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 "less neglected" by the market. By using data on the flows in mutual funds, we construct a measure of neglectedness that is not a direct transformation of stock market data, but directly relies on the identification of the sentiment induced investor demand. We show that bidders tend to pair with targets that are relatively less neglected. The merge 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. The target's ability to appropriate the gain is however reduced by the fact that its bargaining position is weaker when the potential for asset appreciation of the bidder is higher. The effect on the value of the bidder is persistent in the medium run (1-2 years). We document a better medium term performance of more neglected firms taking over less neglected ones. The bidder managers engaging in these types of "cosmetic mergers" take advantage of the temporary window of opportunity created by the higher stock price induced by the M&A deal to reduce their stake in the firm at convenient conditions.

JEL Classification: G34; G23; G32

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"Few if any of us have discussed with our students the consequences of a company's stock price becoming overvalued. Indeed I know of nowhere in the finance literature where the problems associated with overvaluation are discussed. We talked for a long time in the 1980s about the effects of under-valuation, and I will have a little to say about that below. But as things have progressed over the last half-dozen years overvaluation has come increasingly to occupy my thoughts. Indeed, understanding the incentive and organizational effects of stock overvaluation will help us understand much about the current malaise in corporate finance and corporate governance that surrounds the events at Enron, WorldCom, Xerox, and many other companies." (Jensen, 2004)

Introduction

In this paper, we study how the attitude of investors to 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 cater to investors of different styles. A firm may choose to boost its market value by merging with another firm that belongs to a style that is more "favored" by the market.

Let us consider an example. As investors are attracted by "new economy" firms, there will be less investor demand for "old economy" firms. What can an old economy firm do in order to increase its value? Increasing profitability would hardly help as the investors will keep discounting the increased cash flows with a higher discount rate. In fact, during the ".com frenzy", negative cash flows were perceived as a positive signal. What a firm may do is to try to persuade the shareholders that it has become a "new economy" firm itself. That is, the firm has to demonstrate that it has acquired the very characteristics that attract the market to the new economy firms.

This "cosmetic" process can be engineered by either changing the entire business plan of the firm or by simply merging with a firm that already has those characteristics. The latter option has the advantage of being fast.[1] The merger produces a sort of "halo effect" that spreads from the less neglected target to the more neglected bidder. We will define the mergers used to change the firm's investor appeal as "cosmetic mergers". Neglected firms resort to them to boost their sagging price, while firms temporarily "favored" by the market use them to keep their 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 advocated. We consider the other cases, the situations in which firms take over firms that are more "in favor" with the markets in order to improve their own value.

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[1] The idea is similar to the case of firms changing names to appeal to new investors (Cooper, Dimitrov and Rau, (2005), Cooper, Gulen and Rau, (2005)).

No irrationality on the side of the managers is assumed and the M&A deal is the optimal reaction of (short-term) rational managers given the market conditions.

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 they belong to – e.g., growth stock – as opposed to the fundamentals of the firms (e.g., Barberis and Shleifer, (2003), Teo and Woo (2001), Frazzini and Lamont (2005)). In doing this, investors affect stock market valuations as they privilege some styles at the expense of others. The stocks of firms belonging to styles that are not in favor with the investors will be neglected and will have depressed values. Firms in styles favored by the investors will see their quotations soar.

Managers take notice of this style-based segmentation and, to boost their stock price, try to be perceived as part of a style that is in "favor" by merging with a favored firm. Indeed, if the new merged entity is perceived by the market as part of the style of the less neglected target, the merger will increase the market value of the assets of the bidder.

Based on these concepts, we put forward four testable restrictions. First, we expect bidders to approach firms that are relatively less neglected than the bidder themselves. The second restriction posits that bidders acquiring less neglected targets will experience an increase in investor flows and an asset appreciation that is a direct function of the difference in neglectedness between them and the target.

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

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

the higher price should be mostly concentrated in the short run and then fade away. We will argue that this implies that the firms that mostly engage in these deals should have managers with short term horizon and highly equity based compensated.

The previous considerations suggest that we can measure style-based investor sentiment by focusing on the flows in and out 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 data, but directly relies 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 its belonging to a specific investment style. The flow of mutual funds in the style is a variable directly observable by both the manager of the firm and the 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 takeover announcement. Neglected firms are those belonging to styles that experience lower demand from the investors, while the less neglected ("favored") firms are those that are located in a style in demand by the investors.

We show that the pairing between bidder and target is a direct function of their difference in neglectedness. That is, bidders will pair with relatively less neglected targets. This is particularly true in the case in which the managers of the bidding firm have a stronger equity-based compensation.

The difference in neglectedeness between the bidder and the target also affects investor flows and the market reaction around the deal. The higher the difference in neglectedeness, the higher the flow of new investors in the firm and the lower the discount that the bidder faces. One standard deviation increase in the difference of neglectedness between the bidder and the target increase the fraction of mutual funds holding the firm by 12% and raises the bidder premium (reduces the bidder discount) by 20%. In fact, for the deals in which the difference in neglectedeness is above median, the bidder discount actually becomes a bidder premium.

We then separately identify the part of value generation due to the synergies and the part due to the increase in the market valuation of the assets of the bidder to the level of the less neglected target. One standard deviation increase in the difference in neglectedness between bidder and target raises the value of the assets of the bidder by 13%. This result is robust to the control for alternative determinants such as synergies, standard measures of stock market over-valuation 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 exaplained by the value of the assets of the (more neglected) bidder rising to the level of the less neglected target, as opposed to the price of the less neglected (overvalued)

bidder dropping to the level of the more neglected (undervalued) 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 (Betton and Eckbo (2000), Officer (2002)) depends on the slope of the market demand for the target stock. The higher the slope, the less the target can appropriate of the increase in value of the assets of the bidder ensuing the merger.

What are the long run implications? The effect on the price of the bidder is persistent in the medium run (1-2 years). Bidders taking over relatively less neglected targets deliver a significantly high net of risk return. For a 3 year-horizon, the abnormal performance is of 44 bp per month (for a four factor model). Also, the alpha of a portfolio strategy consisting of going long neglected acquirers that bid for less neglected targets and short less neglected acquirers that bid for more neglected targets is positive and highly significant (41bp per month). Moreover, firms taking over less neglected ones significantly outperform otherwise similar (in terms of size, book-to-market and industry) and equally neglected/favored firms that have not engaged in M&A deals. The overperformance can be as high as 1% per month over a holding period of 1 year. It declines to 46 bp per month (6% per year) over 24 months and it is insignificant over 36 months.

The fact that the deal just provides a temporary price relief is consistent with the fact that managers engaging in such activity seem to have a very short horizon and to be highly sensitive to the stock price. Indeed, there is a positive correlation between the managers having an equity-based compensation and their engaging in a takeover of less neglected firms. Moreover, there is a positive relationship between the firm taking over relatively less neglected firms and their managers 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 at convenient conditions.

Overall, these results are consistent with relatively less neglected firms bidding for even less neglected forms in order to gain temporary price appreciation and/or prevent price drops. The managers take advantage of this window of opportunity by selling their stake.

Our results make several contributions. First, they provide a rationale for M&A activity that is different from the standard ones posited in literature. Indeed, M&As have been justified either on rational bases or on behavioral ones. Rational models (e.g., Harford, (2005)) explain M&As in terms of industrial, financial or asset-based synergies. Economies of scale or scope are advocated to explain mergers. Behavioral stories argue that mergers are due to manager overconfidence (Malmendier and Tate, (2003)) or hubris (Roll, (1986)). The role of the stock market (over)valuation of the bidder has also been widely advocated as one of the main factors. Shleifer and Vishny (2003) show that rational managers, in the presence of an

irrational stock market, take advantage of market misvaluations and use their overvalued equity to take over hard assets. Mergers take place even in the absence of any synergy, just for 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 by the market deviating from fundamental values. Our contribution is to shed some light on the other cases: firms taking over darlings of the markets in order to improve their own valuation. No irrationality on the side of the managers is assumed, and a 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 a manager to come out of a situation in which its firm is undervalued, little is known about the way the firm deals with the issue of having its shares overvalued. A "cosmetic merger" allows the manager of a favored firm to effectively "double the stake" by using a cosmetic merger to prolong the overvaluation of his firm.

Third, our results provide a direct investigation of the impact of style investing and asset categorization on corporate behavior and on the market for corporate control in particular. It has been shown that investors tend to invest according to styles (Barberis and Shleifer, (2003), Teo and Woo (2001), Frazzini and Lamont (2005)). We show that firms exploit this feature by resorting to "cosmetic" mergers that allow them to affect their standing with the investors.

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

Fifth, our approach allows us to estimate the firm reaction to market sentiment without trying to measure the degree of firm misevaluation on the basis of prices or accounting data. Indeed, most of the current models of M&A activity have one premise in common: the value of the stocks of at least one of the firms involved in the M&A deal is misvalued. However, this misevaluation is difficult to gauge. One way of measuring it is 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 misvaluation and market efficiency. Indeed, it is not clear whether an abnormal long-run return after the deal implies that the market is inefficient with respect to the event (Fama, (1998), Loughran and Ritter, (2000), Daniel, Hirshleifer and Teoh, (2002), Mitchell and Stafford, (2001)). Moreover, being misvaluation in general 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), this measure is subject

to the distortions affecting accounting data (e.g., reporting requirements, earning smoothing). We will instead directly focus on a measure of firm misvaluation that does not rely on accounting variables, but exploits the information power of the flows of mutual funds.

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

Finally, our results have implications in terms of the debate on 'short-termism' that surrounds the U.S. system of corporate governance. We show that managers' horizon and the type of compensation they receive have a direct bearing on the incentive to initiate an M&A. If M&As deals are aimed at gaining short-term price enhancement, this questions the very existence of M&As as governance mechanisms and gives credence to the popular press argument seeing them as pure financial gimmick.

The remainder of the paper is articulated as follows. In Section 2 presents our main testable hypotheses. Section 3 describes the data and the variables we use. Section 4 lays out the econometric methodology and the specifications we adopt. Section 5 focuses on the choice of the partner in the M&A deal. Section 6 analyzes the short term change in value of the bidder. Section 7 focuses on the bargaining allocation between target and bidder. Section 8 looks at the long run performance. Section 9 discusses the findings, interpreting on the basis of the managerial trading behavior around the deal. A brief conclusion follows.

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 the model of Shleifer and Vishny (2003) (henceforth SV). 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 they belong to. In the case the firm is properly valued, the value of the firm would coincide with the fundamentals (i.e., K_B and K_T). Unlike SV, we focus on the case in which $Q_B < Q_T$. We standardize in terms of $Q_B = 1$. We will describe below what we mean by sentiment and how it could be proxied for. 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. For example, all diversified firms (conglomerates) may be in or out of favor, as can all technology stocks, all basic industry stocks, or all European stocks."

If the deal goes through there are two drivers of value creation: synergies and the change in value of the assets of the bidder. Synergies (Syn) can be industrial or financial. The change in value of the assets of the bidder is defined as $(\alpha Q_T - I_B)K_B$. In particular, K_B is the value of the bidder before the deal and $\alpha K_B Q_T$ is the value of the assets of the bidder after the deal. The difference between the two values represents the increase in value of the assets of the bidder due to a change in the valuation per unit of capital. α proxies for the degree to which the deal will induce the assets of the bidder to be evaluated at the value of the target. If $\alpha = 1$, the market valuation per unit of capital of the assets of the bidder will be that of the target.

Let us see 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 interprets this as a signal that the entire new entity will be similar to the target, α will approach 1 and the new entity will be evaluated by assuming a value per unit of capital equal to that of the target. In other words, a source of value creation is merely the fact that the capital market will change the way it has since then categorized the bidder and will assign it to the style of the target. This effect is purely related to the market categorization and is not related to any industrial, financial or asset-based synergy of the merger. The overall valuation of the two firms is therefore:

$$V = K_B \alpha Q_T + K_T Q_T + Syn - cost, \qquad (1)$$

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:

$$\Delta V = K_B \alpha Q_T + Syn - K_B - cost. \qquad (2)$$

This is made of two positive components and the cost of the deal. The two components are the synergies (Syn) and the increase in value of the assets of the bidder ($K_B \alpha Q_T - K_B$). In line with SV, *in the long run*, the temporary misvaluation of the target/bidder will disappear.[2] In other words, the only long run gains from the merger are the synergies. However, long run here depends on how long the misvaluation of the style to which the target belongs persists. The longer the market favors that style, the longer the positive gain from the merger persists.

Let us now study the decision of the bidder. The profits of the bidder are:

$$\Pi_B = Syn + K_B[\alpha Q_T - 1] - [O - K_T Q_T(1 - \beta)] - cost, \qquad (3)$$

where O is the offer price paid by the bidder to the target shareholders. Equation (3) says that the profits for the bidder are made of two positive components – the synergies (Syn) and the

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[2] That is, in the long run ($Q_T = Q_B = 1$). Thus, in the long run, the target as a stand-alone entity is worth K_T, while the bidder is worth K_B, and the combination is worth: $(K_T + K_B) + Syn$.

increase in value that the assets of the bidder will experience with the deal ($K_B[\alpha Q_T - 1]$) – and two negative ones – the compensation to the target shareholders for parting with their shares ($[O - K_T Q_T(1 - \beta)]$) and the cost of the deal (*cost*). The compensation to the target shareholders for parting with their shares is equal to the difference between the offer price (O) and the value that the assets of the target would have if the bidder decided to sell them ($[K_T Q_T(1 - \beta)]$). That is, the market value of the assets less a discount that is due to the market impact the bidder would face if it had to liquidate his position in the market. The more "demand slopes down" (β), the higher the impact of selling the position in the market. The other negative component is just the cost of the deal.

We now define a new variable $Dif = Q_T - 1$. This is the difference in value between the bidder and the target. We will focus on *Dif*. In fact, while we expect that more neglected firms are more likely to merge with less neglected firms to become more attractive to the financial markets, also, relatively less neglected firms may have a similar incentive. Indeed, the merge with an even less neglected firm would help them to keep their momentum. Therefore, 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 rewrite equation (3) as:

$$\Pi_B = Syn + \alpha K_B Dif - (1 - \alpha)K_B - [O - K_T Q_T(1 - \beta)] - cost \quad (4).$$

Let us now consider the target. The profit of the target is:

$$\Pi_T = O - K_T Q_T(1 - \beta). \quad (5)$$

The profit is equal to the amount the target gains by receiving an amount (the offer price O) that is higher than what he would be getting if he sold in the market ($K_T Q_T(1 - \beta)$). The latter is the current (potentially overvalued) market value ($K_T Q_T$) less the fraction lost due to the market impact of selling the shares ($K_T Q_T \beta$). The impact is related to the sensitivity of demand to sales (β) – i.e., to the slope of the demand for stock. The deal is a way for the target shareholders to liquidate their position without facing the cost of selling in the market.

Let us now formally define the decision process of the bidder. We start by assuming the following cost structure for the deal: $cost = c_a[(Q_T - 1)K_T]^2 + c_s Syn^2$. Costs are increasing in either 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 ($c_a[(Q_T - 1)K_T]^2$). The former assume that the cost of realizing the synergies increases with their size. For example, it is more expensive to downsize 5,000 employees than 50,000 or to merge two big branches than two relatively small ones. The second component is related to the cost of executing the deal. This includes things such as the cost of borrowing in case of a cash deal. This part also contains the

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potential reduction in value of the assets of the target due to the fact that the market may value them less as a result of the deal. For example, a dynamic ".com" firm may be worth less if it is taken over by an old "dinosaur". This component will be related to the difference in value between bidder and target and the size of the target.

The bidder will select a target on the basis of the difference in neglectedness between itself and the potential target (*Dif*) as well as the potential synergies (*Syn*). His goal is to maximize the deal profit after the split of the surplus with the target. We therefore solve by backward induction. First, we determine the offer premium. The Nash bargaining solution is:

$$O = K_T Q_T + \frac{1}{2} \Big[Syn + (\alpha K_B - 2\beta K_T) Dif + [(\alpha - 1)K_B - 2\beta K_T] - c_a Dif^2 K_T^2 - c_s Syn^2 \Big], \quad (6)$$

that is, the offer premium compensates the target for the value he would get for his assets if he sold them in the market ($(1-\beta)K_T Q_T$) and allows him to appropriate half of the value creation as well. This latter part is a function of the synergies (*Syn*) as well as of the increase in value of the assets of the bidder ($\alpha K_B Dif + \alpha K_B - K_B$) net of the deal costs ($c_a Dif^2 K_B K_T^2 + c_s Syn^2$). If we solve for the optimal difference in neglectedness between the bidder and the potential target and the optimal synergies, we get:

$$Dif = \frac{\alpha K_B}{2 c_a K_T^2} \quad \text{and} \quad Syn = \frac{1}{2 c_s}, \quad (7)$$

that is, the optimal *Dif* is positively related to the degree by which the assets of the bidder are re-evaluated at the level of the target (α) and is negatively related to the cost of implementing the deal (c) as well as to the market valuation of the bidder. The higher the valuation, the less it will need to resort to a merger to increase his value. We now consider the relation between profits, premia and the optimal *Dif* and *Syn*. It can be easily shown[3] that the profits are:

$$\Pi_T = \Pi_B = \frac{\alpha K_B}{4} Dif + \frac{1}{4} Syn - 0.5(1-\alpha)K_B. \quad (8)$$

From equation (8) 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.

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[3] Our goal is to see the relation between, profits and offer premium and *Dif* and *Syn*. We therefore, solve the first order conditions in terms of c_a and c_s. This gives: $c_a = \alpha K_B / (2 Dif K_T^2)$ and $c_s = 1 / 2 Syn$ then we determine the value of the premia.

It is worth noting that this is a conditional statement. Indeed, unconditionally, it may be that most of the M&As are initiated by less neglected firms that bid for relatively less neglected (than themselves) firms in order to prevent their price from falling as well as by more neglected firms to boost the price even higher. The former case coincides with SV. Equation (8) also suggests how the deal may directly affect the price. Indeed, the profit will translate into an increase in price of the bidder. 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 assets of the bidder 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:

$$OP = O - K_T Q_T = \left(\frac{\alpha K_B}{4} - \beta K_T \right) Dif + \frac{1}{4} Syn - 0.5(1-\alpha)K_B - \beta K_T . \ (9)$$

This allows us to define our third hypothesis.

H3: The offer premium is always positively related to the synergies. The impact of the difference in neglectedness between bidder and target is positively related to α and negatively related to β.

From equations (8) and (9) 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 assets of the bidder. The reason is that the gain comes from an increase in value of the assets of the bidder that is negatively related to the strength of the target's bargaining power. Let us see why.

The target benefits from the fact that it is able to sell at a price higher than the one it would fetch by selling in the market ($O - K_T Q_T (1 - \beta)$). This gain – effectively the ability to exit at no discount – is higher the less neglected the target is. However, the less neglected the target is, the higher is the potential increase in value of the assets of the bidder due to the merger. This weakens the target's bargaining power at the very moment in which the benefits of the deal – in terms of higher asset values of the bidder – are higher. That is, even if the bidder pays the target just his market value, still this will be good enough for the target.

These hypotheses complement the SV story. In SV, the merger is a way for overvalued firms to use their overvalued equity to buy hard assets and the gain comes from either the increase in value of the assets of the target or just from the fact that the bidder is paying by using overvalued equity. In our case, even in the absence of synergies, value is created by

bidding up the value of the assets of the bidder – at least in the short run as long as the misevaluation persists. Unlike our case, 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 short-term effect on the bidder value depends on how "euphoric" the market is with respect to the deal and on the price paid to the target. In general, the most likely case is the one in which "the bidding shareholders lose from the devaluation of their own capital". This implies a negative relation between the short-term effect on the target value and the difference in valuation between bidder and target (i.e., positive relation with the difference in neglectedness) as in our case. However, while in SV the positive relation is due to the fact that the price of the less neglected bidder drops by purchasing the more neglected target, in our case 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 long run? The long run implications depend on how long the overvaluation in the target's style persists and on when the sentiment that determines it reverts. The acquisition temporarily allows the bidder to jump on the bandwagon of the winning styles. However, in the long run, as the market revaluates different styles, the return of the bidding firm deteriorates. This allows us to define our fourth hypothesis.

H4: The positive increase in price of the bidder due to style-chasing is temporary and persists as long as the sentiment wave for the target style persists.

Why would a manager initiate a M&A in this context if the only thing it may gain is just a temporary price boost? It depends on the beliefs of the manager and on his horizon. In general, managers may not perceive the misevaluation as temporary. Many managers in the 90s would have sincerely believed that the overvaluation of the ".com" firms was there to stay. However, regardless of his beliefs, a manager with a short horizon or 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 firm. This will provide the manager with a window during which he will be able to sell his shares. As SV put it, "some corporate managers or entrepreneurs might wish to retire or exit, or simply have options or equity they are anxious to sell. These managers have relatively short horizons. Other managers may want to keep working or are locked into their equity; these managers have relatively long horizons." We therefore conjecture that *bidding firms acquiring less neglected targets are likely to be run by managers with short term horizon.* This could be made more formal by modeling managers with short-term horizon (Stein (1996)).

Two final points. First, the shareholders of the target firm, even if aware of this tactic, will not object to it as they will cash the market value of overvalued equity. In fact, in this case, the target himself may solicit a bid by a more neglected firm. Second, this motivation for M&A

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does not require the deal to be paid by using equity. In fact, given that a more neglected firm should be less than fairly priced, we would expect these types of deals to be consummated by using cash and the impact of the difference in neglectedness to be stronger in cash-based deals.

3. Data and Empirical Testing Issues

3.1 Sample Construction

The source of the data on merger activity is the Securities Data Corporation (SDC) M&A Database. We extract all the merger transactions involving U.S. targets for the period between January 1983 and December 2003. To be included in the sample we require that the firms are listed in an exchange (NYSE, AMEX or NASDAQ), that it is possible to match the target's CUSIP with CRSP data, and that the outcome of the merger is known (i.e., either 'completed' or 'withdrawn'). We exclude extreme outliers[4] and transactions for which the value recorded in SDC represents less than 1% of the target firm's equity value. We obtain COMPUSTAT data on accounting variables for all companies involved in an event, using the definitions used in Schwert (2000), whose precise descriptions can be found in captions of Table I.

The main characteristics of the deals in our sample are presented in Table I. We consider three samples: the "All-bidder" sample refers to the one where we only request non-missing data on bidders and do not impose constraints on their targets. The "All-Target" sample is the sample where we need non-missing data on target firms without putting any constraint on bidder firms. The "Bidder & Target" sample requires non-missing information both for targets and bidders. If we consider the latter one, we see that the rate of success of takeover deals is around 85%. Around 38.9% of the deals are based only on cash, while 34.2 are only base don equity. On average the fraction of shares purchased is around 92%. Overall, the characteristics of our sample are in line with those reported in recent studies (Andrade, Mitchell and Stafford (2001), Schwert (2000), Holmström and Kaplan (2001)).

3.2 Stock Neglectedness

To define the degree of neglectedness of a stock, we use the methodology developed by Frazzini and Lamont (2005) (henceforth FL). This allows us to quantify the impact of mutual funds investors' style investing behavior on the performance of individual stocks. Following FL, we define a variable that represents the percent of the shares of a given stock purchased and sold by mutual funds that are 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

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[4] We exclude events where the target's P/E, debt-equity, market-to-book ratio or ROE is greater than 100 (Schwert (2000)).

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 only in the fact that we define our variable at the style level instead of fund level. This helps us in two dimensions. 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, if we focus on the flows of investor money into fund styles, these can be hardly attributed to the specific firm characteristics of the firms belonging to such 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 have a direct mapping to the literature on style investing (Barberis and Shleifer, (2003)).

To construct our proxy of neglectedness, we proceed in four steps. First, we calculate the actual flows for each mutual fund. The data on fund assets and returns are obtained from 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:

$$F_t^f = N_t^f - (1 + R_t^f)N_{t-1}^f - M_t^f .^5 \qquad (10)$$

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." 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:

$$\hat{F}_s^f = \frac{N_{t-k}^f}{N_{t-k}^{Agg}} F_s^{Agg} , \ \hat{N}_s^f = (1 + R_s^f)\hat{N}_{s-1}^f + \hat{F}_s^f , \ t-k \leq s \leq t , \quad (11)$$

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 entire mutual fund industry at quarter s. The difference between actual and counterfactual flows proxies for the sentiment-based flows – "dumb money".

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[5] 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.

Third, we identify fund styles. We consider the Morningstar fund style categorization and we classify all the equity funds into 9 investment styles: large value, mid-cap value, small value, large blend, mid-cap blend, small blend, large growth, mid-cap growth and small growth. So we focus on *j=1...9.*

Fourth, we assemble our measure of neglectedness for each stock. By using the holdings of the stocks by each fund, 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, let us denote $H_{t,j}^i$ 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 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:

$$NEG_t^i = \frac{\sum_{j=1}^{9}(\frac{\hat{T}_{t,j}-T_{t,j}}{T_{t,j}})H_{t,j}^i}{MKT_t^i} * 100. \qquad (12)$$

The variable *k* represents the horizon over which neglectedness is defined. By changing it, we are effectively changing the "horizon of neglectedness". For example a stock may have been very neglected over the previous 8 quarters but less so over the previous 16 quarters. Holdings data are obtained from CDA Spectrum.

In Table I we report some summary statistics of the average stock neglectedness of the stocks in the year prior to the announcement of the M&A deals for different horizons: one year, two years, three years and five years. Some preliminary results about firm neglectedness and attitude towards M&A are provided in Table II. In Panel A, we focus on the "Bidder & Target" sample. Neglectedness is defined on the basis of a 3-year horizon. We group stocks in five 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* to test equality of the mean neglectedness between different groups of stocks.

We see that, in general, the more neglected the firm is, the more likely it is that it will bid for less neglected firms. Indeed, only firms that are not neglected (quintile 1) bid for more neglected firms. In the other cases, the more neglected the firm is, the higher the difference between the degree of neglectedness of the bidder and that of the target. The results are robust whether the deal is based on cash or equity. However, the difference between the degree of

neglectedness of the bidder and that of the target becomes statistically significant starting from the third quintile in the case of cash deals, while it is significant for the fifth quintile only in the case of equity based deals. This fits our working hypothesis as that "neglectedness-based M&As" are more likely to be executed by using cash.

In Panel B, we compare the relative stock neglectedness for the Bidder and Target sample under different specifications with different way of conditioning on the industries they belong to. Relative stock neglectedness is defined as the difference of stock neglectedness between the bidder and its target. An acquisition is considered inter-industry deal if acquirer and target have different two-digit sic code, otherwise it is considered intra-industry deal. As before, the neglectedness of the bidders is split into 5 quantiles ranging from low neglected quantile 1 to high neglected quantile 5. The results show that the difference between the degree of neglectedness of the bidder and that of the target not only becomes statistically significant for high level of neglectedeness, but also that it is stronger for deals that take place between firms operating in different industries as opposed than within the same industry. This is consistent with our intuition that going for a firm of another industry is a better way for a firm to "change its skin". These results, even if suggestive, still are based on univariate analysis. We will now turn to a more structural multivariate approach, but first we define some variables.

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 Thomson I/B/E/S Summary History Database. The way I/B/E/S handles M&As is that 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 since then. To quantify the change in value of the firm around the deal, we can therefore use the two different forecasts – the one based just 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 it of 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:

$$Syn = \frac{\frac{P^B_{pre-announce}}{E^B_{pre-announce}}(E^B_{post}SH^B_{post} - E^B_{pre}SH^B_{pre} - E^T_{pre}SH^T_{pre})}{P^B_{pre-announce}SH^B_{pre-announce}} = \frac{E^B_{post}SH^B_{post} - E^B_{pre}SH^B_{pre} - E^T_{pre}SH^T_{pre}}{E^B_{pre-announce}SH^B_{pre-announce}}. \quad (13)$$

In Table IV, Panel A, we report some summary statistics on the synergies. We now define the appreciation of the assets of the bidder. As in the case of 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 (defined as the ratio between price and forecasted earnings) of the bidder before and after the merger effective date. It is:[6]

$$AA = \frac{P^B_{post}}{E^B_{post}} - \frac{P^B_{pre}}{E^B_{pre}}\left(\frac{E^B_{pre}SH^B_{pre}}{E^B_{pre}SH^B_{pre} + E^T_{pre}SH^T_{pre}}\right) - \frac{P^T_{pre}}{E^T_{pre}}\left(\frac{E^T_{pre}SH^T_{pre}}{E^B_{pre}SH^B_{pre} + E^T_{pre}SH^T_{pre}}\right). \quad (14)$$

AA captures the increase in value of the assets (forward P/E) of the bidder netting out the mechanic change of P/E just due to the combination with the target. It represents the increase in value of the assets of the bidder standardized per unit of earning. That is, it is the increase in value of the assets that is not directly attributable to synergies.

4. Sample Selection and Main Specification.

One econometric problem is sample selection. Indeed, the degree of neglectedness affects both the decision to engage in a M&A transaction and the market reaction around it. For example, the specification that defines the firm abnormal return around the event is:

$$r_i = \alpha_2 + \beta_2 N_i + \gamma_2 C_{2i} + \varepsilon_{2i} , \quad\quad (15)$$

where r_i is the observed abnormal return for the ith firm stock price around the deal and $C_{2,i}$ is a vector of control variables. The observation of r_i is conditional on the firm making an M&A bid. Given that the decision to engage in them is itself endogenous, there is a potential sample selection problem that might bias the results of OLS regressions (Maddala, 1983). To address this issue we adopt the Heckman (1979) two-stage procedure. Let us assume that:

$$m_i^* = \alpha_1 + \beta_1 N_i + \gamma_1 C_{1i} + \varepsilon_{1i} , \quad\quad (16)$$

where for the ith firm, m_i^* is a latent unobservable variable that represents the decision to bid for another firm, N_i is the variable that proxies for the degree of neglectedness of the firm(s) involved and $C_{1,i}$ is a vector of control variables. In practice, we observe m_i, a dummy that

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[6] 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 span from the announcement date to the effect date to be less than 360 days. From the formula we drop the earnings forecast with negative values since it tends to bias our calculation.

takes the value of 1 if the firm has bid for another and zero otherwise: $m_i = 1$ if $m_i^* > 0$ and m_i $= 0$ if $m_i^* \leq 0$. We first estimate equation:

$$m_i = \alpha_1 + \beta_1 N_i + \gamma_1 C_{1i} + \varepsilon_{1i} \qquad (17)$$

using a standard probit choice model. That is, the probability of bidding ($Prob(m_i=1)$) is modeled as a normal c.d.f.. We use the All-target sample (All-bidder). The base sample universe is the merged set of COMPUSTAT, SPECTURM and CRSP firms which includes, in the case of estimation of the probability of being a target (bidder) a total of 61,144 (63,477) firm years from 1983 to 2002. The left hand side variable is a dummy variable taking a value of 1 if the company is target (bidder) of an acquisition in the next year and 0 otherwise. The results of this estimation for the probability of being a bidder (target) are reported in Table IV, Panel B (columns "Bidder prob." and "Target prob.", respectively). We will go back to this in the Discussion Section. Then, we estimate:

$$r_i = \alpha_2 + \beta_2 N_i + \gamma_2 C_{2i} + \delta_2 \lambda_i + \varepsilon_{2i} \qquad (18)$$

where λ_i is the Heckman's Lambda and is estimated from the results of the first stage. The value and significance of δ_2 provides a test of the null of no sample selection bias. We will see that it is almost always significant and positive, suggesting that sample-selection is indeed empirically relevant. However, its inclusion does not actually significantly change the value of the coefficients of interest. In all the regressions, the standard errors are corrected for heteroskedasticity, selection bias and clustered, alternatively, at the firm and industry level. Industry and time dummies are employed.

The set of control variables at the two stages (i.e., $C_{1,i}$ $C_{2,i}$) are different and this provides the identification restriction. The characteristics of the deal – cash/equity, hostile/friendly, tender – 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[7] help to explain likelihood of the deal, but not its return. The basic set of control variables are: *M/B* that is, the ratio of year-end market value of common stock to book value of equity (COMPUSTAT items 24*25/60); *ROE* that is the ratio of earnings to average equity (COMPUSTAT items 20/(60+60(t-1)); *Size*, that is the natural log of market capitalization at the beginning of the year before the acquisition (log (price⌐shares-outstanding) from CRSP); *D/E*, that is the ratio of debt to equity (COMPUSTAT items 9/60); *Liquidity*, that is the ratio of net liquid assets to

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[7] 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.

total assets (COMPUSTAT items (4-5)/6);[8] *Sales growth*, that is the proportional change in sales (log (COMPUSTAT items 12/12(t-1))); *P/E*, that is the ratio of year end stock price to earnings per share (COMPUSTAT items 24/58).

As additional robustness, we estimate our main regression using the decomposition that breaks the market-to-book ratio into three components: the firm specific pricing deviations from short-run industry pricing; sector-wide, short-run deviations from 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 reported ones, but are available upon request. Also, we controlled for the macro-level liquidity component causing industry merger waves identified by Harford (2005). Also in this case, our results are robust.

It is worth noting that we estimated all the results for the 3-year based neglectedness as well as for neglectedness based on other horizons. In the interest of brevity we will report only the ones based on 3-year. The others are consistent with the reported ones.

5 Probability of Acquisition

We start by looking at whether the incentive to acquire another firm is related to neglectedness (H1). We expect that bidders approach less neglected targets. This allows relatively less neglected firms to increase their appeal to the market as well as less neglected firms to keep their price momentum. Therefore, our test will be based on the relative difference between the neglectedness of the target and that of the bidder (H1). We condition on the fact that the bidder (target) is already known. We use the Bidder & Target sample and, for each bidder (target), we match 10 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 alternatives way of implementing the matching. Matching I is done as follows. 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 twenty firms with the smallest absolute size difference. Then, within the twenty firms, we compute the absolute difference in market-to-book ratio with the real target (bidder) and select the ten 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 ten firms with the smallest sum of rankings.

The underlying assumption behind this procedure is that the takeover is initiated by the bidder and each of the matched firms could reasonably be the potential target. The bidder's accounting variables and stock neglectedness are the same for each matching group. The

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[8] 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).

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). We also include the relative cumulative abnormal return and volatility calculated as before.

The results are displayed in Table III. Columns (1)-(6) report the conditional probability of being a target, while columns (7)-(12) report the conditional probability of being a bidder. In the interest of brevity we will report only the results for which neglectedness was calculated on the basis of 3-year horizon. The ones based on other horizons are consistent. The left hand variable of column (1/7) is a dummy which equals 1 if a company is the real target (bidder) in the next year among its matching peers and 0 otherwise. The left hand variable of column (2/8) is a dummy which equals 1 if a company is the real cash-only target (bidder) in its matching group and 0 otherwise. The left hand variable of column (3/9) is defined likewise for the case of stock-only deals. The control variables are as defined in Section 4.

We first focus 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 the target. Given a bidder and many otherwise identical potential targets, the real target will be the one that is less neglected with respect to the bidder. That is, when a bidder chooses he will select among the various alternatives the one that is less neglected with respect to him. This result is robust across alternative specifications as well as for different horizons over which neglectedness is defined. It also holds for the two alternative ways of performing the 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.

We now focus on the bidder. Given that the incentives of the bidder managers to boost prices are related to how sensitive to equity their compensation, we augment the specification to also consider the impact of managerial incentives. Managerial incentives are represented by the average of equity based compensation of a firm's top 5 managers in the year prior to the announcement. Equity based compensation (EBC) is defined as value of options and shares granted to a manager divided by his or her total compensation ((blkvalu+ rstkgrnt)/tdc1 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 0 otherwise. We add an interaction term of the difference in neglectedness and the High-EBC dummy to examine the impact of the combination of managers' equity based incentive and difference in neglectednesson the probability of making a 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

incentives of the bidder. 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 with respect to the target. This result is robust across specifications as well as horizons over which neglectedness is defined and for the alternative ways of matching.

6. 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 flows 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 assets of the bidder. The first proxies for the overall increase in value of the bidder around the deal, while the second is the part of it related to the increase in value of the assets of the bidder. We expect investor flows as well as the bidder premium and change in value of the assets of the bidder to be positively related to the difference in neglectedness between bidder and target. Before proceeding further, however, we address some endogeneity issues.

6.1 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, being 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 for the synergies. We therefore need to instrument for it, by projecting the difference in neglectedness as well as the synergies on some exogenous determinants. We will use as instruments the factors that determine the choice of the firm. Let us start with the difference in neglectedness. We rely on the equations (7) and (8) and argue that each firm faces a trade-off between the costs (c_a, c_s) and benefits of bidding for less neglected firms (α). The benefits are mainly related to the degree of neglectedness of the bidder itself. The more neglected the bidder is, the bigger the benefit of a less neglected target. Also, the more developed the financial intermediation industry (e.g., mutual fund industry) and the higher its impact on the stock market, the higher the benefits. Therefore, the *Degree of neglectedness of the bidder* and a *Period dummy* with a value of 1 if the deal is after 1993 and 0 otherwise represent our proxies for the benefits.

The costs are related to the fact that a less neglected firm is more costly to acquire. The costs 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*), the firm's credit rating (*Ratings dummy*) and the borrowing spread prevailing in the market (*C&I Rate Spread*). In particular, 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 credit ratings dummy equals 0 if the bidder has an S&P credit rating in Compustat and 1 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, Officier, Poulsen and Stegemoller, Moller 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 as well as high intensity of employees indicate the potential for rationalizations and cuts. Similarly, we expect that it is easier to have synergies in the case the firm was not doing well before. 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 want to instrument and unrelated to the dependent variable in the final instrumented regressions. To assess the latter point we provide Hansen tests of overidentification 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 lambda defined as above.

The results are reported in Table IV, Panel A and B. In Panel A, we provide some summary statistics and univariate tests, while in Panel B, we provide the multivariate results. In columns (3)-(5), we try to 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 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 bidder's stock neglectedness, cash to sales ratio and credit ratings 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, the capital intensity and the 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 choice of the desired level of neglectedness of the target. The benefits have to be weighed against the costs of financing the bid for a more expensive less neglected target. It is also worth noting that, consistently with our working hypothesis, synergies and the difference in neglectedness are not related. This feature will allow us to consider specifications in which we omit the synergies.

6.1 Changes in Investors Flows

We start by looking at investors' reaction. Our working hypothesis is that the deal with attract investors by catering to the favored style. We expect a positive relation between the changes of mutual fund holdings of the bidding firms after the deal and the difference in neglectedness between bidder and target. We therefore regress the changes of mutual fund holdings on the difference in neglectedness between bidder and target, the synergies and a set of control variables. The dependent variable is defined as the difference of average quarterly mutual fund percentage holdings of the bidder stock in the second year after the announcement and the average quarterly percentage holdings in the announcement year. 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 also includes synergies and one without them. The latter is based on a broader sample. 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 the Heckman's two-step procedure described in Section 3, by computing the Heckman's Lambda for each bidder. To control for the endogeneity of synergies and difference in neglectedness, we use an IV estimation. If synergy is not included (columns (1)-(5)), the instruments are: the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy and credit spread as instruments for relative neglectedness. If synergy and difference in

neglectedness are included together (columns (6)-(10)), we instrument both of them using the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy, pre-announcement earnings forecast, capital intensity, employee intensity and credit spread. In columns (5) and (10) we replace *Diff* with a dummy that takes the value of 1 if *Diff>0* and zero otherwise. The Hansen's J statistic (Chi-squared p-value) always fails to reject the null, providing support for our instruments. In addition to bidder 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. The errors are clustered alternatively at firm and industry level.

We report the results in Table V. As we mentioned above, in the interest of brevity we will report only the ones based on 3-year. The ones based on other horizons are consistent. The results are consistent with our working hypothesis. The change in mutual fund holdings is positively related to the difference in neglectedness between bidder and target. The more neglected the bidder is compared to the target, the higher the investment in the firm. This result is robust across the alternative specifications and to the inclusion of a whole host of control variables related to the characteristics of both the bidder and the target. The results are statistically relevant. One standard increase in the difference in neglectedness between bidder and target raises the percentage held by the funds by 12%. This shows that the reaction of the investors is related to the difference in neglectedness and suggests that the market reacts positively to the fact that the target is less neglected.

6.2 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 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 of prior daily data to the bid. The explanatory variables are defined as before.

As before, we consider two alternative specifications: one that also includes synergies and one without them. The latter is based on a broader sample. To account for the self-selection problem we perform the Heckman's two-step procedure, while to control for the endogeneity of synergies and difference in neglectedness, we use an IV estimation with the same instruments as before. The reported Hansen's J statistic always fails to reject the null, providing support for our instruments.

We report the results in Table VI. We report only the results based on 3-year neglectedness. The ones based on other horizons are consistent. The results support our

conjectured 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 whole host of control variables related to the characteristics of both the bidder and the target. Moreover, the result is robust to the choice of the horizon over which stock neglectedness has been defined. 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 19%. (1900 bp). A one standard deviation increase in synergies increases the bidder premium by 47%. (4700 bp).

In columns (5) and (10) we replace *Diff* with a dummy that takes the value of 1 if *Diff>0* and zero otherwise. We recall that according to SV, in general, the difference in neglectedness between bidder and target should be positively related to the bidder change in value because the price of the relatively (with respect to the target) less neglected bidder drops due to the purchase of a more neglected target. According to our story, instead, the positive relation is due to the fact that the price of the relatively more neglected bidder rises due to the purchase of a less neglected target. We can therefore differentiate between the two stories by looking at the coefficient on the dummy. This should be positive in our case and negative in the SV case. The results show a positive and statistically significant relationship, suggesting that the positive relation between the difference in neglectedness between bidder and target and the bidder price appreciation is due to an increase in the price of the bidders bidding for less neglected targets.

A graphical analysis is reported in Figure 1. 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, to the bidder firm stock for trading days (-63, +63) relative to the announcement date. Stock neglectedness is measured one quarter prior to the announcement date and is calculated using a three year neglected horizon. To get a clean separation in the difference in neglectedness, we only select those months when there are at least ten acquisitions. Each month we sort all bidders in the month according to their difference in neglectedness one quarter prior to the merger announcement.

We 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. A bidder is "High-buy-Low + Cash" if the difference in neglectedness is above the median and cash is used as the only means of payment. "Low-buy-High + Cash" is defined likewise. This allows us to control for the means of payment. We plot the average abnormal returns for each style with respect to the trading days relative to merger announcement.

The graphs make two points. First, 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, the High-buy-Low firms always have a significant higher returns that the Low-buy-High ones. Second, this effect is present regardless of the means of payment, but it is stronger in the case of cash deals. In the case of cash deals the price increases around the deal both before and after the deal announcement date. High-buy-Low + Cash deals display a monotonic positive increase round the deal that can be as high as 3% 63 days after the announcement. This is a high figure if compared with the standard results in the literature. The fact that this effect is present controlling for the means of payment suggests that we are not just picking up the fact that cash-based deals have higher returns than the equity-based ones.

6.3 Bidder's Asset Appreciation

We now consider the bidder's asset appreciation. We regress the asset appreciation of the bidder, as defined in Section 3.3, 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 the Heckman's two-step procedure described in Section 3 and use an IV specification in which the instruments are the ones defined in the previous Section 4. As in the previous case, we consider two alternative specifications: one that also includes synergies and one without them. The other variables are defined as above.

We report the results in Table VII. In Panel A, we report summary statistics of bidder assets appreciation and univariate tests, while in Panel B, we report the results of the multivariate analysis. We only display the results based on 3-year neglectedness. The ones based on other horizons are consistent. We consider alternative specifications. The results are consistent with our conjectured hypothesis H2. The appreciation of the assets of the bidder 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. This result is robust across the alternative specifications, to the choice of the horizon over which stock neglectedness has been defined and to the inclusion of a whole host of control variables related to the characteristics of both the bidder and the target. The result is economically significant. One standard increase in the difference in neglectedness raises the value of the assets of the bidder (defined by using the price earnings ratio) by 13% with respect to the weighed average of the assets (average P/E ratios of bidder and target weighted by their forecasted earnings).

As in the previous case, in columns (5) and (10) we replace *Diff* with a dummy that takes the value of 1 if *Diff>0* and zero otherwise. The results show a positive and statistically significant relationship. This confirms that the positive relation between the difference in

neglectedness between bidder and target and the bidder price appreciation is due to an increase in the price of bidders bidding for less neglected targets. Overall these results show that the bidder benefits – at least temporarily – from the both synergies and asset appreciation due to a reevaluation of the market assessment of his assets. What about the target? We now move on to look more in detail to the bargaining part.

7 Bargaining Allocation between Bidder and Target

We now focus on H3, that is, the way the value created by the deal is split between the bidder and the target. Equations (8) and (9) posit that, while target profits should be a function of both the synergies and the difference in neglectedness, the relation between offer premium and the difference in neglectedness depends on the slope of the target stock demand. We proceed as follows. First, we focus on a proxy for the overall deal profits of the target: the adjusted market premium. Then, we consider the bargaining position and the offer premium.

7.1 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 both the benefits related to being "favored" by the market, as well as to the expected 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 (2005). 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(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 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 previous to the announcement date. We define the target's market premium as:

$$
Adjusted\ Market\ Premium = \begin{cases} CAR(-126,252)+1-\dfrac{VAL_{-126}}{MKT_{-126}} & if\ VAL_{-126} <= MKT_{-126}, \\ CAR(-126,252) & otherwise, \end{cases} \quad (19)
$$

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 the Heckman's two-step procedure described in Section 3. We use an IV specification in which the instruments are the ones defined in the previous Section 6.1. As before, we consider two alternative specifications: one that also includes synergies and one without them. The other variables are defined as above. The errors are clustered alternatively at firm and industry level.

We report the results in Table VIII. We report only the results based on 3-year neglectedness. The ones based on other horizons are consistent. The results support our conjectured 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 with respect to the target, the higher the benefits for the target. This result is robust across the alternative specifications and to the inclusion of a whole host of control variables related to the characteristics of both the bidder and the target. Moreover, the result is robust to the choice of the horizon over which stock neglectedness has been defined. The effect is not only statistically significant, but also economically relevant: one standard deviation increase in the difference in neglectedness between bidder and target (synergies) increases the adjusted market premium by 17% (52%) (800bp for *Diff* and 2100bp for *Syn*).

In columns (5) and (10) we replace *Diff* with a dummy that takes the value of 1 if *Diff>0* and zero otherwise. According to SV, the difference in neglectedness between bidder and target should be always negatively related to the change in value of the target, while it should be positively related in our case. We can therefore differentiate between the two stories by looking at the coefficient on the dummy – positive in our case and negative in the SV case. The results show a positive and statistically significant relationship, confirming our hypothesis.

7.2 Offer Premium and the Bargaining Power of the Target

We now directly look at the bargaining focusing on the offer premium. We argued that while the offer premium is always positively related to the synergies, the impact of the difference in neglectedness between bidder and target depends positively on the degree to which the assets of the bidder will increase as a result of the deal (α) and negatively on the slope of the demand for stocks (β). To test this point we focus on the actual offered premium (Betton and Eckbo (2000), 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 ((offer price-Target price 1-day before) / 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 ((offer price-Target price 1-week before) / Target price 1-week before). The regression also includes year dummies and both bidder and target two-digit SIC industry dummies. We report the results with synergy as well as without synergy. As in the previous cases, we perform the Heckman's two-step procedure described in Section 3 and we employ an IV regression using the same instruments as before. The errors are clustered alternatively at firm and industry level.

The results are reported in Table VIII, Panel A for 1-day offer premium and Panel B for 1-week offer premium. They show no relationship between the actual premium and the difference in neglectedness between bidder and target. There is instead evidence of a positive correlation between synergies and actual premium, suggesting that the target shares with the bidder the value of the synergies (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 it more in detail by directly conditioning on the slope of the demand for stocks (β). We recall that the impact of the difference in neglectedness between bidder and target is positively related to α and negatively related to β. Following Baker, Coval and Stein (2004), 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. We then create a "High-buy-Low" dummy[9] based on the difference in neglectedness (equals 1 if the difference in neglectedness is above the sample median and 0 otherwise) and interact it with target's analyst dispersion. We regress the actual offer premium at the announcement date on the dummy proxying for the difference in neglectedness, the slope of stock demand, the interaction between the slope and the dummy and a set of control variables. We consider both 1-day and 1-week offer premium. All the other variables are defined as above. The estimation is IV using the same instruments as above and corrected by using Heckman control for selection bias. We conjecture that the target in a "High-buy-Low" type of merger has a lower bargaining power if its demand curve is steeply sloping down.

We report the results in Panel C for both 1-day premium and 1-week premium. We report only the results based on 3-year neglectedness. The ones based on other horizons are both

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[9] The reason is that interacting difference in neglectedness with target's analyst dispersion directly would be difficult to interpret because it can take either positive or negative values. We require the number of forecasts for each firm to be larger than 5 and we only include successful mergers.

qualitatively and quantitatively consistent. The results support our working hypothesis. The more the target's demand curve slopes down, the lower the effect of difference in neglectedness on the offer premium. In the case of high difference, an increase in the slope (dispersion of analysts) of one standard deviation reduces the offer premium by 24%. (600bp). The effect of α is instead positive. This can be read by looking at the coefficient on the difference in neglectedness proxying for the residual, not β-related effect. This supports H3 and suggests that the bargaining position is affected by the slope of the stock demand.

8. Long-term Performance

We now move on to the hypothesis on the persistence of the increase in value (H4). The literature has found evidence that the long-run returns to the bidders are on average non-positive (e.g. Franks Harris and Titman (1991), Agrawal, Jaffe and Mandelker (1992)). Most of this undeperformance is concentrated in equity and glamour deals (Loughran and Vijh (1997), Rau and Vermaelen (1998)). Our results for the short run show that cosmetic mergers fetch higher returns in the very short run around the deal. Our working hypothesis suggests that the positive performance will only be temporary and persist as long as the dumb-money effect driving the overvaluation of the bidder lasts. We therefore now explicitly investigate the medium/long run 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 (Ibbotson). The CTPR approach has the advantage that, unlike the standard buy-and-hold returns, is less sensitive to model misspecification (Mitchell and Stafford (2000)). We adopt a standard CTPR approach to directly compare our results to the existing literature. We then implement a CTPR based on a matching sample to directly control for the cash/equity and glamour/value dimensions. This allows us to control for the fact that cash deals as well as value deals in general display higher returns than equity deals or glamour deals.

We start with the standard CTPR approach. We proceed as follows. Each month we sort all the completed bids according to the difference in stock neglectedness between the bidder and the target one quarter prior to the announcement date. A bidder is considered "High-buy-Low" if the difference in neglectedness between him and the target is above the top third quantile and "Low-buy-High" if the difference in neglectedness is below the bottom third quantile. Then, for each month of the sample period we construct equally and value weighted portfolios by going long in the "High-buy-Low" stocks and short in the "Low-buy-High" stocks which have completed the acquisition. The holding period for each stock is 36 months relative to the completion date. Portfolios are rebalanced each month to drop the stocks that have just reached the end of their holding periods and add new firms that just completed an acquisition.

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Following Mitchell and Stafford (2001), repeated observations are dropped for the same stock appeared in the same holding period. We also drop the months when the portfolio has less than 10 stocks. Once the portfolios have been constructed, we perform a time series regression of the excess returns of the portfolio of interest $R_{p,t}$ on the both 3 and 4 Fama and French factors

$$R_{p,t} - R_{f,t} = \alpha + \beta_1 \left(R_{m,t} - R_{f,t} \right) + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 UMD_t + \varepsilon_t \qquad (20)$$

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. α measures the abnormal performance.

The (unreported) results show a positive abnormal return. For example, for 3 year-horizon and a four-factor model, the abnormal performance is of 41 bp per month or about 14% over 3 years (Panel A). Moreover, if we consider the "High-buy-Low portfolio, the performance is also positive (44 bp per month for a four-factor model). This suggests that the performance is not due to the decrease in value of more neglected firms taking over more neglected ones, but is genuinely due to the increase in price of firms taking relatively less neglected ones.

We now consider the CTPR based on matching sample. We match "High-buy-Low" bidders with other firms that are otherwise similar but do not engage in M&As. ("NO-M&A" firms). If our working hypothesis (H2) is correct, we expect that the M&A allows the bidding firm to either prevent a stock price reversal or generate a price boost. The similar firm not engaging in M&A would instead experience either declining or stale stock prices. The comparison between the two firms provides a measure of the price boost provided by the deal.

As we mentioned before, this approach allows us to directly control for the cash/equity and glamour/value dimensions. We therefore match firms along size, industry and market-to-book. This should control for the value dimension. Then, we separately perform the analysis for the overall sample and for the sample just based on cash deals. The matching procedure is as follows. We focus on 3-year stock neglectedness. Results with the other horizons provide similar results. 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, matching I is done by first computing the absolute difference of size with the bidder for all other firms in the same two-digit SIC industry where information on size and stock neglectedness is available, then choosing fifty firms with the smallest absolute difference in size. Within these 50 firms we further select 25 stocks which 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 the ones that are neither a bidder nor a target in the next three years following the announcement date. 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. Matching II is achieved similarly with the exception that the first 50 stocks are chosen based on the smallest sum of rankings in absolute differences of size *and market to book ratio* with the real bidder. These matching procedures control for the glamour/value effect. It is important to stress that we find a matching sample of firms that are as neglected (in favor) as the real bidder. This does not say anything about the actual degree of neglectedness of the bidder. It may be that the bidder is not neglected and bids for an very favored target. In this case, also the matched sample will be made "not-neglected" firms.

Then, we apply the CTPR methodology separately for the High-buy-Low portfolio, for its No-M&A match and for the difference between the two. We consider three holding periods: one year, two years and three years. We also require that each portfolio should at least contain 10 stocks. The analysis is implemented for the overall sample as well as for the sample of cash-based deals separately. The results are reported in Table X, Panel A for the overall sample and Panel B for the cash-based deals.

The results support our working hypothesis. Engaging in M&A deals has a positive price effect that is related to the difference in neglectedness of between bidder and target. In particular, the difference between the bidder sample and the matched one is always positive. In the case of the first type of matching (Matching I), the return can be as high as 90 bp per month (or 11% per year) over 12 months in the case of the four-factor model. It declines to 46 bp per month (or 6% per year) over 24 months and it becomes insignificant over 36 months. This confirms our hypothesis of a significant but temporary price boost. It is worth noting that the effects for the case of cash deals are not quantitatively different. Also, the type of matching does not affect the results. This suggests that cash/equity as well as glamour/value considerations are not the main driver behind our results.

As a robustness check, we repeat the analysis using the 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:

$$R_{i,t} - R_{f,t} = \alpha_j + \beta_{1,j}\left(R_{m,t} - R_{f,t}\right) + \beta_{2,j}SMB_t + \beta_{3,j}HML_t + \beta_{4,j}UMD_t + \varepsilon_{i,t}, \qquad (21)$$

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 XI, Panel A using the 3 factor model and Panel B using the 4 factor model. The results support the previous findings and show that, while the matched

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sample of otherwise similar neglected firms that do not engage in M&As perform badly, the ones that engage in M&As are only able to get a temporary price boost. The difference in the medium term (18-24 months) is quite significant (between 8% and 16%, depending on the type of Match and whether they are cash or equity deals). In the long run, the difference disappears. Moreover, as in the CTPR case, the difference between the High-buy-Low and the matching sample is present even when we control for the cash deals. Also, the type of matching does not change the results. All these findings support our hypothesis and show that we are not picking already existing cahs/equity or glamour/value effects.

9. 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 those of the target. This can be explained with undervalued firms trying to boost their sagging prices, as well as with overvalued firms "doubling up the stakes" in order to temporarily support their prices. The results from the unconditional probit (Table IV, 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.

The findings on the long run returns confirm this interpretation. Indeed, comparing the performance of these firms with that of otherwise identical and equally neglected/favored firms that do not engage in M&A shows that the deal helps the bidder to prevent a stock price drop. Moreover, it is interesting to note that both the bidding firms as well as the matching ones have experience a positive abnormal returns in the previous 2 years and negatively loading on momentum. The α of their portfolios tends to be higher in the case 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, at least temporary, the reversal for the bidder, while the reversal takes place for the matched firms.

If the boost in price is just temporary, why should firms care? We argued that this is related to the fact that managers have a short term horizon. We already saw that difference in the degree of equity-based compensation matters. We now directly focus on the managerial incentives to boost the prices, by considering their trading in stocks of the firm around the deal. We assume that a good proxy for horizon of the manager is his selling behavior. Managers with short term horizon 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. We focus on 3-year stock. 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 managerial trading as the number of managerial net purchase during a year divided by the number of shares owned at the beginning of the year.

We derive the data on managerial compensation from the COMPUSTAT Executive Compensation database. Given the limited data available in executive compensation, we do not use the same matched stocks as we defined before, but we rematch the "High-buy-Low" bidders based on the universe of all stocks with no missing information on managerial trading intensity and stock neglectedness. The procedure is similar to the one defined before. Each month we sort all completed bidders according to the difference in neglectedness between them and the target one quarter prior to the announcement. We only select those months with at least 10 mergers to get a clean representation.

A bidder is considered "High-buy-Low" if the difference in neglectedness is above the median. For each "High-buy-Low" bidder, matching I is done by first computing the absolute difference of size with the bidder for all other firms in the same two-digit SIC industry where information on size and stock neglectedness is available, then choosing 50 firms with the smallest absolute difference in size. Within these 50 firms we further select 25 stocks with 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 the ones that are neither a bidder nor a target in the next three years following the announcement date. If more than one stock is left in the end, we choose the one with the smallest difference in neglectedness as our final "NO-M&A" firm. Matching II is achieved similarly with the exception that the first 50 stocks are chosen based on the smallest sum of rankings in absolute differences of size and market to book ratio with the real bidder. We then perform a two-tailed t test and non-parametric two-sided Wilcoxon signed rank test of equality of mean and median for the groups.

The results are reported in Table XII. In Panel A, we focus on the "High-buy-Low", while in Panel B, we focus on the "High-buy-Low+Cash". The results show that the managers of neglected firms acquiring less neglected ones on average sell more around 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 they sell in the medium term. This selling pattern is even stronger in the case of case deals. In this case, most of the selling takes place in the first year after the announcement of the deal. However, this latter sample is just purely indicative as the limited data available in executive compensation shrinks the sample considerably. These findings provide a rationale for why managers may be interested in enacting short-term price boosting deals.

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 directly relies on the identification of the sentiment induced investor demand. We show that bidders tend to pair with relatively less neglected targets. This is particularly true in the case in which the managers of 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 one. 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 price of the bidder is persistent in the medium run (1-3 years), with a better medium term performance of more neglected firms taking over less neglected ones. 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 stock. The higher the slope, the less the target can appropriate of the increase in value of the assets of the bidder ensuing the merger.

We show that the fact that the deal just provides a temporary price relief is consistent with the fact that managers engaging in such activity seem to have a very 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 at convenient conditions.

These findings provide a rationale for M&A activity that is different from the standard ones posited in literature and suggest a link between style investing and 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
Sample Characteristics

This table presents event and firm characteristics for three samples used in the paper. Event observations are from SDC Mergers and Acquisition database from 1983 to 2003, and for each firm involved in the event we get the corresponding accounting variables from COMPUSTAT/CRSP Merged database and stock price behavior from CRSP. All-bidder sample refers to the one where we only request non-missing data on bidding firms and do not impose constraints on their targets. All-Target sample is the sample where we only require non-missing information on target firms. Bidder & Target sample requires non-missing information both for targets and bidders. All three samples require the value of acquisition to be larger than 10 million dollars. If one bidder/acquirer makes multiple attempts to acquire a same target during a year, only the first bid is included. 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 an acquisition is considered stock-only if the equity is the only means of payment. We also report the average fraction of acquisition of target shares and average deal value for each sample. In Panel B, we report some descriptive characteristics for the three samples. The accounting variables are calculated over the fiscal year prior to the acquisition. 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 (price·shares-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 (COMPUSTAT items 12/12(t-1))). P/E is the ratio of year-end stock price to earnings per share (COMPUSTAT items 24/58). Neglect. 1 (2, 3, 5) is the average stock neglectedness in the year prior to announcement where the horizon to calculate neglectedness covers 1 (2, 3, 5) year.

Panel A

	All-Bidder Sample	All-Target Sample	Bidder & Target Sample
Number of Events	11310	5991	1988
% Completed	89.1%	79.1%	84.6%
% Hostile	1.3%	4.8%	5.2%
% Cash-only	56.4%	59.5%	38.9%
% Stock-only	21.6%	20.3%	34.2%
% Acquisition	95.8%	80.1%	91.9%
Deal Value (million dollars)	120.4	181.0	241.3

Panel B

		All-Bidder Sample			All-Target Sample			Bidder & Target Sample		
		Mean	Median	Std. Err	Mean	Median	Std. Err	Mean	Median	Std. Err
Target	M/B				2.16	1.49	6.25	2.30	1.65	11.21
	ROE				0.04	0.05	2.40	0.04	0.05	4.28
	Sales Growth				0.12	0.09	0.50	0.13	0.10	0.83
	D/E				0.67	0.36	4.83	0.57	0.31	8.12
	P/E				9.45	10.86	27.90	11.09	12.32	48.93
	Size				5.10	4.95	2.20	5.28	5.15	3.74
	Liquidity				0.20	0.16	0.32	0.22	0.17	0.52
	Neglect. 1 Year				-0.12	-0.04	0.70	-0.10	-0.04	2.10
	Neglect. 2 Year				-0.33	-0.01	1.23	-0.31	-0.12	3.22
	Neglect. 3 Year				-0.56	-0.24	1.59	-0.63	-0.25	3.84
	Neglect. 5 Year				-1.17	-0.58	2.42	-1.32	-0.57	5.54
Bidder	M/B	2.98	2.13	4.67				3.27	2.32	8.01
	ROE	0.08	0.07	1.88				0.06	0.07	0.54
	Sales Growth	0.20	0.14	0.34				0.17	0.12	0.72
	D/E	0.73	0.41	3.38				0.70	0.42	6.06
	P/E	16.84	15.65	20.95				17.37	15.84	49.13
	Size	6.81	6.67	1.74				7.57	7.46	4.36
	Liquidity	0.18	0.12	0.18				0.18	0.12	0.38
	Neglect. 1 Year	-0.21	-0.12	0.56				-0.18	-0.08	2.27
	Neglect. 2 Year	-0.55	-0.35	0.97				-0.48	-0.23	3.21
	Neglect. 3 Year	-0.83	-0.57	1.25				-0.83	-0.48	4.11
	Neglect. 5 Year	-1.53	-1.03	1.90				-1.61	-1.02	6.02
N			11310			5991			1988	

Table II
Univariate Tests of Stock Neglectedness

This table provides univariate tests of event firms' stock neglectedness. Bidder&Target Sample is used for the analysis. Panel A presents univariate comparisons of stock neglectedness between bidders and targets. Stock neglectedness is calculated in a three-year horizon. We split the neglectedness of bidders into 5 quantiles ranging from low neglected quantile 1 to high neglected quantile 5. We compare the mean neglectedness of bidders with their corresponding target firms in each quantile using a two-tailed T-test. We also reports separately for acquisitions with different methods of payment. ***, ** and * represent significance levels at 1, 5 and 10% respectively. The number of observations for each group appears in parentheses.

Panel B presents univariate comparison of relative stock neglectedness under different specifications regarding to industries. Here and afterwards relative stock neglectedness is referring to the difference of stock neglectedness between a bidder and its target. An acquisition is considered inter-industry if both acquirer and target have different two-digit sic industry code, otherwise it is seen as an intra-industry deal. The neglectedness of bidders is split into 5 quantiles ranging from low neglected quantile 1 to high neglected quantile 5. Both two -sample T-test and Wilcoxon rank-sum test are performed to compare relative stock neglectedness of inter-industry deals with intra-industry deals in each quantile. The number of observations for each group appears in parentheses. ***, ** and * represent significance levels at 1, 5 and 10% respectively.

Panel A: Stock Neglectedness — Bidder vs. Target

	Full Sample			Cash-Only			Stock-Only		
	Bidder	Target	t-stat.	Bidder	Target	t-stat.	Bidder	Target	t-stat.
Quantile-1	-3.58	-1.70	-16.86***	-3.30	-1.55	-8.87***	-3.80	-1.93	-10.51***
	(397)	(397)		(122)	(122)		(179)	(179)	
Quantile-2	-1.34	-1.27	-0.89	-1.32	-1.23	-0.70	-1.35	-1.39	0.33
	(399)	(399)		(155)	(155)		(150)	(150)	
Quantile-3	-0.48	-0.65	2.64***	-0.49	-0.70	2.14**	-0.48	-0.50	0.16
	(396)	(396)		(146)	(146)		(152)	(152)	
Quantile-4	0.04	0.04	-0.02	0.06	0.12	-0.72	0.02	0.03	-0.12
	(399)	(399)		(162)	(162)		(115)	(115)	
Quantile-5	1.22	0.42	9.22***	1.20	0.26	7.53***	1.18	0.42	4.01***
	(397)	(397)		(188)	(188)		(84)	(84)	

Panel B: Relative Stock Neglectedness — Inter vs. Intra Industry

	Differences in Stock Neglectedness		Two Sample T-test	Wilcoxon Rank-sum test
	Inter-Industries	Intra-Industry	t-stat.	z-stat.
Quantile-1	-1.88***	-1.89***	0.21	0.07
	(187)	(210)		
Quantile-2	0.16	-0.30	3.07***	2.33**
	(232)	(167)		
Quantile-3	0.19**	0.18**	0.12	0.97
	(178)	(218)		
Quantile-4	0.08	0.05	1.22	1.76*
	(185)	(214)		
Quantile-5	0.94***	0.64***	1.83*	1.78*
	(202)	(194)		

Table III
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) when the bidder (target) is already known. Bidder&Target sample is used for the analysis. For each real target (bidder) we match it with 10 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 twenty firms with the smallest rankings. Then, for these twenty firms we compute the differences in market to book ratio with the real target (bidder) and select ten 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 ten firms with the smallest sum of both rankings. The bidder's (target's) accounting variables and stock neglectedness are the same for each matching group which makes us capable of defining relative stock neglecteedness 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 Matching") and the probability of being a bidder ("Bidder Matching"). We use the three-year neglectedness. 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 next year and 0 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 0 otherwise. Column (3) is defined likewise for stock-only targets (bidders). The right-hand side variables are calculated in the same way as Table V. ***, ** and * represent significance levels at 1, 5 and 10% respectively using heteroscedasticity robust standard errors with t-statistics given in parentheses.

In column (1)-(6), we report the probability of being a target, while in column (7)-(12), we report the probability of being a bidder. In the case of the probability of being a bidder, under the assumption that most takeovers are initiated by the bidding side we need to consider the influence of managerial incentive in this analysis. Managerial incentive is represented by the mean equity based compensation of a firm's top five manaagers in the year prior to the announcement date. Equity based compensation (EBC) is defined as the value of options and shares granted to a manager divided by his or her total compensation ((blkvalu+ rstkgrnt)/tdc1 from Compustat Executive Compensation database). High-EBC dummy takes a value of 1 if a firm's EBC is above the sample median and 0 otherwise. We evaluate the impact of managerial incentive by adding an interaction term of the Diff of Negl. and the High-EBC dummy in the regression.

Table III (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)
Relative stock neglectedness	0.024***	0.026**	0.040**	0.024***	0.027**	0.040***	-0.023	-0.023	-0.043	-0.024	-0.019	-0.063*
	(3.07)	(2.12)	(2.51)	(3.23)	(2.23)	(2.61)	(-1.26)	(-0.84)	(-1.22)	(-1.36)	(-0.69)	(-1.81)
Relative stock neglectedness × High EBC dummy							0.050**	0.088***	0.059	0.057**	0.101***	0.075*
							(1.96)	(2.33)	(1.37)	(2.24)	(2.70)	(1.74)
High EBC dummy							0.179***	0.077	0.292***	0.153***	0.046	0.280***
							(3.52)	(0.98)	(3.21)	(3.03)	(0.58)	(3.04)
Control Variables												
Relative abnormal return	0.074***	0.077***	0.103***	0.078***	0.079***	0.099***	0.008	0.023	-0.037	-0.008	0.025	-0.036
	(4.17)	(2.65)	(2.91)	(4.48)	(2.75)	(2.97)	(0.38)	(0.72)	(-0.77)	(-0.38)	(0.75)	(-0.76)
Relative D/E	0.029***	0.046***	0.051**	0.021**	0.038**	0.033	-0.014**	-0.010	-0.054***	-0.011	-0.007	-0.042**
	(2.71)	(2.97)	(2.01)	(2.26)	(2.53)	(1.37)	(-1.98)	(-1.05)	(-2.99)	(-1.53)	(-0.73)	(-2.39)
Relative liquidity	0.166***	0.191**	0.084	0.154***	0.161*	0.064	0.101	0.136	-0.022	0.028	0.089	-0.175
	(2.67)	(2.02)	(0.68)	(2.65)	(1.74)	(0.57)	(1.29)	(1.13)	(-0.13)	(0.35)	(0.73)	(-1.10)
Relative sales growth	-0.010	-0.044	0.016	-0.001	-0.023	0.018	0.172***	0.188**	0.269**	0.122**	0.193**	0.195*
	(-0.22)	(-0.67)	(0.18)	(-0.03)	(-0.35)	(0.24)	(3.29)	(1.96)	(2.15)	(2.42)	(2.05)	(1.72)
Relative ROE	0.003	0.012*	0.013	0.001	0.010	0.025	-0.016	-0.008	-0.144	-0.030	-0.020	-0.690**
	(1.00)	(1.77)	(0.13)	(0.61)	(1.36)	(0.51)	(-0.94)	(-0.43)	(-0.98)	(-1.60)	(-0.96)	(-2.47)
Relative M/B	-0.011***	-0.013***	-0.037***	-0.008***	-0.009**	-0.024***	0.013**	0.012	0.035**	0.010*	0.011	0.024
	(-2.99)	(-2.67)	(-5.17)	(-3.07)	(-2.58)	(-3.38)	(2.12)	(1.13)	(2.52)	(1.83)	(1.11)	(2.40)
Relative P/E	0.000	0.000	0.001	0.000	0.000	0.000	0.000	-0.001	0.000	-0.001	-0.001	0.001
	(0.00)	(0.30)	(0.64)	(-0.45)	(-0.11)	(0.34)	(-0.69)	(-0.46)	(-0.02)	(-1.38)	(-1.24)	(0.60)
Relative size	-0.007	0.001	0.011	-0.012**	-0.001	-0.010	0.143***	0.200***	0.090***	0.165***	0.229	0.119***
	(-1.41)	(0.11)	(0.77)	(-2.54)	(-0.14)	(-0.73)	(13.05)	(10.08)	(4.22)	(15.24)	(11.56)	(5.69)
Relative stock Volatility	-0.129***	-0.107	-0.143**	-0.105***	-0.097	-0.100	0.019	-0.021	0.097	-0.008	-0.018	0.026
	(-3.17)	(-1.49)	(-1.99)	(-2.71)	(-1.44)	(-1.50)	(0.50)	(-0.33)	(0.84)	(-0.21)	(-0.28)	(0.24)
Intercept	-1.206***	-1.538***	-1.732*	-0.925***	-1.424***	-1.642***	-1.518***	-1.081***	-1.347***	-1.384***	-1.221***	-1.278***
	(-23.28)	(-18.96)	(-10.39)	(-36.12)	(-16.95)	(-11.35)	(-16.88)	(-10.20)	(-9.04)	(-18.04)	(-9.31)	(-7.88)
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	0.0066	0.0112	0.0044	0.0056	0.0074	0.0390	0.0579	0.0438	0.0470	0.0734	0.0504
Number of Observations	11554	5352	3176	11540	5341	3175	5217	2358	1715	5240	2349	1682

Table IV
Determinants of Probability of Being Target or Bidder, Relative Stock Neglectedness, and Merger Synergy

This table studies the (unconditional) probability of being a bidder(target) that will be used in the Heckman 2 stage procedure, 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. All-bidder (all-target) sample is used for the analysis. The left-hand side variable is a dummy variable taking a value of 1 if a firm is the bidder (target) in an acquisition in the next year and 0 otherwise. Accounting variables are defined in the same way as Table II but they are now averaged over two years prior to the announcement date. Stock neglectedness is the average neglectedness during each year. We also add cumulative abnormal return and stock volatility as our additional control variables. 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. 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 Thomson I/B/E/S Summary History Database. The estimation procedure is detailed as follows. Let E^T_{pre}, E^B_{pre} be the latest yearly EPS forecast for the target and the bidder one quarter before the effective date, E^B_{post} be the first yearly EPS forecast for the combined firm after the effective date, and let SH^T_{pre}, SH^B_{pre}, SH^B_{post}, P^T_{pre}, and P^B_{post} be the shares outstanding and stock prices concurrent with the earnings forecasts. We also define $E^B_{pre-announce}$ and $P^B_{pre-announce}$ as the EPS forecast and price of the bidder before the announcement. The merger synergies are: $Syn = \dfrac{\frac{P^B_{pre-announce}}{E^B_{pre-announce}}(E^B_{post} SH^B_{post} - E^B_{pre} SH^B_{pre} - E^T_{pre} SH^T_{pre})}{P^B_{pre-announce} SH^B_{pre-announce}}$. 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 span from the announcement date to the effect date to be less than 360 days. We drop the forecasting data with negative value. In columns (1)-(3) we identify instruments for relative stock neglectedness by using OLS, while in column (5)-(7), we identify instruments for merger synergy. The explanatory variables include bidder's stock neglectedness, cash to sales ratio, idiosyncratic volatility, credit ratings 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. Credit ratings dummy equals 0 if the bidder has an S&P credit rating in Compustat and 1 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 is after 1993 and 0 otherwise. In column (4) we use an IV regression to examine the impact of synergy on Diff of Negl. where synergy is instrumented using bidder's pre-announcement earnings forecast, capital intensity and employee intensity. In column (8) we use a IV regression to examine the impact of Diff of Negl. on synergy where Diff of Negl. is instrumented by bidder's stock neglectedness, cash to sales ratio and credit ratings dummy. We employ Heckman's self-selection correction technique. Hansen's J statistic (Chi-squared p-value) is reported to test the quality of instruments whenever IV regression is performed. In Panel A we presents the summary statistics of our estimates of merger synergy. The sample in summary statistics is larger than the ones used in later regressions because we include observations with missing values on other explanatory variables or instruments. "High-buy-Low" dummy takes a value of 1 if the firm's Diff of Negl. is above the median of event observations within the same announcement year and 0 otherwise. "Low-buy-High" equals 1 if the firm's Diff of Negl. is below the median of event observations within the same announcement year and 0 otherwise. Both two sampled t-test and Wilconxon rank-sum test are used to compare the mean and median synergy of the two groups. In panel B, we report the results of the determinants of using the three-year stock neglectedness as well as the probability of the being the bidder or the target. ***, ** 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 Univeriate Tests

	Full Sample		High-buy-Low		Low-buy-High		t-stat.	Wilconxon z-stat.
	Mean	Median	Mean	Median	Mean	Median		
Merger Synergy	29.5%	15.0%	27.7%	13.9%	31.3%	16.3%	-0.60	-0.93
	(1128)		(560)		(568)			

Table IV (Cont'd) Panel B: Main Determinants

		Bidder Prob.	Target Prob.	Diff of Negl.				Merger Synergy			
				(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff of Negl..											-0.067
											(-1.04)
Merger synergy							-0.177				
							(-0.67)				
Bidder:	D/E	0.008		0.000	0.002	-0.181**	-0.148	0.244*	0.275**	0.269**	0.27**
		(1.39)		(0.04)	(0.24)	(-2.00)	(-1.32)	(1.95)	(2.34)	(2.38)	(2.33)
	Liquidity	-0.171*		0.177	0.019	0.163	0.157	-0.217	-0.064	0.243	0.177
		(-1.80)		(1.16)	(0.08)	(0.31)	(0.3)	(-0.49)	(-0.14)	(0.5)	(0.38)
	Sales Growth	0.491***		0.007	-0.024	-0.164*	-0.164*	0.310	0.387	0.509**	0.469*
		(7.25)		(0.21)	(-0.50)	(-1.79)	(-1.85)	(1.01)	(1.61)	(2.05)	(1.95)
	Size	0.242***		-0.191*	-0.138	-0.359	-0.254	0.056	0.073	-0.017	0.014
		(21.96)		(-1.81)	(-1.26)	(-1.21)	(-0.81)	(0.82)	(0.82)	(-0.15)	(0.15)
	ROE	0.013**		-0.000	0.001	0.51	0.485	-0.078***	-0.071**	-0.064**	-0.068**
		(2.05)		(-0.17)	(0.79)	(1.06)	(1.03)	(-3.20)	(-2.48)	(-2.24)	(-2.46)
	M/B	-0.008**		-0.000	-0.001	0.009**	0.007	0.060	-0.085	-0.118	-0.1
		(-2.44)		(-0.74)	(-1.19)	(2.00)	(1.36)	(0.080)	(-0.15)	(-0.23)	(-0.2)
	P/E	0.001**		-0.000	-0.000	-0.001	-0.001	0.001	0.001	0.001	0.001
		(2.26)		(-0.21)	(-0.39)	(-0.77)	(-0.72)	(0.96)	(1.08)	(1.28)	(1.38)
	Abnormal Return	0.141***									
		(5.21)									
	Stock Volatility	-0.107									
		(-1.52)									
	Heckman Lambda			-0.613**	-0.394	0.120	0.197	1.896***	1.656*	2.005*	1.919**
				(-2.04)	(-0.94)	(0.17)	(0.28)	(2.75)	(1.75)	(1.89)	(1.98)
	Stock Neglectedness	-0.077***		0.633***	0.639***	0.590***	0.582***			-0.045	
		(-5.31)		(19.01)	(20.99)	(11.63)	(11.61)			(-1.11)	
	Idiosyncratic Vol.			-7.875**	-10.96***	-22.38***	-26.38***			-16.728**	-19.25***
				(-2.37)	(-3.29)	(-3.63)	(-3.14)			(-2.3)	(-2.87)
	C&I Rate Spread			-0.858***	-0.758***	-1.109***	-0.997**			0.781***	0.656**
				(-5.09)	(-4.54)	(-2.94)	(-2.54)			(2.89)	(2.49)
	Cash/Sales			0.013*	0.015**	0.059	0.061			-0.058	
				(1.77)	(2.18)	(0.57)	(0.57)			(-0.37)	
	Ratings Dummy			-0.112	-0.080	-0.227	-0.279			-0.222	
				(-1.40)	(-0.92)	(-1.36)	(-1.51)			(-1.10)	
	EPS forecast					0.025		-0.118**	-0.12***	-0.137***	-0.133***
						(0.60)		(-2.60)	(-2.7)	(-3.04)	(-3.07)
	Employee Intensity					-2.410		9.808	21.893*	22.29*	22.97**
						(-0.23)		(0.92)	(1.91)	(1.93)	(2.02)
	Capital Intensity					-0.077		0.227	0.552**	0.538**	0.539**
						(-0.29)		(0.96)	(2.16)	(2.13)	(2.17)
	Leverage					-0.487	-0.660	-0.975	-0.806	-1.011	-0.864
						(-0.72)	(-0.87)	(-1.04)	(-1.09)	(-1.27)	(-1.2)
	Operating Margin					0.506	0.600	0.035	0.578	0.599	0.600
						(0.86)	(0.99)	(0.05)	(0.8)	(0.84)	(0.87)
Target:	D/E		0.003	-0.004	-0.001	0.002	-0.002	-0.027	-0.029*	-0.026	-0.027*
			(0.94)	(-0.57)	(-0.12)	(0.07)	(-0.09)	(-1.66)	(-1.88)	(-1.65)	(-1.76)
	Liquidity		-0.217***	0.647***	0.536***	0.709**	0.758**	0.294	0.32	0.380	0.402
			(-4.65)	(5.00)	(2.85)	(2.06)	(2.20)	(1.61)	(1.26)	(1.50)	(1.59)
	Sales Growth		0.088***	0.115*	0.127	0.176***	0.163***	-0.059	0.005	0.079	0.109
			(2.73)	(1.69)	(1.59)	(3.37)	(2.99)	(-0.39)	(0.03)	(0.55)	(0.77)
	Size		-0.014**	0.086***	0.092***	0.537***	0.545***	-0.094**	-0.098**	-0.080*	-0.071*
			(-2.36)	(4.13)	(4.02)	(3.05)	(3.20)	(-2.03)	(-2.35)	(-1.91)	(-1.71)
	ROE		0.002	0.017***	0.015***	-0.205	-0.197	0.017*	0.015	0.015	0.015
			(0.41)	(3.46)	(3.13)	(-1.47)	(-1.49)	(1.74)	(1.47)	(1.50)	(1.60)
	M/B		-0.006***	0.007	0.005	0.009	0.012	0.016	0.036	0.059	0.043
			(-3.55)	(1.10)	(0.81)	(0.76)	(0.96)	(0.38)	(0.72)	(1.26)	(0.96)
	P/E		-0.002***	0.002**	0.002	0.001	0.000	-0.002	-0.002	-0.003	-0.002
			(-4.83)	(2.12)	(1.46)	(0.30)	(0.15)	(-1.01)	(-0.92)	(-1.19)	(-1.08)
	Stock Neglectedness		-0.028***								
			(-3.10)								
	Abnormal Return		-0.058***								
			(-4.54)								
	Stock Volatility		0.042								
			(1.52)								
	Period Dummy			0.901***	0.93***	1.129***	1.164***	0.250	0.293	0.305	0.386**
				(9.93)	(8.82)	(5.09)	(5.44)	(1.49)	(1.50)	(1.62)	(2.05)
	Intercept	-2.578***	-1.422***	0.844**	1.462**	2.452**	2.373***	-0.015	-0.651	-1.110	-1.283
		(-23.36)	(-25.22)	(2.57)	(2.60)	(2.52)	(2.64)	(-0.03)	(-0.87)	(-1.17)	(-1.62)
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		0.1496	0.0207	0.3430	0.3641	0.3592	0.3333	0.0840	0.1439	0.1643	0.1430
Hansen's J (p-value)							0.98				0.40
Number of Obs.		63477	61144	1759	1759	664	664	664	664	664	664

This table analyses the impact of relative stock neglectedness on the changes of mutual fund holdings of the bidding firms after the deal. The dependent variable is the difference of average percentage of mutual fund holdings of bidder's stock between the second year after the announcement and the announcement year. IV regression (2SLS) is implemented in all specifications to address the endogeneity problem of relative stock neglectedness 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 stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy and C&I spread as instruments for Diff of Negl.. High-buy-Low dummy takes a value of 1 if Diff of Negl. is greater than 0 and 0 otherwise. If synergy and relative stock neglectedness are included together (columns (6)-(10)), we instrument both of them by the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread. Hansen's J statistic (Chi-squared p-value) is 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, hostilile 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 of Negl.	0.005***	0.005***	0.005***	0.005***		0.004**	0.004**	0.004**	0.004**	
	(5.46)	(6.03)	(4.03)	(4.03)		(2.17)	(2.29)	(2.52)	(2.58)	
Merger synergy						-0.009	-0.009	-0.008	-0.007	-0.009
						(-1.20)	(-1.27)	(-1.08)	(-1.07)	(-1.35)
High-buy-Low Dummy					0.025***					0.020**
					(4.01)					(2.49)
Bidder's Characteristics										
D/E	-0.001***	-0.001***	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000	-0.001
	(-2.77)	(-2.69)	(-1.31)	(-1.27)	(-1.38)	(-0.55)	(-0.70)	(-0.48)	(-0.37)	(-0.74)
Liquidity	-0.015***	-0.016***	-0.015*	-0.015*	-0.012	-0.02**	-0.018*	-0.021*	-0.021*	-0.02
	(-3.14)	(-2.92)	(-1.79)	(-1.72)	(-1.35)	(-2.11)	(-1.95)	(-1.83)	(-1.80)	(-1.61)
Sales Growth	-0.004	-0.003	-0.003	-0.003	-0.003	-0.010**	-0.010***	-0.010*	-0.009	-0.009
	(-1.6)	(-1.22)	(-0.9)	(-0.76)	(-0.95)	(-2.57)	(-2.70)	(-1.75)	(-1.52)	(-1.48)
Size	-0.001	-0.002*	-0.003**	-0.003*	-0.003*	-0.003	-0.003	-0.003*	-0.003	-0.004
	(-1.46)	(-1.89)	(-2.31)	(-1.91)	(-1.88)	(-1.58)	(-1.55)	(-1.75)	(-1.47)	(-1.61)
ROE	-0.000*	-0.000*	-0.000	-0.000	-0.000	0.002	0.001	0.013	0.015	0.022
	(-1.69)	(-1.91)	(-1.5)	(-1.35)	(-0.45)	(0.05)	(0.02)	(0.68)	(0.78)	(1.07)
M/B	0.000	0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000
	(0.03)	(0.29)	(-0.65)	(-0.77)	(-0.34)	(0.51)	(0.70)	(0.57)	(0.46)	(0.76)
P/E	-0.000**	-0.000**	-0.000**	-0.000**	-0.000*	-0.000	-0.000	-0.000	-0.000	-0.000
	(-2.02)	(-2.05)	(-2.38)	(-2.28)	(-1.86)	(-1.28)	(-1.26)	(-1.59)	(-1.63)	(-1.33)
Heckman Lambda	-0.003	0.005	0.014	0.012	0.019	0.023	0.024	0.019	0.017	0.024
	(-0.18)	(0.31)	(1.04)	(0.87)	(1.24)	(1.27)	(1.27)	(0.84)	(0.76)	(1.10)
Merger Characteristics										
Stock		-0.004*	-0.003	-0.003	-0.004		-0.004	-0.003	-0.004	-0.003
		(-1.84)	(-1.32)	(-1.39)	(-1.56)		(-0.94)	(-0.93)	(-0.98)	(-0.92)
Tender Offer		0.002	0.001	0.000	-0.001		-0.002	-0.003	-0.003	-0.003
		(0.6)	(0.18)	(0.00)	(-0.18)		(-0.59)	(-0.77)	(-0.86)	(-0.83)
Hostility		-0.008	-0.007	-0.006	-0.004		-0.003	0.001	0.002	0.005
		(-1.33)	(-1.16)	(-1.04)	(-0.55)		(-0.4)	(0.11)	(0.28)	(0.68)
Competing Offer		0.004	0.005	0.005	0.004		-0.002	-0.002	-0.001	-0.003
		(1.05)	(1.08)	(1.12)	(0.89)		(-0.43)	(-0.33)	(-0.25)	(-0.47)
Target Characteristics										
D/E				0.000	0.000				0.000	0.000
				(0.40)	(1.27)				(-0.25)	(-0.04)
Liquidity				-0.000	-0.002				-0.001	-0.002
				(-0.05)	(-0.28)				(-0.15)	(-0.28)
Sales Growth				-0.001	-0.002				-0.004	-0.006
				(-0.37)	(-0.63)				(-0.86)	(-1.20)
Size				-0.001	-0.001				-0.001	-0.001
				(-0.97)	(-1.28)				(-0.51)	(-0.78)
ROE				0.001	0.002				0.002	0.003
				(0.31)	(0.44)				(0.38)	(0.42)
M/B				0.000	0.000				-0.000	-0.000
				(-0.65)	(-0.89)				(-0.23)	(-0.45)
P/E				0.000**	0.000**				0.000	0.000
				(2.17)	(2.10)				(1.53)	(1.34)
Intercept	0.036***	0.039***	0.042***	0.027**	0.015	0.044***	0.046***	0.034**	0.036**	0.026
	(4.21)	(4.61)	(3.22)	(1.95)	(1.02)	(2.87)	(2.99)	(2.03)	(2.09)	(1.49)
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)	0.58	0.65	0.23	0.30	0.18	0.91	0.94	0.89	0.89	0.70
N			997					550		

Table VI: Bidder's Short-term Premium around the Event

This table analyzes the impact of relative stock neglectedness and merger synergy on the short term performance of acquirer 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. We report the results with synergy as well as without synergy. If synergy is not included (column (1)-(5)) we use the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy and C&I spread as instruments for Diff of Negl.. High-buy-Low dummy takes a value of 1 if Diff of Negl. is greater than 0 and 0 otherwise. If synergy and relative stock neglectedness are included together (column (6)-(10)), we instrument them by the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread. 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, hostilile 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 of Negl.	0.072***	0.072***	0.063***	0.063***		0.086**	0.084**	0.096***	0.093***	
	(3.45)	(3.47)	(3.81)	(3.78)		(2.49)	(2.23)	(3.14)	(3.08)	
Merger synergy						0.566***	0.630***	0.556***	0.499***	0.562***
						(4.29)	(3.77)	(3.67)	(3.38)	(3.44)
High-buy-Low Dummy					0.307***					0.494***
					(3.74)					(2.68)
Bidder's Characteristics										
D/E	0.003	0.003	0.003	0.004	0.004	0.024	0.022	0.029	0.031*	0.025
	(0.73)	(0.73)	(0.56)	(0.81)	(0.76)	(1.20)	(1.12)	(1.57)	(1.87)	(1.58)
Liquidity	-0.111	-0.106	-0.127	-0.105	-0.087	-0.169	-0.16	-0.284	-0.237	-0.222
	(-0.95)	(-0.94)	(-1.10)	(-0.86)	(-0.70)	(-1.28)	(-1.21)	(-1.34)	(-1.09)	(-0.99)
Sales Growth	-0.238***	-0.241***	-0.23***	-0.202***	-0.205***	-0.505**	-0.467**	-0.459***	-0.371**	-0.407**
	(-3.85)	(-3.78)	(-3.30)	(-2.88)	(-2.88)	(-2.54)	(-2.37)	(-2.73)	(-2.27)	(-2.51)
Size	-0.039**	-0.038**	-0.027	-0.017	-0.021	-0.077**	-0.081**	-0.093**	-0.096**	-0.111**
	(-2.59)	(-2.48)	(-1.45)	(-0.87)	(-1.06)	(-2.10)	(-2.19)	(-2.50)	(-2.47)	(-2.61)
ROE	-0.152**	-0.15**	-0.148*	-0.159**	-0.143*	-0.001	-0.001	-0.001	-0.001**	-0.001
	(-2.09)	(-2.06)	(-1.82)	(-2.01)	(-1.74)	(-1.49)	(-1.61)	(-1.46)	(-2.13)	(-1.47)
M/B	-0.032***	-0.032***	-0.035***	-0.035***	-0.034***	-0.011	-0.011	-0.013*	-0.014**	-0.013**
	(-5.31)	(-5.30)	(-5.4)	(-5.45)	(-5.14)	(-1.43)	(-1.41)	(-1.81)	(-2.17)	(-2.16)
P/E	-0.000	-0.000	-0.000	-0.000	0.000	-0.000	-0.001	-0.001	-0.001	-0.000
	(-0.95)	(-0.95)	(-0.58)	(-0.47)	(-0.45)	(-1.12)	(-1.06)	(-1.62)	(-1.58)	(-1.10)
Heckman Lambda	0.601***	0.582***	0.472**	0.475**	0.524**	0.206	0.180	0.383	0.421	0.525
	(3.89)	(3.73)	(2.26)	(2.28)	(2.47)	(0.50)	(0.43)	(0.88)	(1.07)	(1.28)
Merger Characteristics										
Stock		0.009	-0.003	-0.001	0.001		-0.068	-0.062	-0.06	-0.068
		(0.28)	(-0.09)	(-0.02)	(0.04)		(-0.93)	(-0.78)	(-0.77)	(-0.82)
Tender Offer		-0.018	-0.009	-0.019	-0.021		0.188**	0.161*	0.143	0.168*
		(-0.44)	(-0.19)	(-0.42)	(-0.45)		(2.37)	(1.80)	(1.63)	(1.76)
Hostility		-0.001	-0.012	0.009	0.026		0.038	0.082	0.022	0.112
		(-0.02)	(-0.17)	(0.13)	(0.37)		(0.39)	(0.47)	(0.14)	(0.65)
Competing Offer		0.007	-0.011	-0.015	-0.033		0.027	0.006	-0.018	-0.017
		(0.12)	(-0.20)	(-0.29)	(-0.59)		(0.32)	(0.06)	(-0.18)	(-0.15)
Target's Characteristics										
D/E				-0.005	-0.005				-0.008	-0.001
				(-0.98)	(-0.92)				(-0.40)	(-0.04)
Liquidity				-0.06	-0.069				-0.246	-0.256
				(-0.6)	(-0.68)				(-1.44)	(-1.4)
Sales Growth				-0.177***	-0.189***				-0.303***	-0.335***
				(-3.45)	(-3.51)				(-2.96)	(-3.01)
Size				-0.016	-0.018				0.012	0.017
				(-1.34)	(-1.47)				(0.43)	(0.54)
ROE				-0.003	-0.002				-0.048	-0.064
				(-1.37)	(-0.84)				(-0.36)	(-0.46)
M/B				0.002	0.003				0.003	0.000
				(0.47)	(0.55)				(0.29)	(0.05)
P/E				0.000	0.000				0.002	0.001
				(0.41)	(0.39)				(1.25)	(1.01)
Intercept	0.517**	0.513**	0.371*	0.425**	0.222	0.701**	0.655*	0.592	0.547	0.350
	(2.58)	(2.46)	(1.75)	(2.01)	(1.02)	(2.07)	(1.95)	(1.63)	(1.31)	(0.81)
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)	0.79	0.75	0.59	0.68	0.63	0.14	0.13	0.46	0.31	0.17
N			1726					633		

Table VII
Bidder's Asset Appreciation

This table analyzes the impact of relative stock neglectedness and merger synergy on the asset appreciation of the bidding firms. Asset appreciation is defined as the increase of forward price-earnings ratio of the bidder 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 span from the announcement date to the effect date to be less than 360 days. From the formula we drop the earnings forecast with negative values since it tends to bias our calculation.

IV regression (2SLS) is implemented in all specifications to address the endogeneity problem of relative stock neglectedness and merger synergy. Since the inclusion of synergy and its instruments will reduce the sample significantly, we report the results with synergy as well as without synergy. If synergy is not included (column (1)-(5)) we use the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy and C&I spread as instruments for Diff of Negl.. High-buy-Low dummy takes a value of 1 if Diff of Negl. is greater than 0 and 0 otherwise. If synergy and relative stock neglectedness are included together (column (5)-(10)), we instrument both of them by the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread. 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, hostilile takeover and competing offer. We also include the forward price-earnings ratio of the bidder and the target as additional control.

In Panel A we presents the summary statistics of our estimates of asset appreciation. "High-buy-Low" dummy takes a value of 1 if the firm's Diff of Negl. is above the median of event observations within the same announcement year and 0 otherwise. "Low-buy-High" equals 1 if the firm's Diff of Negl. is below the median of event observations within the same announcement year and 0 otherwise. Both two sampled t-test and Wilconxon rank-sum test are used to compare the mean and median of the two groups. We report the results on three-year stock neglectedness in Panel B. ***, ** 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 Asset Appreciation and Univeriate Tests

	Full Sample		High-buy-Low		Low-buy-High		t-stat.	Wilconxon z-stat.
	Mean	Median	Mean	Median	Mean	Median		
Bidder's Asset Appreciation	0.95	-0.43	2.27	0.05	-0.38	-1.03	2.61***	2.24**
	(1128)		(569)		(559)			

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff of Negl.	1.453**	1.455**	1.622***	1.529***		1.826***	1.867***	1.878***	1.636***	
	(2.60)	(2.58)	(3.27)	(3.24)		(4.58)	(4.57)	(3.06)	(2.88)	
Merger synergy						-1.095	-1.244	-1.955	-2.371	-4.048*
						(-0.59)	(-0.73)	(-0.85)	(-1.06)	(-1.78)
High-buy-Low Dummy					8.362***					7.409***
					(3.31)					(2.69)
Bidder's Characteristics										
D/E	0.066	0.055	0.186	0.130	0.267	0.117	0.111	0.285**	0.255**	0.810**
	(0.65)	(0.53)	(1.56)	(1.01)	(1.31)	(1.19)	(1.11)	(2.23)	(2.03)	(2.46)
Liquidity	2.248	2.38	-2.30	-3.684	-2.277	0.01	-0.298	-4.12	-5.267	-3.828
	(0.99)	(1.00)	(-0.61)	(-0.96)	(-0.58)	(0)	(-0.1)	(-0.98)	(-1.25)	(-0.94)
Sales Growth	-1.971	-2.14	-2.046	-1.911	-2.025	-3.48	-3.84	-2.896	-2.755	-2.53
	(-0.82)	(-0.87)	(-0.98)	(-0.93)	(-0.99)	(-1.17)	(-1.22)	(-1.16)	(-1.1)	(-1.05)
Size	-0.674	-0.633	-0.943*	-1.372***	-1.461***	-1.693**	-1.666**	-1.872**	-2.278***	-2.472***
	(-1.25)	(-1.2)	(-1.88)	(-2.69)	(-2.70)	(-2.31)	(-2.36)	(-2.6)	(-3.31)	(-3.36)
ROE	0.009	0.01	0.013*	0.018**	0.021**	0.012**	0.014**	0.011	0.012	0.009
	(1.28)	(1.31)	(1.78)	(2.20)	(2.42)	(2.05)	(2.27)	(1.09)	(1.24)	(0.96)
M/B	-0.002	-0.001	-0.010	-0.009	-0.095	-0.005	-0.005	-0.015**	-0.014**	-0.248**
	(-0.37)	(-0.22)	(-1.60)	(-1.30)	(-1.45)	(-0.99)	(-0.92)	(-2.12)	(-2.12)	(-2.09)
P/E	-0.006	-0.006	-0.008	-0.009*	-0.009	-0.008	-0.008	-0.01**	-0.01**	-0.01*
	(-1.01)	(-1.07)	(-1.58)	(-1.68)	(-1.61)	(-1.27)	(-1.36)	(-1.99)	(-2.12)	(-1.73)
Pre-announcement EPS	0.010	0.009	0.003	0.013	0.020	0.039	0.035	0.045	0.059*	0.082**
	(0.36)	(0.34)	(0.10)	(0.44)	(0.69)	(1.52)	(1.37)	(1.3)	(1.73)	(2.35)
Heckman Lambda	-1.792	-2.328	0.091	0.221	3.058	6.056	5.762	5.16	6.647	13.134
	(-0.39)	(-0.53)	(0.02)	(0.04)	(0.51)	(0.62)	(0.64)	(0.55)	(0.74)	(1.37)
Merger Characteristics										
Stock		0.338	0.557	0.578	0.748		1.03	0.699	0.875	1.452
		(0.45)	(0.50)	(0.52)	(0.66)		(0.79)	(0.47)	(0.59)	(0.97)
Tender Offer		-0.757	-1.274	-1.186	-0.985		-1.241	-1.807	-1.822	-1.973
		(-0.62)	(-1.00)	(-0.90)	(-0.74)		(-0.87)	(-1.27)	(-1.25)	(-1.37)
Hostility		0.913	0.561	0.001	1.395		-0.071	0.111	-0.604	0.582
		(0.48)	(0.15)	(0.00)	(0.36)		(-0.04)	(0.03)	(-0.15)	(0.15)
Competing Offer		1.979	1.971	1.418	1.004		1.911	1.879	1.665	1.115
		(0.93)	(0.97)	(0.72)	(0.49)		(0.88)	(0.86)	(0.78)	(0.53)
Target's Characteristics										
D/E				0.287	0.309				0.572*	0.699**
				(1.44)	(1.55)				(1.86)	(2.33)
Liquidity				4.559	3.555				4.686	3.887
				(1.39)	(1.06)				(1.42)	(1.18)
Sales Growth				-1.873	-2.110				-1.689	-1.659
				(-0.80)	(-0.87)				(-0.65)	(-0.64)
Size				1.289***	1.282***				1.261**	1.076**
				(3.29)	(3.21)				(2.35)	(1.99)
ROE				-2.556	-2.733				-2.433	-2.216
				(-1.08)	(-1.18)				(-1)	(-0.93)
M/B				-0.264***	-0.264***				-0.303**	-0.318***
				(-2.71)	(-2.76)				(-2.52)	(-2.74)
P/E				0.002	-0.005				0.01	0.003
				(0.06)	(-0.16)				(0.33)	(0.11)
Pre-announcement EPS				-0.114*	-0.117*				-0.117*	-0.113*
				(-1.80)	(-1.86)				(-1.89)	(-1.87)
Intercept	-9.496	7.583	-6.306	7.885	5.560	-1.462	3.494	3.834	0.492	-1.861
	(-1.67)	(1.61)	(-0.77)	(1.31)	(0.93)	(-0.18)	(0.45)	(0.45)	(0.05)	(-0.22)
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)	0.57	0.58	0.72	0.60	0.63	0.50	0.45	0.31	0.24	0.17
N			914					629		

Table VIII
Target's Adjusted Market Premium

This table analyzes the impact of relative stock neglectedness and merger synergy on the target's "adjusted" premium of target firm around the event assuming its demand curve is downward-sloping. We estimate a firm's "true" value following the decomposition methodology advanced by Rhodes-Kropf, Robinson and Viswanathan (2005). We group firms in our basis sample universe (the one used in unconditional probit regression) according to the 12 Fama and French 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 that 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:

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

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 to its true value if the market value is above the true value while would not pull the price up if the market value is less than the true value (demand curve sloping down). An IV regression (2SLS) is implemented in all specifications to address the endogeneity problem of relative stock neglectedness and merger synergy. Since the inclusion of synergy and its instruments reduces the sample significantly, we report the results with synergy as well as without synergy. If synergy is not included (column (1)-(5)) we use the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy and C&I spread as instruments for Diff of Negl.. High-buy-Low dummy takes a value of 1 if Diff of Negl. is greater than 0 and 0 otherwise. If synergy and relative stock neglectedness are included together (column (6)-(10)), we instrument both of them by the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread. 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, hostilile takeover and competing offer.

We report the results on three-year stock neglectedness. ***, ** and * represent significance levels at 1, 5 and 10% respectively using heteroscedasticity robust standard errors with t-statistics given in parentheses.

Table VIII (Cont'd)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff of Negl.	0.032**	0.034***	0.04***	0.038***		0.042***	0.037***	0.042**	0.038**	
	(2.54)	(2.66)	(3.36)	(3.22)		(3.95)	(3.02)	(2.56)	(2.25)	
Merger synergy						0.227***	0.234***	0.237***	0.194**	0.143*
						(3.29)	(3.16)	(3.46)	(2.22)	(1.81)
High-buy-Low Dummy					0.197***					0.178*
					(3.25)					(1.74)
Bidder's Characteristics										
D/E	0.012	0.012	0.014	0.013	0.013	0.008	0.004	0.013	0.013	0.014
	(1.21)	(1.25)	(1.59)	(1.39)	(1.32)	(0.42)	(0.24)	(0.82)	(0.88)	(0.96)
Liquidity	0.172**	0.125	-0.102	-0.091	-0.095	-0.143	-0.155	-0.203*	-0.196*	-0.194*
	(2.15)	(1.6)	(-1.06)	(-0.91)	(-0.94)	(-1.39)	(-1.58)	(-1.83)	(-1.78)	(-1.81)
Sales Growth	-0.193***	-0.191***	-0.177***	-0.172***	-0.171***	-0.103	-0.084	-0.064	-0.071	-0.082
	(-6.31)	(-6.55)	(-3.77)	(-3.61)	(-3.57)	(-1.10)	(-0.91)	(-0.86)	(-0.99)	(-1.13)
Size	-0.032***	-0.031***	-0.032***	-0.051***	-0.051***	-0.021	-0.019	-0.009	-0.028	-0.036
	(-2.74)	(-2.79)	(-3.37)	(-4.62)	(-4.6)	(-1.25)	(-1.02)	(-0.51)	(-1.22)	(-1.60)
ROE	-0.012***	-0.011**	-0.009**	-0.008**	-0.007*	-0.006	-0.006	-0.006	-0.009	-0.009
	(-2.78)	(-2.54)	(-2.35)	(-2.13)	(-1.86)	(-0.07)	(-0.07)	(-0.06)	(-0.09)	(-0.10)
M/B	0.004	0.004	0.001	0.000	0.001	0.011**	0.012**	0.007	0.007	0.008
	(0.54)	(0.51)	(0.13)	(0.06)	(0.12)	(2.07)	(2.57)	(1.32)	(1.32)	(1.59)
P/E	-0.000	-0.001	-0.000	-0.000	-0.000	-0.001	-0.001	-0.001	-0.001	-0.001
	(-0.51)	(-0.72)	(-0.21)	(-0.26)	(-0.41)	(-0.75)	(-0.77)	(-0.59)	(-0.58)	(-0.74)
Heckman Lambda	11.372***	11.225***	10.059***	10.03***	9.23***	1.205	1.412	1.335	1.521	1.699
	(5.43)	(5.63)	(5.72)	(5.76)	(5.03)	(1.04)	(1.22)	(1.06)	(1.21)	(1.37)
Merger Characteristics										
Stock		0.113***	0.112***	0.126***	0.132***		-0.034	-0.033	-0.029	-0.015
		(4.08)	(3.4)	(3.88)	(4.00)		(-0.81)	(-0.67)	(-0.57)	(-0.32)
Tender Offer		0.138***	0.083**	0.078**	0.081**		0.109**	0.07	0.034	0.021
		(4.47)	(2.22)	(2.09)	(2.14)		(2.17)	(1.28)	(0.62)	(0.39)
Hostility		0.015	0.012	0.035	0.038		0.168	0.171	0.164	0.161
		(0.3)	(0.22)	(0.62)	(0.68)		(1.35)	(1.09)	(1.15)	(1.22)
Competing Offer		0.036	0.046	0.06	0.049		0.040	0.056	0.068	0.064
		(0.72)	(1.00)	(1.32)	(1.06)		(0.60)	(0.75)	(0.95)	(0.90)
Target's Characteristics										
D/E				0.002	0.002				-0.010	-0.010
				(0.57)	(0.51)				(-0.98)	(-0.95)
Liquidity				-0.046	-0.031				-0.115	-0.126
				(-0.47)	(-0.31)				(-0.88)	(-1.02)
Sales Growth				-0.036	-0.038				0.009	0.011
				(-0.74)	(-0.78)				(0.12)	(0.16)
Size				0.028***	0.027**				0.017	0.023
				(2.73)	(2.63)				(0.91)	(1.31)
ROE				0.037	0.047				0.113	0.137
				(0.40)	(0.48)				(0.81)	(1.01)
M/B				0.002	0.003				0.003	0.002
				(0.40)	(0.56)				(0.83)	(0.73)
P/E				-0.001*	-0.000*				-0.000	-0.000
				(-1.83)	(-1.76)				(-1.40)	(-1.20)
Intercept	-0.226	-0.272	-0.125	-0.231	-0.316	0.208	0.119	0.499***	0.238	0.201
	(-1.34)	(-1.60)	(-0.65)	(-1.18)	(-1.63)	(1.01)	(0.60)	(3.32)	(1.25)	(1.04)
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)	0.28	0.19	0.23	0.67	0.73	0.44	0.38	0.49	0.46	0.20
N			1689					611		

Table IX

Offer Premium at the Announcement Date and Bargaining Power of the Target

This table analyzes the impact of relative stock neglectedness and merger synergy on the target's actual offer premium at the announcement date. Based on that we go one step further to examine the effect of Diff of Negl. and the degree of 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 one-day offer premium as well as one-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 used as keyword. 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. It is natural 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. Besides, our major results still holds if we exclude all negative values.

Panel A and Panel B reports the regression results on 1-day offer premium and 1-week offer premium respectively under 3-Year stock neglectedness. IV regression (2SLS) is implemented in all specifications to address the endogeneity problem of relative stock neglectedness and merger synergy. Since the inclusion of synergy and its instruments will reduce the sample significantly, we report the results with synergy as well as without synergy. If synergy is not included (column (1)-(5)) we use the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy and C&I spread as instruments for Diff of Negl.. If synergy and relative stock neglectedness are included together (column (6)-(10)), we instrument both of them by the bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy, pre-announcement earnings forecast, capital intensity, employee intensity and C&I spread. High-buy-Low dummy takes a value of 1 if Diff of Negl. is greater than 0 and 0 otherwise. 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, hostilile takeover and competing offer.

Panel C reports the results of regressing offer premium on Diff of Negl. interacting with the slope of target demand curve under 3-Year stock neglectedness. The dependent variable in column (1)-(4) is 1-day offer premium and the dependent variable in column (5)-(8) is 1-week offer premium. Following Baker, Coval and Stein (2004), 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 firm to be larger than 5 and we only include successful mergers in this analysis. To control the endogeneity issue of Diff of Negl. we run a first stage regression of Diff of Negl. on its instruments and use the fitted value in the second stage regression. The instruments are the same as before including bidder's stock neglectedness, idiosyncratic return volatility, cash to sales ratio, credit ratings dummy and C&I rate spread. What we conjecture is that the target in a "High-buy-Low" type of merger would lose part of its bargaining power if at the same time its demand curve is steeply downward-sloping. Instead of using the fitted Diff of Negl. we create a "High-buy-Low" dummy (equals 1 if the fitted value is above the sample median and 0 otherwise) and interact it with target's analyst dispersion. The reason is that interacting Diff of Negl. with target's analyst dispersion directly would not be a correct setting to test our hypothesis because it can be either positive or negative. We use the "High-buy-Low" dummy, target's analyst dispersion and the interaction term as our main explanatory variables in the regression. 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, hostilile takeover and competing offer.

Throughout all panels ***, ** and * represent significance levels at 1, 5 and 10% respectively using heteroscedasticity robust standard errors with t-statistics given in parentheses.

Panel A: 1-Day Offer Premium

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff of Negl.	0.001	0.000	0.003	0.002		0.014	0.011	0.009	0.009	
	(0.13)	(0.06)	(0.39)	(0.31)		(1.62)	(1.37)	(0.79)	(0.7)	
Merger synergy						0.114**	0.117**	0.153***	0.179**	0.169**
						(2.00)	(2.14)	(2.76)	(2.37)	(2.39)
High-buy-Low Dummy					0.013					0.032
					(0.37)					(0.52)
Bidder's Characteristics										
D/E	-0.001	-0.001	0.002	0.002	0.002	0.004	0.003	0.001	0.001	0.001
	(-0.29)	(-0.19)	(0.52)	(0.57)	(0.57)	(0.49)	(0.33)	(0.16)	(0.09)	(0.14)
Liquidity	0.029	0.002	-0.086*	-0.077	-0.078	-0.094	-0.092	-0.122	-0.119	-0.116
	(0.72)	(0.05)	(-1.73)	(-1.48)	(-1.49)	(-1.23)	(-1.24)	(-1.65)	(-1.49)	(-1.47)
Sales Growth	-0.062**	-0.056**	-0.061**	-0.065**	-0.065**	-0.01	0.001	-0.005	0.005	0.006
	(-2.32)	(-2.19)	(-2.14)	(-2.26)	(-2.26)	(-0.23)	(0.02)	(-0.12)	(0.11)	(0.13)
Size	-0.026***	-0.028***	-0.03***	-0.032***	-0.032***	-0.018**	-0.017*	-0.008	0.000	-0.001
	(-5.40)	(-6.21)	(-5.61)	(-4.92)	(-4.92)	(-2.19)	(-1.89)	(-0.71)	(0.000)	(-0.07)
ROE	-0.005	-0.004	0.002	0.004	0.003	0.029	0.034	0.026	0.017	0.015
	(-0.29)	(-0.24)	(0.21)	(0.32)	(0.30)	(0.63)	(0.73)	(0.57)	(0.35)	(0.32)
M/B	-0.001	-0.001	-0.002	-0.003	-0.003	-0.003	-0.002	-0.005	-0.005	-0.005
	(-0.59)	(-0.55)	(-1.46)	(-1.64)	(-1.64)	(-0.73)	(-0.72)	(-1.44)	(-1.50)	(-1.50)
P/E	-0.000	-0.000	-0.000	-0.000	-0.000	-0.001**	-0.001**	-0.001*	-0.001*	-0.001*
	(-1.53)	(-1.51)	(-0.63)	(-0.68)	(-0.70)	(-2.5)	(-2.52)	(-1.67)	(-1.73)	(-1.77)
Heckman Lambda	3.407***	3.297***	2.602***	2.588***	2.517**	1.04**	1.183**	0.326	0.102	0.143
	(4.61)	(4.21)	(2.86)	(2.82)	(2.59)	(2.04)	(2.17)	(0.45)	(0.13)	(0.18)
Merger Characteristics										
Stock		0.038**	0.046**	0.041**	0.041**		-0.032	-0.041	-0.052	-0.05
		(2.49)	(2.62)	(2.35)	(2.36)		(-1.22)	(-1.18)	(-1.33)	(-1.31)
Tender Offer		0.061***	0.044**	0.044**	0.045**		0.044	0.039	0.042	0.038
		(2.73)	(1.98)	(2.00)	(2.00)		(1.26)	(0.98)	(0.92)	(0.88)
Hostility		0.087***	0.091***	0.095***	0.095***		0.079	0.105	0.101	0.106
		(3.38)	(3.02)	(3.11)	(3.12)		(0.90)	(1.20)	(1.09)	(1.17)
Competing Offer		0.067**	0.066**	0.065**	0.064**		0.08*	0.098*	0.11*	0.108*
		(2.62)	(2.22)	(2.18)	(2.16)		(1.73)	(1.74)	(1.80)	(1.79)
Target's Characteristics										
D/E				0.002	0.002				-0.009	-0.009
				(0.27)	(0.26)				(-1.10)	(-1.12)
Liquidity				-0.041	-0.04				0.079	0.082
				(-0.8)	(-0.78)				(0.79)	(0.82)
Sales Growth				0.008	0.008				-0.065	-0.066
				(0.33)	(0.33)				(-1.43)	(-1.46)
Size				0.002	0.002				-0.009	-0.007
				(0.32)	(0.32)				(-0.61)	(-0.53)
ROE				-0.092	-0.091				0.125	0.127
				(-1.49)	(-1.49)				(0.77)	(0.79)
M/B				0.004*	0.005*				0.001	0.001
				(1.77)	(1.80)				(0.25)	(0.25)
P/E				-0.000	-0.000				-0.000	-0.000
				(-0.53)	(-0.5)				(-1.26)	(-1.22)
Intercept	0.298***	0.283***	0.367***	0.477***	0.473***	0.309**	0.436***	0.251*	0.420***	0.397***
	(3.29)	(3.08)	(3.94)	(5.43)	(5.39)	(2.36)	(3.17)	(1.94)	(2.58)	(2.48)
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)	0.21	0.17	0.65	0.69	0.71	0.51	0.76	0.43	0.53	0.49
N			1441					583		

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Diff of Negl.	-0.005	-0.006	-0.004	-0.005		0.016	0.013	0.011	0.008	
	(-0.82)	(-0.96)	(-0.52)	(-0.72)		(1.34)	(1.08)	(0.89)	(0.63)	
Merger synergy						0.125*	0.129**	0.148**	0.157**	0.146**
						(1.82)	(2.07)	(2.52)	(2.05)	(2.07)
High-buy-Low Dummy					-0.030					0.025
					(-0.84)					(0.38)
Bidder's Characteristics										
D/E	-0.001	-0.001	0.002	0.002	0.002	0.006	0.004	-0.001	0.000	0.001
	(-0.28)	(-0.19)	(0.44)	(0.57)	(0.55)	(0.62)	(0.43)	(-0.15)	(0.03)	(0.07)
Liquidity	0.054	0.023	-0.07	-0.07	-0.068	-0.124	-0.123	-0.146*	-0.156*	-0.152*
	(1.13)	(0.52)	(-1.3)	(-1.25)	(-1.20)	(-1.59)	(-1.63)	(-1.89)	(-1.89)	(-1.88)
Sales Growth	-0.066***	-0.057**	-0.06**	-0.059**	-0.059**	-0.019	-0.002	-0.017	-0.007	-0.005
	(-2.75)	(-2.47)	(-2.05)	(-2.07)	(-2.06)	(-0.33)	(-0.03)	(-0.35)	(-0.14)	(-0.10)
Size	-0.031***	-0.033***	-0.036***	-0.041***	-0.041***	-0.027**	-0.027**	-0.021*	-0.024	-0.025
	(-5.16)	(-6.04)	(-6.4)	(-5.87)	(-5.84)	(-2.52)	(-2.22)	(-1.75)	(-1.38)	(-1.45)
ROE	0.000	0.001	0.006	0.008	0.008	0.019	0.025	0.017	0.016	0.014
	(0.00)	(0.08)	(0.58)	(0.72)	(0.74)	(0.30)	(0.43)	(0.33)	(0.31)	(0.27)
M/B	-0.001	-0.001	-0.003*	-0.004**	-0.004**	-0.003	-0.002	-0.004	-0.005	-0.005
	(-0.9)	(-0.91)	(-1.84)	(-2.16)	(-2.14)	(-0.83)	(-0.82)	(-1.22)	(-1.51)	(-1.51)
P/E	-0.000	-0.000	-0.000	-0.000	-0.000	-0.001	-0.001	-0.001	-0.001	-0.001
	(-0.87)	(-0.76)	(-0.06)	(-0.11)	(-0.07)	(-1.14)	(-1.10)	(-0.97)	(-0.91)	(-0.93)
Heckman Lambda	3.919***	3.733***	2.962***	2.856***	3.024***	1.31**	1.507***	0.781	0.661	0.722
	(4.36)	(4)	(3.05)	(2.93)	(2.96)	(2.64)	(2.87)	(0.94)	(0.77)	(0.86)
Merger Characteristics										
Stock		0.033*	0.044**	0.039**	0.038**		-0.041	-0.045	-0.054	-0.053
		(1.92)	(2.42)	(2.18)	(2.1)		(-1.13)	(-1.22)	(-1.34)	(-1.34)
Tender Offer		0.076***	0.06**	0.059**	0.059**		0.062	0.049	0.042	0.038
		(2.93)	(2.63)	(2.58)	(2.57)		(1.50)	(1.16)	(0.91)	(0.86)
Hostility		0.078***	0.081**	0.09***	0.089***		0.113	0.148	0.152	0.157
		(3.05)	(2.49)	(2.73)	(2.71)		(1.09)	(1.37)	(1.39)	(1.46)
Competing Offer		0.079**	0.084**	0.084**	0.086***		0.124**	0.14**	0.151**	0.148**
		(2.59)	(2.58)	(2.61)	(2.66)		(2.13)	(2.16)	(2.23)	(2.23)
Target's Characteristics										
D/E				-0.002	-0.002				-0.010	-0.010
				(-0.30)	(-0.29)				(-1.31)	(-1.33)
Liquidity				-0.023	-0.025				0.098	0.099
				(-0.41)	(-0.45)				(0.95)	(0.96)
Sales Growth				-0.001	-0.001				-0.07	-0.072
				(-0.03)	(-0.04)				(-1.47)	(-1.52)
Size				0.007	0.007				0.008	0.009
				(1.11)	(1.1)				(0.52)	(0.64)
ROE				-0.102	-0.102				0.059	0.06
				(-1.58)	(-1.56)				(0.45)	(0.46)
M/B				0.004	0.004				0.002	0.002
				(1.58)	(1.53)				(0.67)	(0.68)
P/E				0.000	0.000				-0.000	-0.000
				(0.06)	(0.00)				(-1.18)	(-1.14)
Intercept	0.465***	0.452***	0.416***	0.517***	0.525***	0.617***	0.557***	0.380***	0.499***	0.477**
	(6.64)	(6.59)	(4.70)	(5.45)	(5.49)	(3.71)	(3.41)	(3.04)	(2.71)	(2.64)
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)	0.16	0.11	0.29	0.30	0.31	0.30	0.55	0.42	0.38	0.35
N			1456					583		

Panel C: Bargaining Power of the Target

	Offer Premium: 1-Day				Offer Premium: 1-Week			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High-buy-Low Dummy	0.056	0.063*	0.06	0.056	0.093**	0.101***	0.099**	0.088**
	(1.62)	(1.81)	(1.58)	(1.43)	(2.57)	(2.81)	(2.49)	(2.17)
High-buy-Low Dummy × Target's Analyst Dispersion	-0.011***	-0.011***	-0.011**	-0.011**	-0.017***	-0.017***	-0.017***	-0.017***
	(-2.96)	(-3.04)	(-2.40)	(-2.32)	(-4.14)	(-4.27)	(-3.43)	(-3.14)
Target's Analyst Dispersion	0.011***	0.012***	0.01***	0.011**	0.015***	0.015***	0.015***	0.015***
	(4.03)	(4.26)	(2.71)	(2.59)	(5.91)	(6.10)	(3.81)	(3.34)
Target's Characteristics								
D/E	-0.011*	-0.011*	-0.009	-0.009	-0.009	-0.009	-0.008	-0.008
	(-1.82)	(-1.76)	(-1.02)	(-1.00)	(-1.35)	(-1.32)	(-0.86)	(-0.81)
Liquidity	-0.041	-0.056*	-0.087	-0.089	-0.03	-0.044	-0.101	-0.112
	(-1.28)	(-1.9)	(-1.24)	(-1.17)	(-0.74)	(-1.01)	(-1.36)	(-1.42)
Sales Growth	-0.057	-0.048	-0.042	-0.035	-0.068	-0.058	-0.054	-0.037
	(-1.22)	(-1.0)	(-0.90)	(-0.78)	(-1.45)	(-1.21)	(-1.11)	(-0.81)
Size	-0.02***	-0.022***	-0.025***	-0.035***	-0.029***	-0.03***	-0.033***	-0.048***
	(-3.03)	(-3.11)	(-2.98)	(-3.03)	(-3.92)	(-3.87)	(-3.81)	(-4.12)
ROE	0.001	0.003	0.003	0.008	-0.005	-0.002	-0.004	0.001
	(0.07)	(0.28)	(0.27)	(0.66)	(-0.31)	(-0.14)	(-0.31)	(0.11)
M/B	0.000	0.000	-0.001	-0.001	-0.001	-0.001	-0.002	-0.002
	(0.14)	(0.01)	(-0.32)	(-0.43)	(-0.49)	(-0.6)	(-0.55)	(-0.78)
P/E	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000
	(0.37)	(0.32)	(0.27)	(0.15)	(1.56)	(1.48)	(0.84)	(0.79)
Heckman Lambda	1.242	1.274	0.759	0.788	1.671*	1.67	1.517	1.57
	(1.39)	(1.37)	(0.78)	(0.80)	(1.75)	(1.65)	(1.46)	(1.51)
Merger Characteristics								
Stock		0.005	0.012	0.011		-0.005	-0.005	-0.003
		(0.18)	(0.46)	(0.44)		(-0.17)	(-0.19)	(-0.10)
Tender Offer		0.044*	0.036	0.036		0.048	0.04	0.039
		(1.70)	(1.18)	(1.15)		(1.65)	(1.28)	(1.22)
Hostility		0.118**	0.135**	0.139**		0.086	0.105*	0.115*
		(2.07)	(2.41)	(2.45)		(1.41)	(1.77)	(1.90)
Competing Offer		0.104	0.123**	0.125**		0.115	0.149**	0.154**
		(1.52)	(2.18)	(2.20)		(1.50)	(2.38)	(2.44)
Bidder's Characteristics								
D/E				0.009				0.008
				(1.03)				(0.89)
Liquidity				-0.008				0.030
				(-0.11)				(0.37)
Sales Growth				-0.002				-0.015
				(-0.06)				(-0.45)
Size				0.012				0.021**
				(1.19)				(1.97)
ROE				-0.07				-0.096
				(-0.75)				(-0.86)
M/B				0.002				0.002
				(0.64)				(0.50)
P/E				0.000*				0.000*
				(1.70)				(1.78)
Intercept	0.319***	0.328***	0.385***	0.337***	0.473***	0.476***	0.499***	0.413***
	(4.15)	(4.01)	(3.78)	(3.17)	(5.85)	(5.43)	(4.62)	(3.64)
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	0.0911	0.1149	0.1869	0.1979	0.1117	0.1331	0.2109	0.2229
N			775				779	

Table X
Post-announcement Performance of "High-buy-Low", "High-buy-Low + Cash" Bidders and "NO-M&A" Matched Firms

This table presents a comparison of post announcement performance of "High-buy-Low" bidders and their matched "NO-M&A" firms using calendar time portfolio regression approach (CTPR). We also specially compare the performance of "High-buy-Low + Cash" bidders and their matched counterparts. We use three-year stock neglectedness in this analysis. The matching procedure is described as follows. Each month we sort all completed bidders according to their relative stock neglectedness one quarter prior to the announcement. A bidder is considered "High-buy-Low" if its relative stock neglectedness is above the median of the sample distribution. A bidder is considered "High-buy-Low + Cash" if its relative stock neglectedness is above the median and use cash as the only means of payment. For each "High-buy-Low" bidder ("High-buy-Low + Cash), matching I is done by first computing the absolute differences of size with the bidder for all other firms in the same two-digit SIC industry where information on size and stock neglectedness is available, then choosing 50 firms with the smallest absolute differences in size. Within these 50 firms we further select 25 stocks similar to the bidder in term of stock neglectedness. Then we narrow down our selection from these 25 stocks to the ones that are neither a bidder nor a target in the next three years following the announcement date. 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. In this way we have 759 "NO-M&A" observations matched with 836 "High-buy-Low" bidder observations (245 observations matched with 264 "High-buy-Low + Cash" bidder observations). Matching II is achieved similarly with the exception that the first 50 stocks are chosen based on the smallest sum of rankings of absolute differences in size and market to book ratio with the real bidder. We get 765 observations matched with 836 "High-buy-Low" bidder observations (250 observations matched with 264 "High-buy-Low + Cash" bidder observations).

We report the estimates of average monthly abnormal returns using equally weighted calendar-time portfolio regression approach described in Table XVI with the exception that the beginning of each holding period is based upon announcement date instead of effect date. Only the estimated portfolio alpha and its t-statistics are reported. Three holding periods are used: one year, two years and three years. We also require that the portfolio should at least contain 10 stocks in each month of its holding period. N is the number of months in the regression. Results for both the Fama-French three-factor model and four-factor model are reported. ***, ** and * represent significance levels at 1, 5 and 10% respectively using heteroscedasticity robust standard errors.

Panel A: "High-buy-Low" vs. "No M&A"

Panel A1: Matching I

	Fama-French 3 factor model			Fama-French 4 factor model		
	12-month	24-month	36-month	12-month	24-month	36-month
"High-buy-Low"	0.0015	0.0008	0.0006	0.0024	0.0022	0.0026*
	(0.95)	(0.57)	(0.41)	(1.41)	(1.62)	(1.97)
"No-M&A"	-0.0089***	-0.0046**	-0.0014	-0.0067***	-0.0024	0.0006
	(-3.86)	(-2.13)	(-0.67)	(-2.95)	(-1.21)	(0.30)
Long "H-buy-L"						
Short "No-M&A"	0.0104***	0.0055**	0.0020	0.0090***	0.0046**	0.0019
	(4.26)	(2.48)	(0.92)	(3.69)	(2.08)	(0.86)
N	144	180	189	144	180	189

Panel A2: Matching II

	Fama-French 3 factor model			Fama-French 4 factor model		
	12-month	24-month	36-month	12-month	24-month	36-month
"High-buy-Low"	0.0019	0.0011	0.0009	0.0025	0.0026*	0.0029**
	(1.09)	(0.81)	(0.62)	(1.38)	(1.93)	(2.24)
"No-M&A"	-0.0054**	-0.0048**	-0.0023	-0.0033	-0.0026	0.0000
	(-2.24)	(-2.28)	(-1.19)	(-1.47)	(-1.39)	(0.02)
Long "H-buy-L"						
Short "No-M&A"	0.0074***	0.0060***	0.0032	0.0058**	0.0052**	0.0028
	(2.70)	(2.79)	(1.53)	(2.17)	(2.40)	(1.28)
N	147	179	189	147	179	189

Panel B: "High-buy-Low + Cash" vs. "No M&A"

Panel B1: Matching I

	Fama-French 3 factor model			Fama-French 4 factor model		
	12-month	24-month	36-month	12-month	24-month	36-month
"High-buy-Low + Cash"	0.0038	0.0015	0.0017	0.0059*	0.0038*	0.0034*
	(1.17)	(0.68)	(0.85)	(1.83)	(1.75)	(1.67)
"No-M&A"	-0.0115***	-0.0087**	-0.0069**	-0.0091**	-0.0057*	-0.0052*
	(-2.71)	(-2.57)	-2.34	(-2.11)	(-1.75)	(-1.73)
Long "High-buy-Low + Cash"						
Short "No-M&A"	0.0153***	0.0103***	0.0087***	0.0151***	0.0096***	0.0087***
	(3.38)	(3.23)	(2.90)	(3.30)	(3.05)	(2.88)
N	99	114	134	99	114	134

Panel B2: Matching II

	Fama-French 3 factor model			Fama-French 4 factor model		
	12-month	24-month	36-month	12-month	24-month	36-month
"High-buy-Low + Cash"	0.0042	0.0039*	0.0036*	0.0060*	0.0058**	0.0052**
	(1.37)	(1.70)	(1.73)	(1.93)	(2.62)	(2.52)
"No-M&A"	-0.0109**	-0.0057	-0.0051*	-0.0091**	-0.0028	-0.0030
	(-2.59)	(-1.56)	(-1.74)	(-2.02)	(-0.78)	(-1.04)
Long "High-buy-Low + Cash"						
Short "No-M&A"	0.0152***	0.0096***	0.0088***	0.0151***	0.0087**	0.0083***
	(3.68)	(2.72)	(2.88)	(3.39)	(2.27)	(2.66)
N	105	120	142	105	120	142

Table XI
Post-Announcement Performance: Ibbotson's RATS

This panel compares the post-announcement cumulative monthly average abnormal returns of "High-buy-Low" and "High-buy-Low+Cash" bidders with their matched "NO-M&A" firms using Ibbotson's regression across time and securities (RATS) approach. The matching procedure is described as in the previous table. ***, ** and * represent significance levels at 1, 5 and 10% respectively using a two-tailed t-test.

Panel A: Ibbotson's RATS with Fama French Three Factor Model

Panel A1: "High-buy-Low" vs. "No M&A"

	Matching I		Matching II	
Months	"High-buy-Low" (759)	"No M&A" (759)	"High-buy-Low" (765)	"No M&A" (765)
(+1,+1)	-0.03%	-0.90%	0.13%	-1.60% **
(+1,+6)	0.99%	-4.37% ***	1.59%	-3.84% **
(+1,+12)	0.42%	-9.57% ***	1.20%	-6.07% ***
(+1, +18)	-0.48%	-11.29% ***	0.01%	-8.62% ***
(+1, +24)	-1.73%	-13.99% ***	-1.22%	-10.10% ***
(+1, +30)	-3.52%	-14.02% ***	-3.21%	-9.06% **
(+1, +36)	-3.28%	-11.62% **	-3.14%	-6.92%

Panel A2: "High-buy-Low + Cash" vs. "No M&A"

	Matching I		Matching II	
Months	"High-buy-Low + Cash" (245)	"No M&A" (245)	"High-buy-Low + Cash" (250)	"No M&A" (250)
(+1,+1)	0.01%	-1.24%	0.01%	-2.41% **
(+1,+6)	3.29% *	-2.29%	3.88% **	-2.48%
(+1,+12)	3.93%	-8.30% **	4.95% *	-6.66% *
(+1, +18)	7.61% **	-9.87% **	8.21% **	-8.35%
(+1, +24)	7.80% **	-11.51% *	7.83% **	-2.25%
(+1, +30)	6.34%	-9.04%	5.91%	-3.72%
(+1, +36)	3.51%	-2.26%	2.62%	5.08%

Panel B: Ibbotson's RATS with Fama French Four Factor Model

Panel B1: "High-buy-Low" vs. "No M&A"

	Matching I		Matching II	
Months	"High-buy-Low" (759)	"No M&A" (759)	"High-buy-Low" (765)	"No M&A" (765)
(+1,+1)	-0.27%	-1.01%*	-0.12%	-1.49%**
(+1,+6)	1.24%	-2.99%*	1.68%	-2.93%*
(+1,+12)	2.47%	-6.36%***	2.94%*	-3.59%
(+1, +18)	3.35%	-5.72%**	3.60%	-4.11%
(+1, +24)	4.57%*	-6.06%*	5.03%*	-2.94%
(+1, +30)	4.73%*	-3.96%	5.03%*	0.03%
(+1, +36)	6.83%**	-1.00%	6.88%**	3.78%

Panel B2: "High-buy-Low + Cash" vs. "No M&A"

	Matching I		Matching II	
Months	"High-buy-Low + Cash" (245)	"No M&A" (245)	"High-buy-Low + Cash" (250)	"No M&A" (250)
(+1,+1)	0.01%	-1.24%	0.01%	-2.41% **
(+1,+6)	3.29% *	-2.29%	3.88% **	-2.48%
(+1,+12)	3.93%	-8.30% **	4.95% *	-6.66% *
(+1, +18)	7.61% **	-9.87% **	8.21% **	-8.35%
(+1, +24)	7.80% **	-11.51% *	7.83% **	-2.25%
(+1, +30)	6.34%	-9.04%	5.91%	-3.72%
(+1, +36)	3.51%	-2.26%	2.62%	5.08%

Table XII
Table XII
Managerial Trading Behaviour of "High-buy-Low", "High-buy-Low + Cash" Bidders and "NO-M&A" Matched Firms

This table presents a comparison of managerial trading behaviour for "High-buy-Low" bidders and their matched "NO-M&A" firms. We use three-year stock neglectedness in this analysis. 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 number of managerial net purchase during a year divided by the number of shares owned at the beginning of the year. Due to the limited data available in executive compensation, we do not use the same matched stocks from Table XVI but rematch the "High-buy-Low" bidders based on the universe of all stocks with no missing information on managerial trading intensity and stock neglectedness. The matching procedure is similar to the one we used in Table XI. Each month we sort all completed bidders according to their relative stock neglectedness one quarter prior to the announcement. We only select those months with at least 10 mergers to get a clean representation. A bidder is considered "High-buy-Low" if its relative stock neglectedness is above the median. For each "High-buy-Low" bidder, match I is done by first computing the absolute difference of size with the bidder for all other firms in the same two-digit SIC industry where information on size and stock neglectedness is available, then choosing fifty firms with the smallest absolute difference in size. Within these 50 firms we further select 25 stocks which 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 the ones that are neither a bidder nor a target in the next three years following the announcement date. 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. Match II is achieved similarly with the exception that the first 50 stocks are chosen based on the smallest sum of absolute differences in size and market to book ratio with the real bidder. 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 for both groups. Number of observations for each group is provided in parentheses. ***, ** and * represent significance levels at 1, 5 and 10% respectively. In Panel A, we focus on the High-buy-Low, while in Panel B, we focus on the High-buy-Low+Cash.

Panel A

	Matching I				Matching II			
	H-buy-L	No M&A	T-test	Wilconxon	H-buy-L	No M&A	T-test.	Wilconxon
Announcement year	-0.159	-0.090	-0.90	-1.03	-0.154	-0.105	-0.64	-0.79
	(229)	(229)			(234)	(234)		
First year after announcement	-0.342	-0.168	-2.27**	-2.10**	-0.261	-0.153	-1.28	-1.15
	(193)	(193)			(194)	194		
Second year after announcement	-0.232	-0.097	-1.60*	-2.03**	-0.281	-0.090	-2.52**	-2.56**
	(158)	(158)			(157)	(157)		
Third year after announcement	-0.327	-0.115	-2.43**	-2.38**	-0.318	-0.132	-2.05**	-2.05**
	(118)	(118)			(114)	(114)		

Panel B

	Matching I				Matching II			
	H-buy-L +Cash	No M&A	T-test	Wilconxon	H-buy-L +Cash	No M&A	T-test.	Wilconxon
Announcement year	-0.261	-0.065	-1.53	-1.56	-0.220	-0.095	-1.03	-1.01
	(93)	(93)			(95)	(95)		
First year after announcement	-0.419	-0.156	-2.10**	-1.91*	-0.375	-0.110	-2.05**	-1.73*
	(82)	(82)			(84)	(84)		
Second year after announcement	-0.221	-0.248	0.19	-0.92	-0.315	-0.176	-1.17	-1.63*
	(69)	(69)			(70)	(70)		
Third year after announcement	-0.397	-0.231	-1.08	-1.00	-0.408	-0.249	-0.94	-0.85
	(48)	(48)			(45)	(45)		

Figure I: Cumulative Bidder Abnormal Returns around Announcement: 3-Year Neglected Horizon

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. Stock neglectedness is measured one quarter prior to the announcement date, and it is calculated using a three year neglected horizon. Relative stock neglectedness is defined as the difference of stock neglectedness between bidder and target. To get a clean separation of relative stock neglectedness we only select those months when there are at least ten acquisitions. 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. A bidder is considered "High-buy-Low + Cash" if the difference in neglectedness between him and the target is above the median and cash is used as the only means of payment. "Low-buy-High + Cash" is defined likewise. We plot the average abnormal returns for each category with respect to the trading days relative to merger announcement.

Graph I-1   "High-buy-Low" vs. "Low-buy-High"

This graph compares the average short term performance between the "High-buy-Low" bidder and the "Low-buy-High" bidder.
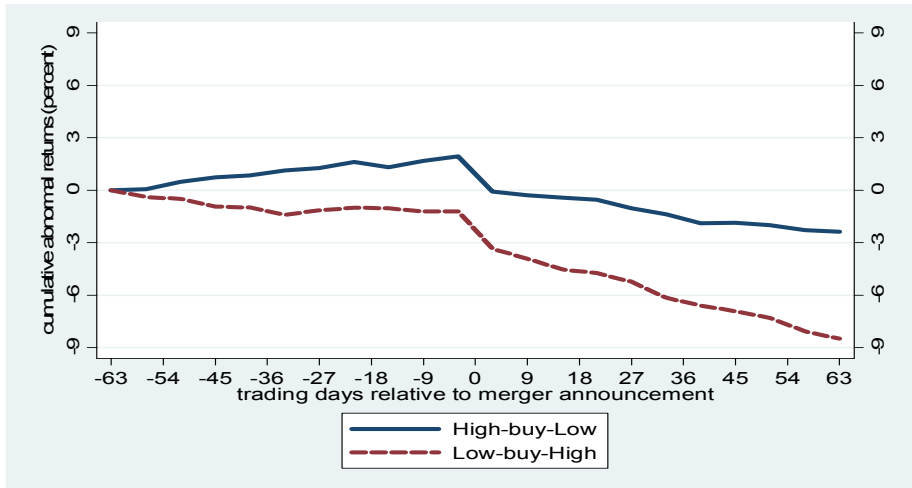
Graph I-2   "High-buy-Low + Cash" vs. "Low-buy-High + Cash"

This graph compares the average short term performance between "High-buy-Low + Cash" bidder and "Low-buy-High + Cash" bidder.