Do Stock Mergers Create Value for Acquirers?*

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Abstract

This paper tests the hypothesis that temporarily overvalued firms create value for long-term shareholders by using their equity as currency to acquire other companies. Any conventional approach centered on long-term abnormal returns is complicated by the fact that it is exactly the most overvalued firms that have the greatest incentive to engage in stock-financed acquisitions. To get around this endogeneity problem, I create a sample of mergers that fail for exogenous reasons and use it as a natural experiment. I find that unsuccessful stock bidders underperform successful ones in an economically meaningful and statistically significant way. This underperformance increases with the length of the holding period. Moreover, unsuccessful acquirers continue performing poorly even after merger failure is announced. Finally, the unrealized acquirer-target combination would have earned higher returns than the acquirer did by itself, even without any synergies. None of these results hold for cash-financed bids. This evidence is consistent with the hypothesis that mergers provide an opportunity for mispriced firms to convert their stock into hard assets.

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I Introduction

The late 1990s witnessed a large mergers and acquisitions wave. Most of the transactions involved equity as the mode of payment (Andrade, Mitchell, and Stafford (2001); Holmstrom and Kaplan (2001)), and this equity was usually very richly valued by historical standards. The positive correlation between market valuation and merger activity has also been documented in other periods (Martin (1996); Verter (2002)) and is especially strong for stock deals (Maksimovic and Phillips (2001)). One interpretation of this evidence is that managers try to time the market by paying with stock when they believe it is overvalued.

Recently, a number of papers formally recognized this link between possible mispricing and acquisition activity. Shleifer and Vishny (2003) propose that overvalued firms engage in stock-financed acquisitions in order to obtain hard assets at an effective discount. This discount comes at the expense of the target's long-term shareholders, so their theory relies on different horizons for the managers of the two involved firms.[1] Rhodes-Kropf and Viswanathan (2004) develop another model in which misvaluation drives mergers. In their case, it is the inability of target managers to distinguish between market-wide and firm-specific valuation errors that leads them to rationally accept offers from overvalued acquirers. Jensen (2004) also argues that overvaluation influences firms' acquisition decisions, as managers of the affected firms attempt to prolong (or exacerbate) the mispricing. To do so, they have to maintain the market's perception of the firm's prospects, and in the process they engage in value-destroying activities, such as earnings management, unwarranted acquisitions, unprofitable investments, and even outright fraud. In contrast to the market-timing models of Shleifer and Vishny (2003) and Rhodes-Kropf and Viswanathan (2004), managers in this "market-fooling" model do not necessarily act in the interest of their long-term shareholders (and very possibly against it).

One of the primary empirical predictions of the market-timing theory of acquisitions is that the acquirer's long-term shareholders benefit from the bid, even though it might entail no real synergies. The only requirement is that the chosen target be less overvalued than the acquirer.

[1] One way to shorten the horizon of the target firm's managers is to compensate them for deal success. Hartzell, Ofek, and Yermack (2004) report that targets receive lower acquisition premia when their chief executive officers enjoy extraordinary payouts. Another option is to choose as targets firms whose shareholders have short investment horizons. Gaspar, Massa, and Matos (2005) document that firms with short-term shareholders are more likely to get an offer, but earn lower premia.

A famous example of such a deal is America Online's (AOL) stock-financed acquisition of Time Warner, which was one of the defining moments of the Internet bubble. Despite the high premium paid by AOL (48% using the announcement day closing price) and the drop in its stock price upon announcement (17.5% measured over a 3-day window), the deal is now almost universally regarded as beneficial to AOL's long-term shareholders, not for the synergies it delivered, but simply because AOL's equity was overpriced at the time.

Of course, one example does not constitute real support for a theory. And, at first glance, the existing body of evidence does not support the hypothesis that stock acquisitions are in the interest of long-term shareholders. Loughran and Vijh (1997) and Rau and Vermaelen (1998) find that stock acquirers earn negative long-term abnormal returns.[2] I document a similar result for the acquisitions announced in the 1990-2000 period. Moreover, the negative long-term abnormal returns accrue on top of negative announcement returns ((Travlos (1987); Andrade, Mitchell, and Stafford (2001); Fuller, Netter, and Stegemoller (2002)). Moeller, Schlingemann, and Stulz (2005) report that between 1998 and 2001 the acquirer's shareholders lost 12 cents per every dollar spent on acquisitions. They trace this aggregate loss to a small number of so-called "large loss" deals, executed by firms with very high valuations. These firms not only have very negative announcement returns, but continue performing poorly afterwards.

The main problem complicating any analysis is the endogeneity of the acquisition decision: it is exactly those firms that are most overvalued that have the greatest incentive to complete an acquisition before the market discovers the mispricing. Once we take this into account, we would expect acquirers using stock financing to have negative abnormal returns, even if the deals ultimately created value for long-term shareholders. Simply put, the first-order prediction for an overvalued firm is that its stock price will eventually decline. Rather than disproving the market-timing theory, the underperformance of stock acquirers actually fits well with its predictions.

However, the existing evidence still does not resolve the issue of whether valuation-driven acquisitions benefit or hurt long-term shareholders. The principal question is how stock acquirers would have performed in the absence of the merger. In this paper I attempt to answer that question. In order to get around the endogeneity problem, I utilize a simple natural experiment. Not all at-

[2] Other studies examining post-announcement acquirer performance include Mandelker (1974), Langetieg (1978), Jensen and Ruback (1983), Franks, Harris, and Titman (1991), Loderer and Martin (1992), and Agrawal, Jaffe, and Mandelker (1992).

tempted acquisitions succeed. If firms indeed engage in acquisitions as a way of issuing overvalued equity, those which fail should underperform those which complete their deals. The unsuccessful acquirers represent a proxy for how the successful ones would have performed had they not managed to close their transactions.

Although this approach appears quite straightforward, the execution does require a great deal of care. The biggest complication is the possibility that the cause of bid termination was somehow related to the acquirer's valuation. If the overvaluation of an acquirer is positively correlated to the probability of failure, the average performance of failed acquirers should be worse than that of successful ones, even if market-timing had nothing to do with why the deal was proposed. This is not just a theoretical concern. For instance, sometimes proposed deals do not close because of a decline in the acquirer's stock price or because the target ultimately decides not to accept the offer. To alleviate this problem, I research every failed transaction in my sample and create a subsample of those that did not succeed for exogenous reasons. (In this context, exogenous means unrelated to the valuation of the acquirer.) The subsample includes bids which failed because of regulator disapproval (mostly anti-trust action), subsequent competing offers, or unexpected legal action. I also restrict my analysis to non-hostile bids, since hostile bids are more likely to fail and targets might be more inclined to resist offers by overvalued firms.

The results are quite striking. Failed stock-financed acquirers underperform successful ones in a statistically significant and economically meaningful way. Furthermore, the detected underperformance increases with the length of the holding period. Over a one-year horizon, abnormal returns earned by the two groups diverge by 2.9%, but that number grows to 14.0% for a two-year horizon and 26.9% for a three-year horizon. Unsuccessful acquirers continue suffering low abnormal returns even after bid termination is announced, which eases concerns that any difference between failed and successful acquirers does not reflect the fact that the former do not consummate their deals, but rather the developments that caused the deal to break down. Indeed, while long-term performance is negative, the market greets bid termination with a positive reaction. Whatever events bring about deal failure, the market does not seem to interpret them as a negative signal about the acquirer's prospects.

The difference in abnormal returns between unsuccessful and successful acquirers could provide us with a rough estimate of the value transferred from the target's long-term shareholders to those of

the acquirer. But this measure would include any synergies captured by successful acquirers, which could potentially bias it (as an estimate of market-timing gains). An alternative measure of benefits to long-term shareholders looks at how the failed acquirer would have done had the deal succeeded. In my sample, a hypothetical combination of the acquirer and a proxy for its target would have earned higher abnormal returns than the acquirer did by itself, with the difference going up to 7.3% for a three-year horizon. Importantly, this return differential does not reflect any synergies the deal might have yielded, thus focusing the analysis on market-timing benefits the acquirer forgoes by not closing the deal.

Some bids fail because the target experiences problems subsequent to the announcement. One perspective on such deals is that the prospective acquirer was merely unlucky in choosing a suitable target. Given a number of candidates, the acquirer opted for the wrong one, but this choice was unrelated to the acquirer's misvaluation. Under this interpretation, those bids should also be considered in the analysis. And when I add them to the previous sample of failed deals, all my findings become even stronger. However, there is another plausible view of these transactions, which cautions against their inclusion in the analysis. Perhaps the only reason the target accepted a bid by an overvalued firm was because it anticipated negative developments in its future. In this case, the cause of deal failure would be, if only indirectly, related to the acquirer's valuation, and consequently could bias my results.

The market-timing theory posits different motivations for cash- and stock-financed acquirers. While cash acquirers create value for their shareholders only through synergies they extract from the combination with the target, stock acquirers benefit from both synergies and any difference between the market and fundamental value of their equity. Therefore, if the theory is correct, we would expect the difference in performance between successful and failed acquirers to be less pronounced for cash bids. This conjecture is confirmed in the data. Failed cash-financed acquirers actually outperform successful ones and enjoy positive abnormal returns subsequent to bid termination. In both cases, the result is mostly not statistically significant, probably due to small sample size.

The divergence between the performance of unsuccessful cash-financed and stock-financed acquirers is important for another reason: it enables us to distinguish between market-timing and neoclassical theories of mergers. The latter views merger activity as an efficiency-motivated response to technological, regulatory, or economic shocks (Mitchell and Mulherin (1996); Maksimovic

and Phillips (2001); Jovanovic and Rousseau (2002); Harford (2005)). When a deal fails, the associated efficiency improvements are not realized, leading to worse operating performance of the involved firms. Bid failure might also indicate that the acquirer's management is incompetent or that the firm operates in a deteriorating regulatory or competitive environment. This gives us an alternative explanation for why failed acquirers have lower returns than successful ones. The neoclassical perspective, though, predicts the same effect for both cash and stock transactions (under the identifying assumption that synergies are similar). It also forecasts negative returns upon the announcement of deal failure, while the opposite is observed for stock acquirers.

The remainder of the paper is organized as follows. Section II outlines how the final dataset is constructed, describes my methodology, and defines all the variables. Section III presents my findings. Section IV relates them to the existing literature and discusses various opportunities for firms to engage in market-timing. Section V concludes.

II Data and Methodology

A Full Sample Construction

The core of the sample used in this paper is the CRSP Merger Database. This dataset contains details on 12,578 merger bids for public companies made between January 1962 and December 2000. In addition to the identities of the involved parties, the dataset provides information on whether the deal succeeded, whether it was friendly, hostile or neutral, the mode of payment, and the relevant dates in the history of the transaction (announcement, preliminary agreement, revision, rejection, failure and completion). I manually make a small number of changes to the original version. These changes fall into one of three categories. First, the status of some late transactions was not resolved by the time the final version of the database was produced, so I augment it by looking up the missing information. Second, I occasionally find that a deal is misclassified as completed or failed. In those instances, I manually change the bid's status. Finally, in 5 cases the declared potential acquirer is not the real potential acquirer (which is usually a similarly-named, but different company), and in 1 case the deal is not a merger, but instead a Dutch auction for own shares. I delete those transactions from my sample.[3]

[3] I make no claim that my corrections are comprehensive. In general, the database appears quite accurate. The updated version of the CRSP Merger Database is available on request.

I obtain data on daily stock returns, firm size and share type from the Center for Research in Security Prices (CRSP). Annual accounting data are obtained from the CRSP/COMPUSTAT merged database and the New York Stock Exchange (NYSE) size breakpoints from Kenneth French's website. I add this information to the updated CRSP/Mitchell Database dataset. To be included in the final sample, a bid has to satisfy the following criteria:

1. The announcement date falls between 1990 and 2000. I choose to focus on this period because it contains the late 1990s merger wave, which many speculate was driven by high stock valuations. Additionally, as I will explain below, my research approach requires certain background information about the deals, which is much harder to obtain for the pre-1990 period.

2. The acquirer is a U.S. public firm.[4]

3. Relevant data on the acquirer is available from CRSP and CRSP/COMPUSTAT.

4. The acquirer's market capitalization exceeds that of firms in the bottom decile using NYSE size breakpoints.[5]

5. Pre-announcement market value of the target's equity is at least 5% of the acquirer's market value. The employment of such a screen is a standard approach in the literature. It ensures that the proposed deal has a material impact on the acquirer's future. The inclusion of bids for very small firms would just add noise to my results. In any case, none of the findings change with alternative thresholds, regardless of whether they are more or less restrictive.

6. The mode of payment is all-cash or all-equity.[6] I exclude more complicated transactions, because the market-timing hypothesis does not produce clear predictions for such cases.

7. The bid is non-hostile. When an offer is resisted by the target, the likelihood of merger success for the rejected acquirer decreases significantly. Baker and Savasoglu (2002) report that acquirer attitude is "the best single predictor of merger success," with only 38% of hostile deals succeeding compared to 82% of non-hostile ones.[7] It is also very plausible that targets tend to be less receptive to offers made by overvalued firms (i.e., the correlation between

[4] I exclude American Depositary Receipts, but all my results are robust to their inclusion.
[5] My results remain the same without this restriction.
[6] I allow a combination of common and preferred equity, as long as some common stock is used.
[7] See also Walkling (1985) and Schwert (2000).

probability of target hostility and acquirer overvaluation is positive). Thus, if I included hostile deals in my analysis, acquirers engaging in failed bids might on average be more overvalued than those in successful bids. This would bias my results toward finding subsequent relative underperformance for the former acquirer group. In practice, given the low number of hostile bids in the 1990s, this screen has no effect on my results (only 7 stock offers are excluded because of acquirer hostility).

8. The bid represents the first offer by a given acquirer for a given target in that bidding cycle.[8] Otherwise, I would be overweighing contested (by competitors or regulators) deals, which account for a disproportionate number of failed bids, and in the process bias my t-statistics upwards.

The final sample ("Full Sample") consists of 1,335 (976 stock and 359 cash) successful and 159 (119 stock and 40 cash) failed deals. Figure 1 shows the time-series distribution of these merger bids. One can easily observe the equity-financed merger wave occurring in the second half of the 1990s.

B Failed Merger Bids

The main goal of this paper is to determine whether stock-financed bids create value for the acquirer's long-term shareholders. The most straightforward way to address this issue is to look at the acquiring firm's long-term abnormal returns. However, if, as the market-timing theory argues, overvalued equity is one of the motivations behind the deal, this approach would produce misleading results. When the stock price of a firm exceeds its fundamental value, we expect it to decline. An acquisition executed on favorable terms for the bidder might ameliorate this eventual fall, but is unlikely to reverse it. The market-timing theory predicts that stock acquirers should have negative abnormal returns, but those returns are higher than would have been observed in the absence of the acquisition.

The crucial problem therefore is to estimate the performance of the acquirer in the hypothetical scenario in which the deal had not taken place. One way to proceed would be to compute the fundamental value of the firm's equity (defined as the sum of the associated cash flows discounted

[8] To determine whether an offer is a part of the same bidding cycle, I rely on the classifications in the CRSP/Mitchell Database.

at the appropriate rate). The conventional approach in the literature relies on price-to-value ratios and/or analyst forecasts for this calculation. Both of those inputs are potentially problematic. Accounting ratios might signal a firm's future growth rate or the riskiness of its cash flows rather than any mispricing. The same biases that skew the market's expectations might affect analyst forecasts, or those forecasts might just be catering to the market.

To avoid these problems with estimating fundamental value, I opt for a different methodology. The key to my research approach is the distinction between those acquirers that successfully complete their deals and those that do not. If mergers are indeed beneficial to the acquirer's shareholders, failed acquirers should on average underperform successful ones. By comparing post-event returns of the two groups, I can infer whether stock bids are in the interest of the acquirer's shareholders.

Unfortunately, not all uncompleted deals are eligible for inclusion in the analysis. One essential assumption underlying my approach is that the cause of deal termination is unrelated to the valuation of an acquirer. If the acquirer's overvaluation is positively correlated to the probability of failure, the average performance of failed bidders should be worse than that of successful ones, even if market-timing had nothing to do with why the deal was proposed. This is by no means only a theoretical possibility. For example, some bids fail because the acquirer's stock price drops before the transaction is consummated. It is probable that there is a greater chance of this happening with more overvalued acquirers. Thus, before I proceed with the analysis, I have to screen out any deals that fail for endogenous reasons.[9] (Here I define "endogenous" as "connected to the mispricing of the acquirer.") Otherwise, my results could be biased in favor of accepting the hypothesis that failed acquirers underperform successful ones.

I investigate every unsuccessful deal using LexisNexis and Factiva and attempt to determine why it did not close. This requires extensive research, since headlines sometimes obscure the real causes of deal failure. A good case in point is Mattel's bid for Hasbro in 1996, which was ostensibly blocked by anti-trust issues. However, after a more careful examination, it becomes apparent that regulatory pressure was actually actively sought by Hasbro, as a way of stopping Mattel. I consequently choose to categorize the deal as a rejection by the target.

[9] Dong, Hirshleifer, Richardson, and Teoh (2005) find that bidder valuation has no effect on the probability of deal success. This result would suggest there is no need for any screening, but considering the difficulty of measuring overvaluation I choose a more conservative approach. In any case, I always report findings obtained using all unsuccessful bids.

I employ this information to exclude any deal whose failure was endogenously caused (according to the above definition) from the sample containing all failed bids ("Full Failed Sample"). The Exogenous Failed Sample contains only those bids that did not close because of objections by regulatory bodies, competing offers, or unexpected legal action. Regulator action almost always takes the form of anti-trust complaints (or threats thereof) by the Department of Justice, Federal Trade Commission, Federal Energy Regulatory Commission, European Union Commission, or local authorities. The exceptions are two transactions stopped by the Securities and Exchange Commission, which did not approve them as a pooling of interests, one stopped by the Food and Drug Administration, which started an audit, and one stopped by the Federal Communications Commission, which lowered cable television rates. Competing offers are bids by rival firms for the same target made subsequent to the original acquirer's first offer. Unexpected legal action category includes only one deal, which was abandoned after three local governments brought product liability suits against the target.

A number of bids fail because the target experiences problems subsequent to the announcement. There are two ways to view such deals. One perspective is that the prospective acquirer was merely unlucky in choosing an appropriate target. Given a number of candidates, the acquirer opted for the wrong one, but this choice was unrelated to the acquirer's misvaluation. Under this interpretation, those bids should also be considered in the analysis. The Restricted Failed Sample contains the Exogenous Failed Sample plus any transactions that did not close because of target-related matters. The other perspective on these deals, though, cautions against their inclusion in the analysis. Maybe the only reason the target accepted a bid by an overvalued firm was because it foresaw the possibility of negative developments in its own future. In that case, the cause of deal termination would be, if only indirectly, related to acquirer's valuation. Due to this possible source of bias, I usually focus on the findings obtained from the Exogenous Failed Sample. Table I shows that this sample consists of 56 merger bids (36 stock and 20 cash).

One prominent deal in the Exogenous Failed Sample is the failed merger between WorldCom and Sprint. WorldCom's bid was announced in October 1999, but could not overcome opposition from U.S. and European regulators and was ultimately called off in July 2000. The market welcomed the abandonment news, bidding up WorldCom's stock by 10.7% over a 3-day window around the announcement. Over the next two years, WorldCom collapsed in an accounting scandal, where it

turned out it improperly classified expenses in order to meet earnings expectations. Its shareholders lost their entire investment. While it is hard to speculate what would have happened to WorldCom had the deal gone through, it is clear Sprint's shareholders should be satisfied with the outcome. And it is certainly not impossible that, strengthened by the addition of Sprint, WorldCom could have survived. At the very least, the market seems to have misinterpreted deal termination as a positive event for the firm. It is worth remembering that AOL was also embroiled in an accounting scandal, which resulted in a multi-million dollar settlement and indictments against its executives. But, thanks to the completion of its deal with Time Warner, the experience of its shareholders was far better than that of WorldCom's shareholders. Indeed, if inflated earnings were what made AOL's bid possible, one could argue they were beneficial to its long-term shareholders.[10]

My analysis relies on the performance of failed acquirers as a proxy for the initial overvaluation of successful acquirers. There are two important assumptions underpinning this approach. First, making a bid has no impact on an acquirer's stand-alone fundamental value. Although involvement in an offer carries costs, such as legal and advisory fees or management time and effort, these expenses are not substantial enough to have a material effect (especially since many fees are contingent on success). A more serious concern is that deal failure signals an adverse industry shock. Maybe anti-trust action means that the regulatory environment in which a firm operates has become less favorable. Or a rival bid portends a more competitive industry. I attempt to control for this possibility by measuring performance in industry-adjusted terms, which does not affect my findings. Second, once a bidder fails, it cannot acquire another firm, at least not at the same terms as before. Given the negative announcement returns for stock acquirers documented both in this paper and in the literature, this appears a reasonable conjecture. The initial bid likely reveals to the market, if only partially, that the potential acquirer's stock is overvalued. Even if an acquirer manages to find a different target, a task complicated by the need to not reveal its mispricing to the market (a sequence of bids might raise suspicions about the motivation behind them), its equity would be less overvalued, so any market-timing benefits it derives from the deal would be lower. In the sample used here, failed acquirers very rarely make offers for a different target within three years of the unsuccessful bid, suggesting the assumption to be a well-grounded one.

[10] Louis (2004) reports more systematic evidence that stock acquirers overstate earnings prior to initiating a transaction.

C Variable Definitions

Book equity is computed as in Cohen, Polk, and Vuolteenaho (2003). I assume markets get access to financial statement information 4 months after the fiscal year ends.[11] All accounting values used always reflect the latest data available to the public. Firm size and market-to-book ratio are calculated using current month's closing market prices.

As my primary measure of a firm's performance I use buy-and-hold abnormal returns (AR), adjusted for firm size and market-to-book ratio. These two variables are well-known predictors of the cross-section of stock returns (Fama and French (1992); Fama and French (1993)). The methodology I adopt is a version of the characteristic-based approach of Daniel, Grinblatt, Titman, and Wermers (1997). Each month I restrict the universe of CRSP stocks to those with valid returns and accounting data. These stocks are sorted into quintiles based on their market equity value. The breakpoints for this sort are calculated using only NYSE firms. Then, the stocks within each size quintile are assigned into market-to-book quintiles (with negative market-to-book stocks going into the top quintile). This procedure yields 25 buy-and-hold benchmark portfolios, whose returns are computed by value-weighting the stocks in the portfolio.[12] Each firm is matched with one of these portfolios based on its size and market-to-book ratio, and its abnormal return is computed as:

$$AR^{i}_{-m,n} = BH^{i}_{-m,n} - BH^{match\_i}_{-m,n} \tag{1}$$

where $BH^{i}_{-m,n}$ is the buy-and-hold return for firm i over a period starting m trading days before the reference date (usually the announcement of the bid) and ending n trading days after the reference date and $BH^{match\_i}_{-m,n}$ is the corresponding return for firm i's size- and market-to-book-matched portfolio (excluding firm i itself). If firm i disappears from CRSP tapes before the end of the holding period, the abnormal returns for the rest of the period are set to zero.

It has been extensively documented that, within a wave, mergers cluster by industry (Mitchell and Mulherin (1996); Mulherin and Boone (2000); Andrade, Mitchell, and Stafford (2001)). Moreover, merger bids in certain industries have a higher probability of failure (e.g., because those

[11] The Securities and Exchange Commission used to require that firms under its juristiction file their 10-K reports within 90 days of fiscal year-end. This rule changed recently (deadlines were shortened for most firms), but was in effect during the entire period under consideration. I add an extra month to account for late filers.

[12] If a stock disappears from CRSP tapes before the end of the holding period, I replace it with the market return for the remainder of the period.

industries are subject to greater regulatory scrutiny or because they contain a high number of potential rival bidders). To ensure my results are not simply reflecting a difference in performance between various industries, which could plausibly stem from industry-specific economic shocks, I also conduct my analysis with controls for industry.

The approach I utilize is as follows. I first identify all firms with the same 2-digit SIC code and market value of equity between 50% and 150% of the market value of equity of the sample firm. I then pick the firm with the market-to-book ratio closest to that of the sample firm. If no firm satisfies the criteria, I repeat the procedure using 1-digit SIC codes. If still no match is found, I redo the procedure without using industry as a criterion in the search. This entire process is looped through 10 times to get 10 control firms. The matching portfolio is an equally-weighted portfolio of these 10 control firms. If one of the control firms disappears from the CRSP tapes before the end of the holding period, it is replaced by the next best match. The industry-adjusted abnormal return (IAR) for firm i is given by:

$$IAR^{i}_{-m,n} = BH^{i}_{-m,n} - BH^{ind\_match\_i}_{-m,n} \tag{2}$$

where $BH^{i}_{-m,n}$ is the buy-and-hold return for firm i over a period starting m trading days before the reference date (usually the announcement of the bid) and ending n trading days after the reference date and $BH^{ind\_match\_i}_{-m,n}$ is the corresponding return for firm i's industry-, size-, and market-to-book-matched portfolio. If firm i disappears from CRSP tapes before the end of the holding period, the abnormal returns for the rest of the period are set to zero.

This approach is a modified version of the matching firm approach advocated by Barber and Lyon (1997). The main difference is that I use a portfolio of 10 firms rather than a single firm. Barber and Lyon (1997) argue for a single matching firm as a solution to what they term the skewness bias, which arises because long-term abnormal returns are positively skewed. In relatively small samples, such as some of the ones in this paper, that approach is very sensitive to possible mismatches. For example, if just a few of the sample firms are matched with firms that happened to experience very high returns, the mean return of the entire sample might be negative, even if all other sample firms have non-negative abnormal returns. To alleviate the impact of such outliers, I opt for a portfolio

approach.[13] This means that the skewness bias could potentially be influencing my results, but, given the small size of the matching portfolio, I do not believe this to be a serious problem. In analysis not reported here, I calculate abnormal returns using the matching firm approach, and all of my findings are even stronger.

No method of risk-adjusting stock returns is controversy-free. The literature has so far offered no convincing answer to whether factors such as size, market-to-book, and momentum rationally indicate exposure to some kind of systematic risk, or whether market inefficiency explains their ability to capture the cross-sectional variation in stock returns. To check the robustness of my findings to the choice of the asset pricing model, I use a simple alternative measure of abnormal returns: market-adjusted returns (MAR). I calculate this variable as:

$$MAR^{i}_{-m,n} = BH^{i}_{-m,n} - BH^{market}_{-m,n} \tag{3}$$

where $BH^{i}_{-m,n}$ is the buy-and-hold return for firm i over a period starting m trading days before the reference date (usually the announcement of the bid) and ending n trading days after the reference date and $BH^{market}_{-m,n}$ is the corresponding return for the CRSP value-weighted market portfolio. The market-adjusted returns analysis implicitly assumes all stocks have the same exposure to relevant risk factors and therefore the same expected return. This obviously is not a valid premise, so I will usually focus my discussion on abnormal returns. The analysis using market-adjusted returns is presented as reassurance that the paper's results do not depend solely on a particular method of adjusting returns.

III Results

A Summary Statistics

Tables II and III present some summary statistics for stock- and cash-financed merger bids respectively. Acquirers have on average a higher market-to-book ratio than targets, and this difference appears more pronounced for stock deals.[14] Stock bidders are also larger and engage in bigger

[13] To further reduce the influence of matching portfolio outliers, I winsorize matching portfolio returns at the 1% and 99% levels.

[14] Andrade, Mitchell, and Stafford (2001), Ang and Cheng (2004), Dong, Hirshleifer, Richardson, and Teoh (2005), and Rhodes-Kropf, Robinson, and Viswanathan (2005) are recent papers reporting the same finding.

transactions than cash bidders. The announcement returns for stock acquirers are negative and statistically significant. Unsurprisingly, targets enjoy significantly positive announcement returns. These returns are higher for targets of cash bids.[15]

All of these findings are well-documented in the literature and are consistent with the market-timing theory of acquisitions. As Shleifer and Vishny (2003) predict, stock acquirers are more overvalued than their targets. They attempt to complete larger deals, as they have more motivation to do so than cash bidders. They suffer negative announcement returns, since the attempted acquisition, at least partly, reveals their misvaluation to the market. More important for this paper are the differences across various samples. My analysis depends on comparisons between successful and failed acquirers. If there are systematic differences between the two groups of bidders, my results could reflect those differences rather than any benefits of completing a merger. To assuage this concern, my primary measure of a firm's performance are returns adjusted for size and market-to-book ratio. Although I believe such an approach significantly reduces the problem, I still find it reassuring that successful and failed acquirers are relatively similar.

For stock bids, the two groups have comparable market-to-book ratios and announcement returns. The same holds true for their targets. I am especially encouraged by the similarity in announcement returns, which tells us that as of the announcement the market did not discriminate between successful and failed bids.[16] The two major differences are that failed acquirers are larger and attempt to complete bigger deals. This is not surprising, since regulatory action is substantially more probable for such bids. Anti-trust authorities focus on mergers that will result in significant market power for the combined firm, and this usually means the bidder is a large firm and is proposing to acquire another sizeable firm. Perhaps there is also a greater likelihood of a competing offer in large deals, as the fixed costs of making a bid are lower relative to deal size. Moreover, the difference in mean values is somewhat misleading, given the impact of a few very large failed deals. When median values are considered, the difference shrinks considerably. The same disparity in transac-

[15] Potential reasons include the greater desirability of cash as a means of payment or the lower mean transaction size (measured as the ratio of acquirer's market capitalization to that of the target).

[16] Luo (2005) finds that the market reaction to a bid announcement predicts whether it will eventually succeed, and that this reflects the tendency by firms to learn about the deal's merits from the market. Moeller, Schlingemann, and Stulz (2004) report that large acquirers have lower announcement returns. Since my primary sample (Exogenous Failed Sample) includes only bids that fail because of regulatory objections, competing offers, or unexpected legal action, these results need not contradict my own. Indeed, when more inclusive samples (Full Failed Sample and Restricted Failed Sample) are considered, failed acquirers do earn lower announcement returns.

tion size is present in cash bids. For those deals, the announcement returns appear somewhat lower for both failed acquirers and their targets. In other respects, successful and failed cash bids look similar.

B Post-Announcement Performance of Successful and Failed Acquirers

Table IV reports acquirer announcement and long-term abnormal returns. The main focus is on the comparative performance of firms that complete their deals and those that do not. Successful stock-financed acquirers suffer significantly negative returns. Over the first 250 trading days (roughly 1 year) beginning with (and including) the announcement, the mean abnormal return for stock bidders in the Successful Sample is -6.8% (t-stat=-4.83).[17] It then becomes steadily worse and falls to -12.9% (t-stat=-3.92) for a 3-year holding period. Such performance certainly does not suggest the transactions were beneficial to shareholders. However, failed stock acquirers do much worse. The mean abnormal return for stock bidders in the Exogenous Failed Sample declines from -9.7% (t-stat=-1.55) for a 1-year holding period to -39.8% (t-stat=-4.07) for a 3-year holding period. Despite their negative returns, successful stock acquirers outperform unsuccessful ones by a considerable margin, which widens with the horizon. Importantly, this performance differential dwarfs the negative announcement returns, which means that the deals created value for long-term shareholders even after we take the market reaction into account.

To assess the statistical significance of this finding, I employ a simple approach based on bootstrapping. For a given method of payment, I randomly draw (without replacement) from the Successful Sample a control sample of equal size, and repeat this procedure 1000 times. I then calculate the empirical p-value for the hypothesis that the mean abnormal return of the Exogenous Failed Sample exceeds the mean abnormal return of the Successful Sample. Using this measure, for stock bidders in the Exogenous Failed Sample I can reject the hypothesis at the 5% significance level.

The results are even stronger when I analyze the Restricted Failed Sample. Failed stock acquirers underperform successful ones by 7.0% (p-value=10.6%), 13.6% (p-value=7.0%), and 27.1%

[17] Sometimes the recorded announcement date does not correspond to when the market learned of the transaction, either because there was significant information leakage or because of delayed press reaction. To ensure my performance measures reflect this, my event windows start one day before the official announcement date. This is a standard approach in the literature.

(p-value=1.0%) over 1-, 2-, and 3-year horizons respectively. The findings remain unaltered in the Full Failed Sample. This sample likely contains deals whose failure was related to the acquirer's valuation, which makes it a biased proxy for acquirer performance without the merger. Nevertheless, the similarity between results obtained from the Full Failed Sample and those obtained from more restricted samples is a positive development, as it suggests that my main findings are robust to the choice of criteria for inclusion in the analysis. Furthermore, it might also indicate that the only difference between failed acquirers excluded from the Exogenous Failed Sample and those included is that the mispricing of the former group is revealed sooner than that of the latter group.

The relative underperformance of failed stock acquirers indicates that stock acquisitions benefit long-term shareholders. It thus supports the market-timing theory of acquisitions. But this result is also consistent with the neoclassical explanation for merger activity. If a firm's optimal response to a shock is an acquisition, and this response is for some reason blocked, it is perhaps not surprising that it lags its more successful rivals. If nothing else, bid failure might represent an adverse signal about the competency of the acquirer's management or the prospects of its industry. The neoclassical theory does not distinguish between cash- and stock-financed acquisitions, so the same trend should be detected for cash acquirers. In contrast, the market-timing theory makes no such prediction. That theory posits that, in case of failure, stock acquirers forgo the opportunity to convert overpriced stock into hard assets, in addition to any gains they might have realized from synergies or target undervaluation.[18] Therefore, termination should have a more adverse effect on stock bidders than cash bidders (under the identifying assumption that synergies are similar for both types of deals). Their different perspective on the relationship between mode of payment and consequences of failure provides us with an opportunity to discriminate between the two hypotheses.

Despite somewhat lower announcement returns, failed cash-financed bidders actually outperform successful ones. For cash acquirers in the Exogenous Failed Sample, the return differential is 7.4%, 10.7%, and 27.6% over 1-, 2-, and 3-year horizons respectively. Similar results hold in the Restricted Failed Sample and the Full Failed Sample. Given that the only statistically significant difference is for the longest holding period, I do not discuss here why unsuccessful cash acquirers might

[18] Asquith (1983) finds that in unsuccessful merger bids announcement gains enjoyed by targets are completely reversed within a year after termination of the offer. This result suggests that target undervaluation is not an important factor in driving acquisitions. Agrawal and Jaffe (2003) analyze target operating and stock returns and document no evidence of underperformance prior to a bid.

outperform. Potential explanations could involve empire-building proclivities (Jensen (1986)) or propensity towards hubris (Roll (1986)) by managers of cash-rich firms. What is clear though, is that the performance of failed cash bidders does not lag that of successful cash bidders. This difference between cash- and stock-financed bids favors the market-timing theory and is not easily explained within the framework of the neoclassical theory.

Table V shows that industry controls have no influence on my results. Table VI presents acquirer market-adjusted returns. Although return differentials are narrower and mostly statistically insignificant, the main findings remain. Failed stock acquirers underperform successful ones, while the opposite is true for cash acquirers. This analysis should lessen any concerns that my results stem from a given method of adjusting returns rather than a fundamental difference in performance between the two groups of bidders.

C Post-Termination Performance of Failed Acquirers

The disparity in performance of successful and failed stock bidders increases with the length of the holding period. This result is very important for two reasons. First, if my findings are indeed driven by (temporary) acquirer overvaluation, we would expect this mispricing to be gradually revealed over time. Second, it eases concerns that any difference between failed and successful acquirers does not reflect the fact that the former do not consummate their deals, but rather the developments that caused the deal to break down. In the latter case, we would expect all of the underperformance to be concentrated in the months close to merger announcement.

To address this same issue further, in Table VII I examine how unsuccessful acquirers fare after the announcement of bid termination. Failed stock bidders suffer significantly negative long-term abnormal returns. Over a 1-, 2-, and 3-year holding period starting after the termination announcement date, the mean abnormal return for stock acquirers in the Exogenous Failed Sample equals -16.1% (t-stat=-3.17), -21.8% (t-stat=-2.57), and -22.6% (t-stat=-2.17) respectively. The post-termination returns remain negative in the Restricted Failed Sample and the Full Failed Sample. It appears that, even after all the news concerning the doomed transaction comes out (including, quite prominently, the bid announcement itself and the associated negative market reaction), unsuccessful stock bidders are still substantially overvalued. At the very least, the relative underperformance of failed stock acquirers does not stem solely from events associated with the merger, which validates

one of the basic premises underlying my analysis. In contrast, unsuccessful cash bidders appear to earn positive abnormal returns, although these are mostly not statistically significant. Again, as the market-timing theory suggests, there is a fundamental difference between stock and cash acquirers. These findings continue to hold in Table VIII, where abnormal returns are adjusted for industry, and in Table IX, where market-adjusted returns are used instead of abnormal returns (although the magnitudes and statistical significance in the latter case are somewhat diminished).

The announcement returns around bid termination are positive for stock bidders. This bullish market reaction to bid termination does not support the hypothesis that acquisitions are optimal responses to economic shocks or that bid failure reveals negative information about the competency of the acquirer's management, in which cases we would expect to see negative termination returns. One interpretation for the result is that investors welcome the abandonment of the deal, despite the fact it actually serves their long-term interests. This is not implausible. The same shareholders who are willing to hold overpriced stock might mistakenly oppose the bid, given their unrealistic expectations about the acquirer's stand-alone prospects. Another interpretation is that merger arbitrageurs cover their short positions in the acquirer's stock and in the process push up its price.[19] This price pressure exerted by arbitrageurs can be considerable. Mitchell, Pulvino, and Stafford (2004) estimate that merger arbitrage short selling causes almost half of the negative announcement return for acquirers in stock mergers. It is probable that the opposite happens upon merger termination.[20]

D Hypothetical Failed Acquirer Performance

My findings so far indicate that stock-financed mergers create value for the acquirer's long-term shareholders. These results are based on a comparison between firms that successfully complete their bids and those that do not. Another test of the value-creation hypothesis would attempt to directly estimate the performance of failed bidders had their deals been consummated. One

[19] The usual trade in stock-financed mergers is to buy the target stock and sell short an appropriate amount of the acquirer stock, so that the investor's net exposure is hedged.

[20] The positive market reaction to deal abandonment is somewhat at odds with the previous literature. Eckbo (1983) finds negative abnormal returns for bidders upon announcement of antitrust action, and Bradley, Desai, and Kim (1983) gets the same result for competing offers. These studies are based on return windows centered on dates when these events were announced, not when they actually caused the bid to fail. One way to reconcile them with my findings is the possibility that the market does not fear failure itself, but is more worried about what actions the acquirer might undertake in order to overcome the obstacles to completion (such as forced divestment or entering a bidding war).

obvious way to do this is to combine the returns of the acquirer with those of its target. (I exclude announcement returns, since those presumably include the bid premium the acquirer needs to pay in order to complete the transaction). If acquisitions benefit shareholders, the (unrealized) acquirer-target combination should on average perform better than the failed acquirer did by itself.

Unfortunately, in its simplest form this approach is unsuitable for my analysis. The problem lies in the way I construct the samples containing failed bids. The classification schemes I employ often rely on events affecting target firms, which could systematically bias their realized performance. One possible criterion for inclusion in the Exogenous Failed Sample is a subsequent rival bid. Since those competing offers are made after the initial one by the ultimately unsuccessful bidder, they usually involve a price premium. The price paid by rival bidders reflects not only synergies they hope to enjoy from the merger, but also any mispricing affecting their own stock. Therefore, by design some targets in the Exogenous Failed Sample enjoy positive abnormal returns, which would naturally influence my findings. Furthermore, most of the extra deals in the Restricted Failed Sample fail because the target experiences problems, resulting in negative returns. This might balance out the previous positive bias, but it is hard, perhaps impossible, to determine the net effect.

Since using the target's own returns is problematic, I need a proxy for its performance had the merger bid and other following developments not taken place. I decide on the same portfolio of 10 firms matched on industry, size, and market-to-book that I use to compute industry-adjusted abnormal returns. Instead of the target's own returns, I combine the acquirer returns with those of this portfolio. My measure of hypothetical acquirer performance (BH^{Hyp}) is the market capitalization-weighted average of the acquirer and proxy target portfolio return:

$$BH_{m,n}^{Hyp} = \frac{ME^A}{ME^A + ME^T} BH_{m,n}^{A} + \frac{ME^T}{ME^A + ME^T} BH_{m,n}^{T\_proxy} \tag{4}$$

where $BH_{m,n}^{A}$ is the acquirer's realized buy-and-hold return over a period starting m trading days after the announcement of the bid and ending n trading days after the announcement of the bid, $BH_{m,n}^{T\_proxy}$ is the corresponding return for the target's proxy portfolio, ME^A is the acquirer's market equity value (calculated using its post-announcement stock price), and ME^T is the target's market equity value (calculated using its post-announcement stock price).

Importantly, this measure does not reflect any synergies from combining the operations of the

two firms, since those were not realized. Assuming they are positive on average, combining returns underestimates failed acquirers' hypothetical performance and so represents a conservative estimate.[21] Moreover, it also focuses the analysis on how much value the acquirer extracts by exchanging its overvalued stock for hard assets. Given the market-timing theory's emphasis on equity as a currency, the overlooking of synergies is therefore not necessarily a negative feature of the combining-returns approach. While my previous approach implicitly assumed synergies are similar for cash and stock deals, here there is no need for such an assumption.

As a trade-off, I have to rely on a proxy for the target's performance. This proxy-based approach might be problematic, since the same endogeneity argument that applies to acquirer selection also applies to target selection. And it is not immediately obvious which way this effect should go. Acquirers might prefer undervalued targets, but targets could be more willing to accept a takeover offer if their own stock is highly-valued.

Table X presents the difference between hypothetical and realized acquirer post-announcement returns. (A positive number indicates that, even after the announcement of the bid, the acquirer's stock was more overvalued than that of the target.) In the Exogenous Failed Sample, failing to close the deal costs stock acquirers 1.0% (t-stat=0.44), 4.6% (t-stat=2.00), and 7.3% (t-stat=2.22) over 1-, 2-, and 3-year holding periods respectively. Had they succeeded in their bids, the performance of failed stock acquirers would be statistically indistinguishable from that of successful stock acquirers, with empirical p-values above 10%. Hypothetical returns of stock acquirers are even higher in the Restricted Failed Sample and the Full Failed Sample, suggesting this is a robust finding. There is no comparable result for failed cash acquirers. For them, failure does not entail any adverse consequences. In accordance with market-timing theory's predictions, the motivations of stock and cash bidders appear different. Whereas cash acquirers rely solely on synergies or target undervaluation to create value for their shareholders, stock acquirers enjoy an additional benefit of issuing potentially overvalued equity.

Considering my previous results, the point estimates for the difference between hypothetical and realized acquirer performance are in the right ballpark. In the Exogenous Failed Sample, the mean

[21] Bradley, Desai, and Kim (1988), Andrade, Mitchell, and Stafford (2001), and Bhagat, Dong, Hirshleifer, and Noah (2005) report positive combined bidder-target announcement returns, which suggests that mergers on average create positive synergies. The associated gains appear to accrue primarily to the target's shareholders, so it is possible that realized synergies are not positive from the perspective of the acquirer's shareholders.

ratio of acquirer to target size is 3.54, and the mean acquirer 3-year abnormal return is -37.9%. Assuming the target's stock is correctly priced and there are no synergies, Equation (4) gives the hypothetical acquirer return:

$$\frac{3.54}{3.54+1} * -39.8\% + \frac{1}{3.54+1} * 0.0\% = -31.0\%$$

The typical acquirer's performance once its stock price falls back to its fundamental value would be 8.8% higher had it completed the deal. This is fairly close to the 7.3% estimate I get, validating my proxy-based approach.

IV Discussion

A Related Literature

This paper is a part of a fast-growing empirical literature exploring possible links between firm overvaluation and merger activity. Most of these papers rely on indirect estimates of the true fundamental value of a firm. Dong, Hirshleifer, Richardson, and Teoh (2005) use accounting information and analyst forecasts to calculate such a proxy, and find that richly-valued bidders are much more likely to use stock to finance acquisitions, pay higher premia, and have lower announcement returns.[22] Ang and Cheng (2004) use similar inputs, and report that, once overvaluation is taken into account, merged firms do not underperform. Rhodes-Kropf, Robinson, and Viswanathan (2005) rely on a regression-based approach utilizing accounting information as inputs, and document that low long-run value to book firms buy high long-run value to book firms, reversing the usual result that acquirers are more overvalued than targets. Friedman (2004) uses accounting information and pre-event abnormal returns, and shows that acquirer overvaluation predicts bid premia, but only in stock deals. Akbulut (2005) uses managerial insider trading, and finds that overvalued firms are more likely to engage in stock mergers and have high pre-announcement and low post-announcement long-term abnormal returns. While the combined weight of this evidence does offer support for the market-timing theory, all the employed proxies are potentially problematic and definitely imperfect. In contrast, I use only post-event long-term abnormal returns, which, under the assumption

[22] For the pre-1990s period, Lang, Stulz, and Walkling (1989) and Servaes (1991) obtain the opposite result that highly-valued bidders enjoy better announcement returns.

that any mispricing eventually dissipates over time, represent a more accurate estimate of initial overvaluation.

The reliance on long-term returns also enables me to calculate with more confidence the value-creation impact of a bid for shareholders. Many papers in the literature employ announcement returns as such a measure. This approach has the advantage of avoiding the many pitfalls associated with long-term abnormal returns computation,[23] but it might not produce the best estimate in a world where stocks can be mispriced. If the market incorrectly values a firm, it is implausible to assume that announcement returns are not contaminated by the bidder mispricing. For instance, perhaps the market reacts negatively to a bid announcement by an overvalued firm because shareholders think the acquirer, about whose prospects they are overoptimistic, is overpaying for the target, whose future they assess more realistically. Or perhaps the deal prompts a partial reassessment of the acquirer's valuation, which would have occurred anyway at some point in the future.[24]

The findings in this paper fit within a wide literature documenting how market-timing affects corporate decision-making. Firms that issue stock earn low subsequent returns, both for initial public offerings (Ritter (1991); Loughran and Ritter (1995); Ritter and Welch (2002)) and seasoned equity offerings (Loughran and Ritter (1995); Spiess and Affleck-Graves (1995)). The reverse is true for stock repurchases (Ikenberry, Josef Lakonishok, and Vermaelen (1995)). Prior to issuance, firms engage in earnings management, which tends to be successful in inflating market expectations (Rangan (1998); Teoh, Ivo Welch, and Wong (1998a); Teoh, Ivo Welch, and Wong (1998b); Teoh, Wong, and Rao (1998)). Initial public offerings (IPOs) cluster in periods when analysts are optimistic about the prospects of recent IPOs (Rajan and Servaes (1997)) and are more likely in high market-to-book industries (Pagano, Panetta, and Zingales (1998)). High aggregate equity issues predict low market returns (Baker and Wurgler (2000)), and the maturity of debt issues forecasts excess bond returns (Baker, Greenwood, and Wurgler (2003)). Acquirers enjoy better announcement returns in "hot" market conditions, but perform worse in the long-term (Rosen (2004)). Firms' market-timing

[23] See Barber and Lyon (1997), Fama (1998), and Mitchell and Stafford (2000) for more details about the problems and various proposed solutions.

[24] Bhagat, Dong, Hirshleifer, and Noah (2005) is a recent paper discussing the signalling aspect of a stock-financed bid. See also Bradley, Desai, and Kim (1983), Jensen and Ruback (1983), Roll (1986), and Eckbo, Giammarino, and Heinkel (1990). Myers and Majluf (1984) develop a general model of security issuance in a world of asymmetric information.

activities have long-term effects on their capital structure (Baker and Wurgler (2002)) and might also influence their investment levels (Baker, Stein, and Wurgler (2003)). Survey evidence confirms that managers actively consider market conditions, including the perceived valuation of their own stock, in making capital structure and budgeting decisions (Graham and Harvey (2001)). Managers also time their personal trades, selling own-company stock when it is richly valued (Jenter (2005)).

B Opportunities for Corporate Market-Timing

Acquisitions might represent a conservative way to measure the extent of firms' market-timing activities, since they require a reasonable rationale for combining the operations of the two concerned firms. Otherwise, the market can easily deduce that the driving force behind the deal is overvaluation, which would prompt an immediate correction of the company's stock price and very likely lead to target rejection. (A good thought experiment is to imagine what would have happened had AOL tried to acquire an oil company instead of Time Warner.) The list of available and suitable targets might be quite limited, with an additional complication posed by the fact they too might be overvalued.[25]

Firms might find it easier to take advantage of their high stock price in some other way. A seasoned equity offering could be attractive, as the company can just cite profitable internal investment opportunities that exceed its cash flow. Such a justification should sound plausible in light of its high valuation, which is presumably partly the result of good growth opportunities. Overpriced equity might also make a firm's debt issue cheaper, especially given the rating agencies' recent greater reliance on the Merton model of debt, which explicitly takes into account the market value of equity. An overvalued firm can definitely issue cheaper convertible debt, as Amazon did during the late 1990s. A firm can also increase the equity-linked component of its employees' compensation scheme. This could be a particularly attractive option, since studies indicate that employees are overoptimistic about their employer's prospects, holding too much own-company stock (Benartzi (2001)).

[25] Conversely, a stock-financed acquisition might represent a good way to issue equity with less price impact than a seasoned equity offering. Baker, Coval, and Stein (2005) find that investors exhibit inertia in their response to mergers, holding on to shares they get in a deal. This applies to both individual and institutional investors, although the tendency is much stronger for the former.

V Conclusion

The market-timing theory of acquisitions predicts that stock-financed mergers benefit the acquiring firm's long-term shareholders by converting overvalued equity into (less overvalued) hard assets. So far the literature has offered little support for this prediction. In this paper, I test the value-creation hypothesis. Any conventional approach centered on long-term abnormal returns is complicated by the fact that it is exactly the most overvalued firms that have the greatest incentive to engage in stock acquisitions. I solve the resulting endogeneity problem by creating a sample of mergers that fail for exogenous reasons and using it as a natural experiment. I find that unsuccessful stock bidders underperform successful ones in an economically meaningful and statistically significant way. This underperformance increases with the length of the holding period. Over a 1-year horizon, the mean abnormal return of failed acquirers is 2.9% lower than that of successful acquirers, and this differential grows to 14.0% for a two-year horizon and 26.9% for a three-year horizon. Moreover, unsuccessful acquirers continue performing poorly even after merger failure is announced, by which time any information related to the bid presumably became public. Despite the negative long-term performance associated with deal failure, the market greets bid termination with a positive reaction, suggesting investors do not view it as a negative signal about the acquirer's prospects. Finally, the unrealized acquirer-target combination would have earned higher returns than the acquirer did by itself, even without any synergies. All of these results are robust to how strictly I set the criteria for inclusion into the unsuccessful acquirer group, and none of them hold for cash-financed bids.

The evidence presented is consistent with the hypothesis that stock-financed acquirers create value for their long-term shareholders and that one mechanism by which they do so is their use of overvalued equity to purchase hard assets at an effective discount. This opportunity to benefit long-term shareholders through market-timing should be considered when examining the motives behind and impact of various corporate managers' actions. First, it creates a strong incentive for firms to artificially boost their stock price, even though this effect might be costly and purely temporary. Some affected firms might ultimately not be successful in executing an acquisition, but this does not necessarily make the stock price manipulation irrational from an *ex-ante* perspective (with respect to the interests of long-term shareholders). Second, managers might pursue deals where the joint

fundamental value of the acquirer's and target's assets is reduced by combining them in a single firm. As long as market-timing gains outweigh the costs of this inefficiency, long-term shareholders will profit from the merger. If we do not take into account possible initial overvaluation of the acquirer, our analysis might mistakenly ascribe such transactions to managers' empire-building tendencies or simple incompetence.

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Figure 1: Merger Bids by Method of Payment

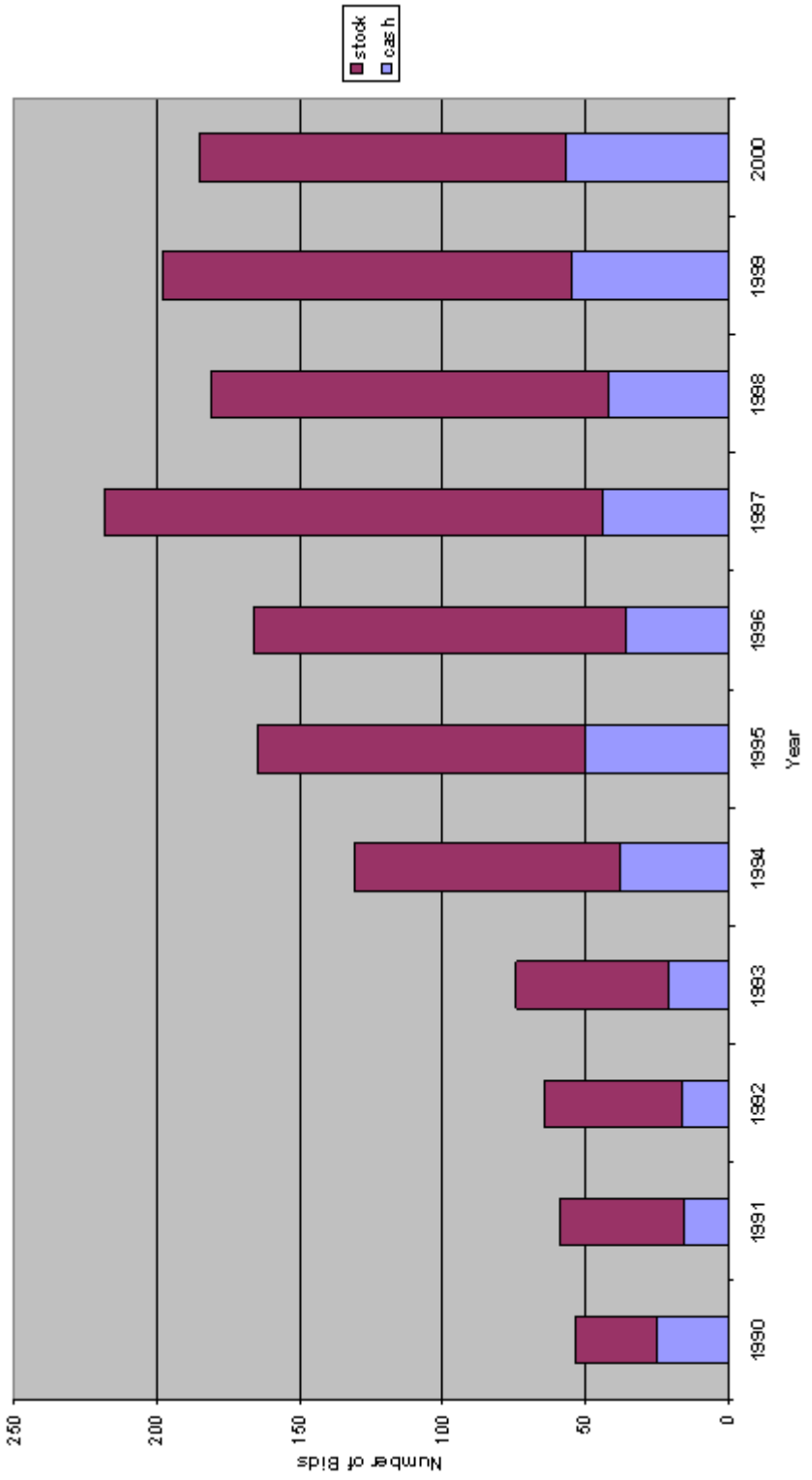

Table I: **Sample Construction**

Panel A: Construction of the Restricted Failed Sample

Full Failed Sample	
159	All unsuccessful merger bids
-22	Fall in acquirer's stock price/problems in acquirer's operations
-1	Increase in acquirer's stock price
-28	Target's refusal of (lack of positive reception to) the offer/ disagreement over price
-12	Inability to conclude negotiations/not enough information
-3	Bad market reception/acquirer shareholder scepticism
-5	Acquisition of the bidder
-3	Management conflict over top positions/board composition
-4	Acquirer's inability to obtain financing/ financing too expensive
-2	Changing macroeconomic conditions
79	**Restricted Failed Sample**

Panel B: Construction of the Exogenous Failed Sample

Restricted Failed Sample	
79	Restricted Failed Sample
-11	Negative earnings (revenue) surprise at target
-2	Restatement of target's results
-2	Fall in target's stock price/worsening conditions in target's operations/rating agency downgrade of target
-1	Increase in target's valuation
-5	Due diligence revelations about target
-2	Developments in target's industry
56	**Exogenous Failed Sample**

Table II: **Summary Statistics for Stock-Financed Bids**

The Successful Sample contains all stock-financed bids that resulted in an acquisition. The Full Failed Sample contains all unsuccessful stock-financed bids. The Restricted Failed Sample contains only stock-financed bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only stock-financed bids that fail for exogenous reasons. Firm size (ME) is calculated as the market value of its equity as of market close two trading days before the merger is announced. Book equity is computed as in Cohen, Polk, and Vuolteenaho (2003). Market-to-book (ME/BE) is calculated as the ratio of the company's market capitalization (as of the end of the previous month) and its book equity. Relative bid size ($Ratio$) is defined as the ratio of acquirer's market capitalization to that of the target. Abnormal returns over a $(-m, +n)$ event window around the announcement date ($AR_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer/target and the buy-and-hold return for a benchmark portfolio matched on size and market-to-book ratio.

Panel A: Successful Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	5293.3	5.11	-0.035	1576.7	3.33	0.124	6.03
Median	1122.8	2.83	-0.032	271.2	2.06	0.099	4.17
N	976	976	976	976	903	903	976

Panel B: Full Failed Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	10028.0	4.73	-0.047	2536.9	3.38	0.121	4.52
Median	971.2	2.79	-0.045	308.5	2.02	0.090	2.81
N	119	119	119	119	109	109	119

Panel C: Restricted Failed Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	19484.5	4.73	-0.051	4141.2	3.59	0.151	3.93
Median	1278.7	2.82	-0.045	431.2	2.32	0.105	2.73
N	53	53	53	53	51	51	53

Panel D: Exogenous Failed Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	27903.8	4.84	-0.034	5788.2	3.29	0.150	3.54
Median	1641.8	2.81	-0.030	797.0	2.29	0.109	2.51
N	36	36	36	36	36	36	36

Table III: **Summary Statistics for Cash-Financed Bids**

The Successful Sample contains all cash-financed bids that resulted in an acquisition. The Full Failed Sample contains all unsuccessful cash-financed bids. The Restricted Failed Sample contains only cash-financed bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only cash-financed bids that fail for exogenous reasons. Firm size (ME) is calculated as the market value of its equity as of market close two trading days before the merger is announced. Book equity is computed as in Cohen, Polk, and Vuolteenaho (2003). Market-to-book (ME/BE) is calculated as the ratio of the company's market capitalization (as of the end of the previous month) and its book equity. Relative bid size (*Ratio*) is defined as the ratio of acquirer's market capitalization to that of the target. Abnormal returns over a $(-m, +n)$ event window around the announcement date ($AR_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer/target and the buy-and-hold return for a benchmark portfolio matched on size and market-to-book ratio.

Panel A: Successful Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	2601.8	2.72	0.010	489.1	2.02	0.206	7.72
Median	840.8	2.02	0.006	144.9	1.57	0.149	6.49
N	359	359	359	359	330	330	359

Panel B: Full Failed Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	2744.1	2.88	-0.003	933.8	1.97	0.159	5.98
Median	934.1	2.26	0.000	155.9	1.52	0.144	4.40
N	40	40	40	40	37	37	40

Panel C: Restricted Failed Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	3225.7	3.26	-0.004	1118.0	2.06	0.164	6.65
Median	633.7	2.50	0.002	133.6	1.54	0.132	4.60
N	26	26	26	26	24	24	26

Panel D: Exogenous Failed Sample

	Acquirer			Target			
	ME (MM)	ME/BE	$AR_{-1,+1}$	ME (MM)	ME/BE	$AR_{-1,+1}$	Ratio
Mean	3719.4	3.69	-0.008	1409.7	2.10	0.188	4.97
Median	536.4	2.75	-0.003	141.9	1.65	0.131	2.85
N	20	20	20	20	18	18	20

Table IV: **Acquirer Announcement and Long-Term Abnormal Returns**

The Successful Sample contains all bids that resulted in an acquisition. The Full Failed Sample contains all unsuccessful bids. The Restricted Failed Sample contains only bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only bids that fail for exogenous reasons. Abnormal returns over a $(-m, +n)$ event window around the announcement date ($AR_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer and the buy-and-hold return for a benchmark portfolio matched on size and market-to-book ratio. For the three samples containing failed acquisitions, I provide the empirical p-value (Underperform p) for the hypothesis that their mean abnormal return is not lower than the mean abnormal return of the Successful Sample. This p-value is obtained by randomly drawing (without replacement) from the Successful Sample a control sample of equal size and repeating this procedure 1,000 times.

Panel A: Successful Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$
Mean	-0.035	-0.068	-0.113	-0.129	0.010	-0.006	0.000	-0.002
T-stat	-12.88	-4.83	-4.70	-3.92	2.99	-0.30	0.00	-0.04

Panel B: Full Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$
Mean	-0.047	-0.167	-0.208	-0.288	-0.003	0.030	0.174	0.241
T-stat	-5.92	-4.20	-4.05	-4.44	-0.28	0.41	1.45	1.70
Underperform p	0.044	0.006	0.071	0.026	0.096	0.733	0.968	0.978

Panel C: Restricted Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$
Mean	-0.051	-0.138	-0.249	-0.400	-0.004	0.057	0.102	0.204
T-stat	-4.83	-2.47	-3.94	-4.98	-0.35	0.59	0.66	1.01
Underperform p	0.061	0.106	0.070	0.010	0.123	0.802	0.823	0.905

Panel D: Exogenous Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$	$AR_{-1,+1}$	$AR_{-1,+250}$	$AR_{-1,+500}$	$AR_{-1,+750}$
Mean	-0.034	-0.097	-0.253	-0.398	-0.008	0.068	0.107	0.274
T-stat	-2.98	-1.55	-3.91	-4.07	-0.59	0.60	0.63	1.10
Underperform p	0.558	0.337	0.092	0.016	0.083	0.803	0.759	0.923

Table V: **Acquirer Announcement and Long-Term Industry-Adjusted Abnormal Returns**

The Successful Sample contains all bids that resulted in an acquisition. The Full Failed Sample contains all unsuccessful bids. The Restricted Failed Sample contains only bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only bids that fail for exogenous reasons. Industry-adjusted abnormal returns over a $(-m, +n)$ event window around the announcement date ($IAR_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer and the buy-and-hold return for a portfolio of 10 firms matched on industry, size, and market-to-book. For the three samples containing failed acquisitions, I provide the empirical p-value (Underperform p) for the hypothesis that their mean abnormal return is not lower than the mean abnormal return of the Successful Sample. This p-value is obtained by randomly drawing (without replacement) from the Successful Sample a control sample of equal size and repeating this procedure 1,000 times.

Panel A: Successful Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$
Mean	-0.034	-0.070	-0.124	-0.166	0.009	0.012	0.021	-0.019
T-stat	-12.55	-5.19	-5.51	-5.15	2.57	0.55	0.60	-0.41

Panel B: Full Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$
Mean	-0.049	-0.198	-0.239	-0.340	-0.004	0.037	0.164	0.241
T-stat	-6.00	-4.64	-4.18	-4.75	-0.41	0.54	1.63	1.98
Underperform p	0.020	0.000	0.028	0.018	0.084	0.667	0.917	0.966

Panel C: Restricted Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$
Mean	-0.051	-0.186	-0.290	-0.421	-0.007	0.072	0.132	0.248
T-stat	-4.98	-3.04	-3.92	-4.45	-0.63	0.76	0.99	1.49
Underperform p	0.058	0.018	0.016	0.008	0.102	0.805	0.819	0.940

Panel D: Exogenous Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$	$IAR_{-1,+1}$	$IAR_{-1,+250}$	$IAR_{-1,+500}$	$IAR_{-1,+750}$
Mean	-0.034	-0.141	-0.262	-0.379	-0.011	0.088	0.142	0.296
T-stat	-2.95	-1.99	-3.38	-3.21	-0.83	0.78	1.09	1.50
Underperform p	0.515	0.139	0.084	0.058	0.067	0.798	0.814	0.945

Table VI: **Acquirer Announcement and Long-Term Market-Adjusted Returns**

The Successful Sample contains all bids that resulted in an acquisition. The Full Failed Sample contains all unsuccessful bids. The Restricted Failed Sample contains only bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only bids that fail for exogenous reasons. Market-adjusted returns over a $(-m, +n)$ event window around the announcement date ($MAR_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer and the corresponding return for the CRSP value-weighted market portfolio. For the three samples containing failed acquisitions, I provide the empirical p-value (Underperform p) for the hypothesis that their mean market-adjusted return is not lower than the mean market-adjusted return of the Successful Sample. This p-value is obtained by randomly drawing (without replacement) from the Successful Sample a control sample of equal size and repeating this procedure 1,000 times.

Panel A: Successful Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$
Mean	-0.035	-0.096	-0.148	-0.167	0.009	0.015	0.052	0.055
T-stat	-12.71	-6.52	-5.92	-4.95	2.83	0.68	1.40	1.15

Panel B: Full Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$
Mean	-0.048	-0.172	-0.190	-0.253	-0.005	0.016	0.208	0.296
T-stat	-5.77	-4.12	-3.41	-3.44	-0.55	0.21	1.81	2.12
Underperform p	0.038	0.017	0.273	0.161	0.079	0.527	0.916	0.956

Panel C: Restricted Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$
Mean	-0.051	-0.126	-0.199	-0.338	-0.007	0.068	0.147	0.246
T-stat	-4.87	-2.16	-2.77	-3.23	-0.71	0.69	0.99	1.23
Underperform p	0.085	0.332	0.329	0.098	0.075	0.761	0.777	0.879

Panel D: Exogenous Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$	$MAR_{-1,+1}$	$MAR_{-1,+250}$	$MAR_{-1,+500}$	$MAR_{-1,+750}$
Mean	-0.033	-0.110	-0.216	-0.318	-0.012	0.022	0.099	0.256
T-stat	-2.98	-1.62	-2.82	-2.57	-0.97	0.19	0.59	1.02
Underperform p	0.543	0.440	0.300	0.175	0.060	0.560	0.643	0.838

Table VII: **Acquirer Announcement and Long-Term Abnormal Returns upon Merger Termination**

The Full Failed Sample contains all unsuccessful bids. The Restricted Failed Sample contains only bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only bids that fail for exogenous reasons. Abnormal returns over a $(-m, +n)$ event window around the bid termination announcement date ($AR^F_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer and the buy-and-hold return for a benchmark portfolio matched on size and market-to-book ratio.

Panel A: Full Failed Sample

	Stock-Financed Acquirers				Cash-Financed Acquirers			
	$AR^F_{-1,+1}$	$AR^F_{+2,+250}$	$AR^F_{+2,+500}$	$AR^F_{+2,+750}$	$AR^F_{-1,+1}$	$AR^F_{+2,+250}$	$AR^F_{+2,+500}$	$AR^F_{+2,+750}$
Mean	0.026	-0.135	-0.135	-0.219	0.030	0.111	0.325	0.379
T-stat	2.92	-3.32	-2.49	-3.30	1.24	1.70	1.99	2.17

Panel B: Restricted Failed Sample

	Stock-Financed Acquirers				Cash-Financed Acquirers			
	$AR^F_{-1,+1}$	$AR^F_{+2,+250}$	$AR^F_{+2,+500}$	$AR^F_{+2,+750}$	$AR^F_{-1,+1}$	$AR^F_{+2,+250}$	$AR^F_{+2,+500}$	$AR^F_{+2,+750}$
Mean	0.025	-0.159	-0.178	-0.272	0.010	0.124	0.307	0.324
T-stat	3.14	-2.83	-2.36	-3.20	1.27	1.37	1.24	1.29

Panel C: Exogenous Failed Sample

	Stock-Financed Acquirers				Cash-Financed Acquirers			
	$AR^F_{-1,+1}$	$AR^F_{+2,+250}$	$AR^F_{+2,+500}$	$AR^F_{+2,+750}$	$AR^F_{-1,+1}$	$AR^F_{+2,+250}$	$AR^F_{+2,+500}$	$AR^F_{+2,+750}$
Mean	0.027	-0.161	-0.218	-0.226	0.015	0.199	0.403	0.471
T-stat	3.51	-3.17	-2.57	-2.17	1.62	1.94	1.33	1.55

Table VIII: **Acquirer Announcement and Long-Term Industry-Adjusted Abnormal Returns upon Merger Termination**

The Full Failed Sample contains all unsuccessful bids. The Restricted Failed Sample contains only bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only bids that fail for exogenous reasons. Industry-adjusted abnormal returns over a $(-m, +n)$ event window around the bid termination announcement date ($IAR^F_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer and the buy-and-hold return for a portfolio of 10 firms matched on industry, size, and market-to-book.

Panel A: Full Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$IAR^F_{-1,+1}$	$IAR^F_{+2,+250}$	$IAR^F_{+2,+500}$	$IAR^F_{+2,+750}$	$IAR^F_{-1,+1}$	$IAR^F_{+2,+250}$	$IAR^F_{+2,+500}$	$IAR^F_{+2,+750}$
Mean	0.024	-0.157	-0.171	-0.227	0.029	0.108	0.333	0.416
T-stat	2.54	-3.75	-3.00	-3.22	1.14	1.82	2.22	2.68

Panel B: Restricted Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$IAR^F_{-1,+1}$	$IAR^F_{+2,+250}$	$IAR^F_{+2,+500}$	$IAR^F_{+2,+750}$	$IAR^F_{-1,+1}$	$IAR^F_{+2,+250}$	$IAR^F_{+2,+500}$	$IAR^F_{+2,+750}$
Mean	0.022	-0.201	-0.211	-0.259	0.005	0.135	0.362	0.463
T-stat	2.85	-3.57	-2.81	-2.95	0.57	1.53	1.60	2.16

Panel C: Exogenous Failed Sample

	Stock-Financed Acquirers				**Cash-Financed Acquirers**			
	$IAR^F_{-1,+1}$	$IAR^F_{+2,+250}$	$IAR^F_{+2,+500}$	$IAR^F_{+2,+750}$	$IAR^F_{-1,+1}$	$IAR^F_{+2,+250}$	$IAR^F_{+2,+500}$	$IAR^F_{+2,+750}$
Mean	0.027	-0.205	-0.214	-0.189	0.006	0.193	0.427	0.554
T-stat	3.67	-3.53	-2.59	-1.76	0.58	1.79	1.54	2.10

Table IX: **Acquirer Announcement and Long-Term Market-Adjusted Returns upon Merger Termination**

The Full Failed Sample contains all unsuccessful bids. The Restricted Failed Sample contains only bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only bids that fail for exogenous reasons. Market-adjusted returns over a $(-m, +n)$ event window around the bid termination announcement date ($MAR^F_{-m,n}$) are computed as the difference between the buy-and-hold return for the acquirer and the corresponding return for the CRSP value-weighted market portfolio.

Panel A: Full Failed Sample

	Stock-Financed Acquirers				Cash-Financed Acquirers			
	$MAR^F_{-1,+1}$	$MAR^F_{+2,+250}$	$MAR^F_{+2,+500}$	$MAR^F_{+2,+750}$	$MAR^F_{-1,+1}$	$MAR^F_{+2,+250}$	$MAR^F_{+2,+500}$	$MAR^F_{+2,+750}$
Mean	0.026	-0.117	-0.103	-0.155	0.034	0.105	0.378	0.463
T-stat	2.89	-2.93	-1.81	-2.08	1.29	1.50	2.22	2.61

Panel B: Restricted Failed Sample

	Stock-Financed Acquirers				Cash-Financed Acquirers			
	$MAR^F_{-1,+1}$	$MAR^F_{+2,+250}$	$MAR^F_{+2,+500}$	$MAR^F_{+2,+750}$	$MAR^F_{-1,+1}$	$MAR^F_{+2,+250}$	$MAR^F_{+2,+500}$	$MAR^F_{+2,+750}$
Mean	0.025	-0.121	-0.131	-0.219	0.012	0.131	0.364	0.386
T-stat	3.12	-2.12	-1.51	-2.00	1.38	1.35	1.41	1.49

Panel C: Exogenous Failed Sample

	Stock-Financed Acquirers				Cash-Financed Acquirers			
	$MAR^F_{-1,+1}$	$MAR^F_{+2,+250}$	$MAR^F_{+2,+500}$	$MAR^F_{+2,+750}$	$MAR^F_{-1,+1}$	$MAR^F_{+2,+250}$	$MAR^F_{+2,+500}$	$MAR^F_{+2,+750}$
Mean	0.028	-0.141	-0.164	-0.149	0.019	0.180	0.440	0.511
T-stat	3.52	-2.52	-1.60	-1.16	1.81	1.53	1.36	1.59

Table X: **Hypothetical Failed Acquirer Long-Term Returns**

The Full Failed Sample contains all unsuccessful bids. The Restricted Failed Sample contains only bids that fail because of developments affecting the target or because of exogenous reasons. The Exogenous Failed Sample contains only bids that fail for exogenous reasons. $\Delta\text{BHR}_{-m,+n}$ is the difference between the market capitalization-weighted average of the acquirer and proxy target portfolio buy-and-hold return and the acquirer buy-and-hold return. The proxy target portfolio is an equally-weighted portfolio of 10 firms matched to the target on industry, size, and market-to-book.

Panel A: Full Failed Sample

	Stock-Financed Acquirers			**Cash-Financed Acquirers**		
	$\Delta\text{BHR}_{+2,+250}$	$\Delta\text{BHR}_{+2,+500}$	$\Delta\text{BHR}_{+2,+750}$	$\Delta\text{BHR}_{+2,+250}$	$\Delta\text{BHR}_{+2,+500}$	$\Delta\text{BHR}_{+2,+750}$
Mean	0.036	0.053	0.071	-0.021	-0.045	-0.068
T-stat	2.48	2.57	3.05	-0.83	-1.47	-1.54

Panel B: Restricted Failed Sample

	Stock-Financed Acquirers			**Cash-Financed Acquirers**		
	$\Delta\text{BHR}_{+2,+250}$	$\Delta\text{BHR}_{+2,+500}$	$\Delta\text{BHR}_{+2,+750}$	$\Delta\text{BHR}_{+2,+250}$	$\Delta\text{BHR}_{+2,+500}$	$\Delta\text{BHR}_{+2,+750}$
Mean	0.015	0.059	0.108	-0.032	-0.026	-0.067
T-stat	0.74	2.17	3.36	-1.12	-0.76	-1.31

Panel C: Exogenous Failed Sample

	Stock-Financed Acquirers			**Cash-Financed Acquirers**		
	$\Delta\text{BHR}_{+2,+250}$	$\Delta\text{BHR}_{+2,+500}$	$\Delta\text{BHR}_{+2,+750}$	$\Delta\text{BHR}_{+2,+250}$	$\Delta\text{BHR}_{+2,+500}$	$\Delta\text{BHR}_{+2,+750}$
Mean	0.010	0.046	0.073	-0.041	-0.040	-0.095
T-stat	0.44	2.00	2.22	-1.11	-0.89	-1.46