varying attributes and the deal structures they choose. The economic magnitude of the fixed effect is staggering. An inter-quartile range in acquirer fixed effects is over *six* times the unconditional acquirer CAR of about 1% in our sample.

We further show that acquirer returns are persistent over time. Acquirers in the top performance quintile continue to make better acquisitions than acquirers from the bottom performance quintile at least up to five years down the road. We find that persistence in acquirer returns is concentrated mainly in the best performers. There is a positive dependence of future returns on past returns at 80th percentiles of the return distribution, but not at the mean.

A further intriguing question is what explains the acquirer fixed effect? Two plausible candidates emerge. First, it could be the slow-moving attributes of the acquirer’s management that are at play. For instance, it is possible that the effect is driven by the top management of the firm. We probe into this “managerial” explanation and attempt to explain the acquirer fixed effects using the attributes of the top management teamfound to be important by the management science literature. We find that the inclusion of these variables does not improve the explanatory power of the acquirer returns model, and does not detract from the economic or statistical significance of the fixed effects. This suggests that it is the time-invariant specifics of the firm, and not its management team that make acquirers extraordinarily good or bad.[[2]](#footnote-2) It appears that acquisition skill (or lack thereof) is “wired into” the organizational structure of firms, such that some of them are great acquirers irrespective of the leadership at the top and the particular deal structures they choose. Finally we find a great deal of overlap in the industry distribution of extraordinarily good and bad acquirers, further reinforcing the idea that the sources of superior takeover performance are to be found within the firm and not within its environment. We conclude that some form of organizational knowledge is responsible for the observed fixed effect and persistence in acquirer returns.

Our paper is related to several strands of literature. First, it is related to the growing “fixed effects” literature. [Bertrand and Schoar (2003](#_ENREF_5)) pioneered this line of research by showing that manager fixed effects explain various corporate policies ranging from financing to payout.[[3]](#footnote-3) [Lemmon, Roberts and Zender (2008](#_ENREF_30)) show that capital structures are to a large extent explained by time-invariant firm-specific attributes. [Graham, Li and Qiu (2012](#_ENREF_18)) document that manager-firm fixed effects explain a significant portion of the variation in managerial compensation. In the M&A setting, [Bao and Edmans (2011](#_ENREF_4)) show that a significant *advisor* fixed effect in acquirer gains exists, and [Kaplan and Schoar (2005](#_ENREF_29)) find private equity house returns to be persistent. Second, our study is related to a strand of the literature that attempts to establish whether “managers matter” in corporate decisions. [Chang, Dasgupta and Hilary (2010](#_ENREF_8)) provide evidence consistent with managerial effects explaining corporate performance. In the M&A context, [Custódio and Metzger (2013](#_ENREF_10)) show that acquiring firm manager’s expertise in the target industry leads to better performance in diversifying acquisitions. Finally, it is related to the M&A literature that attempts to explain the distribution of acquirer returns. Notable examples are [Moeller, Schlingemann and Stulz (2005](#_ENREF_34)) and [Fich, Nguyen and Officer (2013](#_ENREF_12)), who examine large M&A losses and gains, respectively. We contribute to this literature by exploring the fixed effects and the attendant persistence in acquirer returns more broadly. Our findings imply that, despite the perceived saturation of the finance literature with M&A returns studies, we still appear to be missing the major part of the puzzle and that the elusive driver of takeover gains is to be found within the firm. We discuss the implications of our results for this literature and make suggestions for further research.

The remainder of the paper is organized as follows. Section I presents our data and establishes a highly significant firm fixed effect in acquirer returns. Section II confirms the persistence of acquirer returns over time. We examine the sources behind the acquirer fixed effect in Section III. Section IV discusses the key results and their implications. Finally, we close in Section V with some concluding remarks and suggestions for further study.

1. **Sample and Preliminary Results**

*I.A Sample Selection*

The M&A data are sourced from the Thomson Financial SDC Platinum US M&A database over the period from January 1, 1990 to December 31, 2011. We follow [Fuller, Netter and Stegemoller (2002](#_ENREF_15)) and [Masulis et al. (2007](#_ENREF_31)) and impose the following restrictions:

1. The bidder must be a US publicly listed company, and the target must be a US public, private, or subsidiary firm.
2. The acquisition must be completed.
3. The acquirer must own less than 50% of the target stock before the acquisition and achieve 100% after.
4. The transaction must be at least 1% of the acquirer’s market capitalization 11 days before the announcement and also exceeds $1 million.
5. The bidder’s stock price data for 300 trading days prior to the announcement are available from CRSP, and accounting data for the year-end immediately prior to the announcement are available from Compustat.
6. Multiple deals announced by the same firm on the same day are excluded.

These requirements result in a sample of 12,491 transactions involving 4,128 unique firms. We use the standard event study methodology to compute the cumulative abnormal returns (CARs) of the sample acquirers over the event window (-2, +2) around the announcement date.[[4]](#footnote-4) The CARs are measured as returns in excess of those predicted by the market model with a benchmark being the CRSP value-weighted index and parameters estimated over a period from 300 to 91 days prior to the announcement. In the empirical tests that follow we work with three samples. The first sample consists of all 12,491 deals identified above. There are 4,128 unique acquirers in the full sample. The other two samples comprise only frequent acquirers to enable us test persistence in returns. Our first definition of frequent acquirers (FNS serial acquirers hereafter) follows [Fuller et al. (2002](#_ENREF_15)), which requires at least 5 deals to be completed by the same acquirer within a 3-year period. This definition reduces our sample quite dramatically and leaves us with 2,611 deals made by 333 unique acquirers. As an intermediate sample, we also define frequent acquirers as those which complete at least 2 deals in any 3-year period (alternative serial acquirers hereafter). Under this alternative definition we obtain 9,373 deals conducted by 2,219 unique acquirers.

 Samples similar to ours have been extensively used in previous studies, so we refrain from presenting elaborate descriptive statistics but verify that they are in line with prior studies such as [Masulis et al. (2007](#_ENREF_31)), [Golubov, Petmezas and Travlos (2012](#_ENREF_16)) and [Harford et al. (2012](#_ENREF_22)). However, one noteworthy observation emerges. Restricting the sample to serial acquirers defined as those having completed at least 2 acquisitions in a 3-year period (alternative serial acquirers) reduces the sample by less than 25%, from 12,491 to 9,373 deals. That is, almost all deals are done by frequent acquirers and there is virtually no such thing as a one-off deal in a typical M&A sample found in most papers. The implication of this is two-fold. First, this structure of the data lends them well to the fixed effects analysis that we undertake below. Second, it suggests that M&A studies employing long-run abnormal stock returns or operating performance improvements (typically measured over 3 years following the deal) stand little chance of attributing the results to a particular deal (or deal characteristic) unless they exclude all frequent acquirers, which leaves only a small and, most likely, selected and unrepresentative sample.

*I.B First Results*

The first part of our empirical analysis is to a large extent modelled along the work of [Bao and Edmans (2011](#_ENREF_4)) who examine investment bank fixed effects in M&A returns. We begin with a cross-sectional regression of acquirer CARs for the 3 samples to serve as our benchmark specification. We employ an extensive list of explanatory variables found in most recent and influential acquirer returns studies. Specifically, we follow [Masulis et al. (2007](#_ENREF_31)), [Golubov et al. (2012](#_ENREF_16)) and [Harford et al. (2012](#_ENREF_22)) and control for acquirer size, Tobin’s Q, stock price run-up, idiosyncratic stock return volatility (sigma), free cash flow and leverage. We also include deal specific controls, namely, relative size, industry relatedness of the target, tender offer and hostile dummies and a set of interactions between target listing status and the method of payment. We report our first results in Table 1. All variables are defined in Appendix A.

[Please Insert Table 1 Here]

Most of the estimated coefficients are of the expected signs and consistent with prior studies although not always statistically significant. The most significant variables across all the three regressions are acquirer size and the interaction term of public targets and stock payment, which are both negatively associated with acquirer CARs. Tobin’s Q and stock price run-up are consistently negative but significant only in the full and the alternative serial acquirer samples. The interaction term between public target and all cash deals is negatively associated with CARs even though it is significant in the serial acquirer sub-samples only. Further we find a positive effect of sigma and relative size across all the three models although not always significant.

Most importantly, the *R2* (adjusted *R2*) of these regressions are very modest, but comparable to those in prior studies (e.g. [Moeller et al. (2004](#_ENREF_33)), [Masulis et al. (2007](#_ENREF_31)), [Harford et al. (2012](#_ENREF_22))). All of the variables combined explain only 5-6% of the variation in acquirer returns. In short, a comprehensive regression model fails to capture the variation in acquirer returns in any major way. We now compare these results to a simple fixed effects model reported in Table 2.

[Please Insert Table 2 Here]

We first focus our discussion on Panel A which employs the full sample, and then comment on the results for the frequent acquirer subsamples. Similar to [Bertrand and Schoar (2003](#_ENREF_5)), we report *F*-statistics for test of the joint significance of the different sets of acquirer fixed effects for each of the three samples. Strikingly, a simple model with an acquirer fixed effect reported in the first row produces an *R2* (adjusted *R2*) of 46% (19.4%). The fixed effects are highly jointly significant as evidenced by the *F*-statistic. Moving from the first row to the fourth, we first add the year fixed effects, followed by deal characteristics and then by time-varying firm level control variables to the basic fixed effects model. We find that the inclusion of these additional variables contributes only modestly to the explanatory power of the basic model. Specifically, the *R2* (adjusted *R2*) increases by only 2.7% (3.7%) as we move from the first row to the fourth. Moreover, the acquirer fixed effects remain highly statistically significant: the *F*-tests in all cases are significant at the one percent level leading us to reject the null hypothesis of no significant joint effects.

 We replicate the fixed effect tests for the two frequent acquirer subsamples and report the results in Panels B and C. In these subsamples each acquirer is found strictly more than once, and hence the firm fixed effects should be more precisely estimated. In all cases we find that the firm fixed effects are highly statistically significant (at the one percent level) with the only exception of model (3) in the FNS serial acquirers subsample. The *R2* (adjusted *R2*) of the acquirer fixed effect models in the first rows of Panel B and C are 29.8% (8.0%) and 15.0% (2.6%), respectively. Moving from the first to the fourth row by adding year fixed effect, deal and acquirer characteristics increases the *R2* (adjusted *R2*) by 3.3% (3.9%) and 4.7% (4.0%), respectively. While the *R2* (adjusted *R2*) are more modest in the frequent acquirer subsamples, this, in fact, is further evidence in favor of the fixed effects story. The decrease in explanatory power is expected for the following reason. In Panel A, the ratio of unique firms to total number of acquisitions is 0.33. In Panel B, the ratio is 0.24, and in Panel C the ratio is 0.13, as the serial acquirer criterion becomes more stringent. If it is the firm effect that explains acquirer gains, then the more of these firm effects there are in the model, the better the fit. Consequently, as the number of firms relative to the sample size declines, so does the explanatory power of the model. Therefore, the fact that the *R2* goes down as we move down the Panels further reinforces the idea that variation in acquirer returns is firm specific rather than deal specific. Second, even these more modest *R2*are higher than those in our benchmark regressions in Table 1. Thus, fixed effects *alone* explain more of the variation in acquirer returns than many of the important variables identified by prior literature *combined*.

So far we have established the statistical significance of acquirer fixed effects and to reinforce the substance of these results, we evaluate the economic magnitude of the fixed effects. In Table 3 we report the inter-quartile ranges of the estimated fixed effects for the 3 samples and 4 specifications ranging from fixed effects only to year fixed effects and a full set of deal and acquirer characteristics in that order.

[Please Insert Table 3 Here]

As reported in Panel A, the inter-quartile range of the returns for the full sample is between 6.1% and 7.8%. When compared to the unconditional mean acquirer CAR of 1.16% in the full sample, these results are staggering. Firm fixed effects are on average over *six times* the average acquirer CAR. There is a wide gap in returns between very good and very bad acquirers. Note that the model in row (4) includes a full set of controls, so that the estimated acquirer fixed effects are orthogonal to deal-specific features and time-varying firm-specific characteristics. Our results show that acquirers are either extraordinarily good or bad irrespective of the deal structures they choose.

Panels B and C demonstrate the economic significance of acquirer fixed effects in the serial acquirer subsamples. Depending on the set of controls, the inter-quartile range is between 4.85% and 6.33% for the alternative serial acquirers subsample, and between 3.47% and 6.25% for the FNS serial acquirer sample. When year fixed effects, deal and time-varying firm specific characteristics are included in row four, the difference between the 25th and 75th percentile is 6.33% and 6.25% for the alternative serial acquirers and the FNS serial acquirers, respectively. Again, on the backdrop of the unconditional mean acquirer CARs of 0.97% and 0.54% in the two subsamples, these effects are too large to be ignored. Thus, the economic significance of the frequent acquirer results confirms that certain acquirers are systematically associated with extraordinary acquisition performance.

*I.C Robustness of the Acquirer Fixed Effect*

 Recently, Fee, Hadlock and Pierce (2013) criticize the use of standard F-test procedures in establishing the joint significance of the estimated fixed effects. Replicating the analysis of Bertrand and Schoar (2003), they show that after scrambling the data and randomly assigning CEOs to firms – thereby destroying any CEO effect in the data – the standard F-tests and the associated p-values are hardly affected. This indicates a strong fixed effect even when none is present in the data by construction, casting doubt on the validity of inferences based on standard F-tests in this context. We take these concerns seriously and perform a similar data scrambling exercise to establish robustness of our main result.

Specifically, we follow Fee, Hadlock and Pierce (2013) and break the structure of the data by randomly allocating deals to firms. We perform such Monte Carlo permutations of the data 1000 times, each time re-estimating the fixed effects models in Table 2 and recording the F-test on the joint significance of the firm fixed effect. If the firm-specific effect in acquirer returns is genuine, we would expect it to disappear when the deals are randomly allocated to firms. Table 4 reports the results of this placebo-type analysis.

[Please Insert Table 4 Here]

Reported in the table are the median F-tests and associated p-values from the 1000 random permutations of the data (the results based on the mean are identical). In all cases we find that the F-test loses statistical significance and does not reject the null of no significant firm-specific effects in acquirer returns. This is relieving, as no firm effect is in fact present in the data following the permutations. It turns out that, in our context, the standard F-test performs well, identifying a significant fixed effect when it appears to be present and failing to identify one when there is none by construction. Our subsequent tests of the persistence in acquirer returns further alleviate the concerns that the fixed effect is spurious.

1. **Persistence of Acquirer Returns**

The presence of a strong acquirer fixed effects implies that acquirer returns are persistent over time. In this section we perform formal tests of persistence in acquirer returns. Persistence tests explicitly require multiple acquisitions by all acquirers over time and as a consequence we restrict this part of the analysis to the two serial acquirer subsamples. Our methodology here is similar to [Jegadeesh and Titman (1993](#_ENREF_26)) for stocks, [Carhart (1997](#_ENREF_7)) for mutual funds, and [Bao and Edmans (2011](#_ENREF_4)) for investment bank advisors. We sort serial acquirers into quintiles based on their average CARs over the last 3-year period (RET) consistent with our definitions. For each quintile, we compute the average RET to the future acquisitions made by all acquirers within that quintile over the next *k* calendar years, where *k* = (1, 2, 3, 4, 5). We then test for the difference in means between the top (Q5) and the bottom (Q1) quintiles.

[Please Insert Table 5 Here]

 Table 5, Panel A reports persistence in raw CARs and the results are consistent across the two subsamples. In both subsamples, the differences in CARs between Q5 and Q1 are positive and statistically significant from *k* = 2 to *k* = 5. The lack of significant results for k=1 can be attributed to the small number of deals that are conducted within one year. We repeat the persistence tests for residual CARs (RETRES) defined as the average residual CAR obtained from Table 1 and report the results in Panel B.This is to ensure that the persistence in raw acquirer returns is not driven by firm or deal specific characteristics (RETRES is orthogonal to them). For both serial acquirer subsamples, there is persistence in residual CARs and the pattern is consistent with those reported for the raw CARs.

The persistence tests above for both RET and RETRES are based on equally-weighted average acquirer returns. However, such persistence may be misleading if an acquirer is good at conducting relatively small deals, but destroys a lot of value when it comes to large acquisitions. To rule the possibility of relatively small deals driving the averages out, we perform value-weighted persistence tests. Panel C reports persistence in transaction-value weighted RET and RETRES, where the weight is the ratio of the deal value to the sum of transaction values of that acquirer over the period in which the performance is measured. The value weighting does not alter the persistence results. We find persistence in both serial acquirer subsamples and the differences between Q5 and Q1 are statistically and economically significant in four out of five cells in each subsample. The results are broadly consistent when transaction-value weighted RETRES is used in the persistence test. Besides, RETRES is by construction orthogonal to deal-characteristics, including the relative size of the deal.

It is remarkable to observe that the returns to the lower quintiles in each of the significant results are negative whereas they are positive for the upper quintile. These results provide additional evidence that certain acquirers are indeed extraordinary as they persistently generate positive average returns in their acquisitions.

We also perform multivariate versions of the persistence tests. Multivariate regressions allow us to use all firms and not just those in the top and bottom quintiles and thus establish whether the persistence is characteristic of all acquirers or just those at the extremes. Panel A of Table 6 reports the results of a simple OLS regression of future returns (measured over 1, 2, 3, 4 and 5 years) on past returns (measured over 3 years consistent with our definitions). Interestingly, this specification reveals no significant association between future and past returns of the same acquirer, apart from the last two columns where the future return is measured over 4 and 5 years - but the statistical significance is marginal (10% level). This suggests that persistence in returns as documented in Table 5 is indeed concentrated at the extremes, and there is little-to-no dependence of future returns on past returns *on average*.

Motivated by the significant univariate differences between the best and the worst acquirers and the lack of a strong significant association between future and past returns *on average*, we perform quantile regression analysis to further explore the persistence phenomenon. Whereas an OLS regression estimates the conditional mean function, quantile regressions allow for the estimation of the conditional nth percentile of the distribution as a function of the explanatory variable(s). The coefficients in a quantile regression are interpreted as the effect of a one unit change in the explanatory variable on the nth percentile of the dependent variable. We model the 20th and the 80th percentiles of the future returns distribution as a function of past returns of the same acquirer and report the results in Panels B and C of Table 6.[[5]](#footnote-5) The 20th and 80th percentiles are approximately consistent with the quintile results.

The results reported in Panel B show that past return is unable to explain future returns in the quantile regressions estimated at 20th percentile point. Past RET is consistently insignificant in all the estimated models with the exception of *k* = 5 where it is positive and significant in the FNS sample. However, Panel C reveals a different picture. We find that there is a strong positive association (all coefficients are significant at the 1% level) between past and future returns at the 80th percentile point of the future returns distribution, and the results are highly robust across both definitions of serial acquirers and across time horizons over which future returns are measured. The intercepts are positive and significant at the top (the 80th percentile) and negative and significant at the bottom (the 20th percentile) of the distribution, consistent with our setup. These results continue to hold when RETRES instead of the raw returns is used in the regression tests of persistence, with the exception that some of the 20th percentile quantile regression specifications also produce significant associations between future and past returns (reported in Appendix B).

[Please Insert Table 6 Here]

1. **What Explains the Fixed Effect?**

Having established a significant acquirer fixed effect and its flip side, persistence in acquirer returns, we turn our attention to the potential sources of the fixed effects. In this setting, we attempt to explain the economic force behind the statistical concept of fixed effects and persistence in returns. In principle, the force behind the fixed effect could be attributed to the uniqueness of the firm (i.e. its tangible or intangible assets, or the processes/organizational knowledge) or special talents possessed by its management. Existing literature stresses the role of CEOs in firm performance viewing them as the sole executives in charge of core corporate development activities such as acquisitions (e.g., [Roll (1986](#_ENREF_35)), [Hartzell, Ofek and Yermack (2004](#_ENREF_23)), [Billett and Qian (2008](#_ENREF_6)), [Aktas, de Bodt and Roll (2009](#_ENREF_1)), [Aktas, de Bodt and Roll (2011](#_ENREF_2)), [Aktas, de Bodt and Roll (2013](#_ENREF_3))). Since CEO turnover events are rare for most firms, it is possible that the firm effect is, in fact, the CEO effect. In order to disentangle the firm effect from the CEO effect one needs to estimate a model with both firm and CEO fixed effects. Naturally, for the CEO fixed effect to be identified separately from the firm effect one needs to observe a given CEO conducting deals in at least two different firms. Thus, not only a sample of CEO moves is required, but these moves have to be *between acquiring firms in our sample*. We are able to identify only 110 deals conducted by CEOs who can be found in at least two different acquiring firms in our full sample, with 60 and 0 observations in the alternative and FNS serial acquirer samples, respectively. This data limitation precludes any meaningful analysis in this regard. This is despite our best efforts to supplement the standard CEO data from Compustat’s Execucomp – the usual source of data on corporate executives – with that from BoardEx whose coverage is broader.[[6]](#footnote-6) Therefore, we cannot rule out that the observed firm fixed effect picks up the CEO effect.

Alternatively, the firm fixed effect could be picking up slow-moving attributes of the managerial team, and one can look at the latter in order to establish whether they on their own affect acquirer returns. Besides, a singular focus on the CEO as the sole driver of acquisition decisions may be to narrow as it overlooks the interdependence among key executives in organizational structures. In fact, practitioners often emphasize the importance of managerial *teams* in making M&A deals a success or a failure. We therefore probe further into the managerial explanation for the observed firm fixed effects in acquirer returns by borrowing from the management science literature and identifying a set of variables characterizing the managerial team as a whole that has been found to affect various corporate outcomes.

The data on the top management team is extracted from Compustat’s ExecuComp database.[[7]](#footnote-7) We define the top management team as executives with a listed title above the vice-president level reported in ExecuComp as they constitute executives at the senior-most level. This is consistent with [Chemmanur and Paeglis (2005](#_ENREF_9)) and [Hambrick, Cho and Chen (1996](#_ENREF_20)), among others. We take into account the dynamics in top management team over time by measuring all the variables at the end of the most recent fiscal year prior to the announcement date. We use several variables to capture different dimensions of the top management team talent across firms.

Our first measure is team size. The numerical strength of the team reflects the managerial resources available to the firm for it brings diversity to corporate decision making in areas such opportunity seeking and negotiations. Compared with small-sized teams, for example, large top management teams are able to enjoy a broader range of perspectives on a greater number of items, critical judgments and alternative solutions for conducting comprehensive search and analysis of strategic options ([Haleblian and Finikelstein (1993](#_ENREF_19))). Such increased resources and capabilities can result in high-quality acquisition decisions and superior performance. Large top teams are, however, prone to conflicts and cooperation problems that would otherwise be absent in small groups ([Jehn (1995](#_ENREF_27))). Nevertheless, the complex, non-routine nature of M&As makes it possible that the benefits of enhanced capabilities accruing to large-sized teams would outweigh the costs associated with coordination problems ([Haleblian and Finikelstein (1993](#_ENREF_19))).

Another widely used indicator of top management team capability is team tenure. Prior evidence suggests that top team tenure is associated with persistence in strategic direction ([Finkelstein and Hambrick (1990](#_ENREF_14))). Higher average tenure can indicate greater cohesion and shared experiences in strategic decision making. Consistent with [Chemmanur and Paeglis (2005](#_ENREF_9)), top team tenure is calculated as the average number of years top team members have worked in the acquiring firm.

Long tenure, however, may create increasing rigidity and complacency in a team’s interaction process. It is therefore critical for long-tenured teams to possess certain degrees of heterogeneity to offer new information sources and introduce new perspectives into the decision making. While disagreements are more likely to be present in heterogeneous teams, resolving such disagreements encourages team members to think carefully about the appropriateness of the proposed strategic solution. This is likely to initiate extensive investigations necessary for uncovering errors and producing sound evaluation results and corporate decisions ([Miller, Burke and Glick (1998](#_ENREF_32))). In support of this view, prior studies show a positive link between top team heterogeneity and firm performance, suggesting that cognitive diversity is a valuable resource to a firm. [Hambrick et al. (1996](#_ENREF_20)) for example, find that top management teams with greater tenure heterogeneity enjoy higher growth rates in both market share and profits. We define heterogeneity in team tenure, as the coefficient of variation in team tenure.

The average age of the top management team is used as an additional proxy for the general experience of the top team members having worked within and outside the acquiring firm.

Finally, we consider the effect of a powerful CEO who can potentially make important corporate decision on a stand-alone basis, disregarding other top managers’ views. This may diminish any efficiency gains from a team, as team members may feel reluctant to participate, share information or report idea that run counter to the CEO. Following [Finkelstein (1992](#_ENREF_13)), [Hambrick and D'Aveni (1992](#_ENREF_21)) and [Hayward and Hambrick (1997](#_ENREF_24)), among others, CEO power is measured using the pay differential between the CEO and other top managers, defined assalary plus bonus in the most recent fiscal year prior to the announcement date scaled by the average salary plus bonus of the other top management team members.

Our strategy is as follows. We augment the fixed effects regression model in line 4 of Table 2 with the managerial talent variables. We first examine whether these variables are significant determinants of acquirer returns. Results are reported in Panel A of Table 7. Surprisingly, none of the managerial talent variables explain acquirer returns in the full sample. We find, however, that tenure heterogeneity and average age are statistically significant in the FNS subsample whereas average tenure is positive and significant in the alternative subsample. Even though the managerial talent variables play a role in the frequent acquirer subsamples, the results are, however, inconsistent across different samples.

Given that some of the managerial talents are important in some of the regressions, we examine further the addition to the explanatory power as a result of including these variables, and whether they reduce the statistical and economic magnitude of the acquirer fixed effects. Results are report in Panels B and C of Table 7. Due to different sample composition, the acquirer fixed effects here are not directly comparable to those estimated in Table 2. We therefore compute acquirer fixed effects for the three samples without managerial talent and then repeat the estimation process by including managerial talent variables. We hold the number of observations constant to facilitate comparisons. Essentially, the *R2* (adjusted *R2*) do not change when we include the managerial talent variables. Similarly, the inter-quartile ranges reported in Panel C for the three models do not remarkably change with the inclusion of managerial talent variables. In short, we find that the addition of the managerial talent variables does not detract from the statistical and economic significance of the fixed effects, suggesting that these characteristics are also orthogonal to the acquirer fixed effects documented in this paper.

 [Please Insert Table 7 Here]

Finally, investment bank advisors are unlikely to explain the fixed effects in acquirer returns given that acquirers tend to switch advisors from deal to deal. [Bao and Edmans (2011](#_ENREF_4)) report that only 21.4% of deals in their sample are advised by the same investment bank as all prior deals of the same acquirer in a 5-year period. In unreported results, we verify that the inclusion of investment bank fixed effects does not detract from the economic and statistical significance of acquirer fixed effects. We also note that the economic magnitude of the firm specific effect, as measured by the inter-quartile range in the estimated acquirer fixed effects, is several times larger than that of the advisor-specific effects documented by [Bao and Edmans (2011](#_ENREF_4)).

1. **Discussion**

The results we document are consistent with acquirers possessing acquisition skill. [Jaffe, Pedersen and Voetmann (2013](#_ENREF_25)) analyze skill differences in acquisitions by regressing acquirer returns in a given deal on the return of the same acquirer in its previous deal. They show that such a positive dependence exists, but only when the two deals are conducted by the same CEO (though noting that the latter finding may be due to low power arising from very few CEO moves). Our approach is much more general in that our econometric methodology allows us to study acquirer fixed effects in *all* deals by the same acquirer – be they prior to or even *after* the deal in question. A finding of persistent acquirer returns is broadly consistent with the findings of [Kaplan and Schoar (2005](#_ENREF_29)) who document persistence in the returns of private equity (buyout and venture capital) funds, whose business is acquiring public and private firms. There also appears to be persistence in the performance of serial entrepreneurs funded by venture capitalists ([Gompers et al. (2010](#_ENREF_17))).

Our results also add to the results of [Fuller et al. (2002](#_ENREF_15)), [Billett and Qian (2008](#_ENREF_6)) and [Aktas et al. (2011](#_ENREF_2)) who study serial acquirers and show that, for a given acquirer, performance declines from deal to deal. While not contradicting those findings, in this paper we show that some acquirers persistently perform above or below average and thereby generate or destroy value by doing deals. To get a sense of the shape of the acquisition skill distribution, Figure 1 Panel A presents the frequency chart of the estimated acquirer fixed effects for the alternative serial acquirer sample, and Panel B does the same for the FNS serial acquirer sample. The distribution is reasonably symmetric. If one interprets the estimated fixed effects as firm-specific acquisition skill, there is a great degree of variation in acquisition ability. While most of the mass is naturally around the mean, there are also many extreme performers.

[Please Insert Figure 1 Here]

In order to shed more light on the extreme performers and their attributes, we examine the identity of the best and the worst acquirers and demonstrate the fixed effects for these individual firms.

[Please Insert Table 8 Here]

Table 8 provides information on the top 10 and bottom 10 acquirers sorted by acquirer fixed effects for the two frequent acquirer subsamples (we do not report these results for the full sample as most of the extreme performers have conducted only one deal, and their fixed effects are not precisely estimated). Panel A reports the identity of the acquirer, the estimated fixed effect, the average CAR (RET), the average residual CAR (RETRES) and the industry affiliation for the alternative serial acquirer sample, and Panel B repeats this for the FNS serial acquirer subsample. Naturally, negative (positive) fixed effects are associated with negative (positive) CARs, though the relation is not monotonous given that the estimated fixed effects are after controlling to firm and deal specific characteristics. For example, in the FNS sample, AT&T has the fourth largest fixed effect of 13.83% with an average return of 1.16%, whilst Avant! Corporation has a fixed effect of 9.07% but an average CAR of 7.11%. This pattern persists in the alternative serial acquirer subsample. Interesting observations emerge when we consider the industry affiliation of the best and the worst acquirers. Specifically, using Fama-French 48 industry groupings, we do not find a great deal of overlap in the industry classifications of the top 10 and bottom 10 acquirers. This may suggest that industry characteristics, which are subsumed by the firm fixed effects, may have a role to play. In order to establish whether certain industries are systematically associated with high/low fixed effects acquirers we regress the estimated fixed effects on a set of Fama-French 48 industry dummies. We find that the industry dummies are jointly significant. However, the R2 (Adj. R2) of these regressions are between 1.67% (0.53%), 3.70% (1.66%), and 13.38% (2.52%) and for full, alternative, and FNS serial acquirer samples respectively, meaning that only a small fraction of the variation in acquirer fixed effects can be explained by industry affiliation.[[8]](#footnote-8) These results further underpin the idea that forces that are unique to an organization, and not its environment or the top management team determine extraordinary acquisition performance.

Taken together, our results have important implications for the M&A literature. Specifically, our results imply that despite the seeming saturation of the M&A returns literature with numerous studies, we are still far away from understanding the drivers of, and the variation in, takeover gains. Did thirty years of empirical M&A research get it wrong? We do not think this is the case. Existing studies on the determinants of takeover gains are highly informative. It is just that the effects they document do not appear to be first-order ones. For instance, [Moeller et al. (2004](#_ENREF_33)) size effect in acquirer returns is attributed to greater agency problems in large firms. While one should be able to detect this governance quality in the cross-section of acquirer returns (as one does), it does not seem that these effects should be dominating. Similarly, many of the deal characteristics do not appear to be the major drivers of acquirer returns. For example, [Travlos (1987](#_ENREF_36)) method of payment effect in acquirer returns is attributed to the adverse selection of issuing equity, and, as such, is a manifestation of acquirer stand-alone value re-setting. But normally we should not expect this stand-alone value revelation to dwarf the value implications of the deal itself (particularly for frequent acquirers, who regularly reveal private information about their value through payment method choices). Again, this is not to say that the effects identified by prior literature are unimportant. In fact, the size effect and the method of payment effect we pointed out here are among the most robust determinants of acquirer returns across various studies. Moreover, in the results reported in Appendix B (Table B.2) we verify that the effects of various determinants of acquirer returns used in Table 1 continue to remain significant in a firm fixed effects specification, where the identification is coming from within-firm variation in those variables. This suggests that prior findings on these determinants of acquirer returns are not simply capturing time-invariant firm-specific heterogeneity. Nevertheless, our message is that we are missing a much bigger piece of the puzzle, and that it appears to be firm-specific. We hope our findings will inspire further research in this direction.

1. **Conclusion**

In this paper we show that a large proportion of the variation in acquirer returns can be explained by a firm-specific, time-invariant factor. In fact, the explanatory power of the acquirer fixed effects overshadows that of many of the major firm and deal specific characteristics *combined*. Economically, acquirers in the top (bottom) quintile of acquirer fixed effects demonstrate performance that is an order of magnitude larger (smaller) than the average acquirer return. We further show that acquirer returns are persistent over time. Extraordinary good acquirers continue to make good acquisitions, while bad acquirers continue to perform poorly.

We further examine the economic forces behind the statistical concept of acquirer fixed effects. We investigate whether the fixed effects can be attributed to the characteristics of the acquiring firm’s management team. However, various attributes of the managerial team found to be important in the management science literature do not explain the fixed effect away. Alternatively, the firm fixed effect could be picking up the CEO fixed effect. We are unable to rule this explanation out due to lack of CEO moves between acquiring firms – a data structure that would allow for separate identification of firm and CEO fixed effects. Finally, there is a great deal of industry overlap between the best and the worst acquirer. We conclude that acquisition skill (or lack thereof) is determined by the nature of the firms’ assets (tangible or intangible), or is hardwired into the organizational structure of some firms. However, more interesting questions remain. For instance, are extraordinary acquirers born or made? Further research in this direction could help shed more light on the sources of persistent acquirer returns. A close examination of the best and worst acquirers that we identify as part of our research design could serve as a potential starting point. To conclude, despite the perceived saturation of the finance literature with M&A returns studies, the quest for the determinants of takeover gains and their variation is far from over.

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**Figure 1**

**Distribution of Acquirer Fixed Effects**

The figures depict the frequency distribution of the estimated acquirer fixed effect for the alternative serial acquirer (Panel A) and the FNS serial acquirer (Panel B) samples. The graphs are drawn using histograms and the kernel density estimation (curved line). Acquirer fixed effects are estimated using the regression model (4) of Table 2. Similar to Graham et al. (2012), the fixed effects are normalized so that the mean value is zero. This does not alter the shape of the distribution and its variance. In Panel A, an outlier (eMedSoft.com with a fixed effect of 76.45%) has been removed.

Panel A: Alternative Serial Acquirer Sample



Panel B: FNS Serial Acquirer Sample



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| **Table 1** |
| **Benchmark OLS Regressions of Acquirer CARs** |
| This table presents the results of OLS regressions of acquirer CARs on acquirer and deal characteristics for the full sample as well as the two subsamples of serial acquirers. The full sample includes all domestic M&A transactions completed during the period 1990-2011 from the Thomson Financial SDC M&A Database. The subsamples are classified based on the two alternative definitions of serial acquirers. "Alternative" serial acquirers are defined as those having completed two or more deals over a 3-year window. FNS (Fuller, Netter and Stegemoller (2002)) serial acquirers are defined as those having completed at least five deals over a 3-year window. The dependent variable in all the specifications is the cumulative abnormal returns of the acquiring firm stock over the event window (-2, +2) surrounding the announcement date. The return is based on the market model with the benchmark being the CRSP value-weighted index. The t-statistics in parentheses are adjusted for heteroskedasticity. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively. The variables are defined in Appendix A. |
|   | **Full Sample** | **Alternative Serial** | **FNS Serial** |
|  |  |  |  |
| Intercept | 0.0321\*\*\* | 0.0162 | 0.0312\*\* |
|  | (2.9414) | (1.3952) | (2.2909) |
| Ln (Acquirer Size) | -0.0045\*\*\* | -0.0027\*\*\* | -0.0037\*\*\* |
|  | (-5.4960) | (-3.3855) | (-3.0030) |
| Tobin's Q | -0.0022\*\*\* | -0.0021\*\* | 0.0000 |
|  | (-2.9659) | (-2.5763) | (0.0333) |
| Run-Up | -0.0129\*\*\* | -0.0104\*\*\* | -0.0024 |
|  | (-4.5124) | (-3.1982) | (-0.4417) |
| Free Cash Flow | -0.0124 | -0.0098 | 0.0083 |
|  | (-1.3311) | (-0.9139) | (0.4399) |
| Leverage | 0.0169\*\* | 0.0032 | 0.0085 |
|  | (2.5231) | (0.4352) | (0.6784) |
| Sigma | 0.3500\*\* | 0.3946\*\*\* | 0.0395 |
|  | (2.3062) | (2.5953) | (0.1909) |
| Relative Size | 0.0024 | 0.0159\*\*\* | 0.0088\*\*\* |
|  | (1.5487) | (4.4645) | (2.8047) |
| Relatedness | -0.0003 | 0.0009 | -0.0048 |
|  | (-0.1604) | (0.4496) | (-1.2725) |
| Tender Offer | 0.0020 | 0.0022 | 0.0064 |
|  | (0.3923) | (0.3626) | (0.6003) |
| Hostile | 0.0071 | -0.0148 | -0.0228 |
|  | (0.5915) | (-1.2586) | (-0.9214) |
| Public X All-Cash | -0.0028 | -0.0081\*\* | -0.0128\* |
|  | (-0.7554) | (-2.0786) | (-1.8694) |
| Public X Stock | -0.0324\*\*\* | -0.0370\*\*\* | -0.0283\*\*\* |
|  | (-12.2678) | (-12.5716) | (-5.8496) |
| Private X All-Cash | -0.0041 | -0.0026 | -0.0011 |
|  | (-1.5197) | (-0.8693) | (-0.2217) |
| Private X Stock | -0.0007 | -0.0002 | -0.0011 |
|  | (-0.2586) | (-0.0761) | (-0.2089) |
| Subsidiary X All-Cash | 0.0069\*\*\* | 0.0055\* | -0.0012 |
|  | (2.6064) | (1.8546) | (-0.2149) |
|  |  |  |  |
| N | 12491 | 9373 | 2611 |
| R2 (Adj. R2) | 0.057 (0.055) | 0.064 (0.060) | 0.050 (0.036) |
| F-stat | 14.365\*\*\* | 11.789\*\*\* | 3.710\*\*\* |

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| **Table 2** |
| **Acquirer Fixed Effects** |
| This table reports the joint significance of acquirer fixed effects in the regression model of acquirer CARs for the full sample (Panel A) and the two definitions of serial acquirers (Panels B and C). Acquirer CARs are regressed on acquirer fixed effects and the control variables specified in models (1) to (4). Deal characteristics include relative size, relatedness, tender, and hostile indicators, and full set of target listing status/payment method interactions. Acquirer characteristics include the natural logarithm of acquirer size, Tobin’s Q, free cash flow, leverage, run-up and sigma. F-statistics for the joint significance of acquirer fixed effects are reported, along with their corresponding p-values and the number of firms (in parentheses). The R2 and the Adjusted R2 of the models are also shown. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively. |
| **Row** | **Controls** | **Acquirer FE F-test** | **N** | **R2** | **Adj. R2** |
| *Panel A: Full sample* |
| (1) | None | 1.728\*\*\* (0.000,4128) | 12491 | 0.460 | 0.194 |
| (2) | Year FE | 1.729\*\*\* (0.000,4128) | 12491 | 0.464 | 0.197 |
| (3) | Deal chars., year FE | 1.725\*\*\* (0.000,4128) | 12491 | 0.478 | 0.217 |
| (4) | Acquirer and deal chars., year FE | 1.690\*\*\* (0.000,4128) | 12491 | 0.487 | 0.231 |
| *Panel B: Alternative serial acquirers* |
| (1) | None | 1.368\*\*\* (0.000,2219) | 9373 | 0.298 | 0.080 |
| (2) | Year FE | 1.363\*\*\* (0.000,2219) | 9373 | 0.302 | 0.083 |
| (3) | Deal chars., year FE | 1.273\*\*\* (0.000,2219) | 9373 | 0.319 | 0.104 |
| (4) | Acquirer and deal chars., year FE | 1.280\*\*\* (0.000,2219) | 9373 | 0.331 | 0.119 |
| *Panel C: FNS serial acquirers* |
| (1) | None | 1.211\*\*\* (0.009,333) | 2611 | 0.150 | 0.026 |
| (2) | Year FE | 1.232\*\*\* (0.005,333) | 2611 | 0.165 | 0.035 |
| (3) | Deal chars., year FE |  1.102 (0.116,333) | 2611 | 0.178 | 0.046 |
| (4) | Acquirer and deal chars., year FE | 1.242\*\*\* (0.003,333) | 2611 | 0.197 | 0.066 |

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| **Table 3** |
| **Distribution of Acquirer Fixed Effects** |
| Panel A describes the distribution of the estimated acquirer fixed effects. Panel A presents the standard deviation, the 25th percentile, the 75th percentile, and the inter-quartile range of the estimated fixed effects in the full sample. Panels B and C repeat the same statistics for the alternative serial acquirers and the FNS serial acquirers samples, respectively. |
| *Panel A: Full sample* |
|   | **Standard**  | **25th** | **75th** | **Inter-quartile**  |
| **Deviation** | **Range** |
| (1) | 9.23% | -3.33% | 2.94% | 6.27% |
| (2) | 9.22% | -3.29% | 2.84% | 6.13% |
| (3) | 11.96% | -3.18% | 2.79% | 5.97% |
| (4) | 10.81% | -4.48% | 3.07% | 7.55% |
| *Panel B: Alternative serial acquirers* |
|   | **Standard**  | **25th** | **75th** | **Inter-quartile** |
| **Deviation** |  **Range** |
| (1) | 6.22% | -2.58% | 2.57% | 5.15% |
| (2) | 6.19% | -2.62% | 2.52% | 5.14% |
| (3) | 5.98% | -2.48% | 2.42% | 4.90% |
| (4) | 6.23% | -3.43% | 2.95% | 6.38% |
| *Panel C: FNS serial acquirers* |
|   | **Standard**  | **25th** | **75th** | **Inter-quartile**  |
| **Deviation** | **Range** |
| (1) | 3.50% | -1.99% | 1.62% | 3.61% |
| (2) | 3.56% | -2.07% | 1.79% | 3.86% |
| (3) | 3.42% | -1.93% | 1.60% | 3.53% |
| (4) | 4.74% | -3.37% | 2.75% | 6.12% |

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| **Table 4** |
| **Placebo Test of Acquirer Fixed Effects** |
| This table presents the results of a placebo test of acquirer fixed effects. The estimated models are identical to those in Table 2, but the data are scrambled such that deals are randomly allocated to firms. We run these Monte Carlo permutations 1000 times and report the median value of the F-test for the joint significance of the estimated firm fixed effects and the associated p-values. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively. |
|   | **Controls** | **Acquirer FE F-test** | ***p-value*** |
| *Panel A: Full sample* |  |  |
| (1) | None | 0.991 | *0.624* |
| (2) | Year FE | 0.992 | *0.618* |
| (3) | Deal chars., year FE | 0.998 | *0.533* |
| (4) | Acquirer and deal chars., year FE | 0.997 | *0.544* |
| *Panel B: Alternative serial acquirers* |  |  |
| (1) | None | 0.998 | *0.519* |
| (2) | Year FE | 0.998 | *0.524* |
| (3) | Deal chars, year FE | 0.997 | *0.535* |
| (4) | Acquirer and deal chars., year FE | 0.998 | *0.525* |
| *Panel C: FNS serial acquirers* |  |  |
| (1) | None | 0.998 | *0.500* |
| (2) | Year FE | 0.998 | *0.502* |
| (3) | Deal chars., year FE | 0.999 | *0.499* |
| (4) | Acquirer and deal chars., year FE | 0.998 | *0.501* |

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| **Table 5** |
| **Persistence of Acquirer Returns** |
| This table presents univariate tests of persistence in acquirer returns for the two definitions of serial acquirers. In Panel A serial acquirers are sorted into quintiles based on their average CARs (denoted RET) over the last 3 calendar years. Q1 and Q5 represent serial acquirers with the lowest and highest past RET, respectively. The average CARs to acquisitions made by all the acquirers in Q1 and Q5 over the next k calendar years are then computed, where k = (1, 2, 3, 4, 5) and denoted as future RET. Panel B repeats the analysis where residual CARs obtained from regressions estimated in Table 1 are used to sort acquirers into performance quintiles (past RETRES) and to measures subsequent performance (future RETRES). Panels C and D examine persistence in transaction-value weighted RET and RETRES, respectively, where the weights are the ratios of the deal value to the sum of deals values of the given acquirer over a period in which the performance is measured. The t-statistics for the differences in means between Q5 and Q1 are reported in parentheses. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively. |
| **Panel A: Persistence in CARs** |
|   | Future RET measured over |
| Quintiles measured over 3yr RET | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative serial acquirers* |  |  |  |  |  |
| Q1 | 0.41% | -0.17% | -0.17% | -0.15% | -0.15% |
| Q5 | 0.72% | 0.90% | 0.91% | 1.16% | 1.22% |
| Q5-Q1 | 0.31% | 1.07% | 1.08% | 1.31% | 1.37% |
|  | (0.63) | (2.73\*\*\*) | (3.09\*\*\*) | (4.17\*\*\*) | (4.52\*\*\*) |
| *FNS serial acquirers* |  |  |  |  |  |
| Q1 | 0.40% | -0.01% | 0.04% | 0.00% | -0.02% |
| Q5 | 0.43% | 0.50% | 0.69% | 0.98% | 1.06% |
| Q5-Q1 | 0.03% | 0.51% | 0.65% | 0.98% | 1.07% |
|  | (0.06) | (1.20) | (1.66\*) | (3.16\*\*\*) | (3.63\*\*\*) |
| **Panel B: Persistence in residual CARs** |
|   | Future RETRES measured over |
| Quintiles measured over 3yr RETRES | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative serial acquirers* |  |  |  |  |  |
| Q1 | -0.39% | -1.00% | -0.69% | -0.73% | -0.80% |
| Q5 | 0.52% | 0.25% | 0.13% | 0.36% | 0.54% |
| Q5-Q1 | 0.91% | 1.25% | 0.82% | 1.09% | 1.34% |
|  | (1.58) | (2.69\*\*\*) | (1.95\*) | (2.93\*\*\*) | (3.71\*\*\*) |
| *FNS serial acquirers* |  |  |  |  |  |
| Q1 | -0.14% | -0.59% | -0.59% | -0.46% | -0.44% |
| Q5 | -0.19% | -0.15% | -0.25% | -0.20% | -0.19% |
| Q5-Q1 | -0.04% | 0.44% | 0.34% | 0.26% | 0.26% |
|  | (-0.06) | (0.69) | (0.56) | (0.43) | (0.43) |
| Table continues on the next page |

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| Table 5 - continued |
| **Panel C: Persistence in transaction value-weighted CARs** |  |  |  |
|  | Future RET measured over |
| Quintiles measured over 3yr RET | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative serial acquirers* |  |  |  |  |  |
| Q1 | 0.25% | -0.40% | -0.34% | -0.35% | -0.39% |
| Q5 | 1.09% | 1.13% | 1.04% | 1.22% | 1.24% |
| Q5-Q1 | 0.84% | 1.53% | 1.38% | 1.57% | 1.63% |
|  | (1.64) | (3.67\*\*\*) | (3.65\*\*\*) | (4.53\*\*\*) | (4.80\*\*\*) |
| *FNS serial acquirers* |  |  |  |  |  |
| Q1 | 0.25% | -0.34% | -0.40% | -0.42% | -0.52% |
| Q5 | 0.53% | 0.39% | 0.47% | 0.97% | 0.94% |
| Q5-Q1 | 0.28% | 0.73% | 0.87% | 1.39% | 1.45% |
|  | (0.49) | (1.47) | (1.89\*) | (3.63\*\*\*) | (3.86\*\*\*) |
| **Panel D: Persistence in transaction value-weighted residual CARs** |  |  |  |
|  | Future RETRES measured over |
| Quintiles measured over 3yr RETRES | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative serial acquirers* |  |  |  |  |  |
| Q1 | -0.31% | -0.94% | -0.62% | -0.64% | -0.72% |
| Q5 | 0.74% | 0.37% | 0.11% | 0.43% | 0.62% |
| Q5-Q1 | 1.05% | 1.31% | 0.74% | 1.06% | 1.34% |
|  | (1.72\*) | (2.60\*\*\*) | (1.58) | (2.52\*\*) | (3.21\*\*\*) |
| *FNS serial acquirers* |  |  |  |  |  |
| Q1 | 0.14% | -0.25% | -0.18% | -0.15% | -0.21% |
| Q5 | -0.01% | -0.42% | -0.51% | -0.51% | -0.41% |
| Q5-Q1 | -0.15% | -0.17% | -0.33% | -0.36% | -0.20% |
|   | (0.20) | (0.23) | (0.47) | (0.52) | (0.29) |

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| **Table 6** |
| **Regression Analysis of Persistence in Acquirer Returns** |
| This table presents the results of OLS and quantile regressions of future returns on past returns for the two serial acquirer subsamples. Panels A, B, and C estimate the mean (OLS), 20th percentile, and 80th percentile of the future returns distribution, respectively. The dependent variable is RET measured as the average CARs to all the acquisitions made by an acquirer over the next k calendar years, where k = (1, 2, 3, 4, 5). The explanatory variable ‘Past RET’ is the average CAR to all acquisitions over the last 3 calendar years. For the OLS regressions the t-statistics in parentheses are adjusted for clustering by acquirer. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively. |
| **Panel A: OLS regressions** |
|  | Future RET measured over |
|   | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative Serial Sample* |  |  |  |  |
| Intercept | -0.0012 | -0.0005 | 0.0008 | 0.001 | 0.0014 |
|  | (-0.6569) | (-0.3582) | -0.5865 | -0.7336 | -1.0446 |
| Past RET | 0.0306 | 0.0452 | 0.0406 | 0.0532\*\* | 0.0536\*\* |
|  | (0.6638) | (1.2655) | (1.4037) | (2.4065) | (2.5407) |
|  |  |  |  |  |  |
| N | 3209 | 4215 | 4687 | 4854 | 4975 |
| R2 (Adj. R2) | 0.001 (0.001) | 0.002 (0.002) | 0.002 (0.002) | 0.004 (0.004) | 0.005 (0.004) |
| *FNS Serial Sample* |  |  |  |  |  |
| Intercept | -0.0021 | -0.0019 | -0.0011 | -0.0012 | -0.0007 |
|  | (-0.8880) | (-0.9560) | (-0.5897) | (-0.6514) | (-0.3669) |
| Past RET | -0.0275 | 0.0023 | 0.0018 | 0.037 | 0.0454 |
|  | (-0.2920) | (0.0285) | (0.0288) | (0.9621) | (1.2731) |
|  |  |  |  |  |  |
| N | 2056 | 2371 | 2491 | 2542 | 2585 |
| R2 (Adj. R2) | 0.001 (0.000) | 0.000 (0.000) | 0.000 (0.000) | 0.002 (0.002) | 0.004 (0.003) |
| **Panel B: 20th percentile** |
|  | Future RET measured over |
|   | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative Serial Sample* |  |  |  |  |
| Intercept | -0.0350\*\*\* | -0.0326\*\*\* | -0.0304\*\*\* | -0.0285\*\*\* | -0.0275\*\*\* |
|  | (-23.2226) | (-25.8673) | (-37.6295) | (-33.7731) | (-37.2091) |
| Past RET | 0.0131 | 0.0091 | 0.0048 | 0.0058 | 0.0146 |
|  | (0.6156) | (0.5224) | (0.4565) | (0.4862) | (1.4017) |
|  |  |  |  |  |  |
| N | 3209 | 4215 | 4687 | 4854 | 4975 |
| pseudo *R*2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| *FNS Serial Sample* |  |  |  |  |  |
| Intercept | -0.0310\*\*\* | -0.0287\*\*\* | -0.0274\*\*\* | -0.0266\*\*\* | -0.0262\*\*\* |
|  | (-19.3509) | (-28.6226) | (-29.7629) | (-37.3366) | (-47.3677) |
| Past RET | 0.0129 | -0.0034 | -0.0015 | 0.0094 | 0.0138 |
|  | (0.4072) | (-0.1905) | (-0.1045) | (0.8421) | (1.6089) |
|  |  |  |  |  |  |
| N | 2056 | 2371 | 2491 | 2542 | 2585 |
| pseudo *R*2 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Table continues on the next page |

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| Table 6 - continued |
| **Panel C: 80th percentile** |
|  | Future RET measured over |
|   | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative Serial Sample* |  |  |  |  |
| Intercept | 0.0327\*\*\* | 0.0324\*\*\* | 0.0322\*\*\* | 0.0305\*\*\* | 0.0305\*\*\* |
|  | (21.0476) | (23.0026) | (29.5242) | (33.0408) | (33.8355) |
| Past RET | 0.0862\*\*\* | 0.1027\*\*\* | 0.0903\*\*\* | 0.0863\*\*\* | 0.0862\*\*\* |
|  | (3.6178) | (4.6792) | (5.6280) | (6.4125) | (6.5128) |
|  |  |  |  |  |  |
| N | 3209 | 4215 | 4687 | 4854 | 4975 |
| pseudo *R*2 | 0.005 | 0.008 | 0.010 | 0.011 | 0.010 |
| *FNS Serial Sample* |  |  |  |  |  |
| Intercept | 0.0239\*\*\* | 0.0238\*\*\* | 0.0247\*\*\* | 0.0234\*\*\* | 0.0227\*\*\* |
|  | (14.9072) | (18.2690) | (18.8849) | (18.9128) | (17.4635) |
| Past RET | 0.1007\*\*\* | 0.0817\*\*\* | 0.0619\*\* | 0.0698\*\*\* | 0.0681\*\* |
|  | (3.4704) | (3.1849) | (2.3641) | (2.7933) | (2.5550) |
|  |  |  |  |  |  |
| N | 2056 | 2371 | 2491 | 2542 | 2585 |
| pseudo *R*2 | 0.007 | 0.006 | 0.005 | 0.007 | 0.007 |

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| **Table 7** |
| **Managerial Talent, Acquirer CARs and Acquirer Fixed Effects** |
| Estimates reported in Panel A are from regressions of acquirer CARs on acquirer top management team characteristics and other controls listed in Table 1 for the full sample as well as the two subsamples of serial acquirers. Only the coefficients on the top management team variables are reported, with the t-statistics in parentheses adjusted for heteroskedasticity. Panel B reports the joint significance of acquirer fixed effects in the regression model of acquirer CARs on acquirer fixed effects, year fixed effects, the deal and acquirer characteristics, and with and without the top management team variables. F-statistics for the joint significance of acquirer fixed effects are reported, along with their corresponding p-values and number of firms (in parentheses). The R2 and the Adjusted R2 of the models are also shown. Panel C reports the distribution of acquirer fixed effects for the full sample as well as for the subsamples of serial acquirers before and after the top management team variables are added. Team size is measured as the number of the acquiring firm's officers with a listed title above the vice president level in the most recent fiscal year prior to the announcement date. Average tenure represents the average number of years for which the top management team members have worked in the acquiring firm prior to the announcement date. Tenure heterogeneity is the coefficient of variation of the top management team members’ tenures. The average age of top management team members is measured at the end of the most recent fiscal year prior to the announcement date. CEO dominance is calculated as CEO’s salary and bonus divided by the average salary and bonus of other team members for the most recent fiscal year prior to the announcement date. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively.  |
| **Panel A: OLS regression of CARs on Managerial Talent variables** |
|   | All | Alternative | FNS |
|  |  |  |  |
| Team Size | 0.0014 | 0.0011 | -0.0013 |
|  | (0.9637) | (0.6726) | (-0.3973) |
| Average Tenure | 0.0003 | 0.0005\*\* | -0.0001 |
|  | (1.6092) | (2.0604) | (-0.2055) |
| Tenure Heterogeneity | 0.0057 | 0.007 | 0.0120\* |
|  | (1.4492) | (1.5921) | (1.8015) |
| Average Age | 0.0002 | 0.0002 | 0.0020\*\*\* |
|  | (0.4707) | (0.5961) | (2.8067) |
| CEO Dominance | 0.0000 | -0.0001 | 0.0024 |
|  | (-0.0069) | (-0.0940) | (1.4861) |
|  |  |  |  |
| Firm characteristics | Yes | Yes | Yes |
| Deal characteristics | Yes | Yes | Yes |
|  |  |  |  |
| N | 2188 | 1799 | 576 |
| R2 (Adj. R2) | 0.085 (0.068) | 0.097 (0.077) | 0.122 (0.062) |
| **Panel B: Managerial Talent and Acquirer FE** |
|   |   | Without Managerial Talent |  | With Managerial Talent |
|   |   | Acq. FE F-test | *R*2 | Adj. *R*2 |   | Acq. FE F-test | *R*2 | Adj. *R*2 | N |
| (1) | Full | 1.133\*\* (0.024,760) | 0.432 | 0.110 |  | 1.129\*\*(0.028,760) | 0.433 | 0.109 | 2188 |
| (2) | Alternative | 1.145\*\* (0.032,509) | 0.380 | 0.113 |  | 1.143\*\*(0.034,509) | 0.383 | 0.114 | 1799 |
| (3) | FNS | 1.473\*\*\*(0.005,96) | 0.313 | 0.118 |   | 1.324\*\*(0.033,96) | 0.316 | 0.112 | 576 |
| **Panel C: Distribution of Acquirer FE with Managerial Talent Controls** |
|   |   |  | With Managerial Talent |
|   | SD | 25th | 75th | Inter-quar. Rng. |   | SD | 25th | 75th | Inter-quar. Rng. |
| (1) | Full | 5.83% | -2.62% | 2.82% | 5.44% |  | 5.89% | -2.81% | 2.85% | 5.66% |
| (2) | Alternative | 5.06% | -2.10% | 2.81% | 4.91% |  | 5.15% | -2.44% | 2.83% | 5.27% |
| (3) | FNS | 3.88% | -2.30% | 2.75% | 5.05% |   | 3.97% | -2.79% | 3.20% | 5.99% |

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| **Table 8** |
| **The Best and the Worst Acquirers** |
| This table reports the top and bottom 10 acquirers ranked by acquirer fixed effects estimated in model (4) of Table 3 for the two alternatively definitions of serial acquirers. RET (RETRES) is measured as the average CARs (residuals) over the full sample period for individual acquirers. |
| **Panel A: The top and bottom 10 acquirers in the alternative serial acquirers sample** |
|   | Acquirer FE | RET | RETRES | N | FF48 |
| *Top 10 Acquirers* |  |  |
| e-MedSoft.com | 76.45% | 83.26% | 75.59% | 2 | Business Services |
| Met Capital Corp | 41.00% | 48.88% | 42.65% | 2 | Trading |
| E For M Corp | 39.11% | 45.73% | 40.29% | 2 | Recreation |
| PolyVision Corp | 36.25% | 21.72% | 12.49% | 2 | Meas. & Control Equip. |
| Ask Jeeves Inc | 32.71% | 36.72% | 33.82% | 2 | Business Services |
| Catalytica Inc | 30.37% | 36.49% | 31.13% | 2 | Chemicals |
| Capitol Multimedia Inc | 27.23% | 36.35% | 30.64% | 3 | Entertainment |
| Star Technologies Inc | 27.00% | 37.92% | 30.22% | 2 | Computers |
| Evans Inc | 24.93% | 34.34% | 27.56% | 2 | Retail |
| SunRiver Corp | 24.10% | 32.30% | 25.39% | 2 | Computers |
| *Bottom 10 Acquirers* |  |  |
| GlobeSpan Inc | -30.88% | -17.72% | -32.09% | 2 | Electronic Equipment |
| OrthoLogic Corp | -29.28% | -14.89% | -17.30% | 2 | Pharmaceutical Products |
| Socrates Technologies Corp | -28.09% | -20.36% | -25.51% | 2 | Meas. & Control Equip. |
| L90 Inc | -23.50% | -15.94% | -20.33% | 2 | Business Services |
| Trinzic Corp | -20.25% | -14.31% | -19.16% | 2 | Business Services |
| Price Communications Corp | -20.17% | -7.65% | -21.69% | 2 | Communication |
| Deltagen Inc | -19.57% | -16.50% | -18.24% | 2 | Pharmaceutical Products |
| Gasco Energy Inc | -19.43% | -17.24% | -17.92% | 2 | Petroleum and Nat. Gas |
| ARC Capital | -19.26% | -14.47% | -17.89% | 2 | Meas. & Control Equip. |
| Pre-Paid Legal Services Inc | -18.68% | -19.30% | -18.92% | 2 | Personal Services |
| Table continues on the next page |
| Table 7 - continued |
| **Panel B: The top and bottom 10 acquirers in the FNS serial acquirers sample** |
|   | Acquirer FE | RET | RETRES | N | FF48 |
| *Top 10 Acquirers* |  |  |
| Veeco Instruments Inc | 17.35% | 13.69% | 12.96% | 5 | Meas. & Control Equip. |
| PMC-Sierra Inc | 14.44% | 3.07% | 3.38% | 6 | Electronic Equipment |
| Medtronic Inc | 13.88% | 0.63% | 3.10% | 5 | Medical Equipment |
| AT&T Corp | 13.83% | 1.16% | 5.10% | 5 | Communication |
| Chattem Inc | 13.51% | 17.24% | 15.41% | 5 | Pharmaceutical Products |
| Envirofil Inc | 12.49% | 9.67% | 10.38% | 5 | Business Services |
| Guidant Corp | 9.75% | 1.84% | 3.19% | 5 | Medical Equipment |
| Avant! Corp | 9.07% | 7.11% | 7.06% | 6 | Business Services |
| Cisco Systems Inc | 8.69% | -1.05% | -0.23% | 6 | Computers |
| Comerica Inc | 8.35% | 0.89% | 2.31% | 6 | Banking |
| *Bottom 10 Acquirers* |  |  |
| Digital River Inc | -13.94% | -4.31% | -4.67% | 5 | Business Services |
| Questron Technology Inc | -13.70% | -3.42% | -7.87% | 9 | Business Services |
| Ultralife Corp | -11.34% | -4.21% | -5.81% | 5 | Electrical Equipment |
| Kratos Defense & Security | -11.25% | -4.76% | -5.43% | 8 | Communication |
| Interland Inc | -10.40% | -4.96% | -5.31% | 7 | Computers |
| Eltrax Systems Inc | -10.36% | -3.90% | -5.52% | 16 | Computers |
| AdCare Health Systems Inc | -10.20% | 0.89% | -1.00% | 6 | Healthcare |
| 24/7 Media Inc | -9.00% | -7.54% | -7.29% | 5 | Business Services |
| Omega Health Systems Inc | -8.99% | -0.44% | -2.88% | 7 | Healthcare |
| TBA Entertainment Corp | -8.86% | -1.24% | -3.62% | 7 | Rests., Hotels, Motels |

**Appendix A**

**Variable Definitions**

|  |  |
| --- | --- |
| Variable | Definition |
| *Panel A: Return Variables*  |
| CAR (-2, +2) | Cumulative abnormal return of the acquiring firm stock over the event window (-2, +2) surrounding the announcement date. The return is calculated using the market model with the benchmark being the CRSP value-weighted index. The model parameters are estimated over the (-300, -91) period prior to the announcement.  |
| Future RET | Average CAR (-2, +2) to all the acquisitions made by an acquirer over the next k calendar years, where k = (1, 2, 3, 4, 5). |
| Past RET | Average CAR (-2, +2) to all the acquisitions made by an acquirer over the last 3 calendar years. |
| RETRES | Average residual from an OLS regression of CAR specified in Table 1. |
| *Panel B: Acquirer Characteristics* |
| Acquirer Size | The market value of the acquiring firm’s equity 11 days before the announcement date in $US dollar million. The data is obtained from CRSP. |
| Tobin’s Q | Market value of the acquiring firm’s assets divided by book value of its assets for the fiscal year prior to the acquisition. The market value of assets is equal to book value of assets plus market value of common stock minus book value of common stock minus balance sheet deferred taxes. The data is obtained from both CRSP and Compustat. |
| Leverage | The sum of the acquiring firm’s long-term debt and short-term debt divided by the market value of its total assets measured at the end of the fiscal year prior to the acquisition. The data is obtained from both CRSP and Compustat. |
| Free Cash Flow | The acquiring firm’s operating income before depreciation minus interest expense minus income tax plus changes in deferred taxes and investment tax credits minus dividends on both preferred and common share divided by its book value of total assets at the fiscal year-end before the announcement date from Computstat. |
| Sigma | Standard deviation of the market-adjusted daily returns of the acquirer’s stock over a 200-day window (-210, -11) from CRSP. |
| Run-up | Market-adjusted buy-and-hold return of the acquirer’s stock over a 200-day window (-210, -11) from CRSP. |
| *Panel C: Deal Characteristics*  |
| Public | Indicator variable: one if the bid is for a public target and zero otherwise. |
| Private | Indicator variable: one if the bid is for a private target and zero otherwise. |
| Subsidiary | Indicator variable: one if the bid is for a subsidiary target and zero otherwise. |
| All Cash | Indicator variable: one if the payment is pure cash and zero otherwise. |
| Stock | Indicator variable: one if the payment includes stock and zero otherwise. |
| Relative Size | The deal value from Thomson Financial SDC divided by the market value of the bidding firm’s equity 11 days prior to the announcement date from CRSP. |
| Relatedness | Indicator variable: one if the bidder and the target are operating in the same industries with a common 2-digit SIC code and zero otherwise. Data from Thomson Financial SDC. |
| Hostile | Indicator variable: one if the deal is classified as ‘hostile’ by Thomson Financial SDC and zero otherwise. |
| Tender Offer | Indicator variable: one if the deal is a tender offer and zero otherwise. Data from Thomson Financial SDC. |
| *Panel D: Managerial Variables*  |
| New CEO | Indicator variable: one if an acquirer has employed a new CEO over the period in which future RET is measured, and zero otherwise. |
| Team Size | The size of the acquiring firm’s top management team. It equals the number of officers with a listed title above the vice president level in the most recent fiscal year prior to the announcement date. Data from ExecuComp. |
| CEO Dominance | It is computed as CEO salary and bonus divided by the average salary and bonus of other team members for the most recent fiscal year prior to the announcement date. Data from ExecuComp |
| Average Tenure | The average number of years for which top team members have worked in the acquiring firm prior to the announcement date. Data from ExecuComp |
| Tenure Heterogeneity | The coefficient of variation of the top team members’ tenures. |
| Average Age | The average age of the top team members measured at the end of the most recent fiscal year prior to the announcement date. Data from ExecuComp |

**Appendix B**

**Additional Results**

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| **Table B.1** |
| **Regression Analysis of Persistence in Residual Returns** |
| This table presents the results of OLS and quantile regressions of future residual returns on past residual returns for the two serial acquirer subsamples. Panels A, B, and C estimate the mean (OLS), 20th percentile, and 80th percentile of the future residual returns distribution, respectively. The dependent variable is RETRES measured as the average residual CARs to all the acquisitions made by an acquirer over the next k calendar years, where k = (1, 2, 3, 4, 5). The explanatory variable ‘Past RETRES’ is the average residual CAR to all acquisitions over the last 3 calendar years. For the OLS regressions the t-statistics in parentheses are adjusted for clustering by acquirer. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively.  |
| **Panel A: OLS regressions** |
|  | Future RETRES measured over |
|   | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative Serial Sample* |  |  |  |  |
| Intercept | -0.0033 | -0.0029 | -0.0018 | -0.0008 | -0.0001 |
|  | (-1.3862) | (-1.4646) | (-0.9747) | (-0.4845) | (-0.0580) |
| Past RETRES | 0.0024 | 0.0225 | 0.0042 | 0.022 | 0.0289 |
|  | (0.0400) | (0.4980) | (0.1145) | (0.8330) | (1.1520) |
|  |  |  |  |  |  |
| *N* | 2144 | 2911 | 3259 | 3370 | 3457 |
| *R2 (Adj. R2)* | 0.000 (-0.000) | 0.001 (0.000) | 0.000 (0.000) | 0.001 (0.000) | 0.001 (0.001) |
| *FNS Serial Sample* |  |  |  |  |  |
| Intercept | -0.0036 | -0.0035 | -0.0027 | -0.002 | -0.0016 |
|  | (-1.0618) | (-1.0738) | (-0.8625) | (-0.6562) | (-0.5241) |
| Past RETRES | -0.0864 | -0.0516 | -0.0512 | -0.0589 | -0.062 |
|  | (-0.5651) | (-0.4057) | (-0.4003) | (-0.4660) | (-0.4911) |
|  |  |  |  |  |  |
| *N* | 1179 | 1322 | 1338 | 1343 | 1348 |
| *R2 (Adj. R2)* | 0.005 (0.005) | 0.003 (0.002) | 0.003 (0.002) | 0.004 (0.003) | 0.004 (0.004) |
| **Panel B: 20th percentile** |
|  | Future RETRES measured over |
|   | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative Serial Sample* |  |  |  |  |
| Intercept | -0.0400\*\*\* | -0.0383\*\*\* | -0.0363\*\*\* | -0.0342\*\*\* | -0.0327\*\*\* |
|  | (-32.1028) | (-28.2320) | (-35.6739) | (-25.7760) | (-25.1983) |
| Past RETRES | 0.0734\*\*\* | 0.0225 | 0.0223 | 0.0304 | 0.0332\* |
|  | (3.8352) | (1.1016) | (1.4365) | (1.5992) | (1.7623) |
|  |  |  |  |  |  |
| *N* | 2144 | 2911 | 3259 | 3370 | 3457 |
| pseudo *R*2 | 0.002 | 0.001 | 0.000 | 0.001 | 0.002 |
| *FNS Serial Sample* |  |  |  |  |  |
| Intercept | -0.0370\*\*\* | -0.0329\*\*\* | -0.0314\*\*\* | -0.0284\*\*\* | -0.0270\*\*\* |
|  | (-17.4425) | (-16.5406) | (-15.7787) | (-16.0943) | (-15.2527) |
| Past RETRES | 0.0961\*\* | 0.0248 | 0.0191 | 0.0502 | 0.0497 |
|  | (2.2141) | (0.6969) | (0.4192) | (1.5618) | (1.2188) |
|  |  |  |  |  |  |
| *N* | 1179 | 1322 | 1338 | 1343 | 1348 |
| pseudo *R*2 | 0.003 | 0.001 | 0.000 | 0.001 | 0.002 |
| Table continues on the next page |
| Table B.1 - continued |
| **Panel C: 80th percentile** |
|  | Future RETRES measured over |
|   | 1yr | 2yr | 3yr | 4yr | 5yr |
| *Alternative Serial Sample* |  |  |  |  |
| Intercept | 0.0376\*\*\* | 0.0353\*\*\* | 0.0343\*\*\* | 0.0340\*\*\* | 0.0344\*\*\* |
|  | (20.8531) | (27.4209) | (29.7314) | (30.8533) | (32.5781) |
| Past RETRES | -0.0044 | 0.0561\*\*\* | 0.0592\*\*\* | 0.0488\*\*\* | 0.0495\*\*\* |
|  | (-0.1569) | (2.9194) | (3.9029) | (3.3541) | (3.5551) |
|  |  |  |  |  |  |
| *N* | 2144 | 2911 | 3259 | 3370 | 3457 |
| pseudo *R*2 | 0.000 | 0.003 | 0.003 | 0.004 | 0.005 |
| *FNS Serial Sample* |  |  |  |  |  |
| Intercept | 0.0300\*\*\* | 0.0276\*\*\* | 0.0273\*\*\* | 0.0270\*\*\* | 0.0270\*\*\* |
|  | (17.4799) | (19.8019) | (24.2799) | (23.4781) | (28.8150) |
| Past RETRES | -0.0282 | 0.0578\*\*\* | 0.0610\*\*\* | 0.0800\*\*\* | 0.0803\*\*\* |
|  | (-0.8064) | (2.5912) | (3.3244) | (4.3131) | (5.3122) |
|  |  |  |  |  |  |
| *N* | 1179 | 1322 | 1338 | 1343 | 1348 |
| pseudo *R*2 | 0.001 | 0.002 | 0.003 | 0.004 | 0.005 |

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| **Table B.2** |
| **Determinants of Acquirer CARs - Using Within-Firm Variation** |
| This table presents the results of OLS regressions of acquirer CARs on acquirer and deal characteristics, for the full sample as well as the two subsamples of serial acquirers controlling for firm fixed effects. The full sample includes all domestic M&A transactions completed during the period 1990-2011 from the Thomson Financial SDC M&A Database. The subsamples are classified based on the two alternative definitions of serial acquirers. "Alternative" serial acquirers are defined as those having completed two or more deals over a 3-year window. FNS (Fuller, Netter and Stegemoller (2002)) serial acquirers are defined as those having completed at least five deals over a 3-year window. The dependent variable in all the specifications is the cumulative abnormal returns of the acquiring firm stock over the event window (-2, +2) surrounding the announcement date. The return is based on the market model with the benchmark being the CRSP value-weighted index. The t-statistics in parentheses are adjusted for heteroskedasticity. Symbols \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% level, respectively. The variables are defined in the Appendix. |
|   | **All** | **Alternative** | **FNS**  |
|  |  |  |  |
| Intercept | 0.0926\*\*\* | 0.1034\*\*\* | 0.1789\*\*\* |
|  | (7.5023) | (7.0322) | (5.9460) |
| Ln (Acquirer Size) | -0.0136\*\*\* | -0.0148\*\*\* | -0.0210\*\*\* |
|  | (-8.1668) | (-7.6577) | (-5.9536) |
| Tobin's Q | -0.0026\*\*\* | -0.0030\*\*\* | -0.0028 |
|  | (-3.2983) | (-3.4794) | (-1.4977) |
| Run-Up | -0.0081\*\*\* | -0.0067\*\*\* | -0.0030 |
|  | (-3.4582) | (-2.6446) | (-0.7703) |
| Free Cash Flow | 0.0061 | -0.0029 | -0.0081 |
|  | (0.5273) | (-0.2125) | (-0.3553) |
| Leverage | -0.0068 | -0.0131 | 0.0109 |
|  | (-0.5524) | (-0.9219) | (0.4043) |
| Sigma | 0.2829\*\*\* | 0.2139\* | -0.2963 |
|  | (2.8541) | (1.9053) | (-1.3088) |
| Relative Size | 0.0147\*\*\* | 0.0108\*\*\* | 0.0035 |
|  | (7.0194) | (4.7853) | (0.9865) |
| Relatedness | 0.0021 | 0.0042 | -0.0047 |
|  | (0.8583) | (1.5966) | (-0.9655) |
| Tender Offer | -0.0011 | -0.0028 | -0.0001 |
|  | (-0.1619) | (-0.3843) | (-0.0054) |
| Hostile | -0.0135 | -0.0179 | -0.0172 |
|  | (-0.6998) | (-0.8608) | (-0.5174) |
| Public X All-Cash | -0.0075 | -0.0081 | -0.0154 |
|  | (-1.3520) | (-1.3293) | (-1.2398) |
| Public X Stock | -0.0331\*\*\* | -0.0341\*\*\* | -0.0269\*\*\* |
|  | (-9.8480) | (-9.4412) | (-4.4690) |
| Private X All-Cash | -0.0021 | -0.0039 | -0.0054 |
|  | (-0.6176) | (-1.0593) | (-0.7767) |
| Private X Stock | 0.0055\* | 0.0054\* | -0.0002 |
|  | (1.8830) | (1.6882) | (-0.0321) |
| Subsidiary X All-Cash | 0.0017 | 0.0002 | -0.0066 |
|  | (0.5138) | (0.0551) | (-1.0291) |
|  |  |  |  |
| Acquirer FE | YES | YES | YES |
|  |  |  |  |
| N | 12491 | 9373 | 2611 |
| R2 (Adj. R2) | 0.487 (0.231) | 0.331 (0.119) | 0.197 (0.066) |
| F-stat | 12.376\*\*\* | 10.057\*\*\* | 3.777\*\*\* |

1. This is not to detract from the contribution of the [Moeller et al. (2004](#_ENREF_33)) study. In fact, the acquirer size effect they document has proven to be one of the most robust determinants of acquirer returns; we also confirm it in this paper. [↑](#footnote-ref-1)
2. Another possibility is that the firm fixed effect stands in for the CEO effect, given that turnover events are rare. We are not able to explicitly test for this due to extreme paucity of CEO moves between acquirers which are required for separate identification of firm and CEO fixed effects. [↑](#footnote-ref-2)
3. More recently, [Fee, Hadlock and Pierce (2013](#_ENREF_11)) question whether the manager-specific effects can be interpreted as causal, and also raise a methodological issue regarding the use of the standard F-tests in assessing the joint significance of the estimated fixed effects. We address this issue below. [↑](#footnote-ref-3)
4. We also used CARs over event windows (-1, +1) and (-5, +5), as well as market-adjusted returns instead of the market model. All results remain unchanged. [↑](#footnote-ref-4)
5. We also experiment with 10th and 90th percentiles, but do not find consistently significant results. [↑](#footnote-ref-5)
6. We would like to thank Cláudia Custódio and Daniel Metzger for kindly sharing their extended Execucomp-BoardEx CEO dataset used in Custódio and Metzger (2013). [↑](#footnote-ref-6)
7. ExecuComp collects up to 9 executives from each company’s annual proxy statement (SEC form DEF14A) for a given year, and hence, may not capture all of the company’s managers but for the purpose of our analysis this information is sufficient. According to the SEC DEF 14A filling rules, a company is required to fully disclose information about compensations received by its most senior executives and directors. The executive officers named in a proxy statement are the most influential executives in the corporate decision making process and should wield the greatest impact on acquisition strategies. [↑](#footnote-ref-7)
8. This conclusion is further substantiated by the fact the inclusion of industry fixed effects in the baseline regressions of Table 1 has a very modest effect on the explanatory power of those models. [↑](#footnote-ref-8)