

## Cosmetic Mergers:

### The Effect of Style Investing on the Market for Corporate Control

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#### Abstract

We study the impact of style investing on the market for corporate control. We argue that a firm may choose to boost its market value by merging with a firm that belongs to a style that is more favored by the market. By using data on the flows in mutual funds, we construct a measure of neglectedness, which relies directly on the identification of sentiment-induced investor demand, rather than being a direct transformation of stock market data. We show that bidders tend to pair with targets that are relatively less neglected. The merger with a less neglected target generates a halo effect from the target to the bidder that induces the market to evaluate the assets of the more neglected bidder at the (inflated) market value of the less neglected target. Both bidder and target premia are positively related to the difference in neglectedness between bidder and target. However, the target's ability to appropriate the gain is reduced by the fact that its bargaining position is weaker when the bidder's potential for asset appreciation is higher. We document a better medium-term performance of more neglected firms taking over less neglected firms. The bidder managers engaging in these cosmetic mergers take advantage of the window of opportunity created by the higher stock price induced by the M&A deal to reduce their stake in the firm under convenient conditions.

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## Introduction

In this paper, we study how the way in which investors allocate their assets according to styles affects the market for corporate control and generates a new rationale for mergers: the use of the merger as a way for a firm to attract investors in different styles. A firm may boost its value by merging with another firm that has a style that is more favored by the market.

Let us consider an example. As investors are attracted by “new economy” firms, they will be less interested in investing in “old economy” firms. What can an old economy firm do in order to increase its value? Increasing profitability will hardly help: investors will respond to the increased cash flow with a higher discount rate. In fact, during the dot.com frenzy, negative cash flow was perceived as a positive signal. A firm can try to persuade shareholders that it has become a new economy firm itself, that is, demonstrate that it has acquired the characteristics that attract the market to new economy firms.

This cosmetic process can be engineered either by changing the entire business plan of the firm or by simply merging with a firm that already has those characteristics. The second option has the advantage of being quick.<sup>2</sup> The merger produces a halo effect that spreads from the less neglected target to the more neglected bidder. We call mergers intended to change the firm’s investor appeal cosmetic mergers. Neglected firms resort to cosmetic mergers to boost their sagging price, while firms temporarily favored by the market use them to maintain price momentum.

This rationale for mergers has not been considered in the literature. M&A activity has been explained in terms of industrial, financial or asset-based synergies. Alternatively, managerial overconfidence, hubris or the desire to time the market to exploit the temporary overvaluation of the bidder have been cited. We consider other cases, situations in which firms take over others that are more in favor with the markets in order to improve — at least temporarily — their own value.

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<sup>2</sup> This idea is similar to the way firms change their names to appeal to new investors (Cooper, Dimitrov and Rau, (2005), Cooper, Gulen and Rau, (2005)).

The starting point is the fact that investors suffer from “coarse thinking” and “evaluate various proposition or objects using representativeness and categorization... Instead of having different models for different situations, individuals may be applying one generic model for all situations in the same category” (Mullanaithan and Shleifer, 2006). This implies that investors evaluate stocks on the basis of the styles to which they belong to—e.g., growth stock—as opposed to the fundamentals of the firms (e.g., Barberis and Shleifer, 2004, Teo and Woo 2004, Frazzini and Lamont, 2005). In doing this investors affect stock market valuations, as they favor some styles at the expense of others. The stocks of firms belonging styles that are out of favor with investors will be neglected and have depressed values. Firms belonging to styles favored by investors will see their quotations soar.

Managers take note of this style-based segmentation and in order to boost their stock price maneuver to be perceived as part of a favored style by merging with a favored firm. Indeed, if the market perceives the newly-merged entity as having the style of the less neglected target, the merger will increase the market value of the bidder’s assets.

Based on these concepts, we suggest five testable restrictions. First, we expect bidders to approach firms that are relatively less neglected than themselves. Second, bidders acquiring less neglected targets will experience an increase in investor holdings and asset appreciation, and this is a direct function of the difference in neglectedness between them and their targets.

The third restriction links the allocation of the value created by the deal between the bidder and the target to the slope of the market demand for the target stock. We argue that a target’s lower degree of neglectedness has two effects: on the one hand, if the deal goes through, it increases the appreciation of the bidder’s assets. On the other hand, it makes it more painful for the target to turn down the offer price. Indeed, by selling in the market the target will depress the price of the stock. This weakens the target’s bargaining position. The less neglected the target, the higher the loss and the more its shareholders will affect the market by selling — i.e., the greater the slope of the demand of the stock — so the impact of

the difference in neglectedness between bidder and target on the offer premium will depend negatively on the slope of the market demand for the target's stock.

The fourth restriction deals with the long run. Short- and medium-term performance should be positively related to the difference in neglectedness between bidder and target. Firms that merge with less neglected firms should see a price increase (or prevent a price drop) when compared to otherwise similar and equally neglected firms that do not engage in M&As. If, as the literature amply demonstrates, the style-based misevaluation is only temporary, the higher price should mostly be concentrated in the short or medium term.

Finally, we argue that firms that engage in these deals have managers with short-term horizons who are highly sensitive to stock prices. Managers with high equity-based compensation are most likely to bid for a less neglected target and take advantage of the window of opportunity of stock price relief to unload their shares on convenient terms.

We can measure style-based investor sentiment by focusing on the flows in and out of fund styles and relate this sentiment to different stocks by examining the holdings of mutual funds. Using data on the flows of mutual funds in different styles, we construct a measure of neglectedness that is not a direct transformation of stock market prices, but which relies directly on the identification of the sentiment-induced investor demand (dumb money). Following Frazzini and Lamont (2005), we construct indexes of neglectedness for each firm, depending on the specific investment style to which it belongs. The flow of mutual funds in the style is a variable directly observable by both the firm's managers and an econometrician. Moreover, from the perspective of the firm, it is a reasonably exogenous variable. We characterize firms on the basis of their index of neglectedness prior to a takeover announcement. Neglected firms belong to styles that experience lower demand from investors, while favored firms belong to styles much in demand by investors.

We show that the pairing between bidder and target is a direct function of their difference in neglectedness, that is, bidders tend to approach relatively less neglected targets. This is especially true if the managers of the bidding firm have a stronger equity-based compensation.

In general, an increase in the difference in neglectedness of one standard deviation raises by 12% the probability that a bidder will approach a less neglected target. This figure rises to 21% if the bidder's managers receive a high equity-based compensation.

The difference in neglectedness between the bidder and the target also affects investor holdings and market reaction to the deal. The higher the difference in neglectedness, the higher the investor holdings in the firm and the lower the discount faced by the bidder. A one standard deviation increase in the difference of neglectedness between the bidder and the target raises the bidder premium (reduces the bidder discount) by 13% and is related to a 28% increase in the positions of the mutual funds holding the bidder. This increase is net of the mechanical increase due to the merge with the target.

We then calculate how much of the value generation is due to synergy and how much is due to raising the market valuation of the bidder's assets to the level of the less neglected target. A one standard deviation increase in the difference in neglectedness between bidder and target increases the value of the bidder's assets by around 9%. This result is robust to control for alternative determinants such as synergies, standard measures of overvaluation of the stock and characteristics of the deal. The positive relation between the short-term change in bidder value and the difference in neglectedness between bidder and target can be explained by the value of the more neglected bidder's assets rising to the level of the less neglected target, as opposed to the less neglected bidder's price dropping to the level of the more neglected target. That is, the market reacts positively, increasing the bidder's value if the target is less neglected than the bidder.

Also, in line with our hypothesis, the impact of the difference in neglectedness between bidder and target on the offer premium (e.g., Officer (2002)) depends on the slope of the market demand for the target stock. The target's bargaining position is weaker if the demand for its stock is less elastic, as it can appropriate less of the increase in value of the bidder's assets following the merger.

What are the long-term implications of this? The effect on the bidder's price is mostly concentrated in the medium term (one to two years). Bidders that take over relatively less neglected targets deliver a significantly high net-of-risk return. For a three-year horizon, the abnormal performance is 39 bp per month. Moreover, these companies significantly outperform otherwise similar (in terms of size, book-to-market and industry) and equally neglected or favored firms that do not engage in M&A deals. The overperformance can be as high as 80 bp per month over a holding period of one year. It declines to 65 bp per month over 24 months and 49 bp over 36 months.

The fact that the overperformance is mostly medium-term is consistent with the finding that managers who engage in such activity seem to have a short horizon and to be highly sensitive to stock price. Indeed, there is a positive correlation between managers who have an equity-based compensation and the takeover of less neglected firms. The same managers also sell shares in the firms immediately after the deal, that is, they take advantage of the window of opportunity offered by the M&A deal to reduce their stake in the firm under convenient conditions.

Our results make several contributions to the literature. First, they provide a different rationale for M&A activity from the standard views. M&As are usually justified on either rational or behavioral bases. Rational models (e.g., Harford, (2005)) explain M&As in terms of industrial, financial or asset-based synergies. Mergers are explained in terms of economies of scale or scope. Behavioral theorists argue that mergers are due to manager overconfidence (Malmendier and Tate, (2005)) or hubris (Roll, (1986)). Stock market (over)valuation of the bidder has also been widely cited as one of the main factors in M&As. Shleifer and Vishny (2003) show that, in an irrational stock market, rational managers take advantage of market misvaluations and use their overvalued equity to take over hard assets. There may be no synergy: mergers take place because of pure misvaluation. Overvalued firms initiate equity-financed M&A to exploit their temporary overvaluation. Rhodes-Kropf and Vishwanathan (2004) show that, even in the case of rational markets, a correlation between stock merger activity and market valuation may be induced when the market deviates from fundamental

values. We shed some light on other cases: firms that take over the darlings of the markets in order to improve their own valuation. No irrationality is assumed on the part of the managers, and M&A is the optimal reaction given the market conditions. This reaction is independent of industrial or financial synergies.

Second, our results are directly related to the question raised by Jensen (2004) about the “consequences of a company’s stock price becoming overvalued.” Indeed, while we know alternative ways for managers to come out of situations where their firms are undervalued, little is known about the way firms deal with having their shares overvalued. A cosmetic merger allows the manager of a favored firm to prolong the overvaluation of his firm.

Third, our results provide an investigation of the impact of style investing and asset categorization on corporate behavior and on the market for corporate control. Investors tend to invest according to styles (Barberis and Shleifer, 2004, Teo and Woo, 2004, Frazzini and Lamont, 2005). We show that firms exploit this through cosmetic mergers that allow them to alter their standing with investors.

Fourth, our results are directly related to Baker and Wurgler’s (2000, 2003a, 2003b) findings about how firms cater to investor sentiment. The decision to initiate a cosmetic merger can be seen as an effort to cater to the prevailing market that favors some firms at the expense of (neglected) others.

Fifth, our approach allows us to estimate firm reaction to market sentiment without trying to measure the degree of firm misevaluation on the basis of prices or accounting data. Indeed, measuring misevaluation by focusing on the post-event long-run abnormal stock returns has the drawback of turning the analysis of the deal into a joint test of misevaluation and market efficiency (Fama, 1998, Daniel, Hirshleifer and Teoh, 2002, Mitchell and Stafford, 2000). Instead we focus on a measure of firm misevaluation rather than relying on accounting variables, exploiting the information power of the flows of mutual funds.



Sixth, our results show that the split in the value created by the deal between the bidder and the target is a function of market sentiment, depending on the demand for stocks and its dynamics.

Finally, our results have implications for the debate on short-termism that surrounds the U.S. system of corporate governance. We show that managers' horizons and the type of compensation they receive have a direct bearing on the incentive to initiate an M&A. If M&As are aimed at short-term price enhancement, this raises the question of their validity as governance mechanisms and gives credence to arguments in the popular press, which sees them as purely financial gimmicks.

The remainder of our paper develops as follows. In Section 2 we present a simple model and lay out our main testable hypotheses. Section 3 describes the data and constructs the variables we use. Section 4 focuses on choice of partner in M&A deals. Section 5 discusses empirical testing issues and analyzes the short-term change in value of the bidder. Section 6 focuses on the bargaining allocation of the target. Section 7 looks at the bidder's long-term performance. Section 8 discusses our findings, interpreting them on the basis of the managerial trading behavior around the deal. We end with a brief conclusion.

## 2. Main Hypotheses and Testable Propositions

In this section, we provide some testable hypotheses on the link between the degree of market neglectedness of a firm and the market for corporate control. We suggest a simple explanation and build on a model by Shleifer and Vishny (SV) (2003). We consider two firms, the bidder ( $B$ ) and the target ( $T$ ) with capital stocks  $K_B$  and  $K_T$ . The market valuation per unit of capital is, respectively,  $Q_B$  and  $Q_T$ . We assume that  $Q_B$  and  $Q_T$  do not reflect efficient valuations of these firms, but rather investor sentiment about the styles to which they belong. Where the firm is properly valued, its value would coincide with the fundamentals (i.e.,  $K_B$  and  $K_T$ ). We describe below what we mean by sentiment and how it could be proxied. For now, we just assume, as SV, that "investor sentiment affecting valuations can but need not be idiosyncratic:

it may reflect over- or under-valuations of entire industries, styles, or groups of firms with similar characteristics.”

If the deal goes through there are two drivers of value creation: synergies and the change in value of the bidder’s assets. Synergies ( $Syn$ ) can be industrial or financial. The change in value of the bidder’s assets is defined as  $(\alpha Q_T - Q_B)K_B$ . In particular,  $K_B Q_B$  is the value of the bidder’s assets before the deal and  $\alpha K_B Q_T$  is the value of bidder’s assets after the deal. The difference between the two values represents the increase in value of the bidder’s assets due to a change in the valuation per unit of capital.  $\alpha$  proxies for the degree to which the deal will induce the bidder’s assets to be evaluated at the value of the target. If  $\alpha = 1$ , the market valuation per unit of capital of the bidder’s assets will be of the same as the target’s. Without loss of generality we assume  $\alpha = 1$  throughout our analysis.

Let’s look at the economic intuition. We assume that the bidder is/belongs to a style that is neglected by the market, while the target is/belongs to a style that is a darling of the market. If the deal goes through and the market decides that the new entity will be similar to the target, the new entity will be evaluated by assuming a value per unit of capital equal to that of the target. In other words, the source of value creation is merely the capital market’s “reategorization” of the bidder to the style of the target. It is not related to any industrial, financial or asset-based synergy in the merger. The overall valuation of the two firms is:

$$V = (K_B + K_T)Q_T + Syn - Cost, \quad (1)$$

where  $Cost$  represents the costs related to executing the deal as well as merging the two entities. This implies that the *total gain* from the deal is:

$$\Delta V = K_B (Q_T - Q_B) + Syn - Cost. \quad (2)$$

This consists of two positive components and the cost of the deal. The two components are the synergies ( $Syn$ ) and the increase in value of the bidder’s assets ( $K_B (Q_T - Q_B)$ ). In line

with SV, *in the long run*, the temporary misevaluation of the target/bidder will disappear.<sup>3</sup> In other words, the only long-term gains from the merger are the synergies. However, “long-term” in this context relates to the length of time that the misevaluation of the target’s style persists. The longer the market favors the style, the longer the positive gain from the merger.

More neglected firms may want to merge with less neglected firms to become attractive to the financial markets, while relatively less neglected firms may want to merge with similar companies to maintain their price momentum. This implies that the key tests will be not on the absolute level of neglectedness of either the target or the bidder, but on the relative difference between the two. We therefore define a new variable  $Diff = Q_T - Q_B$ .

Now let’s consider the bidder’s decision. For simplicity we standardize  $Q_B = 1$  and let  $K_T = K_B = 1$ . The profits of the bidder are:

$$\Pi_B = Syn + Diff - [Off - (1 + Diff)(1 - \beta)] - Cost, \quad (3)$$

where  $Off$  is the offer price the bidder pays the target shareholders. Equation (3) says that the bidder’s profits are made of two positive components—the synergies ( $Syn$ ) and the increase in value that the bidder’s assets will gain from the deal ( $Diff$ )—and two negative ones—the compensation given to target shareholders for parting with their shares ( $[Off - (1 + Diff)(1 - \beta)]$ ) and the cost of the deal ( $Cost$ ). The shareholders’ compensation is equal to the difference between the offer price ( $Off$ ) and the value that the target’s assets would have if the bidder decided to sell them ( $[(1 + Diff)(1 - \beta)]$ ), that is, the market value of the assets less a discount due to the market impact the bidder would face if he had to liquidate his position in the market. The more “demand slopes down” (Shleifer, 1986, Shleifer and Vishny, 1997) (i.e., the higher  $\beta$ ), the higher the impact will be of selling the position in the market. The other negative component is the cost of the deal. Now, what about the target? The target’s profit is:

$$\Pi_T = Off - (1 + Diff)(1 - \beta). \quad (4)$$

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<sup>3</sup> That is, in the long run ( $Q_T=Q_B=1$ ). Thus, in the long term, the target as a stand-alone entity is worth  $K_T$ , while the bidder is worth  $K_B$ , and the combination is worth  $(K_T + K_B) + Syn - Cost$ .

The profit is equal to the amount the target gains by receiving a larger sum (the offer price  $Off$ ) than he would get if he sold in the market  $((1+Diff)(1-\beta))$ . The latter is the current (potentially overvalued) market value  $(1+Diff)$  less the fraction lost due to the market impact of selling shares  $((1+Diff)\beta)$ . The impact is related to the sensitivity of demand to sales ( $\beta$ ) —i.e., to the slope of the demand for stock.

The bidder selects a target on the basis of the difference in neglectedness between itself and the target ( $Diff$ ) as well as the potential synergies ( $Syn$ ). His goal is to maximize his profit after splitting the surplus with the target. We solve this by backward induction. First, we determine the offer price. The Nash bargaining solution is:

$$Off = (1+Diff)(1-\beta) + \frac{1}{2}[Diff + Syn - Cost]. \quad (5)$$

The offer premium compensates the target for what he would get for his assets if he sold them in the market  $((1+Diff)\beta)$  by allowing him to appropriate half of the value creation.

Let us now define formally the bidder's decision process. For simplicity we specify a quadratic cost function:  $Cost = c_a[Diff]^2 + c_s Syn^2$ . Our results hold for more general cost functions such as  $Cost = c_a f(Diff) + c_s g(Syn)$  where  $f(\cdot)$  and  $g(\cdot)$  are both increasing and convex functions. Costs are increasing either in the level of the synergies that have to be realized ( $c_s Syn^2$ ) or in terms of the overvaluation of the target with respect to the bidder ( $c_a [Diff]^2$ ). The cost of realizing the synergies increases with their size. For example, it is more expensive to downsize 50,000 employees than 5,000 or to merge two big branches than two relatively small ones. Then there is the cost of executing the deal. This includes the cost of borrowing, in the case of a cash deal, or the cost of issuing new equity, in the case of an equity deal. This part also takes into account the potential reduction in value of the target's assets due to a lower market valuation as a result of the deal. For example, a dynamic dot.com firm may be worth less if it is taken over by a dinosaur. This factor is related to the difference in value between bidder and target, and target size.

If we solve backwards for the optimal difference in neglectedness between bidder and potential target, and the optimal synergies, we find the relation between profits, premia and the optimal *Diff* and *Syn*. It can be easily shown<sup>4</sup> that the profits are:

$$\Pi_T = \Pi_B = \frac{1}{4}Diff + \frac{1}{4}Syn. \quad (6)$$

From equation (6) we see that the incentive (profitability) to acquire another firm is directly related to the difference in neglectedness between the bidder and the potential target and to the synergies the deal would generate. This allows us to define our first hypothesis.

*H1: The incentive to acquire another firm is positively related to the difference in neglectedness between the bidder and the target.*

It is worth noting that this is a conditional statement. Indeed, unconditionally, it may be that more M&As are initiated by less neglected firms that bid for even less neglected companies than themselves in order to prevent their price from falling, than M&As initiated by more neglected firms in order to boost their price. Equation (6) also suggests how the deal may directly affect price. Indeed, the profit will translate into an increase in bidder price. This allows us to define our second hypothesis.

*H2: Bidders acquiring less neglected targets will experience an increase in value that is a direct function of the difference in neglectedness between bidder and target.*

The gains due to the difference in neglectedness are not related to any industrial or financial synergy. They are, instead, entirely due to the change in financial market valuation of the bidder's assets and, as such, directly related to the difference in neglectedness between bidder and target. How is the gain split between bidder and target? The offer premium is:

$$OP = Off - (Diff + 1) = \left(\frac{1}{4} - \beta\right)Diff + \frac{1}{4}Syn - \beta. \quad (7)$$

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<sup>4</sup> If we solve backwards for the optimal difference in neglectedness between the bidder and the potential target, and the optimal synergies, we get:  $Diff = 1/2c_a$  and  $Syn = 1/2c_s$ . Given that we want to see the relation between profits and offer premium and *Diff* and *Syn*, we solve the first order conditions in terms of  $c_a$  and  $c_s$ . This gives:  $c_a = 1/(2Diff)$  and  $c_s = 1/(2Syn)$ . We then determine the premia.

This allows us to define our third hypothesis.

*H3: The offer premium is always positively related to the synergies. However, the impact of the difference in neglectedness is reduced under high levels of demand curve sloping down for the target stock.*

From equations (6) and (7) it appears that, while both target and bidder share the synergies, the target may not be able to appropriate the benefits accruing from an increase in value of the bidder's assets. The reason for this is that the gain comes from an increase in the value of the bidder's assets that is negatively related to the strength of the target's bargaining power. Let's see why.

The target benefits from the fact that it is able to sell at a higher price than it would obtain by selling in the market ( $Off - (1 + Diff)(1 - \beta)$ ). This gain—effectively the ability to exit at no discount—increases in relation to the status of the target. The less neglected the target, the greater the gain—and the higher the potential increase in value of the bidder's assets. This means that the target's bargaining power is weakened at the very moment when the benefits of the deal are highest. Even if the bidder pays just the target's market value, this may still be good enough for the target.

These hypotheses complement the SV model. In SV, the merger is a way for overvalued firms to use their overvalued equity to buy hard assets. The gain comes from either the increase in value of the target's assets or simply from the fact that the bidder is paying with overvalued equity. We maintain that, even in the absence of synergies, value is created by bidding up the value of the bidder's assets, in the short term at least, as long as the misevaluation persists. Conversely, in SV the short-term effect on the target value is always positively related to the difference in valuation between bidder and target (i.e., negatively related to the difference in neglectedness).

In SV, the negative relation between the short-term effect on the bidder's value and the difference in valuation between bidder and target (i.e., positive relation with the difference in neglectedness) is due to the fact that the price of the less neglected bidder drops when it

purchases the more neglected target. We maintain that the positive relation is due to the fact that the price of the more neglected bidder rises by purchasing the less neglected target.

What about the bidder's long-term performance? The long-term implications depend on how long the overvaluation of the target's style persists and when the reversal of sentiment that determines it happens. The acquisition temporarily allows the bidder to jump on the bandwagon of winning styles. However, in the long run, the market reevaluates different styles, and the return of the bidding firm deteriorates. This allows us to define our fourth hypothesis.

*H4: The positive increase in the bidder's price is mostly concentrated in the short and medium term and persists as long as the sentiment wave for the target style persists.*

Why would a manager initiate an M&A in this context if the only thing to be gained were a temporary price boost? Much depends on the beliefs and horizon of the manager. Managers may not perceive the misevaluation as temporary. In the 1990s, many managers genuinely believed that the overvaluation of dot.com companies was here to stay. Also, regardless of his beliefs, a manager with a short horizon, or one who wants to liquidate his position in the firm, will always find it attractive to merge with a less neglected firm in order to boost the valuation of his own firm. This will provide the manager with a window during which he will be able to sell his shares. We therefore conjecture our fifth hypothesis:

*H5: Bidding firms acquiring less neglected targets are likely to be run by managers with short-term horizons.*

Three final points. First, the shareholders of the target firm, even if aware of this tactic, will not object to it as they can cash in the market value of overvalued equity on better terms. Second, our model for M&A does not require the deal to be paid solely with equity. In fact, given that a more neglected firm will probably be less than fairly priced, we would expect this type of deal to cash-based. The impact of the difference in neglectedness will be stronger in cash-based deals. Third, our model is consistent with the SV framework as it is possible for a more neglected target to solicit a bid in the first place, by acting like the real bidder.

### 3. Data and Variables Definition

#### 3.1 Sample Construction

The source of data on merger activity is the Securities Data Corporation (SDC) M&A Database. We extracted all the merger transactions involving U.S. targets for the period between January 1983 and December 2003. We required firms included in the sample to be listed in an exchange (NYSE, AMEX or NASDAQ), to be able to match the target's CUSIP with CRSP data, and for the outcome of the merger to be known (i.e., either completed or withdrawn). We excluded extreme outliers<sup>5</sup> and transactions for which the value recorded in SDC represented less than 1% of the target firm's equity value. We obtained COMPUSTAT data on accounting variables for all companies involved in an event, using the definitions used in Schwert (2000), precise descriptions of which can be found in the notes to Table II.

The main characteristics of the deals in our sample are presented in Table I Panel A. We required the value of each deal to be larger than \$10 million. If a bidder made multiple attempts to acquire the same target during a year, only the first bid is included. We see that the rate of success of takeover deals is around 85%. About 38% of the deals are cash-based, while 36% are equity-based. On average, the fraction of shares purchased is around 94%. Overall, the characteristics of our sample are in line with those of recent studies (Andrade, Mitchell and Stafford (2001), Schwert (2000), Holmström and Kaplan (2001)).

#### 3.2 Stock Neglectedness

Our proxy for neglectedness wants to capture the degree to which a firm is misevaluated because of fads or sentiment, that is, whether a firm is out of favor with the market. However, this misevaluation is difficult to gauge. One way of measuring it is to use prices or accounting data and to focus on the post-event long-run abnormal stock returns. This has the drawback of turning the analysis of the deal into a joint test of misevaluation and market efficiency. Indeed, it is not clear whether an abnormal long-run return after the deal implies that the market is

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<sup>5</sup>We excluded events where the target's P/E, debt-equity, market-to-book ratio or ROE was greater than 100 (Schwert (2000)).



inefficient with respect to the event (Fama, 1998, Daniel, Hirshleifer and Teoh, 2002, Mitchell and Stafford, 2000). Moreover, misevaluation in general is defined as the difference between the market price and a contemporaneous measure of the fundamental value based on accounting data (e.g., book value of equity-to-price or market-to-book), and this measure is subject to the distortions affecting accounting data (e.g., reporting requirements, earning smoothing). Instead, we focus directly on a measure of firm misevaluation that does not rely on accounting variables, but exploits the information power of the flows of mutual funds.

To define the degree of neglectedness of a stock, we use the methodology developed by Frazzini and Lamont (FL) (2005) and look at the impact of style investing behavior by mutual fund investors on the performance of individual stocks. Following FL, we define a variable that represents the percentage of the shares of a given stock purchased and sold by mutual funds that can be attributable to fund flows. This variable is defined as “the actual ownership by mutual funds minus the ownership that would have occurred if every fund had received identical proportional inflows (instead of experiencing different inflows and outflows), every fund manager chose the same portfolio weights in different stocks as he actually did, and stock prices were the same as they actually were” (FL). It represents an investment strategy that reflects only flow decisions by investors and not return patterns in stocks.

We depart from FL by defining our variable at style level instead of fund level. This helps us in two ways. First, it greatly reduces the issue of endogeneity. Indeed, one of the main problems of using ownership data is that ownership can be endogenous with respect to firm characteristics. However, the flows of investor money into fund styles cannot be attributed to the specific characteristics of firms belonging to a particular style or to market expectations about the firm being involved in an M&A deal. Second, the use of mutual funds styles allows us to map to the literature on style investing (Barberis and Shleifer, 2004).

We follow four steps to construct our proxy of neglectedness. First, we calculate the actual flows for each mutual fund. The data on fund assets and returns are obtained from the CRSP Mutual Fund Database. Let us denote  $N_t^f$  as the total net assets (TNA) of fund  $f$  at the end of

quarter  $t$ ,  $R_t^f$  as the return of fund  $f$  and  $M_t^f$  as the increase in TNA due to mutual fund mergers during quarter  $t$ . Then, the net flow of fund  $f$  is defined as:

$$F_t^f = N_t^f - (1 + R_t^f)N_{t-1}^f - M_t^f. \quad (8)$$

Second, we construct the counterfactual fund flow and the counterfactual fund TNA. Counterfactual flows are based on the assumption that “each fund receives a pro rata share of the total dollar flows to the mutual fund style between date  $t-k$  and date  $t$ , with the proportion depending on NAV as of quarter  $t-k$ .” (Frazzini and Lamont, 2005) For each quarter  $t$ , given fixed  $k$  as the neglected horizon, we calculate the counterfactual flow  $\hat{F}_s^f$  and the counterfactual TNA  $\hat{N}_s^f$  recursively by applying the following formula:

$$\hat{F}_s^f = \frac{N_{t-k}^f}{N_{t-k}^{Agg}} F_s^{Agg}, \quad \hat{N}_s^f = (1 + R_s^f)\hat{N}_{s-1}^f + \hat{F}_s^f, \quad t-k \leq s \leq t, \quad (9)$$

where  $N_{t-k}^{Agg}$  is the aggregate TNA of the entire mutual fund industry at quarter  $t-k$  and  $F_s^{Agg}$  is the total net actual fund flow of the entire mutual fund industry at quarter  $s$ . The difference between actual and counterfactual flows proxies for sentiment-based flows—dumb money.

Third, we identify fund styles. We consider the Morningstar fund style categorization and classify all the equity funds into the investment styles: value, blend and growth (style  $j=1,2,3$ ). Fourth, we assemble our measure of neglectedness for each stock. Using each fund’s stock holdings, we weigh the percentage (in terms of the overall capitalization of the firm) holdings of funds in the firm by the percentage increase in dumb money of the styles in which these funds operate in the previous  $k$  periods. In particular, denoting  $H_{t,j}^i$  as the aggregate value of stock  $i$  held by the funds operating in style  $j$  at quarter  $t$ ;  $T_{t,j}$  as the overall TNA of the funds

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<sup>6</sup> As in FL, we assume that inflows and outflows occur at the end of the quarter, and that existing investors reinvest dividends and other distributions in the fund. Investors in merged funds place their money in the surviving fund. Funds that are born have inflows equal to their initial NAV, while funds that die have outflows equal to their terminal NAV.

operating in style  $j$  at quarter  $t$ ;  $\hat{T}_{t,j}$  as overall counterfactual TNA of the funds operating in style  $j$ ; and  $MKT_t^i$  as the market value of stock  $i$ , stock neglectedness is:

$$NEG_t^i = \frac{\sum_{j=1}^3 \left( \frac{\hat{T}_{t,j} - T_{t,j}}{T_{t,j}} \right) H_{t,j}^i}{MKT_t^i} * 100. \quad (10)$$

The variable  $k$  represents the horizon beyond which neglectedness is defined. By changing  $k$ , we are effectively changing the horizon of neglectedness. For example a stock may have been very neglected over the last eight quarters, but less so over the preceding 16 quarters.

Some preliminary results about firm neglectedness and attitude towards M&A are provided in Table I Panel B. Neglectedness is defined on the basis of a three-year horizon. We group stocks in quintiles on the basis of the degree of neglectedness of the bidder, from the low neglected quintile 1 to the high neglected quintile 5. We report the average neglectedness for both the targets (corresponding to the bidders for which the quintiles have been defined) and the bidders for each quintile. We also distinguish whether the means of payment is cash-only or stock-only. We then perform two-tailed t-tests of equality of the mean neglectedness between different groups of stocks.

We see that, in general, the more neglected a firm is, the more likely it is to bid for less neglected firms. From the third quintile the bidders appear to be more neglected than their targets. This implies that cosmetic mergers take up a significant fraction of the overall M&A market. The results are robust whether the deal is cash- or equity-based. The fraction of cash/equity deals increases monotonically across the quintiles. This fits our expectation that neglectedness-based M&As are more likely to be cash-based. These results, even if suggestive, are based on univariate analysis. We turn to a more structural multivariate approach later.

### 3.3 Synergies and Bidder's Asset Appreciation

To quantify the synergies, we use a methodology similar to the one employed by Devos (2004), by using the differences in analysts' forecasts of the earnings per share (EPS) around the deal.

We rely on the EPS forecasts from the Thomson I/B/E/S Summary History Database. With I/B/E/S treatment of M&As, all forecasting data relating to the target will cease as of the effect date and forecasts for the bidder will be based on the combined firm from that point. To quantify the change in value of the firm around the deal, we can therefore use two different forecasts—one based on the earnings of the bidder before the deal and the one based on the earnings of the combined entity immediately after the deal. Netting out the value of the target, we have the synergies.

Let  $E_{pre}^T, E_{pre}^B$  be the latest yearly EPS forecast for the target and the bidder one quarter before the effective date,  $E_{post}^B$  be the first yearly EPS forecast for the combined firm after the effective date, and let  $SH_{pre}^T, SH_{pre}^B, SH_{post}^B, P_{pre}^T, P_{pre}^B$  and  $P_{post}^B$  be the shares outstanding and stock prices concurrent with the earnings forecasts. We also define  $E_{pre-announce}^B$  and  $P_{pre-announce}^B$  as the latest EPS forecast and corresponding price of the bidder before the announcement. Merger synergies are:

$$Syn = \frac{\frac{P_{pre-announce}^B}{E_{pre-announce}^B} (E_{post}^B SH_{post}^B - E_{pre}^B SH_{pre}^B - E_{pre}^T SH_{pre}^T)}{P_{pre-announce}^B SH_{pre-announce}^B} = \frac{E_{post}^B SH_{post}^B - E_{pre}^B SH_{pre}^B - E_{pre}^T SH_{pre}^T}{E_{pre-announce}^B SH_{pre-announce}^B}. \quad (11)$$

In Table III Panel A we report some preliminary results on the synergies. The median value of the synergies is around 15% of the bidder's pre-event value. High-buy-low (low-buy-high) deals are ones in which the difference in neglectedness between bidder and target is above (below) the median of the events sample occurring in the same announcement year. There appears to be no significant difference in terms of synergy between high-buy-low and low-buy-high deals.

We now define the appreciation of the bidder's assets. As for the synergies, we use analysts' forecasts of the earnings per share (EPS) around the deal. Asset appreciation is defined as the

increase of the forward price-earnings ratio (the ratio between price and forecasted earnings) of the bidder before and after the merger effective date. It is:<sup>7</sup>

$$AA = \frac{P_{post}^B}{E_{post}^B} - \frac{P_{pre}^B}{E_{pre}^B} \left( \frac{E_{pre}^B SH_{pre}^B}{E_{pre}^B SH_{pre}^B + E_{pre}^T SH_{pre}^T} \right) - \frac{P_{pre}^T}{E_{pre}^T} \left( \frac{E_{pre}^T SH_{pre}^T}{E_{pre}^B SH_{pre}^B + E_{pre}^T SH_{pre}^T} \right). \quad (12)$$

AA captures the increase in value of the bidder's assets (forward P/E) netting out the mechanic change of P/E due to combination with the target. It represents the increase in value of the bidder's assets standardized per unit of earning, the increase in asset value that is not directly attributable to synergies. Some preliminary results are provided in Table VI Panel A. The median increase in forward price-earnings ratio is -0.52. Unlike the synergies, the asset appreciation of high-buy-low bidders is significantly higher than that of low-buy-high bidders.

#### 4 Probability of Acquisition

We start by looking at whether the incentive to acquire another firm is related to difference in neglectedness (H1). We expect that bidders approach targets less neglected than themselves. This allows more neglected firms to increase their appeal to the market as well as relatively less neglected firms to keep their price momentum. Therefore, we relate the difference in neglectedness between bidder and target to the likelihood of a firm being a target (bidder) conditioning on the bidder (target) already being known. For each bidder (target), we match 20 other firms similar to the real target (bidder) in terms of industry, size and market-to-book ratio in the year prior to the announcement date.

We consider two alternative ways of implementing a match. For Matching I, we first compute the absolute difference in size with the real target (bidder) for all non-target (bidder) firms within the same two-digit SIC industry and choose the 40 firms with the smallest absolute size difference. Then, within the 40 firms, we compute the absolute difference in market-to-book ratio with the real target (bidder) and select the 20 firms with the smallest

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<sup>7</sup> We only estimate asset appreciation for successful mergers with 100% acquisition of target shares (excluding partial acquisitions, sales of subsidiaries, etc.). We also require the time span from the announcement date to the effect date to be less than 360 days. We can drop the earnings forecast with negative values from the formula since it tends to bias our calculation.

absolute differences. Matching II is achieved by ranking independently the absolute differences in size and market-to-book ratio with the real target (bidder) and selecting 20 firms with the smallest sum of rankings. The underlying assumption behind this procedure is that each of the matched firms could reasonably be the potential target (bidder).

The information on accounting variables and stock price behavior are obtained from COMPUSTAT and CRSP. M/B is the ratio of year-end market value of common stock to book value of equity (COMPUSTAT items 24\*25/60). ROE is the ratio of earnings to average equity (COMPUSTAT items 20/(60+60(t-1))). Size is the natural log of market capitalization at the beginning of the year before the acquisition ( $\log(\text{price} \cdot \text{Lshares-outstanding})$ ) from CRSP). Liquidity is the ratio of net liquid assets to total assets (COMPUSTAT items (4-5)/6). If both item 4 and item 5 are missing, we replace the liquidity ratio with the ratio of cash and short-term investments to total assets (COMPUSTAT items 1/6). D/E is the ratio of debt to equity (COMPUSTAT items 9/60). Sales growth is the proportional change in sales ( $\log(\text{COMPUSTAT items } 12/12(t-1))$ ). P/E is the ratio of year-end stock price to earnings per share (COMPUSTAT items 24/58). Accounting variables are averaged over the two years prior to the acquisition. The cumulative abnormal return is measured relative to a CRSP value-weighted market model regression and estimated using the third year prior to the forecast year. The volatility of a stock is computed as the 12-month rolling sample deviation of monthly stock returns. Stock neglectedness is the average neglectedness during each year calculated below a three-year horizon. The bidder's accounting variables and stock neglectedness are the same for each matching group. The relative stock neglectedness is the difference of neglectedness between the real bidder and its matched potential targets. Similarly we can define relative accounting variables as the difference between the real bidder (matched potential bidders) and the matched potential targets firms (real target).

The results are displayed in Table II. Columns (1)–(6) report the conditional probability of being a target, while columns (7)–(12) report the conditional probability of being a bidder. The left-hand variable of columns (1) and (7) is a dummy that equals 1 if a company is the real target (bidder) in the next year among its matching peers and zero otherwise. The left-hand

variable of columns (2) and (8) is a dummy that equals 1 if a company is the real cash-only target (bidder) in its matching group and zero otherwise. The left-hand variable of columns (3) and (9) is similarly defined for the case of stock-only deals.

We focus first on the target. There is a strong positive correlation between the difference in neglectedness between bidder and target and the probability of a firm being a target. When choosing, a bidder will select from many otherwise identical potential targets one that is less neglected than himself. This result is robust across alternative specifications, as well as for different horizons beyond which neglectedness is defined. It also holds for our two alternative ways of matching and even after we control for alternative price-based determinants such as the stock market-to-book, the price-to-earning ratio, as well as stock previous returns and volatility. The result is also economically significant: a one standardization increase of difference in neglectedness increases the probability of pairing by 12%.

Now we focus on the bidder. The incentives of bidder managers to boost the stock price of their firm are related to the sensitive issue of the equity of their compensation, so we augment the specification to consider the impact of managerial incentives. Managerial incentives are represented by the median of equity-based compensation of a firm's top five managers in the year prior to the announcement. Equity based compensation (EBC) is defined as the value of options and shares granted to a manager divided by his or her total compensation  $((\text{blkvalu} + \text{rstkgrnt})/\text{tdcl})$  from Compustat Executive Compensation database). We define a high-EBC dummy that takes a value of 1 if a firm's EBC is above the median of the sample and zero otherwise. We add an interaction term between the difference in neglectedness and the high-EBC dummy to examine the impact of the combination of managers' equity-based incentive and difference in neglectedness on the probability of a successful takeover of the given target.

We find a strong positive correlation between the difference in neglectedness between bidder and target and the probability of a firm being the bidder, conditional on the level of the bidder's incentives. That is, given a target and many otherwise identical potential bidders for it, the real bidder will be the one that, conditional on having high managerial incentives, is

more neglected than the target. This result is robust across specifications as well as horizons beyond which neglectedness is defined and for the alternative ways of matching. It is also economically significant: a one standardization increase of difference in neglectedness increases the probability of pairing by 21% for potential bidding managers with high equity-based compensation.

For additional robustness, we estimate our main regression using a decomposition that breaks the market-to-book ratio into three components: a firm's specific pricing deviations from short-run industry pricing; sector-wide, short-run deviations from a firm's long-run pricing; and long-run pricing-to-book proposed by Rhodes-Kropf, Robinson and Vishwanathan (2004). The results do not differ from the ones reported here, but are available from the authors on request. It is worth noting that we estimated all the results for the three-year based neglectedness as well as for neglectedness based on other horizons. For brevity we will report only the ones based on three years. The others are consistent with the reported results.

## **5. Short-term Bidder Change in Value**

We now turn to the effect on stock prices, i.e., H2. We focus on both the increase in investor holdings as well as the price effect. We consider two measures of changes in value for the bidder: the bidder premium and the change in value of the bidder's assets. The first proxies for the overall increase in the bidder's value around the deal, while the second is related to the increase in value of the bidder's assets. We expect investor holdings, the bidder premium and the change in value of the bidder's assets to be positively related to the difference in neglectedness between bidder and target. We start by addressing some econometric issues.

### **5.1. Sample Selection and Main Specification.**

One econometric problem is sample selection. Indeed, the degree of neglectedness affects both the decision to engage in an M&A transaction and the market reaction around it. Given that the decision to engage in M&As is endogenous, there is a potential problem of sample selection



that might bias the results of OLS regressions. To address this issue we adopt the Heckman (1979) two-stage procedure. We first estimate the probit specification:

$$m_i = \alpha_i + \beta_1 N_i + \gamma_1 C_{1i} + \varepsilon_{1i} , \quad (13)$$

where for the  $i^{th}$  firm,  $m_i$  is a dummy that takes the value of 1 if the firm has bid for (received a bid by) another and zero otherwise,  $N_i$  is the variable that proxies for the degree of neglectedness of the firm(s) involved and  $C_{1i}$  is a vector of control variables. The base sample universe is the merged set of COMPUSTAT, SPECTRUM and CRSP firms that includes, in the case of estimation of the probability of being a target (bidder), a total of 67,991 (67,849) firm years from 1983 to 2002. The left-hand side variable is a dummy variable taking a value of 1 if the company is the target (bidder) of an acquisition in the next year and zero otherwise. The results of this estimation for the probability of being a bidder (target) are reported in Table III Panel B, columns “Bidder prob.” and “Target prob.” respectively—we will return to this in the discussion section. Then, we estimate:

$$r_i = \alpha_2 + \beta_2 N_i + \gamma_2 C_{2i} + \delta_2 \lambda_i + \varepsilon_{2i} \quad (14)$$

where  $r_i$  is the observed abnormal return for the  $i^{th}$  firm stock price around the deal,  $C_{2i}$  is a vector of control variables and  $\lambda_i$  is Heckman’s Lambda and is estimated from the results of the first stage. The value and significance of  $\delta_2$  provides a test of the null of no sample selection bias. We see that it is almost always significant and positive, suggesting that sample selection is indeed empirically relevant. However, its inclusion does not change significantly the value of the coefficients of interest. The set of control variables at the two stages (i.e.,  $C_{1i}$   $C_{2i}$ ) are different and this provides the identification restriction.<sup>8</sup>

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<sup>8</sup> The characteristics of the deal—cash/equity, hostile/friendly, tender offer, challenging offer—help to explain the return around the deal, but not the likelihood of the deal itself, while the cumulative abnormal return and volatility of the stock help to explain likelihood of the deal, but not its return.

## 5.2 Endogeneity of the Synergies and Difference in Neglectedness

While the degree of neglectedness of a firm is exogenous, being determined by the market conditions, the difference in neglectedness between bidder and target is endogenous, that is, affected by the factors that induce the firm to select a target as a function of its degree of neglectedness. A similar point can be made about the synergies. We need to gauge this, by projecting the difference in neglectedness and the synergies on some exogenous determinants. As instruments, we use the factors that determine firm selection. Let's start with the difference in neglectedness. We argue that each firm faces a trade-off between the costs and benefits of bidding for less neglected firms. The benefits are mainly related to the degree of neglectedness of the bidder. The more neglected the bidder, the bigger the benefit of merging with a less neglected target will be. The benefits will also be higher if the financial intermediation industry (e.g., mutual fund industry) is more developed and has a higher impact on the stock market. Therefore, the *Degree of neglectedness of the bidder* and a *Period dummy* (taking the value of 1 if the deal is after 1993 and zero otherwise) represent our proxies for the benefits.

The costs are related to the fact that a less neglected firm is more expensive to acquire. They can be proxied by the cost of financing the takeover. This will be positively related to the borrowing cost, if the firm needs to borrow, and negatively related to the amount of cash available. We therefore use the cash to sales ratio (*Cash/sales*), a no-rating dummy (*no-rating dummy*) and the borrowing spread prevailing in the market (*C&I Rate Spread*). The cash to sales ratio is defined as the ratio of cash and short-term investments to sales in the year previous to the announcement date (COMPUSTAT data1/data12). The no-rating dummy equals 1 if the bidder doesn't have an S&P credit rating in COMPUSTAT and zero otherwise. The credit spread is the commercial and industrial loan rate spread above the fed funds rate (Harford, 2005). Finally, the cost of financing is related to the riskiness of the firm as proxied by its *Idiosyncratic volatility* (Dierkens, 1991, Officer, Poulsen and Stegemoller (2006), Moeller and Stulz, 2006). We therefore also use the idiosyncratic return volatility of the firm,

calculated as the standard deviation of the market-adjusted residuals of the bidder's daily stock returns measured from 264 days to 64 days prior to the announcement date.

For the synergies, we add as instruments the pre-announcement earnings forecast (*EPS forecast*), the bidder's *Capital intensity*, *Employee intensity*, *Operating margins*. Capital intensity is calculated as gross PPE divided by total assets (COMPUSTAT data7/data6). Employee intensity is the number of employees divided by total assets (COMPUSTAT data29/data6). Operating margin is operating income before depreciation divided by sales (COMPUSTAT data13/data12).

The intuition behind these variables is that the ability to reap synergies is related to the type of cost structures. High capital intensity and high employee intensity indicate the potential for rationalization and cuts. Similarly, we expect that it is easier to have synergies when the firm has been performing badly. In this case, the deal is a way of enacting a proper restructuring. Therefore, the worse the pre-announcement earnings forecast or operating margins, the higher the probability that synergies can be generated.

Good instruments should be related to the variable they are intended to measure and unrelated to the dependent variable in the final instrumented regressions. To assess the latter, we provide Hansen over-identification tests in all the regressions. The tests always fail to reject the null, providing supporting evidence for the quality of our instruments. To assess the first requirement—the ability to explain the instrumented variable—we regress the difference in neglectedness (synergies) on these instruments as well on some industry dummies, the bidder's and target's accounting variables and Heckman's Lambda defined as above.

We use the following set of instruments. If *Syn* is not included, we use the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy and C&I spread as instruments for *Diff*. If *Syn* and *Diff* are included together, we instrument both of them by the bidder's stock neglectedness, cash to sales ratio, no-rating dummy, pre-announcement earnings forecast, employee intensity and C&I spread.

The results are reported in Table III Panel B. In columns (3)–(5), we identify instruments for the difference in neglectedness between bidder and target by using OLS, while in column (6) we use an IV estimation to examine the impact of synergy on difference in neglectedness where synergy is instrumented using the bidder’s pre-announcement earnings forecast, capital intensity and employee intensity. Similarly, we identify the instruments for merger synergy in columns (7)–(9). In column (10), we use an IV estimation to see the impact of difference in neglectedness on synergy where the difference in neglectedness is instrumented by the bidder’s neglectedness, cash to sales ratio and no-rating dummy.

The results show a strong positive relation between the difference in neglectedness, and cash to sales ratio and the bidder’s neglectedness, as well as the period dummy. They also show a strong negative relation between difference in neglectedness and the (C&I) spread and the idiosyncratic volatility. Synergies are mostly related to the pre-announcement earnings forecast, capital intensity and employee intensity.

These results not only provide supporting evidence in favor of our choice of instruments, but they also show that there is a trade-off for the firm in the selecting the desired level of neglectedness of the target. The benefits have to be weighed against the costs of financing the bid for a less neglected but more expensive target. We see that, consistently with our working hypothesis and univariate comparison, synergies and the difference in neglectedness are not related. This feature will allow us to consider specifications in which we omit the synergies.

### **5.3 Changes in Investors’ Holdings**

We start by looking at the impact of differences in neglectedness on the value changes in mutual fund holdings of the bidding firms after the deal. Our working hypothesis is that the M&A deal will attract investors by catering to the favored style. This implies a positive relation between the change of mutual fund holdings of the bidding firms around the deal and the difference in neglectedness between bidder and target.

We therefore regress the net change in the positions of the mutual funds in the bidder around the deal on our measure of difference in neglectedness, the synergies and a set of control variables. We define the net change in the positions of the mutual funds in the following way. Let  $V_B^{after}$  be the value of the bidder’s mutual fund holdings one quarter after the merger effect date,  $V_B^{before}$  and  $V_T^{before}$  be the value of the bidder’s and target’s fund holdings one quarter before the merger announcement date, then the dependent variable is defined as  $(V_B^{after} - V_B^{before} - V_T^{before}) / V_B^{before}$ . This definition of change is net of the mechanical increase due to the merger with the target. Given that the construction of the synergies substantially reduces the sample, and that there is no correlation between synergies and difference in neglectedness, we consider two alternative specifications: one that includes synergies and one that doesn’t. The latter is based on a broader sample. In addition to the bidder’s and target’s accounting variables, we also control for merger characteristics by adding dummy variables such as all-stock offer, tender offer, hostile takeover and competing offer. All accounting variables are calculated over the fiscal year prior to the acquisition and defined as above. We use stock neglectedness one quarter prior to the announcement for both bidder and target. The regression also includes year dummies and both bidder and target two-digit SIC industry dummies.

To account for the self-selection problem, we perform Heckman’s two-step procedure described in section 5.1, by computing Heckman’s Lambda for each bidder. To control for the endogeneity of synergies and difference in neglectedness, we use an IV estimation as defined above. The Hansen’s J statistic (Chi-squared p-value) always fails to reject the null, providing support for our instruments. We also add a specification where *Diff* is decomposed into its positive and negative parts. *Diff of Negl. Positive* is equal to *Diff* if *Diff* is positive and zero otherwise. *Diff of Negl. Negative* is the same as *Diff* when *Diff* is negative and zero otherwise. The errors are clustered alternately at firm and industry level.

We report the results in Table IV. For brevity we report only those based on three-year stock neglectedness. Those based on other horizons are consistent. The results support our working hypothesis. The change in value of mutual fund holdings is positively related to the

difference in neglectedness between bidder and target. This result is robust across the alternative specifications and to the inclusion of a host of control variables related to the characteristics of both bidder and target. The result is also statistically relevant. One standard deviation increase in the difference of neglectedness between the bidder and the target is related to a 28% increase in the value of the bidder's mutual funds holdings. This shows that the investors' reactions are related to the difference in neglectedness and that the market reacts positively to a less neglected target.

#### **5.4 The Bidder's Premium**

We now move on to the market premium. We regress the bidder's premium on the difference in neglectedness between bidder and target, the synergies and a set of control variables. The bidder's premium is defined as the cumulative abnormal return of the bidder's stock for the trading days around  $(-126, +252)$  the announcement date (Schwert (1996)). The abnormal return is measured relative to a CRSP value-weighted market model using a year's worth of daily data prior to the bid. The explanatory variables have previously been defined.

We consider two alternative specifications: one that includes synergies and one that doesn't. The latter is based on a broader sample. To account for the self-selection problem we perform Heckman's two-step procedure, and to control for the endogeneity of synergies and difference in neglectedness, we use an IV estimation with the same instruments as before. The Hansen's J statistic always fails to reject the null, providing support for our instruments.

We report the results in Table V. We report only the results based on three-year neglectedness. Those based on other horizons are consistent. The results support our hypothesis H2. The bidder's premium is positively related to both the difference in neglectedness between bidder and target and the synergies. The more neglected the bidder is compared to the target, the higher the price increase. This result is robust across the alternative specifications and to the inclusion of a host of control variables related to the characteristics of both bidder and target. The results are statistically relevant. One standard

increase in the difference in neglectedness between bidder and target increases the bidder premium (reduces the bidder discount) by 13% (1300 bp).

As we mentioned before, this result is also consistent with SV. To compare it, in columns (5) and (10) we also add specifications where *Diff* is decomposed into its positive and negative parts, as defined above. According to SV, the difference in neglectedness between bidder and target should be positively related to the bidder change in value, because the price of the relatively less neglected bidder drops with the purchase of a more neglected target. However, we maintain that the positive relation is due to the fact that the price of the relatively more neglected bidder rises with the purchase of a less neglected target. We can differentiate between the two interpretations by looking at the coefficient on the positive part. This should be positive in our case and negative in the SV case. The results show a positive correlation between the bidder premium and *Diff of Negl. Positive*. That is, the premium is higher in the cases where the more neglected bidder takes over a less neglected target. This is in line with our interpretation. At the same time, the positive correlation between the bidder premium and the *Diff of Negl. Negative* is evidence in line with SV. This suggests that SV and our interpretation are complementary.

A graphical analysis is reported in Figure I. We construct the cumulative abnormal returns for the bidder relative to a CRSP value-weighted market model regression using a year of prior daily data for the bidder stock around (-63, +63) the announcement date. Each month we sort all bidders in the month according to their difference in neglectedness one quarter prior to the merger announcement and define a bidder as high-buy-low if the difference in neglectedness between him and target is above the median and low-buy-high if the difference in neglectedness is below the median. We then plot the average abnormal returns for each type with respect to the trading days relative to merger announcement. We can see that a firm merging with a less neglected one is always more appreciated by the market than a firm merging with a more neglected one—that is, as expected, high-buy-low firms enjoy significant higher returns than low-buy-high firms.

## 5.5 The Bidder's Asset Appreciation

We now consider the bidder's asset appreciation defined in section 3. We start with a pictorial view. Figure II displays the bidder's asset appreciations with respect to different levels of relative stock neglectedness. Each year we sort the difference in stock neglectedness between bidder and target during the year into five quintiles, from low to high, and we calculate the mean asset appreciation for each quintile. The relationship is almost monotonic. High-buy-low bidders will experience an appreciation in the value of their assets.

To ground these results statistically, we provide a multivariate analysis. We regress the bidder's asset appreciation on the difference in neglectedness between bidder and target, synergies and a set of control variables. Also, as before, to account for the self-selection problem, we perform Heckman's two-step procedure described in section 5.1 and use an IV specification with the instruments defined in the section 5.2. As in the previous case, we consider two alternative specifications: one that includes synergies and one that doesn't.

We report the results in Table VI Panel B. The results are consistent with our hypothesis H2. The appreciation of the bidder's assets is positively related to the difference in neglectedness between bidder and target, but is not related to the synergies. The more neglected the bidder is with respect to the target, the more his assets appreciate as a result of the deal. This is robust across the alternative specifications, to the choice of the horizon beyond which stock neglectedness has been defined and to the inclusion of a host of control variables related to the characteristics of both bidder and target. The result is also economically significant. One standard increase in the difference in neglectedness raises the value of the assets of the bidder (based on the price earnings ratio) by 9% with respect to the weighed average of the assets (average P/E ratios of bidder and target weighted by their forecasted earnings).

In columns (5) and (10) we also add specifications where *Diff* is decomposed into a positive and negative part, as defined above. The results confirm that the positive relation between *Diff* and the bidder's price appreciation is due to an increase in the bidding price for less neglected



targets. Overall these results show that the bidder benefits from both synergies and asset appreciation due to a reevaluation of the market assessment of his assets. We now move on to look at the bargaining in more detail.

## 6 The Bargaining Allocation of the Target

We now focus on our hypothesis H3, that is, how the value created by the deal is split between the bidder and the target (e.g., Stulz, Walkling, and Song, 1990,). Equations (6) and (7) posit that, while target profits should be a function of both the synergies and the difference in neglectedness, the relation between offer premium and difference in neglectedness depends on the slope of the target stock demand. First, we focus on a proxy for the target's overall profits from the: the adjusted market premium. Then, we consider the bargaining position and the offer premium.

### 6.1 The Target's (Adjusted) Market Premium

We start by considering the adjusted market premium. This represents the net benefit that accrues to the target by selling to the bidder. We expect it to be related to the benefits related to being favored by the market as well as to the anticipated synergies. The adjusted market premium is constructed as follows. We start by estimating a firm's true value following the decomposition methodology of Rhodes-Kopf, Robinson and Viswanathan (2004). We group firms in our base sample universe (the one used in the unconditional probit regression) according to the 12 Fama and French industries and perform cross-sectional regressions of  $\log(\text{market value})$  on  $\log(\text{book value})$  within each industry year. Then we use the exponential of the fitted value for each firm as the true value that can be supported by the firm's fundamentals ( $VAL$ ). Let  $MKT_{-126}$  be the target's market value 126 trading days before the announcement date and  $VAL_{-126}$  its true value estimated in the year preceding the announcement date. We define the target's market premium as:

$$Adjusted\ Market\ Premium = \begin{cases} CAR(-126, 252) + 1 - \frac{VAL_{-126}}{MKT_{-126}} & \text{if } VAL_{-126} \leq MKT_{-126}, \\ CAR(-126, 252) & \text{otherwise,} \end{cases} \quad (15)$$

where  $CAR(-126, 252)$  is defined as the cumulative abnormal return of the target stock for trading window  $(-126, +252)$  relative to the announcement date (Schwert (1996)). The abnormal return is measured relative to a CRSP value-weighted market model regression using a year of prior daily data in the estimation period. The reason for this asymmetrical treatment is that selling in the market would push the price down toward its true value if the stock is overvalued, while it may not pull the price up if the market value is less than the true value.

We regress the adjusted market premium on the difference in neglectedness between bidder and target, the synergies and a set of control variables. To account for the self-selection problem, we perform Heckman’s two-step procedure described in section 5.1. We use an IV specification with the instruments defined in section 5.2. As before, we consider two alternative specifications: one that includes synergies and one that doesn’t. The other variables are defined as above. The errors are clustered alternately at firm and industry level.

We report the results in Table VII. They support our hypothesis H2. Indeed, the adjusted market premium is positively related to both the difference in neglectedness between bidder and target and the synergies. The more neglected the bidder is in relation to the target, the higher the benefits for the target. This result is robust across the alternative specifications and to the inclusion of a host of control variables related to the characteristics of both bidder and target. Moreover, the result is robust to the choice of the horizon beyond which stock neglectedness has been defined. The effect is economically relevant: one standard deviation increase in the difference in neglectedness between bidder and target (synergies) increases the adjusted market premium by 7% (23%)

## 6.2 Offer Premium and the Target’s Bargaining Power

We now look at the bargaining focusing on the offer premium. We have argued that while the offer premium is always positively related to the synergies, the impact of the difference in

neglectedness will be reduced under high levels of demand curve sloping down for the target stock. To test this we focus on the actual offered premium (e.g., Officer (2002)) and regress it on the difference in neglectedness between bidder and target, the synergies and a set of control variables.

We report the results on one-day offer premium as well as one-week offer premium. One-day offer premium is the difference between the offer price and the target trading price one day prior to the announcement date, expressed as  $((\text{offer price} - \text{Target price 1-day before}) / \text{Target price 1-day before})$ , where the value of the bidder's offer is computed using SDC data (Officer (2002)). One-week offer premium is the difference between offer price and target trading price one week prior to the announcement date, expressed as  $((\text{offer price} - \text{Target price 1-week before}) / \text{Target price 1-week before})$ . The regression also includes year dummies and both bidder and target two-digit SIC industry dummies. As in the previous cases, we perform Heckman's two-step procedure described in section 5.1 and an IV regression using the same instruments as before. The errors are clustered alternately at firm and industry level.

The results are reported in Table VIII Panel A. They show no relationship between the actual premium and the difference in neglectedness between bidder and target. Instead, there is evidence of a positive correlation between synergies and actual premium, suggesting that the target shares the value of the synergies with the bidder (on top of the monetization of their overvaluation). However, the gain induced by asset appreciation does not accrue to the target shareholders.

We now explore this in more detail by directly conditioning on the slope of the demand for stocks ( $\beta$ ). We recall that the impact of the difference in neglectedness between bidder and target is negatively related to  $\beta$ . Following Baker, Coval and Stein (2006), we measure the slope of the target demand curve using the dispersion in analyst forecasts. This is the standard

deviation of all outstanding earnings forecasts of long-term growth for the target firm before the announcement date<sup>9</sup>.

Univariate tests are presented in Table VIII Panel B. We separate the offer premiums according to the difference in neglectedness as well as the dispersion of the analysts.<sup>10</sup> We perform t-test and Wilcoxon rank-sum test to compare the mean and median offer premiums between high-buy-low and low-buy-high targets, conditioning on the levels of the target's analyst dispersion. There is a clear difference in premium only in the case of high analyst dispersion—i.e., when the target stock demand is more rigid.

In Panel C, we present the results of regressing offer premium on *Diff of Negl.* interacted with the slope of the target demand curve. The dependent variable in columns (1)–(4) is the one-day offer premium and the dependent variable in columns (5)–(8) is the one-week offer premium. To address the issues of endogeneity, we use an IV specification as defined above. We conjecture that a higher difference in neglectedness reduces part of the target's bargaining power if the target stock demand curve is very rigid. The results support our working hypothesis. A one standard deviation increase in difference in neglectedness reduces the offer premium by 9% for high levels of the target's analyst dispersion. This supports our hypothesis H3 and suggests that the bargaining position is affected by the slope of the target stock demand.

## 7. Long-term Performance

We now move on to our hypothesis on the persistence of the increase in value, H4. Our short-term results show that cosmetic mergers induce higher returns around the deal. H4 suggests that positive performance will be concentrated in the medium term and last as long as the dumb-money effect driving the overvaluation of the bidder persists. We explicitly investigate

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<sup>9</sup> The number of forecasts for each firm has to be larger than five and we only include successful mergers.

<sup>10</sup> A deal is high-buy-low (low-buy-high) if the difference in neglectedness is above (below) the sample median in each event-year and zero otherwise. A deal is high target analyst dispersion (low target analyst dispersion) if the target's analyst dispersion is above (below) the sample median during each event year and zero otherwise.

the medium- to long-term implications of cosmetic mergers by performing a long-run test. We employ two alternative methodologies: the standard calendar-time portfolio regression (CTPR) approach and the return across time and securities methodology (RATS).

In both cases, we use a matching sample technique in which we match high-buy-low bidders with similar firms that do not engage in M&As. (NO-M&A firms). If H4 is correct, we expect that the M&A enables the bidding firm either to prevent a stock price reversal or to generate a price boost. A similar firm not engaging in M&A would experience either declining or stale stock prices. The comparison between the two firms provides a measure of the price boost brought about by the deal.

To control directly for the fact that cash deals as well as value deals generally display higher returns than equity deals or glamor deals (Loughran and Vijh (1997), Rau and Vermaelen (1998)), we match firms along industry, size and market-to-book. To compare firms that have the same level of neglectedness, but do not engage in M&As, the matching sample of firms must be as neglected (in favor) as the real bidder. This will be the case whether the bidder is not neglected and bids for a very favored target, or whether the bidder is neglected and bids for a less neglected target.

Each month we sort all completed deals according to the difference in neglectedness between bidder and target one quarter prior to the announcement. A bidder is considered high-buy-low if the difference in neglectedness between him and the target is above the median. For each high-buy-low bidder, the matching is done by choosing 50 stocks in the same two-digit SIC industry, based on the smallest sum of rankings in absolute differences of *size and market to book ratio* with the real bidder. From these 50 firms we further select 25 stocks that have the smallest absolute difference in terms of stock neglectedness compared to the real bidder. Then we narrow down our selection from these 25 stocks to those that have not been a bidder in the year before the announcement date and the following three years. If more than one stock is left in the end, we choose the one with the smallest difference in stock neglectedness as our

final NO-M&A firm. We also require the absolute difference in neglectedness between the real bidder and its matched NO-M&A firm to be less than 0.5.

We start with the standard CTPR approach. Five holding periods are considered: 12 months, 18 months, 24 months, 30 months and 36 months. Portfolios are rebalanced every month to drop the stocks that have reached the end of their holding periods and add new bidders that have just announced an acquisition. Repeated observations are dropped in each holding period and we require the number of stocks for long or short portfolio to be at least five in each month of its holding period. Once the portfolios have been constructed, we perform a time series regression of the excess returns of the portfolio of interest  $R_{p,t}$  using the Fama-French (1993) three- and four-factor model:

$$R_{p,t} - R_{f,t} = \alpha + \beta_1(R_{m,t} - R_{f,t}) + \beta_2SMB_t + \beta_3HML_t + \beta_4UMD_t + \varepsilon_t \quad (16)$$

where the variables  $R_{m,t}$ ,  $SMB_t$ ,  $HML_t$ ,  $UMD_t$  and  $R_{f,t}$  represent the returns, respectively, on the market portfolio, on the portfolios capturing the size, book-to-market and momentum factors and on the riskless asset.  $\alpha$  measures the abnormal performance.

We report the CTPR results in Table IX Panels A and B. The results support our working hypothesis H4. Engaging in M&A deals has a positive price effect that is related to the difference in neglectedness between bidder and target. In particular, the difference between the bidder sample and the matched sample is always positive. The return can be as high as 80 bp per month (or 10% per year) over 12 months in the case of the four-factor model. It declines to 66 bp per month (or 7% per year) over 24 months. This confirms our hypothesis that the price boost is most concentrated in the short and medium term. As a robustness check, we repeat the analysis using Ibbotson's (1975) returns across time and security (RATS) method combined with the Fama-French (1993) three- and four-factor model. The following regression is run each event-month  $j$ :

$$R_{i,t} - R_{f,t} = \alpha_j + \beta_{1,j}(R_{m,t} - R_{f,t}) + \beta_{2,j}SMB_t + \beta_{3,j}HML_t + \beta_{4,j}UMD_t + \varepsilon_{i,t}, \quad (17)$$

where  $R_{i,t}$  is the monthly return on security  $i$  in calendar month  $t$  that corresponds to the event month  $j$  with  $j=0$  being the month of the M&A deal announcement. We report the sums of the intercepts of the cross-sectional regressions over the relevant event-time periods expressed in percentage terms. The post-announcement cumulative monthly average abnormal returns are for the high-buy-low bidder and its matched NO-M&A.

The results are reported in Table IX Panel C. They support the previous findings and show that, while the matched sample of otherwise similar neglected firms that do not engage in M&As perform badly, those that engage in M&As are only able to achieve a temporary price boost. The difference in the medium term (18–24 months) is a robust 8%.

## 8. Discussion

How do we interpret these results? They show that firms bidding for relatively less neglected targets experience a price increase due to the rise in value of their assets to the value of the target's. This can be explained by undervalued firms trying to boost their sagging prices, as well as by overvalued firms doubling the stakes in order to give temporary support to their prices. The results from the unconditional probit (Table III, column 1) show a negative relationship between neglectedness and the probability of bidding. This suggests that it is mostly relatively less neglected firms that play this game, presumably in order to prevent their prices from falling.

Our findings on the long-term returns confirm this interpretation. Indeed, comparing the performance of these firms with that of otherwise identical and equally neglected or favored firms that do not engage in M&A shows that the deal helps the bidder to prevent a stock price drop. It is interesting to note that both the bidding firms as well as the matching firms experience positive abnormal returns in the previous two years. The alpha of their portfolios tends to be higher when momentum is properly accounted for. This suggests that the firms engaging in cosmetic mergers are mostly firms that have experienced recent price increases and

are close to a reversal. The M&A stops the reversal for the bidder, at least temporarily, while the matched firms suffer reversal.

If the price boost is going to be medium-term, why should firms care? We argue that this is related to the fact that managers have a short-term horizon. We have already seen that the difference in the degree of equity-based compensation matters. We now focus directly on managerial incentives to boost prices, by considering managerial trading in stocks of the firm around the deal. We assume that a good proxy for the manager's horizon is his selling behavior. Managers with short-term horizons will take advantage of the price boost to sell their shares.

To address this issue we compare the managerial trading behavior for high-buy-low bidders and their matched NO-M&A firms. The matching procedure is the same as Table IX. Following Jenter (2005), we calculate managerial net purchase as the change in the number of shares owned less the number of shares obtained from option exercises less the number of shares obtained from stock grants. We measure the intensity of managerial trading as the number of managerial net purchases during a year divided by the number of shares owned at the beginning of the year.

In Table X Panel A we perform both two-tailed t-test and non-parametric two-sided Wilcoxon signed rank test to test the equality of the mean and median trading intensity for both groups since the announcement year. In Panel B we turn to multivariate test by stacking high-buy-low bidders and NO-M&A firms together and create a dummy variable that equals 1 if it is a high-buy-low bidder and zero if it is a NO-M&A matched firm. The dependent variable is the managerial selling intensity (opposite of Panel A) averaged over the three years following the announcement year. Ownership fraction is calculated as the median of the number of shares owned by the top five managers divided by the shares outstanding in the year preceding to the announcement date. Option value is the median of the logarithm of Black-Scholes value of options owned by the top five managers in the year preceding the announcement date. Other control variables are defined as in Table II. As a robust check, in



columns (5) and (6) we allow for one-to-many matching by keeping at most ten firms from those left at the final stage of matching procedure in term of closeness in stock neglectedness.

The results show that the managers of neglected firms that acquire less neglected companies on average sell more around the deal. These results hold both in terms of the mean and the median. It is interesting to see that managers do not sell immediately, but wait for the stock price to rise and then sell in the medium term. These findings provide a rationale for why managers may be interested in enacting short-term price boosting deals. They are broadly in line with the evidence on managerial private benefits in M&A deals (e.g., Morck, Shleifer, and Vishny, 1990, Hartzell, Ofek, and Yermack, 2002).

## **Conclusion**

We study the impact of style investing on the market for corporate control. We argue that a firm may choose to boost its market value by merging with a firm that belongs to a style that is more favored by the market.

We use data on the flows in mutual funds in the different styles to construct a measure of neglectedness that is not a direct transformation of stock market data, but relies directly on identification of sentiment-induced investor demand. We show that bidders tend to pair with relatively less neglected targets. This is particularly true where managers in the bidding firm have a stronger equity-based compensation.

We also provide evidence of a halo effect from the target to the bidder. The merger induces the market to evaluate the assets of the more neglected firm at the (inflated) market value of the less neglected firm. This implies both bidder and target premia increasing in the difference in neglectedness between bidder and target as well as new investor money flowing into the stock of the merged firm. The effect on the bidder's price is persistent in the medium term (one to two years), with a better medium-term performance among more neglected firms that take over less neglected firms. Also, the impact of the difference in neglectedness between bidder and target on the offer premium depends on the slope of the market demand for the firm's

stock. The target can appropriate less of the increase in value of the bidder's assets following the merger if its demand curve is rigid.

We show that the fact that the deal provides only temporary price relief is consistent with the fact that managers engaging in such activity seem to have a short horizon. There is a positive relationship between the difference in neglectedness between bidder and target and the managers of the bidding firm selling shares of the firms immediately after the deal. That is, the managers take advantage of the window of opportunity created by the higher stock price induced by the M&A deal to reduce their stake in the firm under convenient conditions.

Our findings provide a different rationale for M&A activity from the standard theories posited in the literature and suggest a link between style investing, corporate behavior and the market for corporate control in particular. They have implications in terms of the debate on short-termism that surrounds the U.S. system of corporate governance and on the role of external governance that the M&A market should provide.

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**Table I**  
**Summary Statistics and Univariate Tests**

This table presents summary statistics and univariate tests for the event sample used in this study. Event observations are obtained from the SDC Mergers and Acquisition database from 1983 to 2003 where both bidder and target should have non-missing information on stock neglectedness. We require the value of each deal to be larger than 10 million dollars. If one bidder makes multiple attempts to acquire the same target during a year, only the first bid is included. In Panel A an acquisition is completed if the Status field in SDC has COMPLETED as keyword. An acquisition is hostile if the Attitude field is marked HOSTILE. An acquisition is cash-only if cash is the only means of payment offered by the bidder, while stock-only implies equity is the only means of payment. Average percentage of acquisition, deal value and stock neglectedness (three-year horizon) are also reported.

**Panel A: Summary Statistics**

	Full Sample	1983–1993	1994–2003
Number of Events	2473	541	1932
% Completed	84.7%	76.5%	87.0%
% Hostile	4.6%	7.9%	3.6%
% Cash-only	38.1%	47.8%	35.4%
% Stock-only	36.0%	24.4%	39.3%
% Acquisition	93.7%	85.7%	95.7%
Deal Value (million dollars)	235.4	215.1	241.6
Negl. of Target	-0.25	-0.09	-0.72
Negl. of Bidder	-0.53	-0.12	-1.08

**Panel B: Univariate Tests: Stock Neglectedness—Bidder vs. Target**

Panel B presents univariate comparisons of stock neglectedness between bidders and targets. Stock neglectedness is calculated in a three-year horizon. We split bidders' neglectedness into five quantiles ranging from low neglected quantile 1 to high neglected quantile 5. We test the equality of the mean in neglectedness for bidders and their corresponding target firms across each quantile using a two-tailed t-test. We also report separately for acquisitions with different methods of payment. \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively. The number of observations appears in parentheses.

	Full Sample			Cash-only			Stock-only		
	Bidder	Target	t-stat.	Bidder	Target	t-stat.	Bidder	Target	t-stat.
Quantile-1	-3.19 (494)	-1.38 (494)	-26.35***	-3.05 (144)	-1.23 (144)	-14.73***	-3.28 (228)	-1.51 (228)	-16.76***
Quantile-2	-1.32 (496)	-1.06 (496)	-5.10***	-1.33 (196)	-1.02 (196)	-3.84***	-1.31 (184)	-1.15 (184)	-1.79*
Quantile-3	-0.55 (494)	-0.60 (494)	1.28	-0.55 (197)	-0.62 (197)	1.05	-0.53 (181)	-0.58 (181)	0.83
Quantile-4	-0.05 (494)	-0.20 (494)	3.92***	-0.05 (182)	-0.21 (182)	2.29**	-0.06 (166)	-0.13 (166)	1.48
Quantile-5	0.74 (495)	0.30 (495)	10.02***	0.78 (224)	0.31 (224)	7.14***	0.69 (132)	0.26 (132)	5.34***

**Table II**  
**Bidder and Target Pairing**

This table relates the difference in neglectedness between bidder and target to the likelihood of a firm being a target (bidder) conditioning on the bidder (target) being already known. For each real target (bidder) we match it with 20 other pseudo targets (bidders) in the dimension of industry, size and market-to-book ratio prior to the announcement date. We consider two alternative ways of matching. Matching I is done as follows. We first rank the absolute differences in size with the real target (bidder) for all non-target (non-bidding) firms having the same two-digit SIC codes from our base sample and choose the first 40 firms with the smallest rankings. Then, for these 40 firms we compute the differences in market-to-book ratio with the real target (bidder) and select 20 firms with the smallest absolute differences. Matching II is achieved by ranking independently the absolute differences in size and market-to-book ratio with the real target (bidder) and selecting 20 firms with the smallest sum of both rankings.

The information on accounting variables and stock price behavior are obtained from COMPUSTAT and CRSP. M/B is the ratio of year-end market value of common stock to book value of equity (COMPUSTAT items 24\*25/60). ROE is the ratio of earnings to average equity (COMPUSTAT items 20/(60+60(t-1))). Size is the natural log of market capitalization at the beginning of the year before the acquisition ( $\log(\text{price} \times \text{shares-outstanding})$  from CRSP). Liquidity is the ratio of net liquid assets to total assets (COMPUSTAT items (4-5)/6). If both items 4 and 5 are missing, we replace the liquidity ratio with the ratio of cash and short-term investments to total assets (COMPUSTAT items 1/6). D/E is the ratio of debt to equity (COMPUSTAT items 9/60). Sales growth is the proportional change in sales ( $\log(\text{COMPUSTAT items } 12/12(t-1))$ ). P/E is the ratio of year-end stock price to earnings per share (COMPUSTAT items 24/58). Accounting variables are averaged over the two years prior to the acquisition. Cumulative abnormal return is measured relative to a CRSP value-weighted market model regression and estimated using the third year prior to the forecast year. The volatility of a stock is computed as the 12-month rolling sample deviation of monthly stock returns. Stock neglectedness is the average neglectedness during each year calculated below a three-year horizon. The bidder's (target's) accounting variables and stock neglectedness are the same for each matching group which makes us able to define relative stock neglectedness (difference in neglectedness) as the difference of neglectedness between the real bidder (real target) and its matched pseudo targets (bidders). We can also define relative accounting variables in a similar way.

We consider both the probability of being a target (Target Pairing) and the probability of being a bidder (Bidder Pairing). Column (1)–(3) are for matching I and Column (4)–(6) are for matching II. The left-hand variable of column (1) is a dummy which equals 1 if a company is the real target (bidder) among its matching peers in the next year and zero otherwise. The left-hand variable of column (2) is a dummy which equals 1 if a company is the real cash-only target (bidder) and zero otherwise. Column (3) is defined likewise for stock-only targets (bidders). In columns (1)–(6) we report the probability of being a target, while in columns (7)–(12) we report the probability of being a bidder. In the case of the probability of being a bidder, under the common presumption that most takeovers are initiated by the bidding side we also consider the influence of managerial incentive in this analysis. Managerial incentive is represented by the median equity-based compensation of a firm's top five managers in the year prior to the announcement date. Equity-based compensation (EBC) is defined as the value of options and restricted shares granted to a manager divided by his or her total compensation ( $(\text{blkval} + \text{rstkgnt})/\text{tcl}$  from COMPUSTAT Executive Compensation database). High-EBC dummy takes a value of 1 if a firm's EBC is above the sample median and zero otherwise. We analyze the impact of managerial incentive by adding an interaction term of the Diff of Negl. and the High-EBC dummy in the regression. ). \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedasticity robust standard errors with t-statistics given in parentheses.

Table II (Cont'd)

	Target Pairing						Bidder Pairing					
	Matching I			Matching II			Matching I			Matching II		
	Full Sample	Cash-only	Stock-only	Full Sample	Cash-only	Stock-only	Full Sample	Cash-only	Stock-only	Full Sample	Cash-only	Stock-only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Difference in Neglectedness	0.041*** (4.24)	0.048*** (3.36)	0.059*** (3.10)	0.046*** (4.86)	0.051*** (3.55)	0.061*** (3.18)	-0.009 (-0.37)	-0.000 (-0.01)	-0.020 (-0.43)	-0.017 (-0.73)	0.011 (0.37)	-0.058 (-1.31)
Difference in Neglectedness × High EBC dummy							0.081** (2.59)	0.097** (2.30)	0.061 (1.07)	0.099*** (3.22)	0.104** (2.46)	0.112** (1.99)
High EBC dummy							0.243*** (4.80)	0.162** (2.16)	0.335*** (3.54)	0.200*** (4.03)	0.145* (1.94)	0.255*** (2.73)
<i>Control Variables</i>												
Relative Abnormal Return	0.060*** (4.05)	0.059** (2.50)	0.075*** (2.80)	0.063*** (4.36)	0.066*** (2.83)	0.074*** (2.89)	0.017 (0.80)	0.025 (0.84)	0.039 (0.80)	0.008 (0.39)	0.008 (0.28)	0.045 (0.95)
Relative D/E	0.018*** (2.93)	0.020*** (2.66)	0.054*** (2.88)	0.016*** (2.95)	0.019*** (2.77)	0.044** (2.60)	-0.014* (-1.78)	-0.007 (-0.74)	-0.056*** (-2.81)	-0.011 (-1.46)	-0.005 (-0.58)	-0.047** (-2.47)
Relative Liquidity	0.085* (1.89)	0.072 (1.10)	0.026 (0.29)	0.098** (2.13)	0.085 (1.24)	0.038 (0.41)	0.144* (1.79)	0.216** (1.96)	-0.070 (-0.42)	0.112 (1.44)	0.186* (1.70)	-0.089 (-0.54)
Relative sales Growth	-0.021 (-0.59)	-0.005 (-0.11)	-0.028 (-0.37)	-0.015 (-0.44)	-0.003 (-0.07)	-0.032 (-0.45)	0.157*** (3.06)	0.169** (2.20)	0.153 (1.47)	0.156*** (3.19)	0.185** (2.51)	0.180* (1.79)
Relative ROE	0.003 (1.36)	0.021* (1.72)	-0.005 (-0.13)	0.002 (1.20)	0.024 (1.66)	-0.007 (-0.21)	-0.044 (-1.65)	-0.052 (-1.16)	-0.452 (-1.26)	-0.046 (-1.57)	-0.046 (-1.04)	-0.418 (-1.35)
Relative M/B	-0.008** (-2.46)	-0.007** (-2.14)	-0.031*** (-4.73)	-0.007** (-2.61)	-0.006** (-2.36)	-0.021*** (-3.32)	0.014** (2.14)	0.013 (1.22)	0.035** (2.14)	0.012* (1.92)	0.011 (1.13)	0.029** (2.05)
Relative P/E	0.000 (0.01)	0.000 (0.18)	0.000 (0.24)	0.000 (-0.13)	0.000 (0.14)	0.000 (0.16)	-0.001 (-0.97)	-0.001 (-0.83)	0.000 (-0.49)	-0.001 (-0.94)	-0.001 (-0.91)	0.000 (-0.50)
Relative Size	-0.007 (-1.58)	0.002 (0.26)	0.001 (0.07)	-0.007 (-1.61)	0.001 (0.22)	-0.005 (-0.46)	0.171*** (13.94)	0.209*** (9.61)	0.150*** (6.84)	0.179*** (15.65)	0.220*** (11.08)	0.162*** (7.87)
Relative Stock Volatility	-0.098*** (-2.96)	-0.065 (-1.10)	-0.110* (-1.86)	-0.079** (-2.51)	-0.057 (-1.01)	-0.071 (-1.29)	-0.024 (-0.60)	-0.023 (-0.43)	0.087 (0.76)	-0.029 (-0.75)	-0.040 (-0.73)	0.055 (0.50)
Intercept	-1.309*** (-64.43)	-1.413*** (-47.57)	-1.798*** (-33.47)	-1.480*** (-43.97)	-1.397*** (-39.64)	-1.528*** (-38.74)	-1.469*** (-16.48)	-1.539*** (-14.60)	-1.799*** (-5.95)	-2.371*** (-22.48)	-1.484*** (-5.81)	-1.250*** (-6.41)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering at	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Pseudo R-squared	0.0052	0.0057	0.0127	0.0051	0.0058	0.0102	0.0594	0.0679	0.0708	0.0603	0.0748	0.0680
Number of Observations	21715	10030	6142	21669	10025	6130	7841	3709	2484	7958	3724	2487

**Table III**  
**Determinants of Unconditional Probability, Difference in Neglectedness and Merger Synergy**

This table studies the (unconditional) probability of being a bidder (target) that will be used in the Heckman two stage procedure afterwards, as well as the determinants of synergies and of the difference in neglectedness between bidder and target. The probability of being a bidder (target) is estimated as a probit regression (Panel B columns (1)–(2)). The base sample universe is the merged set of COMPUSTAT, SPECTRUM and CRSP firms including a total of 67991 firm years from 1983 to 2002. The left-hand side variable is a dummy taking a value of 1 if a firm is the bidder (target) of an acquisition in the next year and zero otherwise. Control variables are defined in the same way as Table II. Stock neglectedness is the average neglectedness during each year calculated under a three-year horizon.

Similar to Devos *et al.* (2004), we estimate synergies by looking at the earnings forecasts of event firms before and after the merger effect date. The information on earnings forecast is obtained from the Thomson I/B/E/S Summary History Database. The estimation procedure is detailed as follows. Let  $E_{pre}^T, E_{pre}^B$  be the latest yearly EPS forecast for the target and the bidder one quarter before the effective date,  $E_{post}^B$  be the first yearly EPS forecast for the combined firm after the effective date, and let  $SH_{pre}^T, SH_{pre}^B, SH_{post}^B, P_{pre}^T$  and  $P_{post}^B$  be the shares outstanding and stock prices concurrent with the earnings forecasts. We also define  $E_{pre-announc}^B$  and  $P_{pre-announc}^B$  as the latest EPS forecast and its corresponding stock price of the bidder before the announcement date. The merger synergies are defined by the following equation:

$$Syn = \frac{\frac{P_{pre-announc}^B - announce}{E_{pre-announc}^B} - (E_{post}^B SH_{post}^B - E_{pre}^B SH_{pre}^B - E_{pre}^T SH_{pre}^T)}{P_{pre-announc}^B SH_{pre-announc}^B}$$

We only estimate synergies for successful mergers with 100% acquisition of target shares (exclude partial acquisitions, sales of subsidiaries, etc.). We also require the time delay from the announcement date to the effect date to be less than 360 days and drop the forecasting data with negative values. In Panel B columns (3)–(5) we identify instruments for difference in neglectedness by using OLS, while in column (7)–(9), we identify instruments for merger synergy. The explanatory variables include bidder’s stock neglectedness, cash to sales ratio, idiosyncratic volatility, no-rating dummy, capital intensity, employee intensity, pre-announcement earnings forecast, leverage, operating margin and C&I spread. Cash to sales ratio is defined as the ratio of cash and short-term investments to sales in the year previous to the announcement date (COMPUSTAT data1/data12). Idiosyncratic return volatility is calculated as the standard deviation of the market adjusted residuals of the bidder’s daily stock returns measured from 264 days to 64 days prior to the announcement date. No-rating dummy equals 1 if the bidder doesn’t have an S&P credit rating in Compustat and zero otherwise. Capital intensity is calculated as gross PPE divided by total assets (COMPUSTAT data7/data6). Employee intensity is the number of employees divided by total assets (COMPUSTAT data29/data6). Leverage is total debt divided by total assets (COMPUSTAT (data9+data34)/data6). Operating margin is operating income before depreciation divided by sales (COMPUSTAT data13/data12). C&I spread is the commercial and industrial loan rate spread above the fed funds rate (Harford 2005). We also add a period dummy with a value of 1 if the deal occurs after 1993 and zero otherwise. In column (4) we use an IV regression to examine the impact of synergy on Diff in Negl. where synergy is instrumented using bidder’s pre-announcement earnings forecast, capital intensity and employee intensity. In column (8) we use an IV regression to examine the impact of Diff in Negl. on synergy where Diff in Negl. is instrumented by bidder’s stock neglectedness, cash to sales ratio and no-rating dummy. We employ Heckman’s self-selection correction technique to address potential self-selection issues by adding Heckman’s Lambda to the right hand side of the regression. Hansen’s J statistic (Chi-squared p-value) is reported to test the quality of instruments whenever IV regression is performed.

Panel A presents the summary statistics and univariate tests of our estimates of merger synergy. High-buy-low dummy takes a value of 1 if the firm’s Diff in Negl. is above the median of events occurring at the same announcement year and zero otherwise. Low-buy-high equals 1 if the firm’s Diff in Negl. is below the median of event observations at the same year and zero otherwise. Both two tailed t-test and Wilconxon rank-sum test are used to compare the mean and median of merger synergies between the two groups. \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedasticity robust standard errors with t-statistics given in parentheses.

**Panel A: Summary Statistics of Merger Synergy and Univariate Tests**

	Full Sample		High-buy-Low		Low-buy-High		t-stat.	Wilconxon z-stat.
	Mean	Median	Mean	Median	Mean	Median		
Merger Synergy	30.1%	14.9%	26.4%	13.9%	33.6%	16.0%	-1.24	-0.88
	1115		555		560			



Table III (Cont'd) : Panel B: Determinants of Unconditional Probability, Diff in Neglectedness and Merger Synergy

		Bidder Prob.	Target Prob.	Diff in Negl.				Merger Synergy			
				(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff in Negl..											-0.096 (-1.18)
Merger synergy							0.256 (0.97)				
<i>Bidder:</i>	D/E	0.005 (0.68)		0.001 (0.08)	0.006 (0.75)	-0.122* (-1.74)	-0.148** (-2.29)	0.204* (1.73)	0.263** (2.25)	0.242** (2.18)	0.251** (2.19)
	Liquidity	0.111 (0.75)		0.344** (2.58)	0.119 (0.65)	0.635 (1.60)	0.622 (1.66)	-0.012 (-0.03)	-0.044 (-0.10)	0.248 (0.51)	0.227 (0.49)
	Sales Growth	0.119*** (3.22)		0.046 (0.59)	0.055 (0.56)	-0.058 (-0.25)	-0.160 (-0.68)	0.197 (0.63)	0.316 (1.30)	0.414* (1.67)	0.388 (1.62)
	Size	0.258*** (20.98)		0.089*** (3.03)	0.003 (0.07)	-0.037 (-0.47)	-0.006 (-0.06)	-0.029 (-0.50)	0.043 (0.46)	-0.071 (-0.62)	-0.029 (-0.31)
	ROE	0.000 (0.03)		0.037 (0.26)	0.060 (0.36)	0.289 (0.81)	0.324 (1.07)	-0.078*** (-3.08)	-0.079** (-2.51)	-0.068** (-2.17)	-0.073** (-2.36)
	M/B	-0.007** (-2.40)		-0.003 (-0.36)	-0.010 (-1.03)	0.001 (0.03)	0.008 (0.47)	0.813 (1.04)	0.560 (0.77)	0.390 (0.52)	0.390 (0.52)
	P/E	0.000 (0.14)		0.001 (1.09)	0.001 (1.23)	0.000 (0.17)	0.000 (0.35)	-0.000 (-0.23)	0.000 (0.00)	0.000 (0.09)	0.000 (0.12)
	Abnormal Return	0.040 (1.28)									
	Stock Volatility	-0.086 (-0.74)									
	Heckman Lambda			-0.629** (-2.00)	-0.299 (-0.70)	-0.523 (-0.71)	-0.936 (-1.12)	2.648*** (3.86)	2.106** (2.05)	2.585** (2.37)	2.464** (2.43)
	Stock Neglectedness	-0.080*** (-4.52)		0.650*** (19.87)	0.653*** (22.18)	0.584*** (12.02)	0.604*** (11.85)			-0.064 (-1.28)	
	Idiosyncratic Vol.			-4.520	-6.864**	-19.674**	-14.180*			-17.114**	-20.327**
						*				*	
	C&I Rate Spread			-1.163*** (-6.94)	-1.021*** (-7.09)	-1.287*** (-4.01)	-1.505*** (-4.34)			0.942*** (2.99)	0.752*** (2.79)
	Cash/Sales			0.013*** (3.36)	0.012*** (2.78)	0.031 (0.35)	0.046 (0.60)			-0.052 (-0.33)	
	No-rating Dummy			-0.053 (-0.90)	-0.007 (-0.10)	-0.180 (-1.38)	-0.074 (-0.45)			-0.286 (-1.44)	
	EPS forecast					-0.056 (-1.51)		-0.130*** (-2.98)	-0.118** (-2.61)	-0.135*** (-3.00)	-0.134*** (-3.09)
	Employee Intensity					-5.673 (-0.51)		10.612 (0.97)	20.966* (1.85)	21.884* (1.86)	21.896* (1.90)
	Capital Intensity					0.101 (0.43)		0.161 (0.75)	0.530** (2.15)	0.514** (2.10)	0.537** (2.21)
	Leverage					-0.099 (-0.19)	0.063 (0.14)	-0.711 (-0.85)	-0.543 (-0.78)	-0.814 (-1.11)	-0.611 (-0.90)
	Operating Margin					-0.199 (-0.37)	-0.099 (-0.20)	0.019 (0.03)	0.466 (0.65)	0.525 (0.74)	0.471 (0.68)
<i>Target:</i>	D/E		0.000 (-0.03)		-0.003 (-0.49)	-0.010 (-0.57)	-0.005 (-0.31)		-0.025 (-1.58)	-0.022 (-1.39)	-0.025 (-1.65)
	Liquidity		-0.006 (-0.08)		0.238 (1.48)	0.326 (1.1)	0.242 (0.84)		0.352 (1.37)	0.404 (1.58)	0.398 (1.59)
	Sales Growth		0.053* (1.83)		0.070 (0.96)	0.354** (2.23)	0.293** (2.03)		0.018 (0.12)	0.098 (0.64)	0.126 (0.84)
	Size		0.001 (0.11)		0.116*** (6.12)	0.167*** (3.80)	0.191*** (4.07)		-0.113*** (-2.65)	-0.095** (-2.22)	-0.079* (-1.81)
	ROE		0.007 (1.50)		0.013*** (2.95)	-0.119 (-0.97)	-0.125 (-1.08)		0.011 (0.24)	0.039 (0.88)	0.025 (0.52)
	M/B		0.000 (-0.06)		0.001 (0.10)	0.007 (0.62)	0.001 (0.10)		0.022** (2.17)	0.021** (2.15)	0.021** (2.27)
	P/E		-0.001*** (-4.45)		0.001 (0.84)	0.001 (0.60)	0.002 (0.91)		-0.001 (-0.65)	-0.002 (-1.00)	-0.002 (-0.85)
	Stock Neglectedness		-0.074*** (-4.37)								
	Abnormal Return		-0.044** (-2.21)								
	Stock Volatility		-0.016 (-0.25)								
	Period Dummy			0.774*** (9.00)	0.960*** (5.43)	1.129*** (5.09)	0.909*** (5.40)	0.191 (1.12)	0.313 (1.58)	0.308 (1.63)	0.392** (2.06)
	Intercept	-3.547*** (-27.71)	-2.055*** (-18.85)	1.320*** (4.10)	1.770** (2.07)	2.452** (2.52)	1.674** (2.39)	0.106 (0.22)	-0.427 (-0.59)	-1.059 (-1.06)	-1.223 (-1.50)
	Industry Dummies	No	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes
	Clustering	Industry	Industry	Industry	Firm	Firm	Firm	Industry	Firm	Firm	Firm
	R-squared	0.1625	0.0185	0.3523	0.3907	0.3651	0.3715	0.0693	0.1464	0.1715	0.1621
	Hansen's J (p-value)						0.46				0.23
	Number of Obs.	67991	67849	1738	1738	652	652	652	652	652	652

**Table IV: Changing Value in Mutual Fund Holdings**

This table analyses the impact of difference in neglectedness on the value changes in mutual fund holdings of the bidding firms after the deal. Let  $V_B^{after}$  be the value of bidder's mutual fund holdings one quarter after the merger effect date,  $V_B^{before}$  and  $V_T^{before}$  be the value of bidder and target's fund holdings one quarter before the merger announcement date, then the dependent variable is defined as  $(V_B^{after} - V_B^{before} - V_T^{before}) / V_B^{before}$ . IV regression (2SLS) is implemented in all specifications to address the endogeneity issue of difference in neglectedness and merger synergy. We report the results with and without synergy. If synergy is not included (columns (1)–(5)) we use the bidder's neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy and C&I spread as instruments for Diff in Negl. If synergy and Diff. in Negl. are included together (columns (6)–(10)), we instrument both of them by the bidder's neglectedness, cash to sales ratio, no-rating dummy, pre-announcement earnings forecast, employee intensity and C&I spread. We also add specifications where Diff in Negl. is decomposed into its positive part and negative part in the second stage regression. Diff in Negl. Positive is equal to Diff if Diff is positive and zero otherwise. Diff in Negl. Negative is the same as Diff when Diff is negative and zero otherwise. Hansen's J statistic (Chi-squared p-value) is always reported. In addition to bidder and target's accounting variables we also control merger characteristics by adding dummy variables such as all-stock offer, tender offer, hostile takeover and competing offer. \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedasticity robust standard errors with t-statistics given in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff in Negl.	0.261** (2.27)	0.270** (2.58)	0.253*** (4.03)	0.257*** (3.15)		0.350*** (2.98)	0.354*** (3.00)	0.395*** (3.57)	0.394*** (3.61)	
Merger synergy						1.466*** (3.89)	1.322*** (3.22)	1.401*** (3.59)	1.398*** (3.41)	1.388*** (3.25)
Diff in Negl.: Positive					0.359** (2.18)					0.445** (2.10)
Diff in Negl.: Negative					0.212** (2.20)					0.353*** (2.88)
<i>Bidder's Characteristics</i>										
D/E	-0.118*** (-11.98)	-0.117*** (-12.90)	-0.123*** (-6.50)	-0.111*** (-5.53)	-0.112*** (-5.62)	0.001 (0.02)	0.002 (0.08)	0.035 (1.08)	0.029 (0.86)	0.031 (0.99)
Liquidity	-0.879* (-1.75)	-0.739 (-1.62)	-1.143** (-2.16)	-1.198** (-2.22)	-1.205** (-2.26)	0.263 (0.63)	0.109 (0.27)	0.236 (0.40)	0.253 (0.38)	0.304 (0.49)
Sales Growth	-0.334 (-1.52)	-0.427* (-1.88)	-0.435 (-1.42)	-0.406 (-1.29)	-0.406 (-1.31)	0.028 (0.09)	0.000 (0.00)	-0.082 (-0.23)	-0.024 (-0.07)	-0.023 (-0.07)
Size	-0.439*** (-4.21)	-0.372*** (-4.27)	-0.316*** (-3.33)	-0.259** (-2.60)	-0.260*** (-2.70)	-0.318*** (-2.95)	-0.314*** (-2.91)	-0.266** (-2.14)	-0.314** (-2.45)	-0.317*** (-2.71)
ROE	0.026*** (6.91)	0.027*** (7.58)	0.027*** (10.95)	0.027*** (10.64)	0.026*** (10.26)	-0.002 (-1.62)	-0.002 (-1.61)	-0.001 (-0.67)	0.000 (-0.21)	0.000 (-0.18)
M/B	0.051*** (3.19)	0.046*** (2.66)	0.060*** (2.89)	0.054** (2.54)	0.055** (2.62)	0.005 (0.36)	0.004 (0.38)	-0.003 (-0.28)	-0.001 (-0.12)	-0.002 (-0.16)
P/E	-0.000 (-0.19)	-0.000 (-0.19)	-0.001 (-0.36)	-0.000 (-0.33)	-0.001 (-0.34)	0.000 (0.09)	0.000 (0.15)	0.000 (0.25)	0.000 (0.31)	0.000 (0.42)
Heckman Lambda	2.144*** (2.76)	1.249* (1.68)	0.215 (0.20)	-0.003 (-0.00)	0.011 (0.01)	0.242 (0.20)	0.298 (0.26)	-0.181 (-0.14)	-0.049 (-0.04)	0.146 (0.15)
<i>Merger Characteristics</i>										
Stock		0.396** (2.52)	0.323* (1.80)	0.322* (1.80)	0.318* (1.79)		0.272 (1.43)	0.258 (1.30)	0.262 (1.34)	0.274 (1.59)
Tender Offer		-0.510*** (-3.74)	-0.442*** (-3.01)	-0.473*** (-3.20)	-0.473*** (-3.23)		-0.030 (-0.15)	-0.017 (-0.08)	0.033 (0.15)	0.039 (0.21)
Hostility		-0.494 (-1.59)	-0.347 (-1.13)	-0.235 (-0.74)	-0.245 (-0.81)		-0.883** (-2.24)	-0.808** (-2.04)	-0.958** (-2.29)	-0.963** (-2.37)
Competing Offer		-0.124 (-0.88)	-0.066 (-0.32)	-0.022 (-0.10)	-0.022 (-0.11)		0.200 (0.78)	0.289 (1.11)	0.232 (0.89)	0.238 (0.97)
<i>Target Characteristics</i>										
D/E				-0.056** (-2.56)	-0.056** (-2.59)				0.009 (0.19)	0.014 (0.34)
Liquidity				0.137 (0.40)	0.144 (0.43)				0.009 (0.02)	-0.006 (-0.02)
Sales Growth				-0.139 (-0.63)	-0.137 (-0.63)				-0.314 (-1.18)	-0.291 (-1.12)
Size				-0.085* (-1.79)	-0.087* (-1.83)				0.098 (1.29)	0.088 (1.20)
ROE				-0.009 (-1.01)	-0.009 (-1.00)				-0.125 (-0.39)	-0.114 (-0.50)
M/B				0.018* (1.79)	0.017* (1.84)				-0.004 (-0.24)	-0.005 (-0.43)
P/E				-0.003 (-0.95)	-0.003 (-0.96)				-0.003 (-0.77)	-0.003 (-0.82)
Intercept	4.014*** (4.67)	3.896*** (4.65)	3.762*** (5.55)	3.875*** (5.70)	3.882*** (6.07)	1.700 (1.59)	1.814* (1.73)	1.658 (1.49)	1.690 (1.44)	1.723* (1.88)
Industry Dummies	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Firm	Firm	Firm	Industry	Industry	Firm	Firm	Firm
Hansen's J (p-value)	0.40	0.35	0.29	0.26	0.26	0.50	0.63	0.27	0.21	0.21
N			1282					583		

**Table V: Bidder's Market Premium around the Event**

This table analyzes the impact of difference in neglectedness and merger synergy on the short-term performance of acquiring firms around the event. The short-term premium is defined as the cumulative abnormal return of the bidder stock for trading days (-126, +252) relative to the announcement date (Schwert (1996)). The abnormal return is measured relative to a CRSP value-weighted market model regression using a year of prior daily data in the estimation period. IV regression (2SLS) is implemented in all specifications. To compare to SV(2003), we also add specifications where Diff is decomposed into its positive part and negative part in the second stage regression. Diff in Negl. Positive is equal to Diff if Diff is positive and zero otherwise. Diff in Negl. Negative is the same as Diff when Diff is negative and zero otherwise. We report the results with and without synergy. If synergy is not included (columns (1)–(5)) we use the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy and C&I spread as instruments for Diff in Negl. If synergy and Diff of Negl. are included together (columns (6)–(10)), we instrument them by the bidder's neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread. Hansen's J statistic (Chi-squared p-value) is always reported to examine the quality of instruments. In addition to bidder and target's accounting variables we also control merger characteristics by adding dummy variables such as all-stock offer, tender offer, hostile takeover and competing offer. \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedasticity robust standard errors with t-statistics given in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff in Negl.	0.095*** (4.51)	0.096*** (4.55)	0.083*** (4.24)	0.083*** (4.21)		0.163*** (2.79)	0.144*** (2.74)	0.160*** (3.62)	0.156*** (3.76)	
Merger synergy						0.593*** (3.15)	0.497** (2.41)	0.570*** (2.87)	0.503** (2.62)	0.501*** (3.12)
Diff of Negl. : Positive					0.098** (2.25)					0.191*** (2.71)
Diff of Negl. : Negative					0.075** (2.53)					0.137** (2.60)
<i>Bidder's Characteristics</i>										
D/E	0.002 (0.35)	0.002 (0.35)	0.001 (0.17)	0.002 (0.40)	0.002 (0.41)	0.025 (1.41)	0.023 (1.46)	0.028 (1.56)	0.030* (1.89)	0.031** (2.06)
Liquidity	-0.088 (-0.82)	-0.081 (-0.78)	-0.107 (-0.90)	-0.090 (-0.72)	-0.091 (-0.74)	-0.218 (-1.32)	-0.220 (-1.47)	-0.317 (-1.39)	-0.280 (-1.19)	-0.279 (-1.34)
Sales Growth	-0.234*** (-3.71)	-0.237*** (-3.65)	-0.227*** (-3.24)	-0.201*** (-2.86)	-0.202*** (-2.85)	-0.455** (-2.18)	-0.404** (-2.16)	-0.446** (-2.58)	-0.358** (-2.16)	-0.361** (-2.29)
Size	-0.032** (-2.26)	-0.031** (-2.15)	-0.019 (-1.05)	-0.007 (-0.36)	-0.007 (-0.38)	-0.057 (-1.55)	-0.062* (-1.90)	-0.062 (-1.47)	-0.074* (-1.69)	-0.074* (-1.88)
ROE	-0.147* (-1.80)	-0.145* (-1.77)	-0.145 (-1.63)	-0.153* (-1.79)	-0.153* (-1.90)	0.000 (0.03)	0.000 (-0.83)	0.000 (-0.33)	-0.001 (-1.01)	0.000 (-0.85)
M/B	-0.033*** (-5.55)	-0.033*** (-5.53)	-0.036*** (-5.47)	-0.036*** (-5.53)	-0.036*** (-5.60)	-0.011 (-1.64)	-0.010 (-1.65)	-0.013* (-1.84)	-0.013*** (-2.31)	-0.013*** (-2.37)
P/E	-0.000 (-0.76)	0.000 (-0.75)	0.000 (-0.48)	0.000 (-0.38)	0.000 (-0.40)	-0.001 (-1.36)	0.000 (-1.32)	-0.001* (-1.81)	-0.001* (-1.88)	-0.001** (-2.61)
Heckman Lambda	0.541*** (3.64)	0.521*** (3.49)	0.408* (1.86)	0.408* (1.88)	0.410* (1.92)	-0.248 (-0.45)	-0.027 (-0.05)	-0.106 (-0.20)	0.017 (0.04)	0.019 (0.04)
<i>Merger Characteristics</i>										
Stock		0.007 (0.23)	-0.005 (-0.13)	0.000 (0.00)	0.000 (-0.01)		-0.070 (-1.13)	-0.087 (-0.96)	-0.079 (-0.89)	-0.081 (-1.17)
Tender Offer		-0.023 (-0.58)	-0.013 (-0.28)	-0.025 (-0.54)	-0.025 (-0.56)		0.111 (1.47)	0.125 (1.37)	0.115 (1.28)	0.114 (1.58)
Hostility		-0.014 (-0.19)	-0.023 (-0.34)	0.004 (0.06)	0.004 (0.06)		0.088 (0.49)	0.146 (0.68)	0.050 (0.28)	0.045 (0.33)
Competing Offer		0.010 (0.18)	-0.006 (-0.11)	-0.008 (-0.14)	-0.007 (-0.14)		0.003 (0.03)	0.003 (0.02)	-0.025 (-0.23)	-0.037 (-0.37)
<i>Target's Characteristics</i>										
D/E				-0.005 (-0.84)	-0.005 (-0.86)				-0.001 (-0.04)	-0.001 (-0.05)
Liquidity				-0.036 (-0.37)	-0.036 (-0.37)				-0.265 (-1.48)	-0.260* (-1.76)
Sales Growth				-0.180*** (-3.34)	-0.180*** (-3.43)				-0.305*** (-2.97)	-0.306*** (-3.29)
Size				-0.021* (-1.70)	-0.021* (-1.75)				0.028 (0.69)	0.027 (0.80)
ROE				-0.003 (-1.21)	-0.003 (-1.18)				-0.138 (-0.92)	-0.132 (-1.06)
M/B				0.002 (0.50)	0.002 (0.51)				-0.001 (-0.09)	-0.001 (-0.14)
P/E				0.000 (-0.01)	0.000 (-0.01)				0.002 (1.56)	0.002** (2.03)
Intercept	0.245* (1.91)	0.233* (1.84)	0.369* (1.77)	0.424** (2.03)	0.421** (1.98)	0.416 (1.29)	0.454 (1.42)	0.431 (1.10)	0.459 (1.20)	0.397 (1.09)
Industry Dummies	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Firm	Firm	Firm	Industry	Industry	Firm	Firm	Firm
Hansen's J (p-value)	0.80	0.77	0.67	0.75	0.75	0.42	0.24	0.30	0.22	0.22
N			1719					617		

**Table VI**  
**Bidder's Asset Appreciation**

This table analyzes the impact of difference in stock neglectedness and merger synergy on the asset appreciation of bidding firms. Asset appreciation is defined as the increase of the bidder's forward price-earnings ratio before and after the merger effect date. Specifically, suppose  $E_{pre}^T, E_{pre}^B$  be the latest yearly EPS forecast for the target and the bidder one quarter before the effect date,  $E_{post}^B$  be the first yearly EPS forecast for the combined firm after the effect date, and let  $SH_{pre}^T, SH_{pre}^B, SH_{post}^B, P_{pre}^T, P_{pre}^B$  and  $P_{post}^B$  be the shares outstanding and stock prices concurrent with the earnings forecasts, we then define bidder's asset appreciation by the following formula:

$$AA = \frac{P_{post}^B}{E_{post}^B} - \frac{P_{pre}^B}{E_{pre}^B} \left( \frac{E_{pre}^B SH_{pre}^B}{E_{pre}^B SH_{pre}^B + E_{pre}^T SH_{pre}^T} \right) - \frac{P_{pre}^T}{E_{pre}^T} \left( \frac{E_{pre}^T SH_{pre}^T}{E_{pre}^B SH_{pre}^B + E_{pre}^T SH_{pre}^T} \right)$$

We only estimate asset appreciation for successful mergers with 100% acquisition of target shares (exclude partial acquisitions, sales of subsidiaries, etc.). We also require the time delay from the announcement date to the effect date to be less than 360 days.

In Panel B IV regression (2SLS) is implemented in all specifications to address the endogeneity issue of difference in neglectedness and merger synergy. We also add specifications where Diff is decomposed into its positive part and negative part in the second stage regression. Diff in Negl. Positive equals to Diff if Diff is positive and zero otherwise. Diff in Negl. Negative is the same as Diff when Diff is negative and zero otherwise. We report the results with synergy as well as without synergy. If synergy is not included (columns (1)–(5)) we use the bidder's neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy and C&I spread as instruments for Diff in Negl. If synergy and Diff of Negl. are included together (columns (6)–(10)), we use the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread as instruments for both. Hansen's J statistic (Chi-squared p-value) is reported to examine the quality of instruments across all specifications. In addition to bidder and target's accounting variables we also control merger characteristics by adding dummy variables such as all-stock offer, tender offer, hostile takeover and competing offer. We further include the pre-run-up forward price-earnings ratio of the bidder and target as additional controls.

In Panel A we presents summary statistics and univariate tests of our estimates of asset appreciation. High-buy-low dummy takes a value of 1 if the firm's Diff in Negl. is above the median of events occurring at the same announcement year and zero otherwise. Low-buy-high equals 1 if the firm's Diff in Negl. is below the median of event observations within the same announcement year and zero otherwise. Both two tailed t-test and Wilconxon rank-sum test are used to compare the mean and median between the two groups. \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedastically robust standard errors with t-statistics given in parentheses.

**Panel A: Summary Statistics of Bidder's Asset Appreciation and Univariate Tests**

	Full Sample		High-buy-Low		Low-buy-High		t-stat.	Wilconxon
	Mean	Median	Mean	Median	Mean	Median		
Bidder's Asset Appreciation	0.82	-0.52	2.33	0.13	-0.73	-1.07	3.03***	2.47**
N	1104		558		546			

**Table VI (Cont'd)**  
**Panel B: Bidder's Asset Appreciation**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff in Negl.	1.518** (2.14)	1.556** (2.17)	1.721*** (2.86)	1.692*** (2.96)		1.748*** (2.66)	1.824*** (2.87)	1.882** (2.40)	1.680** (2.30)	
Merger synergy						-1.729 (-0.58)	-2.318 (-0.80)	-2.585 (-0.70)	-3.733 (-1.06)	-4.118 (-1.08)
Diff in Negl. : Positive					3.078** (2.00)					3.172* (1.71)
Diff in Negl. : Negative					1.187 (1.51)					1.097 (1.11)
Bidder's Characteristics										
D/E	0.164 (0.65)	0.122 (0.50)	0.321 (1.20)	0.146 (0.57)	0.128 (0.51)	0.690* (1.87)	0.759* (1.92)	0.991* (1.95)	0.887* (1.75)	0.969* (1.92)
Liquidity	2.754 (1.28)	3.204 (1.47)	-0.002 (0.00)	-2.436 (-0.68)	-2.476 (-0.68)	1.061 (0.40)	0.943 (0.36)	-1.568 (-0.38)	-4.168 (-1.02)	-4.448 (-1.00)
Sales Growth	-0.869 (-0.53)	-1.082 (-0.62)	-0.949 (-0.51)	-0.920 (-0.50)	-0.971 (-0.52)	-1.616 (-0.83)	-2.011 (-0.95)	-1.004 (-0.46)	-0.827 (-0.38)	-0.842 (-0.35)
Size	-0.577 (-1.18)	-0.502 (-1.06)	-0.678 (-1.39)	-1.089** (-2.31)	-1.050** (-2.17)	-1.466** (-2.58)	-1.387** (-2.56)	-1.349** (-2.25)	-1.607*** (-2.78)	-1.605** (-2.49)
ROE	-0.107 (-0.04)	0.426 (0.13)	0.270 (0.06)	1.409 (0.33)	1.659 (0.40)	0.572 (0.15)	1.553 (0.40)	0.440 (0.09)	1.432 (0.30)	1.750 (0.35)
M/B	-0.179 (-0.89)	-0.195 (-0.95)	-0.358 (-1.61)	-0.274 (-1.23)	-0.267 (-1.19)	-0.323 (-1.46)	-0.403 (-1.65)	-0.523** (-1.99)	-0.455* (-1.75)	-0.487* (-1.76)
P/E	-0.004 (-0.35)	-0.004 (-0.40)	-0.004 (-0.54)	-0.005 (-0.69)	-0.006 (-0.75)	-0.006 (-0.42)	-0.005 (-0.46)	-0.004 (-0.57)	-0.005 (-0.71)	-0.006 (-0.73)
Pre-announcement EPS	0.027 (0.95)	0.025 (0.94)	0.022 (0.75)	0.029 (0.97)	0.026 (0.87)	0.057** (2.17)	0.055** (2.26)	0.063 (1.57)	0.078** (2.02)	0.080** (2.09)
Heckman Lambda	-2.234 (-0.48)	-2.982 (-0.67)	-1.005 (-0.18)	-1.125 (-0.22)	-1.377 (-0.26)	7.488 (0.82)	7.578 (0.88)	4.495 (0.52)	4.479 (0.55)	4.941 (0.57)
Merger Characteristics										
Stock		0.140 (0.19)	0.652 (0.62)	0.665 (0.63)	0.576 (0.55)		1.252 (0.85)	1.101 (0.75)	1.345 (0.92)	1.349 (0.84)
Tender Offer		-1.621 (-1.54)	-2.036* (-1.72)	-2.079* (-1.71)	-2.087* (-1.73)		-2.147 (-1.54)	-2.548* (-1.78)	-2.846* (-1.95)	-2.965* (-1.94)
Hostility		1.013 (0.52)	0.707 (0.19)	0.423 (0.11)	1.250 (0.35)		-0.684 (-0.37)	-0.300 (-0.07)	-0.834 (-0.21)	-1.117 (-0.28)
Competing Offer		2.277 (1.11)	2.392 (1.18)	1.956 (0.99)	1.828 (0.94)		2.443 (1.26)	2.411 (1.12)	2.230 (1.07)	2.146 (0.98)
Target's Characteristics										
D/E				0.367** (1.96)	0.353* (1.84)				0.641** (2.30)	0.660** (2.16)
Liquidity				5.905* (1.82)	5.978* (1.82)				5.916* (1.92)	5.975* (1.77)
Sales Growth				-1.710 (-0.69)	-1.761 (-0.72)				-1.542 (-0.58)	-1.576 (-0.56)
Size				1.069*** (3.15)	1.010*** (3.04)				0.891* (1.81)	0.802 (1.49)
ROE				-2.919 (-1.32)	-2.929 (-1.36)				-2.313 (-1.06)	-2.186 (-0.93)
M/B				-0.247*** (-2.71)	-0.252*** (-2.69)				-0.269** (-2.50)	-0.277** (-2.43)
P/E				0.002 (0.08)	0.001 (0.05)				0.015 (0.48)	0.014 (0.46)
Pre-announcement EPS				-0.103 (-1.63)	-0.104 (-1.61)				-0.103* (-1.71)	-0.100 (-1.53)
Intercept	-10.718** (-2.31)	6.024 (1.34)	6.556 (1.12)	4.876 (0.84)	4.761 (0.80)	-4.057 (-0.65)	1.212 (0.19)	-3.758 (-0.51)	-4.200 (-0.54)	-4.166 (-0.43)
Industry Dummies	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Firm	Firm	Firm	Industry	Industry	Firm	Firm	Firm
Hansen's J (p-value)	0.49	0.48	0.45	0.41	0.41	0.54	0.42	0.23	0.20	0.20
N			902					623		

**Table VII**  
**Target (Adjusted) Market Premium around the Event**

This table analyzes the impact of differences in neglectedness and merger synergy on the target premium around the event. Our main focus is the adjusted market premium assuming that the target’s demand curve is downward-sloping. We estimate a firm’s true value following the decomposition methodology advanced by Rhodes-Kropf, Robinson and Viswanathan (2004). We group firms in our base sample universe (the one used in unconditional probit regression) according to the Fama and French 12 industries and perform cross-sectional regression of log(market value) on log(book value) within each industry year. Then we use the exponential of the fitted value for each firm as the true value in the sense that it can be supported by the firm’s fundamentals. Letting  $MKT_{-126}$  be the target’s market value 126 trading days before the announcement date and  $VAL_{-126}$  be its true value estimated in the year previous to the announcement date, we adjust the target’s market premium in the following way:

$$\text{Adjusted Market Premium} = \begin{cases} CAR(-126, 252) + 1 - \frac{VAL_{-126}}{MKT_{-126}} & \text{if } VAL_{-126} \leq MKT_{-126}, \\ CAR(-126, 252) & \text{otherwise,} \end{cases}$$

where  $CAR(-126, 252)$  is defined as the cumulative abnormal return of the target stock for trading window (-126, +252) relative to the announcement date (Schwert (1996)). The abnormal return is measured relative to a CRSP value-weighted market model regression using a year of prior daily data in the estimation period. Our idea is that selling in the market would push the price down towards its true value if the market value is it, but would not pull the price up in the opposite were true (demand curve sloping down). IV regression (2SLS) is implemented in all specifications to address the endogeneity problem of Diff in Negl. and merger synergy. We report the results with synergy as well as without synergy. If synergy is not included (columns (1)–(5)), we use the bidder’s neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy and C&I spread as instruments for Diff in Negl. If synergy and Diff in Negl. are included together (columns (6)–(10)), we use the bidder’s neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread as instruments for both. Hansen’s J statistic (Chi-squared p-value) is reported to examine the quality of instruments across all specifications. In addition to bidder and target’s accounting variables we also control merger characteristics by adding dummy variables such as all-stock offer, tender offer, hostile takeover and competing offer. For the purpose of comparison and robust check the dependent variable in columns (5) and (10) is actual market premium  $CAR(-126, 252)$ . \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedastically robust standard errors with t-statistics given in parentheses.

Table VII (Cont'd)

	Adjusted Market Premium				Market Premium	Adjusted Market Premium				Market Premium
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff in Negl.	0.040** (2.32)	0.041** (2.37)	0.046*** (2.82)	0.046*** (2.79)	0.041** (2.48)	0.074*** (3.32)	0.066*** (2.72)	0.061*** (2.66)	0.048** (2.26)	0.046** (2.02)
Merger synergy						0.288*** (2.93)	0.288*** (3.08)	0.311*** (3.91)	0.218** (2.31)	0.255** (2.47)
Target's Characteristics										
D/E	0.009 (1.00)	0.009 (1.01)	0.011 (1.25)	0.011 (1.13)	0.023*** (3.16)	0.008 (0.40)	0.004 (0.24)	0.005 (0.28)	0.009 (0.51)	0.016 (0.95)
Liquidity	0.180** (2.39)	0.135* (1.86)	-0.079 (-0.83)	-0.062 (-0.63)	-0.162 (-1.55)	-0.099 (-0.90)	-0.155 (-1.58)	-0.203* (-1.68)	-0.194* (-1.69)	-0.328** (-2.61)
Sales Growth	-0.187*** (-4.84)	-0.184*** (-4.99)	-0.171*** (-3.59)	-0.164*** (-3.37)	-0.256*** (-4.67)	-0.095 (-1.09)	-0.084 (-0.91)	-0.043 (-0.54)	-0.038 (-0.50)	-0.164* (-1.87)
Size	-0.039*** (-3.03)	-0.038*** (-3.16)	-0.038*** (-3.95)	-0.057*** (-5.10)	-0.089*** (-7.54)	-0.026 (-1.57)	-0.019 (-1.02)	-0.008 (-0.44)	-0.034 (-1.45)	-0.067** (-2.57)
ROE	-0.011** (-2.51)	-0.010** (-2.29)	-0.008** (-2.03)	-0.007* (-1.93)	-0.009** (-2.03)	-0.036 (-0.30)	-0.006 (-0.07)	-0.045 (-0.38)	-0.024 (-0.22)	-0.110 (-0.72)
M/B	0.009* (1.68)	0.009* (1.67)	0.006 (1.34)	0.006 (1.19)	-0.011** (-2.33)	0.011* (1.94)	0.012** (2.57)	0.005 (0.81)	0.005 (0.85)	-0.013 (-1.57)
P/E	-0.001 (-1.01)	-0.001 (-1.19)	0.000 (-0.67)	-0.001 (-0.76)	0.000 (-0.24)	-0.001 (-1.20)	-0.001 (-0.77)	-0.001 (-1.00)	-0.001 (-1.11)	0.000 (-0.40)
Heckman Lambda	7.039*** (5.09)	6.917*** (5.28)	6.445*** (5.39)	6.384*** (5.41)	6.529*** (5.64)	0.813 (0.89)	1.412 (1.22)	0.796 (0.58)	0.966 (0.75)	1.832 (1.41)
Merger Characteristics										
Stock		0.097*** (3.40)	0.103*** (3.12)	0.119*** (3.68)	0.100*** (3.10)		-0.038 (-0.71)	-0.057 (-0.98)	-0.034 (-0.61)	-0.102* (-1.70)
Tender Offer		0.152*** (4.62)	0.101*** (2.79)	0.095** (2.62)	0.089** (2.37)		0.112** (2.05)	0.063 (1.09)	0.037 (0.64)	0.026 (0.44)
Hostility		-0.001 (-0.01)	0.004 (0.06)	0.029 (0.50)	0.079 (1.36)		0.220 (1.42)	0.362* (1.78)	0.320* (1.80)	0.295 (1.37)
Competing Offer		0.036 (0.70)	0.048 (1.01)	0.063 (1.33)	0.105** (2.14)		0.044 (0.57)	0.069 (0.83)	0.063 (0.86)	0.097 (1.17)
Bidder's Characteristics										
D/E				0.001 (0.17)	-0.001 (-0.19)				0.003 (0.19)	-0.010 (-0.91)
Liquidity				-0.069 (-0.71)	0.013 (0.14)				-0.136 (-0.93)	-0.036 (-0.23)
Sales Growth				-0.057 (-1.12)	-0.033 (-0.67)				-0.060 (-0.75)	-0.073 (-0.89)
Size				0.029*** (2.71)	0.027** (2.52)				0.022 (1.10)	0.012 (0.57)
ROE				0.030 (0.33)	-0.027 (-0.30)				0.048 (0.28)	0.008 (0.05)
M/B				0.002 (0.54)	-0.001 (-0.33)				0.010 (1.41)	0.006 (1.45)
P/E				-0.001* (-1.87)	-0.001** (-2.11)				0.000 (0.91)	-0.000 (-0.09)
Intercept	0.169 (1.37)	0.121 (1.05)	0.175 (1.28)	0.099 (0.68)	-0.000 (0.00)	0.179 (0.87)	0.517*** (4.20)	0.420** (2.39)	0.412** (2.36)	0.564*** (3.14)
Industry Dummies	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Firm	Firm	Firm	Industry	Industry	Firm	Firm	Firm
Hansen's J (p-value)	0.98	0.95	0.58	0.79	0.51	0.31	0.26	0.54	0.55	0.40
N			1649					615		

**Table VIII**  
**Offer Premium and Bargaining Power of the Target**

This table analyzes the impact of difference in neglectedness and merger synergy on the target’s actual offer premium at the announcement date. We further examine the effect of Diff in Negl. and the degree of the target’s demand curve sloping down on the offer premium which reflects the bargaining power of the target around the deal. We report the results on 1-day offer premium as well as 1-week offer premium. One-day offer premium is the premium of offer price to target trading price one day prior to the announcement date, expressed as ((offer price-target price 1-day before)/target price 1-day before). One-week offer premium is the premium of offer price to target trading price one week prior to the announcement date, expressed as ((offer price-target price 1-week before)/target price 1-week before). We obtain the data on offer premium directly from SDC M&A database where PREM1DAY and PREM1WK are marked as keywords. We require the value of offer premium to be between -0.1 and 2 (Officer (2003)). We do include some modest negative premiums in our sample and do not see all negative values (nearly 5% of our sample) as outliers. This is reasonable since, if the bargaining power of the target is weak, the bidder can offer a price well below the market price of the target near the announcement date and the deal still goes through.

Panel A reports the regression results on 1-day offer premium and 1-week offer premium respectively. The dependent variable in columns (1)–(4) is 1-day offer premium and the dependent variable in columns (5)–(8) is 1-week offer premium. IV regression (2SLS) is implemented in all specifications to address the endogeneity problem of difference in neglectedness and merger synergy. We report the results with and without synergy. If synergy is not included (columns (1)–(4)) we use the bidder’s neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy and C&I spread as instruments for Diff in Negl. If synergy and Diff in Negl. are included together (columns (5)–(8)), we use the bidder’s neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread as instruments for both. Hansen’s J statistic (Chi-squared p-value) is reported to examine the quality of instruments across all specifications. In addition to bidder and target’s accounting variables we also control merger characteristics by adding dummy variables such as all-stock offer, tender offer, hostile takeover and competing offer.

In Panel B we report summary statistics and univariate tests for offer premium based on different levels of Diff in Negl. and target analyst dispersion. Panel B1 is for 1-day offer premium and Panel B2 is for 1-week offer premium. Following Baker, Coval and Stein (2006), we measure the slope of target demand curve by dispersion in analyst forecasts. It is calculated as the standard deviation of all outstanding earnings forecasts of long-term growth for the target firm before the announcement date. We require the number of forecasts for each target to be larger than five and we only include successful mergers. High-buy-low is a dummy variable equal to 1 if difference in neglectedness is above the sample median at each event-year and zero otherwise. High Target Analyst Dispersion takes a value of 1 if the target’s analyst dispersion is above the sample median at each event-year and zero otherwise. Low-buy-high dummy and Low Target Analyst Dispersion dummy are defined vice versa. Both two-tailed t-test and Wilcoxon rank-sum test are performed to compare the mean and median offer premium between high-buy-low and low-buy-high type of targets based on different levels of target’s analyst dispersion. The number of observations appears in parentheses.

Panel C presents the results of regressing offer premium on Diff in Negl. and its interaction with the slope of target demand curve. The dependent variable in columns (1)–(4) is 1-day offer premium and the dependent variable in columns (5)–(8) is 1-week offer premium. To address the endogeneity issue of Diff in Negl. we run a first stage regression of Diff in Negl. on its instruments (not reported) and use the fitted value in the second stage regression. The instruments are the same as before, including bidder’s neglectedness, idiosyncratic return volatility, cash to sales ratio, no-rating dummy and C&I rate spread. What we conjecture is that higher difference in neglectedness would reduce part of the target’s bargaining power if its demand curve is steeply downward-sloping. High Target Analyst Dispersion takes a value of 1 if the target’s analyst dispersion is above the sample median at each event year and zero otherwise. Our main explanatory variable is the interaction of fitted Diff of Negl. and High Target Analyst Dispersion. In addition to the bidder’s and target’s accounting variables we also control merger characteristics by adding dummy variables such as all-stock offer, tender offer, hostile takeover and competing offer. Throughout all panels \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedastically robust standard errors with t-statistics given in parentheses.



**Table VIII (Cont'd)**  
**Panel A: Offer Premium**

	Offer Premium: 1-day				Offer Premium: 1-week			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Diff of Negl.	0.001 (0.10)	0.001 (0.12)	0.024* (1.85)	0.026* (1.84)	-0.008 (-0.92)	-0.007 (-0.87)	0.019 (1.35)	0.017 (1.17)
Merger synergy			0.143*** (2.72)	0.181** (2.44)			0.132** (2.43)	0.151** (2.06)
Target's Characteristics								
D/E	0.002 (0.79)	0.002 (0.89)	0.009 (1.12)	0.009 (1.05)	0.003 (0.81)	0.004 (1.14)	0.009 (1.05)	0.010 (1.18)
Liquidity	-0.069 (-1.40)	-0.063 (-1.20)	-0.110 (-1.46)	-0.106 (-1.29)	-0.074 (-1.39)	-0.076 (-1.36)	-0.113 (-1.46)	-0.124 (-1.48)
Sales Growth	-0.064** (-2.27)	-0.065** (-2.31)	-0.014 (-0.32)	-0.001 (-0.02)	-0.049 (-1.66)	-0.050* (-1.72)	-0.025 (-0.55)	-0.010 (-0.20)
Size	-0.028*** (-5.18)	-0.030*** (-4.47)	-0.015 (-1.44)	-0.005 (-0.28)	-0.036*** (-6.23)	-0.041*** (-5.75)	-0.026** (-2.36)	-0.027 (-1.60)
ROE	-0.004*** (-2.99)	-0.004*** (-2.96)	0.031 (0.67)	0.022 (0.45)	0.006 (0.63)	0.010 (0.94)	0.018 (0.35)	0.015 (0.27)
M/B	-0.003* (-1.79)	-0.003** (-2.03)	-0.006 (-1.43)	-0.006 (-1.48)	-0.004** (-2.03)	-0.005** (-2.52)	-0.005 (-1.31)	-0.006 (-1.60)
P/E	0.000 (0.08)	-0.000 (-0.02)	-0.001 (-1.19)	-0.001 (-1.32)	0.000 (0.90)	0.000 (0.85)	0.000 (-0.42)	0.000 (-0.42)
Heckman Lambda	1.323** (2.25)	1.220** (2.09)	0.520 (0.77)	0.346 (0.48)	1.767*** (2.67)	1.600** (2.44)	0.546 (0.75)	0.468 (0.62)
Merger Characteristics								
Stock	0.037** (2.12)	0.033* (1.93)	-0.048 (-1.37)	-0.058 (-1.43)	0.031* (1.71)	0.025 (1.41)	-0.049 (-1.37)	-0.057 (-1.46)
Tender Offer	0.037* (1.70)	0.038* (1.72)	0.015 (0.40)	0.024 (0.58)	0.062*** (2.71)	0.061** (2.63)	0.026 (0.67)	0.025 (0.58)
Hostility	0.094*** (3.04)	0.096*** (3.12)	0.148 (1.06)	0.152 (0.99)	0.078** (2.34)	0.088** (2.63)	0.162 (1.14)	0.172 (1.15)
Competing Offer	0.086*** (2.77)	0.084*** (2.75)	0.107* (1.90)	0.121** (1.97)	0.092*** (2.68)	0.093*** (2.78)	0.155** (2.34)	0.170** (2.48)
Bidder's Characteristics								
D/E		-0.002 (-0.32)		-0.014 (-1.28)		-0.006 (-1.21)		-0.015 (-1.62)
Liquidity		-0.054 (-1.05)		0.073 (0.72)		-0.036 (-0.63)		0.086 (0.82)
Sales Growth		0.001 (0.06)		-0.073 (-1.53)		-0.009 (-0.31)		-0.083* (-1.74)
Size		-0.000 (-0.02)		-0.012 (-0.80)		0.006 (0.99)		0.005 (0.32)
ROE		-0.064 (-1.15)		0.102 (0.66)		-0.107 (-1.56)		0.044 (0.36)
M/B		0.005** (2.00)		0.002 (0.60)		0.006** (2.10)		0.003 (1.09)
P/E		-0.000 (-0.27)		-0.000 (-0.74)		0.000 (0.76)		-0.000 (-0.70)
Intercept	0.495*** (6.19)	0.515*** (6.07)	0.450*** (2.99)	0.240* (1.76)	0.521*** (6.15)	0.452*** (5.17)	0.370*** (3.11)	0.509*** (2.81)
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Hansen's J (p-value)	0.75	0.62	0.46	0.64	0.83	0.71	0.34	0.40
N	1505		586		1505		586	

**Panel B: Offer Premium by Diff inNegl. and Target Analyst Dispersion**

			Panel B1: 1-Day Offer Premium					
High Dispersion	Target Analyst		High-buy-Low		Low-buy-High		t-stat.	Wilconxon
			Mean	Median	Mean	Median		
			0.33	0.27	0.41	0.32	-2.57**	-2.35**
			(193)		(183)			
Low Dispersion	Target Analyst		0.34	0.30	0.32	0.26		
			(190)		(186)		0.89	0.94

**Table VIII (Cont'd)**  
**Panel B2: 1-Week Offer Premium**

	High Dispersion	Target	Analyst	High-buy-Low		Low-buy-High		t-stat.	Wilconxon
				Mean	Median	Mean	Median		
				0.37	0.32	0.49	0.43	-3.71***	-3.55***
				(193)		(183)			
	Low Dispersion	Target	Analyst	0.39	0.35	0.37	0.32	0.46	0.63
				(190)		(186)			

**Panel C: Bargaining Power of the Target**

	Offer Premium: 1-day				Offer Premium: 1-week				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Diff in Negl.	0.025**	0.024**	0.023*	0.020	0.027**	0.025**	0.025*	0.022*	
	(2.45)	(2.23)	(1.76)	(1.61)	(2.63)	(2.22)	(1.93)	(1.66)	
Diff in Negl. × High Target Dispersion	-0.045***	-0.051***	-0.049**	-0.049**	-0.060***	-0.066***	-0.062***	-0.063***	
	(-3.50)	(-3.59)	(-2.62)	(-2.60)	(-5.29)	(-5.25)	(-3.28)	(-3.27)	
High Target Analyst Dispersion	0.004	0.003	-0.007	-0.008	0.009	0.009	0.008	0.005	
	(0.18)	(0.11)	(-0.27)	(-0.32)	(0.38)	(0.36)	(0.28)	(0.19)	
Target's Characteristics									
D/E	-0.000	0.000	0.004	0.003	0.003	0.003	0.006	0.006	
	(-0.04)	(0.11)	(0.77)	(0.65)	(0.60)	(0.71)	(1.13)	(1.09)	
Liquidity	0.011	0.003	-0.030	-0.051	0.016	0.010	-0.039	-0.061	
	(0.30)	(0.06)	(-0.46)	(-0.69)	(0.37)	(0.21)	(-0.55)	(-0.81)	
Sales Growth	-0.049	-0.040	-0.048	-0.046	-0.052	-0.042	-0.053	-0.045	
	(-1.32)	(-1.07)	(-1.21)	(-1.21)	(-1.31)	(-1.07)	(-1.20)	(-1.02)	
Size	-0.016**	-0.017**	-0.015*	-0.026**	-0.025***	-0.025***	-0.024***	-0.039***	
	(-2.30)	(-2.26)	(-1.73)	(-2.22)	(-3.40)	(-3.15)	(-2.73)	(-3.35)	
ROE	0.003	0.004	0.004	0.009	-0.002	0.000	-0.001	0.005	
	(0.24)	(0.31)	(0.36)	(0.94)	(-0.12)	(0.00)	(-0.09)	(0.49)	
M/B	-0.001	-0.001	-0.002	-0.003	-0.002	-0.002	-0.003	-0.004	
	(-0.55)	(-0.61)	(-0.84)	(-0.97)	(-1.17)	(-1.20)	(-1.11)	(-1.36)	
P/E	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	(-0.07)	(-0.09)	(-0.10)	(-0.16)	(0.05)	(0.05)	(-0.03)	(-0.03)	
Heckman Lambda	1.434	1.413	1.087	1.053	1.419	1.403*	1.241	1.163	
	(1.59)	(1.64)	(1.54)	(1.52)	(1.62)	(1.72)	(1.60)	(1.53)	
Merger Characteristics									
Stock		0.004	0.005	-0.005		-0.010	-0.013	-0.021	
		(0.17)	(0.20)	(-0.22)		(-0.34)	(-0.51)	(-0.82)	
Tender Offer		0.039	0.025	0.029		0.046	0.032	0.033	
		(1.43)	(0.79)	(0.89)		(1.56)	(0.98)	(0.98)	
Hostility		0.116**	0.121**	0.129**		0.080	0.085	0.099*	
		(2.04)	(2.18)	(2.31)		(1.34)	(1.45)	(1.67)	
Competing Offer		0.107*	0.118**	0.114**		0.123*	0.144**	0.142**	
		(1.81)	(2.18)	(2.10)		(1.82)	(2.43)	(2.40)	
Bidder's Characteristics									
D/E				0.001				-0.003	
				(0.11)				(-0.22)	
Liquidity				0.017				0.033	
				(0.22)				(0.38)	
Sales Growth				0.042				0.019	
				(1.06)				(0.45)	
Size				0.016				0.023**	
				(1.54)				(2.19)	
ROE				-0.138				-0.136	
				(-1.19)				(-1.10)	
M/B				0.003				0.003	
				(0.94)				(0.70)	
P/E				-0.000				-0.000	
				(-1.32)				(-1.53)	
Intercept	0.441***	0.403***	0.420***	0.370**	0.524***	0.482***	0.490***	0.421***	
	(4.95)	(4.72)	(3.08)	(2.53)	(6.98)	(6.87)	(3.37)	(2.69)	
Industry Dummies	No	No	Yes	Yes	No	No	Yes	Yes	
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Clustering	Industry	Industry	Firm	Firm	Industry	Industry	Firm	Firm	
R-squared	0.0558	0.0880	0.1243	0.1418	0.0870	0.1089	0.1459	0.1645	
N									

**Table IX: Post-announcement Performance: High-buy-Low vs. NO-M&A**

This table presents a comparison of post announcement performance of high-buy-low bidders and their matched NO-M&A firms. The matching procedure is described as follows. Each month we sort all completed bidders with 100% acquisition of target shares according to their difference in neglectedness one quarter prior to the announcement. A bidder is considered high-buy-low if its Diff in Negl. is above the median of the sample distribution. We first choose 50 stocks in the same two-digit SIC industry with the smallest sum of rankings of absolute differences in size and market-to-book ratio with the real bidder, from which we further select a 25 stocks similar to the real bidder in terms of neglectedness. Then we narrow down our selection from these 25 stocks to those that have not been a bidder in the year before the announcement date and the next three years. If more than one stock is left in the end, we choose the one with the smallest absolute differences in stock neglectedness as our final NO-M&A firm. We also require the absolute difference in neglectedness between the real bidder and its matched No-M&A firm to be less than 0.5. In this way we get 707 No-M&A firms matched out of 863 high-buy-low bidder observations.

Panels A and B present estimates of the equally-weighted and value-weighted monthly abnormal returns for a portfolio composed of high-buy-low bidders and the matched No-M&A firms by using the calendar-time portfolio regression approach (CTPR). Five holding periods are considered: 12 months, 18 months, 24 months, 30 months and 36 months. Portfolios are rebalanced every month to drop the stocks that have reached the end of their holding periods and add new bidders that have just announced an acquisition. Repeated observations are dropped in each holding period and we also require the number of stocks for every long or short portfolio to be at least five in each month of its holding period. We report the estimated portfolio alpha and t-statistics for both the Fama-French three-factor and four-factor models. Panel C compares the post-announcement cumulative monthly abnormal returns of high-buy-low bidders with their matched NO-M&A firms using Ibbotson’s regression across time and securities (RATS) approach. For IRATS when there are multiple observations for a bidder and its matched firm in the same year we only include the last one. \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% respectively using heteroscedastically robust standard errors.

**Panel A: Equally-Weighted Calendar-time Portfolio Regression**

	Fama-French 3-Factor Model					Fama-French 4-Factor Model				
	12-month	18-month	24-month	30-month	36-month	12-month	18-month	24-month	30-month	36-month
“High-buy-Low”	0.0022 (1.30)	0.0030* (1.91)	0.0032 (2.10)	0.0026* (1.82)	0.0020 (1.45)	0.0028 (1.52)	0.0044*** (2.72)	0.0048*** (3.24)	0.0044*** (3.27)	0.0039*** (2.99)
“No-M&A”	-0.0057** (-2.56)	-0.0043* (-1.95)	-0.0033 (-1.52)	-0.0034* (-1.83)	-0.0029* (-1.71)	-0.0037* (-1.80)	-0.0022 (-1.08)	-0.0014* (-1.70)	-0.0015 (-0.85)	-0.0011 (-0.74)
Long “High-buy-Low”										
Short “No-M&A”	0.0080*** (3.19)	0.0073*** (3.08)	0.0066*** (2.94)	0.0060*** (3.18)	0.0049*** (2.75)	0.0065** (2.57)	0.0066*** (2.73)	0.0062*** (2.84)	0.0059*** (3.18)	0.0050*** (2.88)
N	193	221	226	226	226	193	221	226	226	226

**Panel B: Value-Weighted Calendar-time Portfolio Regression**

	Fama-French 3-Factor Model					Fama-French 4-Factor Model				
	12-month	18-month	24-month	30-month	36-month	12-month	18-month	24-month	30-month	36-month
“High-buy-Low”	0.0012 (0.61)	0.0028 (1.35)	0.0025 (1.35)	0.0025 (1.53)	0.0026* (1.70)	0.0010 (0.47)	0.0025 (1.16)	0.0026 (1.34)	0.0026 (1.52)	0.0025 (1.61)
“No-M&A”	-0.0062** (-2.24)	-0.0050* (-1.93)	-0.0044* (-1.82)	-0.0040* (-1.82)	-0.0034 (-1.64)	0.0056** (-2.02)	-0.0040 (-1.58)	-0.0034 (-1.42)	-0.0031 (-1.35)	-0.0028 (-1.36)
Long “High-buy-Low”										
Short “No-M&A”	0.0074** (2.24)	0.0079** (2.50)	0.0069** (2.42)	0.0066** (2.43)	0.0060** (2.32)	0.0066* (1.92)	0.0066** (2.09)	0.0060** (2.09)	0.0057** (2.07)	0.0054** (2.00)
N	185	216	224	225	225	185	216	224	225	225

**Panel C: Ibbotson’s RATS**

Months	Fama-French 3-Factor Model		Fama-French 4-Factor Model	
	High-buy-Low	NO-M&A	High-buy-Low	NO-M&A
(+1,+1)	-0.30%	-0.62%	-0.35%	-0.45%
(+1,+3)	0.77%	-1.68%	0.69%	-1.51%
(+1,+6)	1.99%	-4.77%***	2.25%*	-4.06%**
(+1,+9)	1.91%	-5.65%***	2.74%*	-3.63%*
(+1,+12)	1.32%	-6.65%***	3.02%*	-4.00%*
(+1,+15)	1.31%	-5.95%**	4.07%*	-1.95%
(+1,+18)	1.60%	-7.15%**	4.86%**	-2.51%
(+1,+21)	1.33%	-5.45%*	5.95%**	0.71%
(+1,+24)	1.04%	-6.08%*	6.13%**	0.11%
(+1,+27)	0.07%	-7.49%**	6.15%**	-0.72%
(+1,+30)	-0.98%	-6.10%*	5.51%*	0.77%
(+1,+33)	-0.14%	-6.86%*	7.13%**	0.37%
(+1,+36)	-0.91%	-7.81%*	7.29%**	-0.59%

**Table X: Managerial Trading Behavior: High-buy-Low vs. NO-M&A**

We present a comparison of managerial trading behaviour for high-buy-low bidders and their matched NO-M&A firms. The matching procedure is the same as in Table IX. Our data on managerial compensation are obtained from COMPUSTAT Executive Compensation database. Following Jenter (2005), we calculate managerial net purchase in the following way: net purchase = change in number of shares owned-number of shares obtained from option exercises-number of shares obtained from stock grants. We measure the intensity of managerial trading as the shares of managerial net purchase during a year divided by the number of shares owned at the beginning of the year. The analysis is based on the median managerial trading intensity of a firm's top five managers in each year. The matching procedure is the same as Table IV except that our sample universe only includes stocks with non-missing information on managerial trading intensity, size, market-to-book ratio and stock neglectedness. In Panel A we perform both two-tailed t-test and non-parametric two-sided Wilcoxon signed rank test to test the equality of the mean and median trading intensity for both groups since the announcement year. In Panel B we turn to multivariate test by stacking high-buy-low bidders and NO-M&A firms together and create a dummy variable which equals 1 if it is a high-buy-low bidder and zero if it is a NO-M&A matched firm. The dependent variable is the managerial selling intensity (opposite of Panel A) averaged over the three years following the announcement year. Ownership fraction is calculated as the median of the number of shares owned by a firm's top five managers divided by the shares outstanding in the year preceding the announcement year. Option value is the median of the logarithm of Black-Scholes value of options owned by the top five managers in the year preceding the announcement year. Other control variables are defined in the same way as in Table II. As a robust check, in columns (5) and (6) we allow for one-to-many matching by keeping at most 10 firms from the ones left at the final stage of matching procedure in term of closeness in stock neglectedness. \*\*\*, \*\* and \* represent significance levels at 1%, 5% and 10% using heteroscedastically robust standard errors.

**Panel A: Univariate Tests**

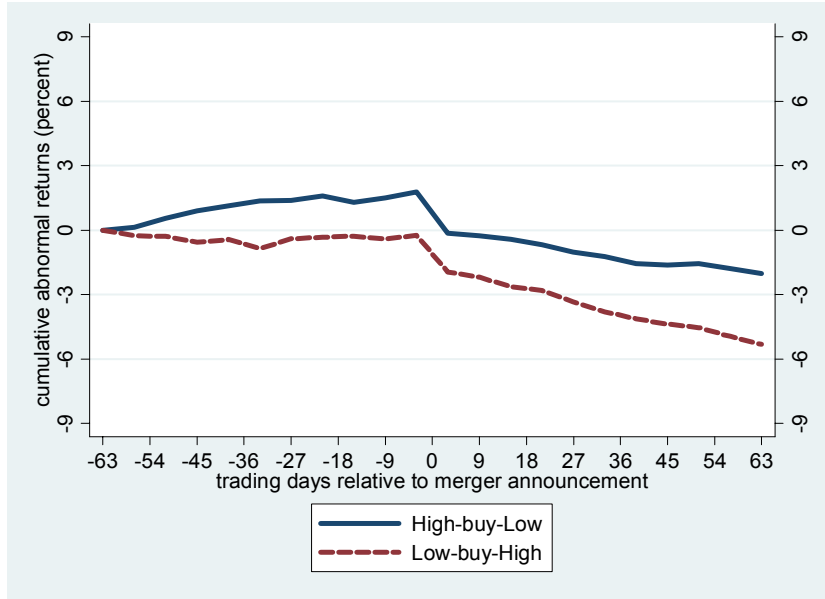
	High-buy-Low	NO-M&A	T-test	Wilcoxon	Number of Obs.
Announcement year	-0.172	-0.084	-1.46	-1.43	205
First year after announcement	-0.227	-0.081	-2.28**	-2.31**	175
Second year after announcement	-0.298	0.031	-3.57***	-2.56**	135
Third year after announcement	-0.371	-0.119	-3.15***	-2.93***	111

**Panel B: Multivariate Regression**

	(1)	(2)	(3)	(4)	(5)	(6)
High-buy-Low or NO M&A Dummy	0.263***	0.272***	0.238***	0.238***	0.175***	0.174***
	(2.99)	(2.99)	(3.00)	(3.07)	(2.74)	(3.51)
<i>Control Variables</i>						
D/E	-0.057 (-1.56)	-0.072** (-2.64)	-0.099*** (-3.12)	-0.100*** (-3.14)	-0.001 (-0.16)	0.000 (0.09)
Liquidity	-0.537** (-2.50)	-0.567*** (-3.01)	-0.615** (-2.47)	-0.539** (-2.08)	-0.111 (-1.26)	-0.254** (-2.21)
Sales Growth	-0.115 (-0.77)	-0.043 (-0.29)	0.150 (0.86)	0.180 (1.03)	0.054 (0.68)	0.075 (1.47)
Size	-0.013 (-0.59)	-0.007 (-0.27)	-0.004 (-0.11)	0.008 (0.22)	0.030** (2.21)	0.030* (1.95)
ROE	-0.142 (-1.65)	0.045 (0.55)	0.115 (0.96)	0.116 (0.95)	0.005 (0.07)	0.003 (0.05)
M/B	0.022 (1.40)	0.016 (1.03)	0.000 (0.00)	-0.005 (-0.27)	-0.002 (-0.79)	-0.007*** (-3.01)
P/E	0.000 (0.27)	-0.000 (-0.26)	0.001 (0.75)	0.001 (0.99)	0.000 (0.25)	0.000 (0.40)
Abnormal Return		-0.033 (-0.40)	-0.029 (-0.38)	-0.034 (-0.46)	-0.030 (-0.51)	-0.055 (-1.38)
Stock Return Volatility		0.358** (2.39)	0.301** (2.06)	0.269* (1.93)	0.099* (1.68)	0.097 (1.35)
Ownership Fraction				-2.290* (-1.67)	-1.480 (-1.28)	-1.648** (-1.96)
Equity-based Compensation				-0.085 (-0.32)	0.165 (0.79)	0.191 (1.36)
Option Value				0.001 (0.03)	-0.011 (-0.62)	-0.013 (-1.07)
Intercept	0.185 (1.03)	-0.149 (-0.63)	0.180 (0.59)	0.118 (0.39)	-0.056 (-0.42)	-0.070 (-0.35)
Industry Dummies	No	No	Yes	Yes	No	Yes
Time Dummies	No	Yes	Yes	Yes	Yes	Yes
Clustering	Industry	Industry	Firm	Firm	Industry	Firm
R-squared	0.2085	0.2759	0.4915	0.5059	0.1247	0.1990
N			174		499	

**Figure I: Bidder's Cumulative Abnormal Returns around the Announcement**

Cumulative abnormal returns for the bidder are measured relative to a CRSP value-weighted market model regression using a year of prior daily data, to the bidder firm stock for trading days (-63, +63) relative to the announcement date. Relative stock neglectedness is defined as the difference of stock neglectedness between bidder and target. Each month we sort all bidders in the month according to their relative stock neglectedness one quarter prior to the merger announcement. A bidder is considered high-buy-low (low-buy-high) if the difference in neglectedness between him and the target is above (below) the median. We plot the average abnormal returns for each group with respect to the trading days relative to merger announcement.



**Figure II: Bidder's Asset Appreciation**

This graph displays the bidder's asset appreciations with respect to different levels of relative stock neglectedness. Each year we sort the difference in stock neglectedness between bidder and target during the year into five quantiles from low 1 to high 5 and we calculate the mean asset appreciation for each quantile.

