

# Market Learning about the Stand-Alone Value of the Acquirer

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### **Abstract**

This paper presents new empirical evidence indicating that acquisition announcements by bidders who invest internally more than their peers result in a negative adjustment to their stand-alone market values. Capital investment is highly persistent: hence when a high-investment firm implements an acquisition, market participants learn that this decision was motivated by a declining set of internal investment opportunities.

The academic literature has documented that the stand-alone value loss around acquisition announcements is associated with bidder overvaluation and agency conflict. Our findings uncover a new additional explanation of the loss of bidders' stand-alone value. Our evidence is consistent with the growth opportunities signaling hypothesis: firms often make acquisitions when they start to exhaust their internal growth opportunities. Lower abnormal returns around high-investment bidders' acquisition announcements are justified by poorer post-acquisition investment, valuation, and long-run stock returns.

The results shed new light on the source of the stand-alone value loss documented in the corporate acquisition literature.

## **1. Introduction**

The valuation effects of mergers and acquisitions have long been a topic of interest to financial economists. Abnormal returns around acquisition announcements reflect several assessments by the market (Hietala et al, 2001; Grinblatt and Titman, 2002; Fuller et al, 2002): synergies expected from the acquisition, likelihood of overpayment for the target, and revaluation of the stand-alone business of the bidder and the target.

Our paper contributes to the literature on the revaluation of the bidder's stand-alone value in acquisition announcements. The academic literature offers several potential reasons for reassessing the stand-alone value of the bidder upon the announcement of an acquisition. The first explanation is bidder overvaluation. Firms whose shares are overvalued have an incentive to acquire other firms using their stock as a cheap currency (Shleifer and Vishny, 2003). When a bidder announces that it is planning to make a stock-financed acquisition, the market recognizes that the bidder's shares are overvalued, hence abnormal returns include a negative adjustment to its stand-alone share price. The second factor potentially affecting revaluation of the bidder's stand-alone value is agency costs. Empire building managers can increase their private benefits by causing their firms to grow (Jensen, 1986). Agency conflicts between managers and shareholders along with substantial cash reserves that insulate management from external monitoring can lead to low-benefit or value-destroying mergers (Harford, 1999). The third explanation is growth opportunities signaling (McCardle and Viswanathan, 1994; Jovanovic and Braguinsky, 2002). Firms make acquisitions when they start to exhaust their internal growth opportunities. Bidding firms use takeovers as a mechanism to keep up growth by acquiring the target's high NPV investment projects. Investors can infer that the firm faces declining investment prospects from the acquisition announcement.

Our paper provides novel empirical evidence that – consistent with the growth opportunities signaling hypothesis – the market learns about acquirers' internal investment opportunities from the acquisition announcement. We characterize the firm's investment policy by the magnitude of its internal investment relative to its industry peers. Following the distinction in Fuller, Netter and Stegemoller (2002) between frequent and infrequent acquirers, we separate bidders that followed a policy of internal investment only for at least three years prior to the acquisition announcement (hereafter making “first acquisition”) from those who were actively involved in acquisitions (hereafter making “repeat acquisition”). Value maximizing firms exploit their internal investment opportunities, hence actual investment is correlated with the pool of potential investment projects. We gauge internal investment by the sum of capital expenditures and R&D scaled by the firm's total assets and classify acquirers with a net investment above (below) the industry median as high-investment (low-investment) bidders.

Internal investment projects and acquisitions differ in two critical aspects: the information environment and competition. It seems safe to assume that management is better informed about the feasibility and expected profits of internal projects than acquisitions; hence, it is likely to estimate the net present value of internal projects more precisely. Additionally, internal projects constitute proprietary investment opportunities created by the firm's unique product-market strategy, whereas acquisitions are open to competition from other firms. Boone and Mulherin (2007) document that public announcements of acquisitions are usually preceded by private sales efforts that involve several potential bidders. Competition among potential bidders allows target shareholders to maximize their proceeds, thereby reducing the net present value of acquisitions for bidders.

We present several novel empirical results showing that the market evaluates acquisition announcements in the context of acquirer investment policy. We find that first acquisitions announced by firms that invested internally in the years preceding the acquisition announcement create greater shareholder value than acquisitions by repeat acquirers. This result is consistent with two explanations: agency conflict and merger anticipation. First, Jensen (1986) points out that empire building managers have incentives to implement value destroying acquisitions to increase the size of the firm, hence their private benefits. That is, repeat acquirers potentially implement acquisitions regularly to build larger managerial empires implying greater agency cost. Second, market participants' anticipation of repeat acquisitions would further lower announcement returns (Cai, Song, and Walkling, 2011).

Our evidence is consistent with the hypothesis that the market learns about the internal investment opportunity set of the acquirer from the acquisition announcement. Internal investment has high persistence; therefore, market participants expect firms that invested above their peers to continue the pattern. Hence, the unexpected announcement of a first acquisition often reveals that internal investment opportunities are starting to decline. These results are robust to the effects of overvaluation of the bidders' shares as well as to bidder and deal characteristics.

We also find that high-investment acquirers tend to choose high-investment targets. This evidence suggests that high-investment firms attempt to mitigate the reduction of internal investment opportunities by acquiring targets whose investment opportunities are abundant. In other words, the evidence supports the notion that the acquisition was prompted by a declining set of the bidder's internal investment opportunities.

Remarkably, high-investment bidders have significantly worse post-acquisition performance than low-investment bidders: they decrease internal investment, experience worse

deterioration of market-to-book and Tobin's Q, and more negative long-term returns, further supporting the hypothesis that the prospect of worsening stand-alone prospects were likely motivating factors in the acquisition decision.

Overall, our results are consistent with the hypothesis that market participants recognize the shift in investment policy of high-investment acquirers and apply a negative adjustment to the stand-alone value, even if the acquisition holds positive synergies.

## **2. Related Literature**

Our paper contributes to a growing literature in corporate finance that studies the implications of acquisition announcements to the stand-alone value of the bidder.

The hypothesis that takeover bids often convey information not only about the transaction itself but also about the efficiency of the bidder has been set forth by Dodd and Ruback (1977). Bradley, Desai, and Kim (1983) report that unsuccessful bidders in multiple-bidder contests lose a significant portion of their pre-offer market value. Hietala, Kaplan, and Robinson (2003) propose a method to disentangle synergy, overpayment, and information effects in the case of withdrawn acquisitions and takeover contests between two bidders. Bhagat et al. (2005) exploit the arrival of a competing bid for the same target to evaluate the estimated change in the bidder's stand-alone value. They document a negative revelation effect that implies that acquisition announcements carry unfavorable news about acquirers' prospects. Bayazitova, Kahl, and Valkanov (2012) examine the magnitude of the market's revision of acquirer stand-alone value for megamergers and non-megamergers. They point out that in non-megamergers, the market reacts negatively to the withdrawal of previously announced bids when the target accepts a competing offer, implying that the first bid revealed unfavorable news about the bidder's stand-alone value. Savor and Lu

(2009) present evidence that failed bidders in stock-financed acquisitions experience significantly lower buy-and-hold returns in the post-acquisition year than their successful peers, indicating that the original acquisition announcement signaled stock overvaluation. Amihud, DeLong, and Golubov (2013) show that the operating performance of failed bidders declines in the two-years following the announcement. This evidence suggests that managers of the acquiring firm had private information about a likely decline in stand-alone productivity. Masulis and Swan (2014) conduct an international comparison of successful and failed acquisitions of public targets to examine shareholder value creation. They report that acquisitions of public targets create positive shareholder value once abnormal returns are adjusted for the bad news about the bidder's stand-alone value. Malmendier, Opp, and Saidi (2015) study target revaluation in failed attempts. Their analysis includes statistics indicating that deal failure is associated with negative abnormal returns for acquirers, particularly in the case of equity offers.

Our approach is distinct from methodologies examining withdrawn or competed acquisitions. We propose that the stand-alone value loss is related to market participants learning about the bidding firm's investment policy. McCardle and Viswanathan (1994) provide a theoretical motivation for the proposition that the choice between acquisitions and internal investment carries information about the firm's stand-alone value. They model the choice between direct entry into a profitable industry versus entry via the acquisition of an incumbent player. A takeover bid reveals that the bidder would not be able to recover the costs of direct entry; hence, its competitive strengths are lower than those of its rival. Jovanovic and Braguinsky (2004) extend this model and discuss the situation where the acquisition announcement reveals that the bidder's internal projects are weak, resulting in a negative revaluation by the market.

Our paper presents empirical evidence consistent with the hypothesis that acquisitions announced by firms that previously invested above their industry peers reveal a slowdown in internal growth opportunities. This negative signal leads to a downward adjustment to the acquirer's stand-alone value.

### **3. Sample and Methodology**

Our sample includes completed M&As of US targets between 1991 and 2020 from the SDC Mergers and Acquisitions database. We match acquirer data to CRSP and Compustat. We require CRSP return information for the year preceding the acquisition announcement and Compustat information for the fiscal years preceding and following the completion of the acquisition. We assign acquirers to 48 industry groups defined by Fama and French (1997), based on their primary Standard Industrial Classification (SIC) codes in Compustat in the fiscal year of the acquisition announcement. We restrict targets to public companies, private companies, and subsidiaries of public companies. We set the minimum deal value, defined as the total consideration paid by the acquirer, excluding fees and related expenses, to \$1 million and drop transactions whose deal value relative to the market capitalization of the acquirer 11 days before the announcement was less than 1%. To avoid repeat partial acquisitions, we require that the acquirer controls less than 50% of the target before the acquisition and obtains 100% ownership. We exclude transactions missing information on the announcement date, effective date, deal value, or target organizational form. These procedures (reported in Table 1) result in 18,957 acquisition transactions.

[Insert Table 1 about here]



We classify acquisitions as first acquisitions if the bidder invested internally for a minimum of three preceding fiscal years, and repeat acquisitions if the bidder made at least one acquisition announcement during this time. The sample includes 8,049 first acquisitions by 5,733 unique bidders and 10,908 repeat acquisitions by 3,237 unique bidders.

Next, we evaluate firms' investment relative to their industry peers on an annual basis to accommodate cyclical and industry variations. Our measure of internal investment is net investment: the sum of net capital expenditures (capital expenditures less depreciation) and R&D expenses, scaled by the firm's total assets. Firms whose net investment exceeded the industry median in the fiscal year preceding the announcement are classified "high-investment" and those below the industry median "low-investment".

Figure 1 shows that industry-adjusted net investment in the sample follows an approximately normal distribution.

[Insert Figure 1 about here]

We present descriptive statistics in Table 2. Firm characteristics indicate values at the beginning of the fiscal year of the acquisition announcement. We report  $p$ -values for the statistical significance of the difference between high- and low-investment acquirers and between first and repeat acquisition announcements.

We present net investment figures adjusted for the median Compustat firm in the same industry-year. Net investment refers to the sum of capital expenditures and R&D less

depreciation, scaled by total assets. In the fiscal year preceding the acquisition announcement high-investment first bidders invested 7.33% above the industry median. In contrast, low-investment first bidders invested 4.0% below the industry median. Repeat acquirers invested less than first acquirers, suggesting that internal investment decreases once a firm switches to an investment policy that includes external growth via acquisitions.

We estimate Tobin's Q by scaling the sum of equity market capitalization, preferred stock, debt in current liabilities, and long-term debt by the firm's total assets, following Adam and Goyal (2008). Consistent with the well-known strong positive relation between investment policy and firm value, high-investment bidders have significantly greater Tobin's Q measures than low-investment bidders. Interestingly, first bidders tend to have greater Tobin's Q than repeat bidders, indicating higher value relative to the firm's assets.

Market-to-book ratios capture firms' equity market capitalizations over the book value of common equity. Higher investment is associated with greater market-to-book ratios at both first and repeat acquirers.

We evaluate bidder size by the firm's total assets and equity market capitalization. In support of the importance of acquisitions as a growth channel, our sample shows that first bidders are significantly smaller than repeat bidders measured by both the book value of assets and market capitalization. At the median, high-investment acquirers tend to have larger equity market capitalizations than their low-investment peers, likely due to their higher market-to-book metrics.

We gauge profitability by the firm's operating returns on assets — earnings before interest, taxes, depreciation, and amortization (EBITDA) — over total assets, because this measure is neutral to firm and industry variation in depreciation methods and capital structure. The patterns are inconsistent among first and repeat acquirers: high-investment first-bidders have lower

profitability than low-investment first-bidders, but this difference disappears among repeat bidders. Repeat bidders are more profitable than first bidders supporting the view that firms tend to realize economic benefits from acquisitions.

The corporate finance literature documents an association between firm size and leverage: larger firms have easier access to debt, hence greater leverage. In agreement with this pattern, our data shows that repeat acquirers have higher leverage than first acquirers. We also find that high-investment bidders have lower leverage than low-investment bidders among both first and repeat acquirers.

In our sample, high-investment acquirers have greater cash reserves than low-investment acquirers among both first- and repeat bidders. Additionally, first acquirers hold more cash than repeat acquirers.

We follow the literature in calculating relative deal size as the transaction value divided by the market capitalization of the acquirer 11 days before the acquisition announcement. First bidders acquire targets of a larger relative size than repeat bidders. High-investment bidders acquire targets of slightly lower relative size than low-investment bidders in both subsamples.

We classify acquisitions as cash transactions if the entire transaction value was paid in cash, stock transactions if the entire transaction value was paid in stock, and mixed payment transactions otherwise. High-investment bidders tend to implement more stock-financed and less cash-financed acquisitions than low-investment bidders in both first and repeat acquisitions.

We categorize acquisitions as diversifying if the primary industry of the target firm is different from the primary industry of the acquiring firm. The data does not report statistically

significant differences in diversifying acquisitions made by bidders that pursue different investment policies.

[Insert Table 2 about here]

Figure 2 reports the distribution of high- and low-investment acquirers by industry. Although acquisition frequencies vary among industries, high- and low-investment acquirers are relatively evenly distributed within industries; our results are therefore not affected by the concentration of high- and low-investment firms in particular industries.

[Insert Figure 2 about here]

## **4. Results**

### *4.1 Investment Policy and Shareholder Gains*

We investigate the signal about the stand-alone value of the bidder in acquisition announcements by a series of empirical tests.

In Table 3, we compare shareholder gains around acquisition announcements among high- and low-investment bidders in first and repeat acquisitions according to the method of payment. Corporate acquisitions tend to generate positive shareholder value: all of the reported mean and median three-day cumulative abnormal returns are significantly positive, except for those around stock-financed repeat acquisitions, which are not significantly different from zero.

First acquisitions generate significantly greater abnormal returns than repeat acquisitions, regardless of the method of payment. This result is consistent with agency conflict and acquisition anticipation. Repeat acquirers are more likely to have empire building managers with strong incentives to increase the size of the firm to gain private benefits of control (Jensen, 1986). Additionally, the market may expect repeat acquirers to keep announcing new acquisitions leading to an anticipation effect (Cai, Song, and Walkling, 2011) that dampens investor reaction to the announcement.

Acquisitions announced by high-investment bidders generate significantly lower shareholder gains than those announced by low-investment bidders in the samples all first and all repeat acquisitions.

Consistent with the market learning hypothesis, lower abnormal returns around high-investment bidders' announcements suggest that, concurrent with the positive information about expected economic benefits, these acquisitions carry negative information about high-investment bidder's stand-alone prospects.

A closer look reveals that differential abnormal announcement returns in the overall samples of first and repeat acquirers arise in acquisitions financed by cash and mixed payment. In the subsample of stock-financed acquisitions differences among announcements of high- and low-investment firms are statistically insignificant.

[Insert Table 3 about here]

Next, we estimate multivariate regression models that investigate the determinants of shareholder gains around acquisition announcements. The analysis, shown in Table 4, includes different combinations of time, industry, and firm fixed effects. In columns (1) to (4) we employ market-to-book equity as the proxy for overvaluation of the acquirer's shares, while in columns (5) to (8) we employ Tobin's Q as a proxy for overvaluation of the entire firm.

The significantly positive intercept in all specifications confirms that corporate acquisitions tend to increase shareholder value and improve performance.

Our first key result is a significantly positive coefficient on the indicator variable for first acquisitions. When firms that followed an internal investment policy turn to implement an acquisition, they choose targets such that the combination of resources brings tangible economic benefits. These transactions also present a surprise to investors, therefore abnormal announcement returns are not dampened by investor anticipation.

The second important result is a significantly negative coefficient on bidders' net investment in every estimation specification. Our proxy for internal investment is the sum of capital expenditures and R&D less depreciation scaled by the firm's total assets. The distribution of this variable is positively skewed; hence we adjust it for the industry median. We report regression results with and without industry fixed effects to avoid potentially controlling for industry effects twice. The negative coefficient on net investment is consistent with the hypothesis that the market learns about the firm's internal investment opportunities from the acquisition announcement. When a firm that invested more than its industry peers in the past announces an acquisition, market participants revise the firm's stand-alone value downwards, because the choice to acquire rather than invest internally reveals an imminent decline in internal growth opportunities.

Regression specifications are robust to including an interaction term between net investment and the indicator for first acquisitions. This interaction is statistically insignificant therefore we omit it from the reported results.

We control for acquirer overvaluation by market-to-book equity and Tobin's Q in separate specifications to avoid multicollinearity. Market-to-book equity captures potential overvaluation of the bidder's shares, while Tobin's Q captures firm level overvaluation. The coefficient on both proxies is significantly negative. This result is consistent with the literature documenting that overvalued bidders tend to implement inferior acquisitions (Shleifer and Vishny, 2003).

We employ acquirer cash holdings as a second measure of agency conflict beyond repeat acquisitions. Harford (1999) points out that bidder cash reserves are positively associated with the likelihood of making value destroying acquisitions. We find a statistically significant negative coefficient on bidder cash reserves in regression specifications that use market-to-book as the proxy of overvaluation along with industry and year fixed effects. The coefficient becomes insignificant when we add firm fixed effects suggesting that changes in cash reserves within firms are not associated with lower announcement abnormal returns.

We do not find a statistically significant coefficient on the controls on acquirer operating profitability and leverage.

In accordance with Moeller, Schlingemann, and Stulz (2004) our analysis reports a significantly negative coefficient on the size of the acquirer, measured by the logarithm of total assets, likely because larger bidders tend to overpay more for the target.

Relative deal size, deal value over the market capitalization of the acquirer 11 days prior to the announcement, is significantly positively associated with announcement abnormal returns.

This result supports the view that larger transactions add more shareholder value when the acquisition is value-creating (Betton, Eckbo, and Thornburn, 2008).

In agreement with academic papers exploring the association between the method of payment and shareholder gains (e.g. Martin 1996, Faccio and Masulis, 2005), we find a statistically significant positive coefficient on cash payment and negative coefficient on stock payment. Stock financing is a critical characteristic of bidder overvaluation, therefore the negative coefficient further supports the finding that overvalued bidders make inferior acquisitions.

The corporate finance literature documents that diversifying acquisitions and acquisitions of public targets result in lower announcement returns. Our regression analyses also report a negative coefficient on these variables, indicating that our sample exhibits the same documented regularities.

[Insert Table 4 about here]

#### *4.2 Investment Policy and Target Choice*

The market-learning hypothesis suggests that high-investment firms often turn to acquisitions because their management foresees a future decline in the firm's internal investment opportunities. It follows that high-investment bidders are more likely to acquire targets with abundant internal investment opportunities to replenish diminishing stand-alone investments. We test this hypothesis on the subsample of 1,765 public targets, where Compustat information allows us to evaluate the target firm's investment policy.



In Panel A of Table 5, we compare the number and fraction of high- and low-investment public targets 635 first and 1,130 repeat acquisitions.

Remarkably, the figures indicate a strong match of the bidder's and target's investment policy: high-investment bidders choose high-investment targets in a significantly greater proportion than low-investment bidders and, conversely, low-investment bidders choose low-investment targets in a significantly greater proportion than high-investment bidders. This evidence highlights that bidder investment policy is an important consideration in the selection of the target firm.

Panel B of Table 5 reports the results of logistic regressions that predict the likelihood that a bidder chooses a high-investment target firm. All regressions include year and industry fixed effects and report standard errors clustered by firm.

We find a significantly positive coefficient on both the indicator variable for first acquisitions and bidder net investment. The first is consistent with the hypothesis that first bidders are likely choosing high-investment targets to replenish the pool of internal investment projects. The second reports that among both first and repeat acquirers, the greater the acquirer's internal investment, the higher the likelihood that it will choose a high-investment target.

Bidder overvaluation is not a decisive factor in the choice of high-investment targets, because the coefficients on market-to-book and Tobin's Q are not statistically significant. However, cash holdings are significantly positively associated with the choice of high-investment targets. The accumulation of cash also suggests a likely slack in valuable investment opportunities. We find a weak negative coefficient on leverage, consistent with the notion, that lower debt bidders tend to choose high-investment targets.

These novel findings expose that investment policy is an important determinant of the match between bidder and target. The extant literature has employed Tobin's Q and productivity to examine how bidders choose targets. Jovanovic and Rousseau (2002) propose that high-Q bidders buy low-Q targets. Rhodes-Kropf and Robinson (2008) document the opposite: mergers pair firms with a similar Tobin's Q. Yang (2008) documents that changes in productivity motivate acquisition activity. Our results reveal that bidders often choose targets with a corresponding investment policy. This finding not only supports the argument proposed by Rhodes-Kropf and Robinson (2008) that acquirers choose targets with similar valuations, but also explains why bidder and target Q values converge. Bidders with superior investment opportunities, and hence high investment and Tobin's Q, worry about the negative effects of slowing down; therefore, they acquire targets that promote future growth.

[Insert Table 5 about here]

#### *4.3 Investment Policy and Changes in Post-Acquisition Performance*

We examine whether differential abnormal returns among high- and low-investment bidders are justified ex post by differential post-acquisition operating performance. Table 6 presents comparisons of changes in net investment, Tobin's Q, market-to-book ratios and 12-month buy and hold abnormal returns among high- and low-investment bidders in the fiscal year that follows the effective year of the acquisition.

The results are striking. High-investment acquirers fare significantly worse in the post-acquisition year relative to the pre-acquisition year than low-investment acquirers in both first and

repeat acquisitions. High-investment bidders reduce internal investment, while low-investment bidders increase it. In light of the choice of high-investment targets, these figures imply that the target's investment projects could not fully replenish the decline in bidders' investment projects. High-investment bidders also experience greater declines in Tobin's Q and market-to-book, signifying worse changes in valuations. 12-month buy and hold abnormal returns indicate that stock price performance is worse among high-investment bidders.

Altogether, the evidence documents that lower shareholder gains surrounding high-investment bidders' acquisition announcements are justified by weaker post-acquisition performance.

[Insert Table 6 about here]

#### *4.4 Market Learning or Market Anticipation?*

Market anticipation is an alternative explanation that could cause lower shareholder gains around acquisition announcements by high-investment bidders. Cai, Song, and Walkling (2011) show that anticipated takeover bids are associated with significantly lower abnormal announcement returns than unanticipated bids. Market anticipation dampens announcement abnormal returns and weakens the connection between short-term gains and long-term wealth effects of the acquisition. If high-investment firms with an internal investment policy are more likely to implement acquisitions than their low-investment peers, market participants could anticipate the announcement and observed abnormal returns would not fully capture its wealth effects.

We investigate the association between a firm's investment policy and investor anticipation of acquisitions by a series of logistic regressions presented in Table 7. The samples include first and repeat bidders and their closest two industry-year peers based on size and market-to-book<sup>1</sup>. Since a firm's investment opportunities and market-to-book valuations are positively correlated, these samples allow a comparison of first bidders and non-bidding peers with similar internal investment opportunities.

The logistic regressions predict the likelihood that a firm pursuing a policy of internal investment announces an acquisition in a given fiscal year. We use two proxies to evaluate investment policy: the level of net investment (columns (1) and (3)) and an indicator variable that takes the value of one if the firm's net investment is above the industry median (columns (2) and (4)). We control for firm characteristics shown to impact acquisition propensity in the literature beyond industry, size, and market to book: operating profitability, cash reserves, and leverage.

[Insert Table 7 about here]

The results refute the hypothesis that high-investment firms' acquisition announcements would be anticipated. Among first bidders and their peers, net investment is unrelated to acquisition likelihood. Among repeat bidders and their peers' net investment is negatively related to the likelihood of an acquisition suggesting that firms that invest more internally than their closest

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<sup>1</sup> Due to overlapping peer observations, the size of the peer matched sample is lower than three times the size of the subsamples of first and repeat acquirers.

peers are less likely to implement acquisitions. These findings suggest that investors are unlikely to anticipate acquisition announcements from high-investment firms.

Among first bidders and their size and book-to-market matched industry peers cash reserves are reliable predictors of acquisitions. This finding is consistent with the importance of free cash flow in acquisition propensity (Jensen 1986, Harford 1999). However, in the sample of repeat bidders and their peers, cash is negatively and leverage is positively associated with acquisition propensity, suggesting that access to credit markets can take the place of cash to predict acquisitions as firms grow larger.

Next, we investigate the persistence of net investment to determine whether market participants are likely to anticipate that high-investment firms will continue to invest internally above their peers. Table 8 presents a series of multivariate OLS regressions among first and repeat acquirers and their size and market-to book matched industry peers. The dependent variable is net investment in the fiscal year that follows the completion of the acquisition. Independent variables include an indicator for first acquisitions, net investment, operating profitability, cash holdings, leverage, and size measured at the beginning of the year of acquisition completion.

The analysis indicates that net investment has strong persistence: the coefficient on past net investment is highly significant and positive in all specifications. Variation in net investment along with industry and year fixed effects explains approximately 40% of the variation in net investment in the year that follows the completion of acquisitions. As predicted by the market learning hypothesis, the coefficient on the indicator variable for acquisitions is highly significant and negative. This result implies that the change in investment policy is associated with lower future internal investment, hence lower stand-alone value.

[Insert Table 8 about here]

## **5. Conclusion**

This paper presents new empirical evidence indicating that acquisition announcements by firms who invest internally more than their peers result in downward adjustment to their stand-alone market values. In other words, a first acquisition by a high-investment bidder reveals to market participants that it likely faces a decline in its internal investment opportunities.

We show that firms that invest internally above their industry peers tend to pursue acquisitions when their set of internal investment projects start to contract. Despite the tendency to choose targets with abundant internal investment opportunities, these bidders experience worse post-acquisition performance than their low-investment peers: they reduce investment, experience more negative ex post stock returns, and greater decline in valuations.

Our results shed new light on the source of the stand-alone value loss documented in the corporate acquisition literature.

## Appendix: Variable Definitions

Variable	Definition
Abnormal Returns	CARs summed over three event days, starting one day before the announcement, over the returns predicted by the market model. The model is estimated over the 200-day period ending 20 days before the announcement of the acquisition.
Cash Holdings	The firm's holdings of cash and marketable securities, scaled by total assets.
Cash Payment Indicator	Equals 1 if 100% of the transaction was financed by cash.
Diversifying Merger Indicator	Equals 1 if the acquirer's primary Fama–French 48-industry group is different from the target's.
High-Investment Indicator	Equals 1 if the firm's net investment was greater than the median net investment in the firm's Fama–French 48 industry in the same fiscal year.
Industry	The industry grouping of the firm in a given fiscal year based on the 48 Fama–French (1992) industry categories. Public acquirers and public targets are assigned to industry categories based on their historical primary SIC code in Compustat, or their primary SIC code if the historical SIC code is not available. Private and subsidiary targets are assigned to industry categories on the basis of their primary SIC codes in the SDC database.
Log(Assets)	Logarithm of total book assets (in millions of dollars), constructed for each firm–year.
Leverage (Book)	Long-term debt over total assets firm–year, calculated from

	Compustat as dltt/at.
Market-to-Book Equity	Total market capitalization over the book value of equity, calculated from Compustat as (cshpri*prcc_f)/ceq.
Net Investment	The firm's capital expenditures and R&D expenses less depreciation, scaled by total assets constructed for each firm-year. Net investment is calculated from Compustat as (capx + xrd - dpc)/at.
Operating Return on Assets	Operating income over the book value of total assets, calculated from Compustat as ebitda/at.
Public Target Indicator	Equals 1 if the target is a publicly listed firm (Compustat match to SDC)
Relative Deal Size	Transaction value in the SDC database divided by the acquirer's market capitalization 11 days before the acquisition announcement.
Tobin's Q	Tobin's Q measured as the market-to-book ratio, following Adam and Goyal (2008): (equity market capitalization + preferred stock + debt in current liabilities + long term debt)/book value of total assets, calculated from Compustat as ((prcc_f*cshpri) + pstk + lct + dltt)/at.



## References

- Adam, T., and Goyal, V. K. (2008) The investment opportunity set and its proxy variables, *Journal of Financial Research* 31, 41–63.
- Amihud, Y., DeLong, G. L., and Golubov, A. (2013) Why bidders lose, Working paper.
- Bayazitova, D., Kahl, M., and Valkanov, R. (2012) Value creation estimates beyond announcement returns: Mega-mergers versus other mergers, Working paper.
- Betton, S., Eckbo, B. E., and Thornburn, K. S. (2008) Corporate takeovers, In: *The Handbook of Corporate Finance: Empirical Corporate Finance* (edited by Eckbo, E.) New York: Elsevier / North Holland.
- Bhagat, S., Dong, M., Hirshleifer, D., and Noah, R. (2005) Do tender offers create value? New methods and evidence, *Journal of Financial Economics* 76, 3–60.
- Boone, A. L., and Mulherin, H. J. (2007) How are firms sold? *Journal of Finance* 62, 847–875.
- Bradley, M., Desai, A., and Kim, E. H. (1983) The rationale behind interfirm tender offers: Information or synergy, *Journal of Financial Economics* 11, 183–206.
- Bradley, M., Desai, A., and Kim, E. H. (1988) Synergistic gains from corporate acquisitions and their division between the stockholders of the target and acquiring firms, *Journal of Financial Economics* 21, 3–40.
- Cai, J., Song, M. H., and Walkling, R. A. (2011) Anticipation, acquisitions, and bidder returns: Industry shocks and the transfer of information across rivals, *Review of Financial Studies* 24, 2242–2285.
- Dodd, P., and Ruback, R. (1977) Tender offers and stockholder returns: An empirical analysis, *Journal of Financial Economics* 5, 351–373.
- Faccio, M. and Masulis, R.W. (2005) The choice of payment in European mergers and acquisitions, *Journal of Finance* 60, 1345-1388.
- Fama, E. F., and French, K. R. (1997) Industry costs of equity, *Journal of Financial Economics* 43, 153–193.
- Fuller, K., Netter, J., and Stegemoller, M. (2002) What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions, *Journal of Finance* 57, 1763–1793.
- Gaspar, J.-M., Massa, M., and Matos, P. (2005) Shareholder investment horizons and the market for corporate control, *Journal of Financial Economics* 76, 135–165.

Harford, J. (1999) Corporate cash reserves and acquisitions, *Journal of Finance* 54, 1969–1997.

Hietala, P., Kaplan, S. N., and Robinson, D. T. (2003) What is the price of hubris? Using takeover battles to infer overpayments and synergies, *Financial Management* 32, 5–31.

Jensen, M. C. (1986) Agency costs of free cash flow, corporate finance, and takeovers, *The American Economic Review* 76, 323–329.

Jovanovic, B., and Braguinsky, S. (2004) Bidder discounts and target premia in takeovers, *American Economic Review* 94, 46–56.

Jovanovic, B., and Rousseau, P. L. (2002) The Q-theory of mergers, *American Economic Review* 92, 198–204.

Lang, L. H. P., and Stulz, R. M. (1994) Tobin's Q, corporate diversification, and firm performance, *The Journal of Political Economy* 102, 1248–1280.

Lang, L. H. P., Stulz, R. M., and Walkling, R. A. (1989) Managerial performance, Tobin's Q, and the gains from successful tender offers, *Journal of Financial Economics* 24, 137–154.

Malmendier, U., Moretti, E., and Florian, P. (2016) Winning by losing: Evidence on the long-run effects of mergers, NBER Working paper.

Malmendier, U., Opp, M. M., and Saidi, F. (2014) Cash is king – Revaluation of targets after merger bids, *Journal of Financial Economics* 119, 1–248.

Martin, K.J. (1996) The method of payment in corporate acquisitions, investment opportunities, and management ownership, *Journal of Finance* 51, 1227–1246

Masulis, R. W., and Swan, P. L. (2014) Do wealth creating mergers and acquisitions really hurt bidder shareholders? Working paper, University of New South Wales.

McCardle, K. F., and Viswanathan, S. (1994) The direct entry versus takeover decision and stock price performance around takeovers, *Journal of Business* 67, 1–43.

Miller, M. H., and Modigliani, F. (1961) Dividend policy, growth, and the valuation of shares, *Journal of Business* 34, 411–433.

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

Moeller, S. B., Schlingemann, F. P., and Stulz, R. M. (2005) Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave, *Journal of Finance* 60, 757–782.

Morck, R., Shleifer, A., and Vishny, R. W. (1990) Do managerial objectives drive bad acquisitions? *Journal of Finance* 45, 31–48.

Rhodes-Kropf, M., and Robinson, D. (2008) The market for mergers and the boundaries of the firm, *Journal of Finance* 63, 1169–1211.

Savor, P. G., and Lu, Q. (2009) Do stock mergers create value for acquirers? *Journal of Finance* 64, 1061–1097.

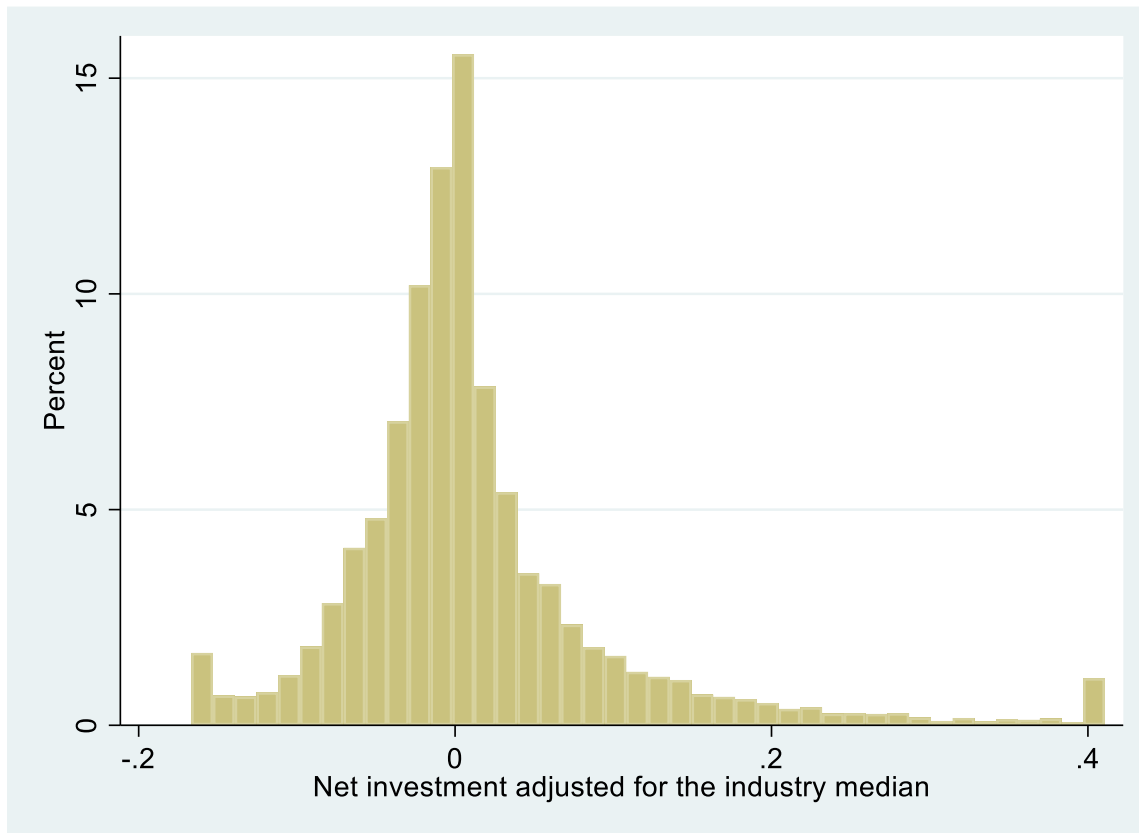
Servaes, H. (1991) Tobin's Q and the gains from takeovers, *Journal of Finance* 66, 409–419.

Shleifer, A., and Vishny, R. W. (2003) Stock market driven acquisitions, *Journal of Financial Economics* 70, 295–311.

Yang, L. (2008) The real determinants of asset sales, *Journal of Finance* 63, 2231–2262.

### Figure 1: Net Investment

This figure graphs the distribution of the acquirer's net investment adjusted for the industry median in the beginning of the fiscal year of the acquisition announcement. We classify industries by the Fama-French 48 categories. The sample includes 18,957 acquisition announcements between 1991 and 2020: 8,049 first bid announcements by firms that pursued an internal investment policy and 10,908 bid announcements by firms that were actively acquiring targets in the prior three years. Net investment is calculated as capital expenditures and R&D expenses over depreciation, scaled by the total assets of the firm and adjusted for the industry median. Net investment is winsorized at the first and 99th percentiles.



**Figure 2: High- and Low-Investment Acquirers, by Industry**

This chart reports the number of high- and low-investment acquirers by industry. Industry classifications follow the 48 Fama–French categories. The sample includes 18,957 acquisitions. High-investment (low-investment) acquirers have net capital expenditures in the fiscal year preceding the acquisition announcement above (below) the industry median calculated from Compustat.

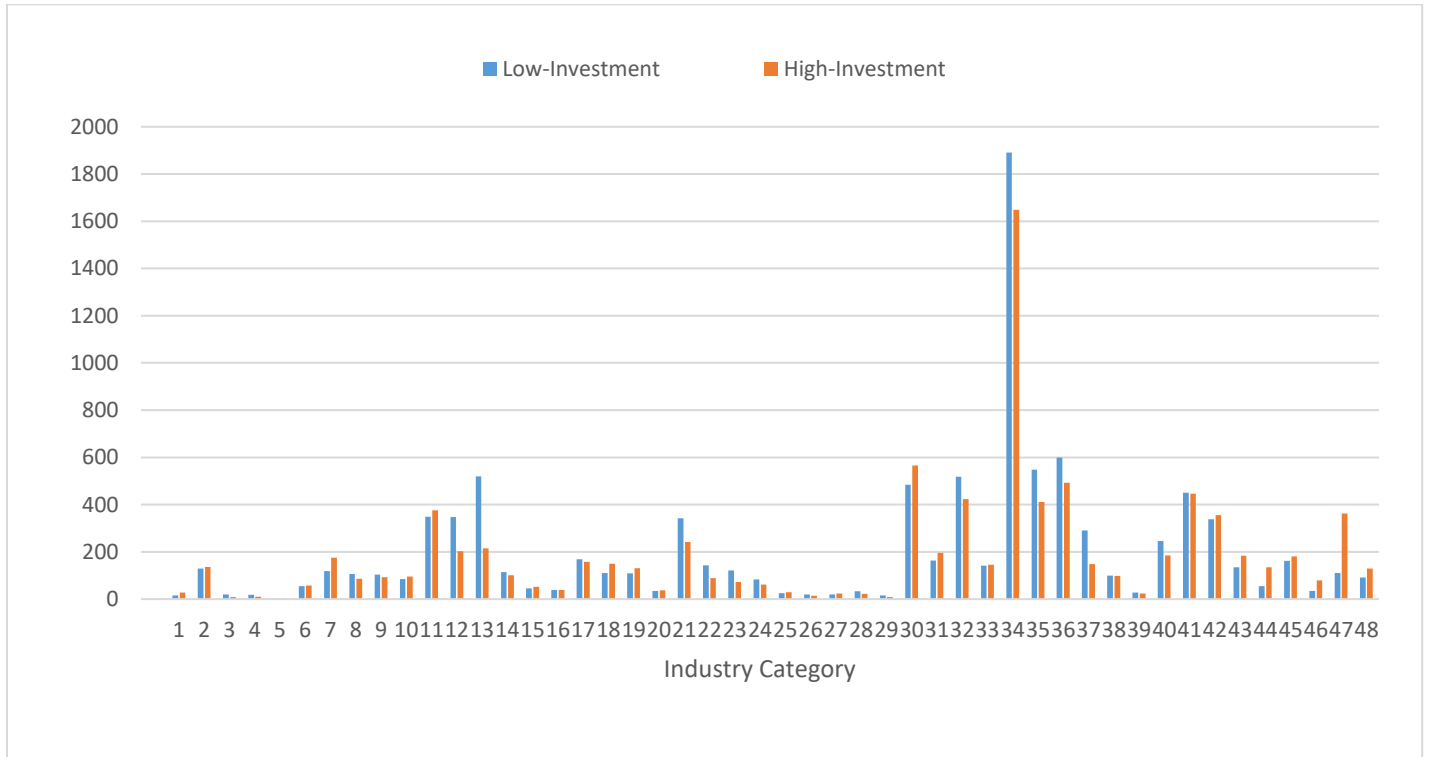


Table 1. Sample Selection

Database	Filtering criteria	Number of observations
SDC	US targets, minimum deal value \$1 million, non-missing deal value, date announced, acquiror ncusip	129,772
	Non-missing percent shares acquired or percent shares owned after	86,450
	Acquirer owns at least 50% after the acquisition	76,149
SDC-CRSP-Compustat	Match with CRSP and Compustat	30,831
	Target public, private, or subsidiary	29,668
	Non-missing industry codes	29,067
	Relative deal size greater than 1% of acquirer marketcap 11 days before the announcement	25,262
	Non-missing observations in key variables	18,957

## Table 2. Descriptive Statistics

This table reports means and medians for acquirer, target, and deal characteristics in 8,049 first acquisitions and 10,908 repeat acquisitions from 1991 to 2020. Median values are placed in parentheses, below the means. Firm characteristics are recorded at the beginning of the fiscal year of the acquisition announcement. An acquisition is classified as a first acquisition if it follows at least three years of internal investment, and as a repeat acquisition otherwise. Industry categories are based on the Fama–French 48 industries. Net investment refers to the difference between firm-level net capital expenditures and R&D, scaled by total assets and the industry–year median. High-investment (low-investment) acquirers are those whose net investment exceeded (was below) the median Compustat firm in the same industry–year. Tobin’s Q is calculated as the sum of equity market capitalization, preferred stock, debt in current liabilities, and long-term debt over the book value of the firm’s total assets. Market-to-book equity refers to the total market value of shares outstanding relative to the book value of common equity. Operating return on assets refers to EBITDA over the book value of the firm’s total assets. Leverage captures the ratio of total long-term debt to total assets. Cash holdings refer to cash and short-term securities over total assets. Relative deal size is the transaction value divided by the market capitalization of the acquirer 11 days before the acquisition announcement. Acquisitions are classified as cash (stock) payment transactions if the entire transaction value was paid in cash (stock), and mixed payment transactions otherwise. In diversifying acquisitions the primary industry of the target is different from the primary industry of the acquirer. Variables are winsorized at the first and 99th percentiles. *P*-values show the significance of the two-sided difference in the means test and the Wilcoxon rank-sum test among high- and low-investment acquirers and for first acquisitions versus repeat acquisitions. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	First	Low-	High-	p-value		Repeat	Low-	High-	p-value		p-value	
Net investment	1.85%	-4.00%	7.33%	0.00	***	0.74%	-4.18%	6.75%	0.00	***	0.00	***
(adj. for ind/ median)	(0.10%)	-(2.80%)	(3.93%)	(0.00)	***	-(0.30%)	-(2.87%)	(3.24%)	(0.00)	***	(0.00)	***
Tobin's Q	1.79	1.51	2.06	0.00	***	1.60	1.41	1.83	0.00	***	0.00	***
	(1.18)	(1.02)	(1.37)	(0.00)	***	(1.11)	(1.02)	(1.22)	(0.00)	***	(0.00)	***
Market-to-book	3.60	3.17	4.00	0.00	***	3.40	3.16	3.69	0.00	***	0.00	***
	(2.39)	(2.18)	(2.65)	(0.00)	***	(2.49)	(2.38)	(2.63)	(0.00)	***	(0.02)	***
Total assets (\$M)	2,979	3,015	2,945	0.79		3,518	3,749	3,237	0.03	**	0.00	***
	(235)	(250)	(221)	(0.31)		(521)	(536)	(495)	(0.21)		(0.00)	***
Equity MV (\$M)	2,639	2,511	2,758	0.20		3,423	3,304	3,568	0.16		0.00	***
	(321)	(292)	(351)	(0.00)	***	(634)	(594)	(674)	(0.00)	***	(0.00)	***
Operating ROA	7.2%	8.9%	5.6%	0.00	***	10.1%	10.2%	9.9%	0.18		0.00	***
	(10.97%)	(11.25%)	(10.58%)	(0.11)	***	(11.38%)	(11.36%)	(11.39%)	(0.96)		(0.00)	***
Leverage (book)	16.0%	18.3%	13.9%	0.00	***	22.3%	23.9%	20.4%	0.00	***	0.00	***
	(8.79%)	(12.25%)	(5.90%)	(0.00)	***	(19.41%)	(21.46%)	(16.03%)	(0.00)	***	(0.00)	***
Cash holdings	22.6%	18.1%	26.7%	0.00	***	15.6%	13.0%	18.8%	0.00	***	0.00	***
	(12.70%)	(9.61%)	(17.29%)	(0.00)	***	(7.34%)	(6.36%)	(9.48%)	(0.00)	***	(0.00)	***
Relative deal size	29.2%	32.7%	26.0%	0.00	***	20.7%	22.2%	18.9%	0.00	***	0.00	***
	(11.61%)	(13.40%)	(9.87%)	(0.00)	***	(7.67%)	(7.99%)	(7.24%)	(0.00)	***	(0.00)	***
% Financed by cash	25.1%	26.5%	23.9%	0.01	***	28.2%	29.3%	26.9%	0.01	***	0.00	***
% Financed by stock	17.3%	14.2%	20.1%	0.00	***	15.4%	14.0%	17.1%	0.00	***	0.00	***
% Mixed payment	57.6%	59.2%	56.0%	0.00	***	56.4%	56.7%	56.0%	0.45		0.10	*
% Public targets	12.2%	11.3%	13.0%	0.02	**	12.7%	12.5%	12.8%	0.58		0.35	
% Diversifying	39.3%	39.9%	38.8%	0.34		40.7%	41.2%	40.1%	0.26		0.05	**
Observations	8,049	3,891	4,158			10,908	5,996	4,912				



### Table 3. **Abnormal Announcement Returns and Acquirer Investment Policy**

This table presents the results of the univariate comparisons of three-day market model CARs in announcements of first and repeat acquisitions. Transactions are classified as first acquisitions if the bidder followed an internal investment policy for at least three years prior to the announcement, and as repeat acquisitions otherwise. Median values are below the means in parentheses. Model parameters are estimated over a 200-day period ending 20 days before the announcement. The proxy for market returns is the CRSP value-weighted index.

All of the reported CAR figures are significantly positive except CARs in repeat acquisitions, which are not significantly different from zero.

Transactions are grouped by payment categories: cash payments if the entire consideration was paid in cash, stock payment if the entire transaction was paid in acquirer shares, and mixed payments otherwise. CARs are winsorized at the first and 99th percentiles. The  $t$ - and  $z$ -statistics reflect the significance of the difference in means tests and the Wilcoxon rank-sum tests between high- and low-investment acquirers as well as first and repeat acquisitions. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	All	Low- investment	High- investment	p-value high/low		p-value first/repeat	
First acquisitions	1.80	2.17	1.46	0.00	***	0.00	***
	(0.83)	(0.95)	(0.70)	(0.00)	***	(0.00)	***
<i>Number of Observations</i>	8,049	3,891	4,158				
Cash payment	2.01	2.39	1.61	0.02	**	0.00	***
	(0.97)	(1.00)	(0.94)	(0.04)	**	(0.00)	**
<i>Number of Observations</i>	2,024	1,032	992				
Stock payment	1.04	1.59	0.67	0.11		0.01	***
	(0.07)	(0.13)	(0.00)	(0.33)		(0.09)	*
<i>Number of Observations</i>	1,390	554	836				
Mixed payment	1.94	2.22	1.67	0.03	**	0.00	***
	(0.92)	(1.10)	(0.75)	(0.02)	**	(0.00)	***
<i>Number of observations</i>	4,635	2,305	2,330				
Repeat acquisitions	0.98	1.21	0.70	0.00	***		
	(0.50)	(0.55)	(0.42)	(0.00)	***		
<i>Number of Observations</i>	10,908	5,996	4,912				
Cash payment	1.19	1.41	0.90	0.03	**		
	(0.72)	(0.79)	(0.58)	(0.08)	*		
<i>Number of Observations</i>	3,075	1,755	1,320				
Stock payment	0.13	-0.14	0.40	0.23			
	-(0.33)	-(0.62)	-(0.13)	(0.13)	*		
<i>Number of Observations</i>	1,683	841	842				
Mixed payment	1.12	1.45	0.71	0.00	***		
	(0.54)	(0.65)	(0.43)	(0.00)	***		
<i>Number of observations</i>	6,150	3,400	2,750				

#### Table 4. **Acquirer Investment Policy and Shareholder Gains**

This table reports the results of multivariate OLS analyses of the association among shareholder gains, acquirer investment policy, and overvaluation. The dependent variable is 3-day shareholder gains measured by market model cumulative abnormal returns (in percent) around the acquisition announcement. Results are robust to alternative measures of shareholder gains: 3-day cumulative abnormal returns above the market return and those over the three Fama-French factor returns.

Our sample is described in Table 2. Appendix A provides variable definitions and sources. Model parameters are estimated over a 200-day period ending 20 days before the announcement. Market returns are gauged by the CRSP value-weighted index.

The indicator variable for first acquisitions equals one if the announcement follows an internal investment period of at least three years and zero otherwise. Net investment is adjusted for the industry-year median.

Industry categories are based on the Fama-French 48 industry classification. Results are robust to alternative industry classifications: two-digit SIC and NAICS codes.

We employ market to book as a proxy for stock overvaluation in columns (1)-(4) and Tobin's Q as a proxy for firm overvaluation in columns (5)-(8).

Variables are winsorized at the 1st and 99th percentiles. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	3.75 (0.01)	*** 3.23 (0.00)	*** 3.04 (0.06)	* 4.13 (0.00)	*** 3.91 (0.00)	*** 3.41 (0.00)	*** 2.80 (0.51)
First deal	0.42 (0.00)	*** 0.45 (0.00)	*** 0.41 (0.00)	*** 0.41 (0.00)	*** 0.41 (0.00)	*** 0.44 (0.00)	*** 0.41 (0.00)
Net investment	-1.91 (0.01)	*** -1.93 (0.00)	*** -4.24 (0.00)	*** -4.02 (0.00)	*** -1.65 (0.01)	*** -1.72 (0.01)	*** -3.91 (0.00)
Market-to-book equity	-0.03 (0.03)	** -0.03 (0.03)	** -0.04 (0.02)	** -0.04 (0.01)	***		
Tobin's Q					-0.15 (0.00)	*** -0.15 (0.00)	*** -0.21 (0.00)
Cash holdings	-0.78 (0.02)	** -0.85 (0.01)	*** 0.51 (0.41)	0.57 (0.36)	-0.54 (0.13)	-0.54 (0.10)	* 0.80 (0.21)
Operating ROA	-0.31 (0.45)	-0.12 (0.76)	-0.31 (0.69)	-0.32 (0.68)	-0.11 (0.78)	0.08 (0.85)	0.10 (0.90)
Leverage	0.48 (0.17)	0.28 (0.38)	0.27 (0.66)	0.29 (0.63)	0.28 (0.41)	0.11 (0.74)	0.02 (0.97)
Total assets (log)	-0.36 (0.00)	*** -0.37 (0.00)	*** -0.53 (0.00)	*** -0.52 (0.00)	*** -0.37 (0.00)	*** -0.38 (0.00)	*** -0.57 (0.00)
Relative deal size	2.42 (0.00)	*** 2.44 (0.00)	*** 2.20 (0.00)	*** 2.22 (0.00)	*** 2.38 (0.00)	*** 2.39 (0.00)	*** 2.18 (0.00)
Cash payment	0.65 (0.00)	*** 0.67 (0.00)	*** 0.63 (0.00)	*** 0.63 (0.00)	*** 0.64 (0.00)	*** 0.67 (0.00)	*** 0.62 (0.00)
Stock payment	-0.52 (0.00)	*** -0.54 (0.00)	*** -0.46 (0.03)	** -0.45 (0.03)	** -0.44 (0.01)	*** -0.47 (0.01)	*** -0.39 (0.07)
Diversifying	-0.28 (0.03)	** -0.25 (0.03)	** -0.43 (0.01)	*** -0.43 (0.01)	*** -0.27 (0.03)	** -0.26 (0.03)	** -0.43 (0.01)
Public target	-2.42 (0.00)	*** -2.43 (0.00)	*** -2.47 (0.00)	*** -2.48 (0.00)	*** -2.42 (0.00)	*** -2.42 (0.00)	*** -2.48 (0.00)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acquirer industry FE	Yes	No	Yes	No	Yes	No	No
Firm FE	No	No	No	No	Yes	Yes	Yes
Number of observations	18,957	18,957	18,957	18,957	18,957	18,957	18,957
Adjusted R-squared	0.044	0.044	0.035	0.031	0.045	0.044	0.409

**Table 5. Acquirer Investment Policy and Target Choice**

This table examines the association between investment policy and the choice of target firm. The subsample includes 1,765 acquisitions of public targets between 1991 and 2020.

High-investment (low-investment) bidders and targets are firms whose net investment exceeded (was below) than the industry median in the prior fiscal year. Panel A presents univariate comparisons of high- and low-investment bidders who choose high- and low-investment targets in first and repeat acquisitions. Panel B presents a series of logistic regressions predicting the likelihood of choosing a high-investment target in a public target acquisition. The dependent variable takes the value of one if net investment in the target firm was greater than the industry median in the previous fiscal year.

Variables are lagged and winsorized at the first and 99th percentiles. Standard errors are clustered at the firm level. The p-values are in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Number and proportion of high- and low-investment targets, by acquirer investment policy

	All	High-investment acquirer	Low-investment acquirer
First acquisitions of public targets	635	350	285
# High-investment targets	364	242	122
% High-investment targets	57%	69%	43%
# Low-investment targets	271	108	163
% Low-investment targets	43%	31%	57%
Repeat Acquisitions of Public Targets	1130	537	593
# High-investment targets	552	323	229
% High-investment targets	49%	60%	39%
# Low-investment targets	578	214	364
% Low-investment targets	51%	40%	61%

Panel B: Logistic Regressions Predicting the Likelihood of Selecting a High-Investment Public Target Firm

The dependent variable takes the value of 1 if net investment at the public target exceeded the industry median in the previous fiscal year.

	(1)		(2)		(3)	
Intercept	0.97		0.71		0.71	
	(0.48)		(0.62)		(0.62)	
First deal indicator	0.28	***	0.22	**	0.22	**
	(0.01)		(0.05)		(0.05)	
Net investment	6.85	***	5.94	***	5.97	***
	(0.00)		(0.00)		(0.00)	
Market to book			0.00			
			(0.88)			
Tobin's Q					-0.01	
					(0.85)	
Acquirer operating return on assets			-0.29		-0.25	
			(0.54)		(0.61)	
Cash holdings			1.21	***	1.24	***
			(0.00)		(0.00)	
Leverage (market)			-0.59	*	-0.59	*
			(0.09)		(0.09)	
Total Assets (log)			0.04		0.04	
			(0.28)		(0.29)	
Year FE	Yes		Yes		Yes	
Acquirer Industry FE	Yes		Yes		Yes	
Number of Observations	1,765		1,765		1,765	
Pseudo-R-Squared	0.13		0.13		0.13	

**Table 6. Investment Policy and Post-Acquisition Changes in Investment and Valuation**

This table reports changes in net investment, Tobin's Q, and the market-to-book ratio in fiscal year  $t + 1$  relative to fiscal year  $t - 1$  among high- and low-investment bidders along with 12-month buy and hold abnormal returns following the effective date of the acquisition. Median values are in parentheses, below the means. The  $t$ - and  $z$ -statistics reflect the significance of the difference in means tests and the Wilcoxon rank-sum tests between high- and low-investment acquirers. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

First bidders	All	High-investment	Low-investment	p-value high/low	p-value first/repeat		
Change in net investment	-0.7%	-2.6%	1.4%	0.00	***	0.22	
	-0.3%	-1.3%	0.4%	0.00	***	0.76	
Change in Tobin's Q	-0.46	-0.55	-0.35	0.00	***	0.35	
	-0.18	-0.24	-0.12	0.00	***	0.49	
Change in market-to-book equity	-0.71	-0.88	-0.52	0.01	***	0.76	
	-0.23	-0.32	-0.15	0.00	***	0.00	***
12-month BHAR	-1.9%	-2.1%	-1.7%	0.77		0.01	***
	-10.3%	-11.5%	-8.9%	0.03	**	0.74	
<i>Number of observations</i>	8,042	3,885	4,157				
Repeat bidders	All	High-investment	Low-investment	p-value high/low			
Change in net investment	-0.9%	-3.1%	1.0%	0.00	***		
	-0.2%	-1.4%	0.4%	0.00	***		
Change in Tobin's Q	-0.43	-0.56	-0.33	0.00	***		
	-0.20	-0.26	-0.15	0.00	***		
Change in market-to-book equity	-0.73	-0.80	-0.68	0.23			
	-0.34	-0.40	-0.29	0.00	***		
12-month BHAR	-4.0%	-5.3%	-2.8%	0.02	**		
	-9.3%	-10.8%	-8.0%	0.00	***		
<i>Number of observations</i>	10,899	5,992	4,907				

**Table 7: Investment Policy and Merger Anticipation**

The table reports results of logistic regressions predicting the likelihood that a firm that invests internally will announce an acquisition.

The sample in models (1) and (2) includes first bidders and a propensity score–matched sample of non-bidding industry peers based on size and the market to book. The sample in models (3) and (4) includes repeat bidders and a propensity score–matched sample of non-bidding industry peers based on size and market to book.

Both samples include Compustat firm–year observations between 1991 and 2020. Appendix A provides variable definitions and sources. Independent variables are measured at the beginning of the fiscal year of the acquisition announcement.

Variables are lagged and winsorized at the first and 99th percentiles. Standard errors are clustered at the firm level. P-values are shown in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

The dependent variable takes the value of one if the firm announces a bid in the current fiscal year.							
	First bidders vs. non-bidders matched on size, market to book, and industry				Repeat bidders vs. non-bidders matched on size, market to book, and industry		
	(1)		(2)		(3)		(4)
Intercept	-0.60	**	-0.58	**	-0.01		0.06
	(0.04)		(0.05)		(0.97)		(0.87)
Net Investment	-0.18				-0.77	***	
	(0.19)				(0.00)		
High Net Investment Indicator			-0.04				-0.19
			(0.16)				(0.00)
Operating Return on Assets	0.11	*	0.12	**	0.02		0.07
	(0.10)		(0.05)		(0.77)		(0.33)
Cash Holdings	0.67	***	0.67	***	-0.44	***	-0.42
	(0.00)		(0.00)		(0.00)		(0.00)
Leverage (Book)	0.06		0.06		1.14	***	1.11
	(0.46)		(0.50)		(0.00)		(0.00)
Year FE	Yes		Yes		Yes		Yes
Acquirer Industry FE	Yes		Yes		Yes		Yes
Observations (dep. var. = 1)	8,049		8,049		10,908		10,908
Observations (dep. var. = 0)	16,638		16,638		16,122		16,122
Pseudo-R-Squared	0.012		0.012		0.027		0.027



**Table 8. Persistence of Net Investment**

This table reports OLS estimation results of net investment in fiscal year  $t + 1$  where  $t$  refers to the effective year of the completion of the acquisition. First and repeat bidders are matched to industry peers on size and market to book. The sample in models (1) and (2) includes first bidders and peers, while the sample in models (3) and (4) includes repeat bidders and peers in the period between 1991 and 2020.

The indicator variable for acquisitions takes the value of one if the firm completed an acquisition in the current fiscal year. Appendix A provides variable definitions and sources. Independent variables are measured at the beginning of the fiscal year of the acquisition announcement.

Variables are lagged and winsorized at the first and 99th percentiles. Standard errors are clustered at the firm level. The p-values are in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable: Net Investment ( $t + 1$ )											
	First bidders and non-bidders matched on size, market to book, and industry						Repeat bidders and non-bidders matched on size, market to book, and industry				
	(1)	(2)	(3)	(4)	(5)	(6)					
Intercept	0.02 (0.17)	0.02 (0.13)	0.02 0.23	-0.02 (0.20)	-0.01 (0.26)	-0.03 (0.05)					**
Acquisition Indicator		-0.01 (0.00)	*** (0.00)	-0.01 (0.00)	*** (0.00)	-0.004 (0.00)	*** (0.00)	-0.002 (0.10)			*
Net Investment	0.56 (0.00)	*** (0.00)	0.56 (0.00)	*** (0.00)	0.52 (0.00)	*** (0.00)	0.54 (0.00)	*** (0.00)	0.54 (0.00)	*** (0.00)	***
Operating ROA				-0.01 (0.02)	** (0.02)	0.002 (0.55)					
Cash Holdings				0.09 (0.00)	*** (0.00)	0.09 (0.00)					***
Leverage (Book)				0.00 (0.89)		0.00 (0.18)					
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Fiscal Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Number of Observations	24,687	24,687	24,687	24,687	27,030	27,030	27,030	27,030	27,030	27,030	
Adjusted R-Squared	0.41	0.41	0.43	0.43	0.39	0.39	0.39	0.39	0.41	0.41	

