# STOCK PRICE PERFORMANCE OF TARGET FIRMS IN UNSUCCESSFUL ACQUISITIONS

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## Abstract

*I examine the stock price returns of 459 targets in unsuccessful M&A deals in the period 1990 to 2001. The evidence suggests that information hypothesis explains better than the synergy hypothesis the evidence for the failed acquisitions in the period from 1990 to 2001. Target firm's shareholders suffer when a deal is terminated. The average abnormal return from two days before the announcement to two days after the termination is a negative 10.61%. The permanent revaluation found in previous literature is only supported for firms that received a rival offer before the termination date. Abnormal returns vary greatly when the reason of termination is taken into account. When the target rejects a deal, the target stock price drops by 4.33 percent, a small decline compared to the loss of 14.49 percent when the bidder terminates the deal. In the long-run, abnormal returns are generally insignificant when a new acquisition proposal does not arrive.*

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## 1. Introduction

The increase in a target firm's stock price when a takeover is announced is well-documented by many empirical studies. Though the market reaction is positive at the acquisition announcement, a significant fraction of these deals are not completed. In fact, 1107 of the 5591 announced M&A proposals with a dollar value over $10 million failed during the 1989-2001 period (18.48%). This simple observation leads to a series of questions, which are investigated in this paper. First, the paper aims at determining whether the initial gains are completely dissipated by the time of the termination or whether the proposals determine a permanent revaluation of the target firm's shares. Second, this study investigate some potential determinants that might affect the stock price performance, like the initial status of the offer, that is hostile or friendly, and the identity of the party who terminates the transactions. Finally, the long-run stock price performance of these firms is analyzed to understand whether the failed offer has a long-lasting effect on the target firms. To address these points, I examine the stock price returns of the target firms involved in 459 unsuccessful US mergers and acquisitions that were canceled in the period from 1990 to 2001 from the acquisition announcement to the termination.[1]

While previous studies agree that at the time of the termination announcement the target stock returns is negative (Safieddine and Titman, 1999, and Jandik and Makhija, 2004), there is less agreement on the total effect of failed M&A proposals. While Bradley *et al.* (1983) and Davidson *et al.* (1989) document that firms that will receive a subsequent offer do not dissipate the abnormal returns gained at the acquisition announcement, Dodd (1980) observes that no permanent revaluation of the target share is found when the target management rejects the offer. Ruback (1988) finds that subsequent returns do not completely offset the gain realized at the acquisition announcement, but does not find any permanent revaluation either.

Synergies and the release of hidden information can both generate stock price movements even for failed M&A deal. As pointed out by Bradley *et al.* (1983), under the

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[1] Part of the literature that focuses on the role of leverage in unsuccessful deals examines unsuccessful acquisitions from the 1980s (Safieddine and Titman, 1999). Jandik and Makhija (2004) studied the period 1985-1996.

synergy hypothesis, the increase of the target shares at the time of the acquisition announcement is primarily due to the anticipation of a transfer of control. Thus, once the deal is terminated, prices should return to their pre-offer level if a new future bid is not expected. Conversely, under the information hypothesis, the information about the true value of the target firm released when the acquisition is announced causes the revaluation of the target shares. Stock price are expected to increase at the announcement of the acquisition and, then, to stay level because the positive information does not vanish with the deal failure.

The Bradley *et al.* (1983) information hypothesis is based on the information contained in the M&A proposal. However, new information is constantly released to the market between the acquisition announcement and the termination announcement. This information affects the target firm prices because it permits the market to update the probability that the deal will be completed and the target firm's stand-alone value. To distinguish this hypothesis from the information hypothesis of Bradley *et al.* (1983), I call it *new information hypothesis* (*NIH*). The NIH predicts that the whole effect of the failed M&A deal varies according to the information released after the acquisition announcement. Moreover, under this hypothesis, abnormal returns on the termination day only capture a part of the price adjustment.[2]

While it is impossible to gather all the information released during the period, the identity of the party who terminates the deal serves as a kind of sufficient statistics for all these information. Despite unsuccessful acquisitions are often associated to target managers' rejections, bidders terminate more deals (30.45% versus 26.58%). Differently from previous literature that only distinguish between bidder and target terminated deal (Dodd, 1980, and Davidson et al., 1989), this paper takes into account whether competing offers were already known at the time of the termination announcement (rival offer). I also identify two additional reasons: mutual rejection, that is both parties may agree that the deal is no longer in their

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[2] It would be even possible that abnormal returns at the termination were of a different sign compared to the interim period abnormal returns. In fact, if the deal is cancelled because merging companies extract information from a negative market reaction (Luo, 2005, Dasgupta and Gao, 2004), the return at the termination announcement could be positive.

interest; and antitrust, that is competition authorities block the deal because it reduces competition in an industry. These reasons of termination are expected to affect the likelihood of a subsequent takeover offer for the target firm and to convey information about its future performance as an independent entity. For example, when the management rejects a hostile offer, shareholders lose the offered takeover premium, but there is hardly additional information about the target firm ability to continue as a stand-alone firm. Conversely, when the bidder decides to terminate an acquisition, generally because of what it learned during the negotiation, this can conveys bad news about the future of the target firm.

The evidence clearly suggests that unsuccessful deals are costly to the target's shareholders. Besides losing the takeover premium, the average abnormal return from two days before the announcement to two days after the termination is -10.61%. Target firms report a positive abnormal return only when the initial bid is unsolicited, but almost all the gains (14.67% of the initial increase of 19.55%) are lost. Contrary to Dodd (1980), no permanent revaluation of the target shares is found when target management rejects the offer. Differently from Bradley et al. (1983) and Davidson et al. (1989), the permanent revaluation does not happen for all the firms that will be subsequently taken over within three years of the termination date. The permanent revaluation is only observed only for firms that are actually taken over with a competing offer at the time of the termination (28.52%). There is also a strong reaction at the termination announcement (-6.99%). However, CAR at the termination announcement is relatively small when target management rejects the offer (-4.33%). Conversely, target firms reports a loss of 14.49 percent reported when the bidder terminates the deal. These findings confirm that the reason of termination matters.

I also examine the long-run stock price performance of target firms using the Mitchell and Stafford (2000) three-factor model. The long run performance of firms involved in a failed M&A is generally insignificant. Only firms that will be subsequently taken over realize positive abnormal performance. There is no evidence that the loss borne by target firms' shareholders is recouped in the long run. This result has important implications from a shareholder's

perspective. It suggests that small minority shareholders are better off selling their shares just after the acquisition announcement, locking in the premium offered by the bidder.

The findings in the paper suggest that new information hypothesis explains better the evidence better than the synergy and the information hypotheses. The loss of synergies may lead the target stock price to a reversion to pre-offer level, but, alone, it cannot explain why prices fall under the pre-offer level. Neither the information hypothesis can explain this evidence. While consistent with the synergy hypothesis, the fact that firms that receive rival offers before the termination announcement earn positive abnormal returns is also consistent with the arrival of new positive information for the target firm, for example a larger premium. The synergy hypothesis also struggles to explain the zero or even negative abnormal returns realized by firms that will be subsequently taken over but with no known competing offer at the time of the termination announcement.

The contributions of this paper are several. First, it documents that entrenched managers are not the primary cause of failed M&A. Sometimes managers act in the shareholders' best interest when they reject a takeover offer from a bidder. In fact, when a friendly deal fails, the losses are much bigger than an unsolicited offer is unsuccessful. Second, this paper offers a clear suggestion to target firms' shareholders. Shareholders are better off if they sell their shares as soon as the deal is announced, locking in the short-term profits. The additional gains from a rival offer are small compared to the potential losses of an unsuccessful deal and post-termination long-term performance is generally flat. Third, this paper is the first study to analyze systematically failed M&A from their announcement to the termination, taking into account the reason/party responsible for breaking up the deal. Finally, while previous works focus on failed M&A that took place in the 1980s (or early 1990s), I examine a different period characterized by an intense M&A activity.

The remaining sections are organized as follows. Section 1 describes the sample construction. Section 2 shows the characteristics of unsuccessful deals. Section 3 presents the evidence concerning the abnormal returns around the announcement, in the interim period, and

around the termination day of the deal. Section 4 presents some multivariate regressions tests. Section 5 documents the long-run performance of the target firms. Section 6 concludes.


## 2. Sample Description

I started by collecting a list of mergers and acquisitions from Securities Data Company's (SDC) U.S. Mergers and Acquisitions Database. To be included in the sample, the deal must satisfy the following conditions:

1. The initial bid announcement is between January 1, 1989, and December 31, 2001 and the termination announcement is between January 1, 1990 and December 31, 2001.

2. The target firm is a public listed company and it is not in the financial industry (SIC Codes 60-69, as reported from SDC).

3. The bidder owns less than 30% of the common equity of the target firm at the announcement date and it has not the same parent company as the target firms, i.e. bidder and target do not belong to the same group.

4. The deal value is greater than $10 million.

5. The target must have at least 140 days of return data before the takeover announcement listed on CRSP (minimum estimation period 100 days ending 40 days before the announcement) and must be listed on CRSP at the termination date. The target firm must have data available on Compustat.

Criteria 1 to 5 produce 649 hits. I control these 649 deals using Dow Jones News Service (DJNS) to be sure that the deal is really a terminated acquisition attempt. I also search DJNS for any deal between the parties at the time of the termination announcement. Moreover, I double-check the announcement and termination dates on DJNS because, while acquisition announcement dates on SDC and DJNS usually coincide, termination dates are sometimes

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misreported in SDC.[3] In particular, when the termination is due to a rival offer, SDC often reports as termination date the day in which the rival offer expires. However, the deal is usually terminated long before this date. Thus, I rely on DJNS dates for the empirical analysis.

The DJNS check results in a loss of several firms. The announcement and/or the termination of the deal are not reported on DJNS for 40 acquisitions attempts. Eighteen deals reported by SDC turn out to be either rumored deals where no formal bid was ever made or block acquisitions.[4] Bidder and target terminated the acquisition but agreed on another deal in 20 cases. Four deals are eliminated to avoid double counting because they were part of acquisition attempts already included in the sample. One deal is dropped because DJNS reported that bidder and target were part of a same business group.[5] Eleven target firms were under Chapter 11 at the time of the acquisition announcement. According to DJNS, two deals were terminated in 1989. The termination date was within five trading days of the acquisition announcement in 35 observations. After the DJNS screening, I was left with 518 acquisitions. To avoid potential anticipation effects due to previous failed M&A deals, I exclude 46 observations concerning targets already involved in a failed M&A during the sample period. Using DJNS dates results in an additional loss of 13 firms, which do not have return data on CRSP. Thus, the final sample consists of 459 M&A announcements that were later terminated.

## 3. Characteristics of Unsuccessful Deals

The characteristics of the deals are summarized in Table 1. Friendly and unsolicited acquisitions account for 55 percent and 45 percent of the 459 observations respectively. This is not a surprise, since the sample period is mainly characterized by friendly offers. Unsolicited acquisitions are acquisitions for which DJNS reported that the bidder made the initial takeover

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[3] SDC and DJNS have the same announcement date in 400 of the 459 observations (87 percent), and the difference is only one day for 30 observations. Only the 73 percent has the same termination date.

[4] One case of failed acquisition reported by SDC was a back-up agreement in case the merger with another firm had failed.

[5] They have different parent companies according to SDC. Yet the parent companies turned out to be part of a same business group.

attempt without any preliminary agreement with the target. This definition is similar to one of the five measures of hostility used by Schwert (2000) in his study of hostile takeovers.[6] Friendly indicates that the deal is announced after the two parties reached an agreement.

[Please insert Table 1 about here]

Panel A of Table 1 shows the distribution by the reason of the termination. I classify terminations in six groups: antitrust, mutually rejected, rejected by target, rival offer, terminated by bidder, no reason. *ANTITRUST* indicates that the deal was terminated by antitrust regulators. A deal is classified as *MUTUALLY REJECTED* when DJNS reports that the bidder and the target jointly decide to terminate the transaction. *REJECTED BY TARGET* indicates that the target rejects the takeover offer. When the bidder is outbidded in a takeover contest for the target, the deal is classified as *RIVAL OFFER*. *TERMINATED BY BIDDER* means that the bidder decides not to go ahead with the deal. Finally, *NO REASON* means that DJNS reports that the parties did not release any statement following the termination.

To some extent, the groups *Rejected by target* and *rival offer* may appear to be overlapping, in particular when a target rejects an offer because of a bid from another suitor. The difference between the two groups is that a target firm is included in the rival offer subsample when the target firm chooses another offer. This means that at the time of termination, another offer for the target exists and it is public information. Conversely, target firm management may reject an offer without having another takeover offer in hand.[7]

The most frequent reason for a deal break-up is that the bidder is no longer interested in executing the transaction. Bidders terminated 30.28 percent of the transactions in the period 1990-2001, a percentage similar to the 27 percent reported by Safieddine and Titman (1999). They found that bidders terminated 27 percent of the deals in the period 1982-1991. Conversely,

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[6] The measure of hostility in Schwert (2000) is Host(Uns).
[7] These definitions are based on news appeared on DJNS. It is possible that a firm rejects an offer because it is privately negotiating a deal with another firm.

Jandik and Makhija (2004) find that two out of three takeover attempts are terminated by the bidder in their sample of 255 unsuccessful takeovers from 1985 to 1995.[8] Rejected by target (26.58 percent) and rival offer (20.70 percent) are the second and third most common reason for deal failure. All but four of the 79 transactions that terminate because of joint decision of the two parties, i.e. mutually rejected, are friendly deals. Not surprisingly, unsolicited deals outnumber friendly ones when target firms reject the deal.

Panel B of Table 1 documents whether the target firms are still listed on CRSP 36 months after the month in which the takeover attempt is terminated. Delisted firms within the 36-month period are classified under *Bankruptcy* if they are delisted from CRSP and CRSP or DJNS report that either the firm filed for Chapter 11, Chapter 7 or it was reported in distress. The column *Taken over* reports the number of firms delisted from CRSP because they are no longer independent entity. The percentage of firms whose stocks were still trading three years after the termination is slightly less than 48 percent. 192 firms were acquired by another bidder (41.83 percent), while 50 firms were delisted because of distress related reasons (10.46 percent). The great majority of firms whose termination reason was a rival offer were taken over by other bidders. More surprising, one third of bankrupt companies rejected the offer of the bidder (17 out of 50). Target firms that jointly decided with their bidder to terminate the agreement are likely to be still listed three years after. Again, these results are similar to those of Safieddine and Titman (1999), who studied the Eighties. In their sample at the end of the 36th month, 40.48 percent of target firms were taken over, and 11.51 percent were delisted for reasons associated with bankruptcy and financial distress.

Panel C reports descriptive statistics for target firms at the end of the fiscal year preceding the termination date. The book-to-market ratio, measured as the ratio of the book value of equity to the market value of common stock, is about 0.69, meaning that target companies were not trading at discount. The fact that targets are overvalued on average is

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[8] They do not consider accepting an alternative offer from another bidder as a termination reason.

consistent both with Ang and Cheng (2003) and Dong et al. (2005). According to these papers, overvaluation should make the target managers less willing to resist a takeover offer. However, about half of the unsolicited bids are rejected by the target management despite a large premium offered by the bidder (49.81%). While target firms show growth in their revenues (Sales Growth), the mean return on assets (ROA) is negligible. ROA is measured as the ratio of operating income after depreciation over total operating assets. However, the median ROA is 8.9 percent.

Target firms do no have particularly high level of debt. The mean leverage ratio, measured as total debt over book value of assets, is 0.22, similar to the 0.26 reported by Jandik and Makhija (2004). Target firms in my sample have a lower initial leverage ratio than the target firms of unsuccessful takeovers studied by Safieddine and Titman (1999), where the mean leverage ratio was 0.60. Target firms have lots of liquid assets. In fact, the average ratio of cash to total assets is 13.11 percent (median 4.48 percent). Another measure of liquidity, the ratio of net liquid assets to total assets, gives even stronger results. The mean is 21.64 percent (median 20.61). As known from the literature (Harford, 1999, Pinkowitz, 2002), cash can be used to fight unwanted takeover. On the other hand, this high level of liquidity may be one of the reasons why these firms where targeted. Target firms have an average market capitalization (Size) of about $859.66 million, but the median market capitalization is only $98 million.

## 4. Event Study

### *4.1 Acquisition Announcements*

Table 2, Panel A presents the abnormal returns at the time of the acquisition announcements for the sample of 459 unsuccessful M&A. I estimate these abnormal returns over the five-day event windows (-2, +2) using market model benchmark returns with the CRSP equally-weighted index returns. The parameters for the market model are estimated over an interval of at least 100

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days (maximum 255 days) ending 40 days before the announcement day. The results of the event study using market adjusted returns give qualitative similar results and are not reported.

The target firm stock price goes up significantly at the time of the announcement. The cumulative abnormal return (CAR) on the event-window (-2, 2) is 17.32 percent. Although the reaction is large enough to suggest that the deals are not empty threats, I control whether the market has some expectation that the deal will be terminated. Indeed, the market reaction is lower than for complete acquisitions. A random sample of 807 completed acquisitions with deal value greater than $10 million in the period 1990-2001 reports an abnormal return of 21.21 percent. The test for difference in means is statistically different at the 1 percent level.[9] Thus, as Schwert (1996) argues documenting similar evidence, the market seems to be able to identify which deals have a higher probability to be completed. However, the large reaction for failed deals indicates that the market does not expect a failure. This differential between the return of successful and unsuccessful acquisitions is also document by Song and Walkling (2000) for 141 unexpected acquisition announcements over the 1982-1991 period (21 vs. 14.8 percent in the event window [-1, 0]). Conversely, Asquith (1983) finds similar reaction for successful target firm and unsuccessful target firms.


[Please insert Table 2 about here]


Panel B of Table 2 reports the CARs for the friendly and unsolicited subsamples. Target that received unsolicited offers have higher abnormal returns than firms which announced friendly agreements (19.55% vs. 15.53%). The difference between the means is statistically significant at the 10 percent level and the median difference is significant at the 5 percent level. A possible explanation for this difference is that the premium offered is higher in an unsolicited offer than in a friendly deal. In fact, (49.81% vs. 38.90%). the takeover premium measured as

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[9] Abnormal returns in the event window (-1, +1) are 17.20 percent for terminated deal and 20.1 percent for completed deal. The difference is statistically different at 5 percent level.

the percentage difference between the initial offering price and the stock price one week before the acquisition is larger for unsolicited deal (49.81% vs. 38.90%).[10] The difference is statistically significant at 5 percent level. When the announcement returns are regressed on the dummy for unsolicited acquisition and the premium, the premium is highly significant but the dummy for unsolicited acquisition is not significant. Another possible explanation is that the market expects the beginning of a takeover battle when the offer is unsolicited. Indeed, a competing offer from another bidder arrives for 25.85 percent of targets of unsolicited bids and for only 16.53 percent of targets in friendly deals. However, the coefficient for rival offers is not significant when the takeover premium is included. Thus, the takeover premium explains the difference in abnormal returns at the time of acquisition announcements.

Panel C of Table 2 subdivides the CARs at the time of the acquisition announcement according to the reason of the deal termination. Obviously, at the time of the announcement, the fact that the deal will be terminated is unknown, and so it is the party that will terminate the deal. Thus, I do not expect that abnormal returns will be different. In an unreported analysis, I compute the tests for differences in mean and median between subsamples. Apart the no reason group where the number of observation is very small, the only group reporting a CAR significantly lower than the others is the mutually rejected subsample. However, as mutually rejected deals are almost all friendly acquisitions, the lower return depends on the fact that friendly acquisitions earn lower abnormal returns than unsolicited acquisitions. Acquisitions that will be blocked by antitrust regulators show a positive 18.35 percent abnormal return. Thus, the market does not anticipate problems with regulators.

[Please insert Table 3 about here]

Target stock price generally experience a run-up before the acquisition announcement. However, as Table 3 makes it clear, the increase begins only ten days before the acquisition

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[10] Data for takeover premia are from SDC.

announcements. Moreover, the abnormal returns before the acquisition announcement are small compared to those at the announcement. Not surprisingly, the largest reaction is for firms whose deal will be terminated because of a competing offer (Rival). These abnormal returns can be explained by the fact that some of the competing offers are announced few days before the announcement of the unsuccessful deals.

## 4.2 *Interim Period*

During the period from the acquisition announcement to the termination announcement, i.e. the interim period, information about the acquisition is often released to the market. If the news affects the probability that the acquisition is completed or changes the expectation about target firm performance, a market reaction is expected in this period. Asquith (1983) documents that in the period between the press date and the termination date target firms in unsuccessful merger show an abnormal returns of -8.17 percent. However, Ruback (1988) find negative but statistically insignificant returns during the interim period.

The interim period begins the third day after the announcement day and ends the third day before the termination day. The average length of the interim period is 76 days (median 49 days). The average interim period for unsolicited acquisitions is 68 days (median 37), while friendly acquisitions terminate after 82.5 days on average (median 57.5). The average and median length of the interim period is similar when the target rejects the deal, a rival offer is already in place, the deal is mutually rejected, or no reason is provided.[11] Deals terminated by the bidders have a longer interim period (mean 85 days, median 57 days). Not surprisingly, acquisitions vetoed by antitrust authorities have the longest interim period. These deals last on average for 260 days (median 232).


[Please insert Table 4 about here]

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[11] The mean varies between 57 and 64 days, the median between 37 and 45 days.

Table 4 reports the abnormal returns, computing using daily returns and a market model, during the interim period for the targets firms. In the interim period, the abnormal gain at the acquisition announcement is completely reversed. The average abnormal return for the full sample of 459 firms is -20.89%, statistically significant. Shareholders of target firms involved in friendly acquisitions report a loss almost three times as large as the one of shareholders in unsolicited deals (-29.18% vs. -10.62%).

In the interim period, firms that receive another offer by the termination date are the only ones that do not exhibit a reversal in their stock prices. They lost only an insignificant 2.29% during this period. Firms in bidder or mutually terminated deals perform worse than firms that reject an offer (-27.39% and -28.35% compared to -16.40%). However, the worst performers are firms whose acquisition is going to be vetoed by antitrust authorities with an abnormal return of -70.22%. While this can be partly explained by the longer interim period and by uncertainty on the firm's future created by the deal, it remains an open question why these firms lose so much.[12]

The evidence collected strongly supports the view that a termination announcement cannot be considered a surprise. Bad news about the deal is incorporated in the target firm stock price long before the termination is officially announced. Since the abnormal returns in the interim period are more than enough to offset any initial gains, the market reaction at the termination announcement assumes a particular importance to distinguish between the competing hypotheses.

### 4.3 *Termination Announcements*

How does the market react when the termination of the deal is announced? The previous section has shown that there is little or no doubt that the deal is doomed. Thus, according to the synergy hypothesis, there should be no significant market reaction at the time of the termination

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[12] The coefficient for the length of the interim period is highly significant when the interim abnormal returns are regressed on a constant and the length of the period.

announcement, because the market has already corrected the market valuation of the target firm. The negative abnormal performance in the interim period may also be a market signal that the deal is bad for the target and not a reaction to information about the deal and future performance, termination announcements will be greeted with positive abnormal returns. This learning argument is similar to the one proposed by Luo (2005) for bidding firms.

Table 5 show CARs for the target firms in the event-window [-2, +2] around the termination announcement day. Although the market has already discounted the fact that the deal is not going to be completed, the termination announcement is still a bad news for the target firm. Target firms lose around 7 percent of their market value. Safieddine and Titman (1999) find an average decline of 5.14 percent around the date of the termination announcement. In their sample of 92 firms for the period 1987-1996, Akhigbe *et al*. (2000) also document a loss of 4.83 percent in the event window [-1, +1].


[Please insert Table 5 about here]


Panel B documents a large difference in the CAR for targets in friendly deals and in unsolicited takeover offers (5.43 percent). The termination of a friendly deal causes a larger decline in the target stock price than the one of an unsolicited acquisition (-9.47% vs. -4.04%). This is quite surprising, since friendly deals have a lower CAR at the acquisition announcement and their loss during the interim period is almost three times that of unsolicited deals. The loss of synergies cannot alone explain this evidence. New information about the target firms' future has to be released to justify these price movements. Although not all the unsolicited offers become hostile offers,[13] Schwert (2000) use unsolicited bids as one of his five definitions of hostility. Panel B suggests that, when the deal breaks down, hostility matters.

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[13] Sometimes the unsolicited offer is made under the condition than the target management does not reject the offer.

If the market reaction depends on the information released to the market after the initial announcement, abnormal returns are expected to be different according to the termination reasons, my proxy for the type of information. The evidence in Panel C supports this hypothesis. Targets that rejected the offer experience an average decline of 4.33 percent. Although negative and significant, this abnormal return is relatively small compared to and statistically different from other reasons of termination. When bidders terminated the deal, the target stock price drops 14.55 percent. The worst reaction takes place when no reason for the break up is given to the market, -21.26 percent. However, there are only eight terminations in which the parties do not say why the deal was cancelled.

The motivation behind the soft-landing for targets that reject the offer is related to the fact that a target rejection is more easily associated with incumbent managers who want to save their jobs than bad news about the future of the target firm. Moreover, the target also remains a potential takeover target for other bidders. Conversely, the bidder usually terminates the deal when it discovers something bad during the negotiation. Thus, the target firm competitive position is weakened. The likelihood of receiving another offer is substantially reduced at the time of the termination announcement.

Terminations due to rival offers do not report negative abnormal returns. The positive market reaction depends on the fact that the cancellation day is often the day the competing bid is announced. Firms that have a higher bid by a rival firm outstanding when the deal is terminated report a positive abnormal return of 6.10%. This result is consistent with the evidence presented by Ofek (1994), who finds that targets of unsuccessful management buy-outs that received another bid report a positive abnormal return.

Results in Panel C also explain why unsolicited offers report a smaller decline than friendly acquisitions. Unsolicited offers are more likely to be rejected by target managements. The hypothesis that this unsolicited offers rejected by the target are not serious acquisition attempts is easily turned down. In fact, at the announcement date, the CAR is the highest

(19.23%, Table 2, Panel C).[14] Average and median CARs for the rejected by target and rival offer subsamples are different from those of other subsamples. No significant difference is found between no reason, mutually rejected, and terminated by bidders.

### 4.4 *CARs from Acquisition Announcement to Termination*

Table 6 presents the sum of the abnormal returns in the three intervals considered: the acquisition announcement, the interim period, and the termination announcement. To put it differently, the table shows the abnormal returns from two days before the day of the acquisition announcement to two days after the termination announcement.[15] The result clearly indicates that failed M&A deals are costly to the target firm shareholders. On average, shareholders lose 10.61%. Thus, a failed deal leaves the target company weaker than before the deal was announced. The negative and significant abnormal returns from announcement to termination date contrasts with the Jandik and Makhija (2004) finding that target firms of unsuccessful takeovers remaining independent report an abnormal return close to zero.

[Please insert Table 6 about here]

However, Panel B offers an interesting insight. Shareholders of target companies in friendly deals are those who suffer the most from the termination. When the deal starts as unsolicited, target firms realize a total gain of 4.88%. Panel C shows that firms with a competing bid reports a significant gain (22.28%). This positive return is explained by the fact that the rival bidder usually tops the unsuccessful bidder offer to win the takeover battle. Contrary to the belief that target firm management destroy value rejecting an offer, Panel C shows that shareholders do not suffer any significant loss following a rejection. However,

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[14] For the 97 target firms that rejected the unsolicited offer the CAR at the acquisition announcement is 20.00% (p-value significant at 0.1 percent level). The CAR at the withdrawn announcement is -5.16% (p-value significant at 0.1 percent level).

[15] Results do not change if I include the pre-acquisition period in the sum.

differently from the evidence presented in Dodd (1980), there is no a permanent revaluation of target shares. Prices go back to the pre-offer level. Finally, a failed deal results in a large loss when bidders or regulators terminate the acquisition. The loss goes from 25.56% when the bidder terminates the deal to 55.9% when antitrust authorities block the deal.

[Please insert Table 7 about here]

Bradley et al. (1983) find that target firms that will receive subsequent offers do not dissipated the abnormal returns earned at the time of the acquisition announcement. Indeed, Table 7 shows that target firms that will be acquired realize a positive return of 6.20 percent. However, this positive abnormal return is only reported by firms receiving unsolicited offers. Panel C gives additional evidence decomposing the sample according to the termination reason. Although performing better than firms that will remain independent entities, firms that were taken over within three years of the termination date completely dissipate their gains, reporting negative and significant abnormal returns when antitrust authorities or the bidder terminated the deal. The only firms documenting a positive abnormal return are those which have already an offer in place by the time of the termination date. The evidence suggests that the permanent revaluation found by Bradley et al. (1983) is due to offers already in place at the time of termination date.[16]

While the fact that there is no permanent revaluation of the shares of targets is consistent with a synergy-based theory of acquisitions, as proposed by Bradley et al. (1983), the loss borne by the target shareholders cannot be entirely explained by a synergy-based theory. In fact, the loss of the synergy cannot explain why target stock prices after the termination are lower that the pre-offer level. Thus, it is the information contained in the announcements released during the acquisition attempt that drives down the prices.

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[16] Bradley et al. (1983) do not report the timing of the competing offers. They only report that the unsuccessful bid is the initial one. This does not prevent that before the unsuccessful bid is terminated, another bidder has already made its offer.

## 5. Multivariate Analysis

The previous section shows that there exist differences in the returns for target firms of unsuccessful takeovers. However, the event study analysis does not control for characteristics of the target firms that may affect the results, like leverage, liquidity, size, operating performance. Tables 8 and 9 report the results of the regression of CARs on the dummies for termination reasons and a series of control variables.

[Please insert Table 8 about here]

Results in Table 8 confirm that the reason of the termination helps explaining the CAR around the termination date. In fact, the R-squared increases from 0.0226 (Column I) to 0.1614 (Column V) when the dummies for the termination reasons are included. However, only the coefficient of the dummies *No Reason* and *Terminated by Bidder* is significant (at 10% level). *Terminated by Bidder* becomes significant at the 5% level when the variables, *TAKEN OVER*, a dummy for acquisition within 3 years of the termination announcement, and *PREMIUM*, the takeover premium offered by the bidder at the time of the acquisition announcement, are introduced in Columns VI and VII, respectively. The dummy for the type of initial bid, *Unsolicited*, loses his statistically significance when the identity dummies are included in the regression (Column IV). Thus, at the time of the termination announcement the type of initial bid does not play an important role when the identity of the terminating party is taken into account. As expected, the loss of a larger premium results in a smaller CAR at the termination announcement.

Among the control variables, only the return on assets (*ROA*) is significant in Column VII. However, the coefficient is negative, implying that a good operating performance in the year before the termination announcement leads to a larger drops in stock price at the time of the announcement. While this may suggest that operating profits are or are believed to be manipulated before an acquisition, in an unreported regression, I find that the coefficient for the

interaction between ROA and the dummy for bidder's termination is positive and significant.[17] Since the deals terminated by the bidder are likely to be the most interested by manipulations of the target firms' company accounts, the argument that target firms manipulated their books before an acquisition is not supported. Finally, confirming previous evidence, the dummy for subsequent acquisitions within three years of the termination announcement is positive and significant at ten percent level (Columns VI and VII).

[Please insert Table 9 about here]

Table 9 presents the results of the regression using the abnormal return from two days before the announcement to two days after the termination as dependent variable. The dummy for unsolicited offers is always positive and significant, even when the dummies for the termination reasons are introduced. This means that, regardless of the reason of the termination, a failed friendly deal has more negative implications for the target firm than an unsuccessful hostile takeover. In Columns V and VI, all the dummies for the reasons of termination are significant and negative with the exception of rival. When *Premium* is introduced, rival becomes negative and significant as well. The dummy for subsequent acquisition, *TAKEN OVER*, is positive and significant in Columns VI and VII. This confirms the results of the event-study analysis, in which firms subsequently taken over by other bidders are the only, that experience a permanent revaluation. Among the other control variables, *LIQUIDITY* is always positive and significant at the 5 percent level. Thus, having cash reserves help target firms facing the termination of an acquisition proposal. However, this is not enough to support the hypothesis that cash can be used to deter takeovers. In an untabulated regression, I find that the coefficient for the interaction term *LIQUIDITY\*REJECTED* is not significant. Since acquisitions where the target management rejects the deal are those where *LIQUIDITY* should serve as defense measure, there is no evidence to support the view that target managements use

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[17] The coefficient for ROA is still negative but significant at 1 percent level.

cash to resist takeovers. The finding is consistent with the hypothesis that the market expect cash-rich firms to be better positioned than cash-poor firms to continue as a stand-alone firm (or to find another suitor). The book-to-market ratio is positive and significant. Thus, value firms gains higher CARs during the period from the announcement to the termination of the acquisition than growth firms.

## 6. Post-event Stock Price Performance

The final step of the analysis is to examine the long-run effects of a failed M&A deal on the target firm stock market price. The long-run analysis is important to determine whether the losses are temporary or long-lasting. Differently from the measurement of short-run abnormal returns, there is no generally accepted methodology for long-run returns (see Mitchell and Stafford (2000) for a discussion). To test the long-run abnormal returns, I use the calendar-time portfolio regression approach based on a three-factor model as suggested by Fama (1998) and Mitchell and Stafford (2000).

For each month from January 1990 to December 2004, I form an equally-weighted portfolio of all firms targeted in an unsuccessful acquisitions. Target companies are added to the portfolio starting from the month following the termination announcement and dropped either after 36 months or when they are delisted from CRSP. The excess portfolio returns are regressed on the Fama and French (1993) three-factor model, as in Equation 1:

$$R_{p,t} - R_{f,t} = \alpha_p + \beta_p(R_{m,t} - R_{f,t}) + \gamma_p SMB_t + \delta_p HML_t + \varepsilon_{p,t} \qquad (1)$$

$R_{p,t}$ is the target firms' portfolio return in month $t$; $R_{f,t}$ is the free-risk rate; $R_{m,t}$ is the market return; $SML_t$ is the difference between a portfolio of small stock and large stocks; $HML_t$ is the difference of a portfolio of high book-to-market stocks and low book-to-market stocks. The

factors $SML_t$ and $HML_t$ are computed as in Fama and French (1993). The intercept $\alpha_p$ measures the average monthly abnormal return on the target firms' portfolio. The free-risk rate used is the return of the one-month Treasury bill rate. Monthly data for the factors used in the regression are from Kenneth French's website.

As in Mitchell and Stafford (2000), I estimate the expected intercept as the mean intercept from 1,000 calendar-time portfolio regressions of random samples of similar nonevent firms. Portfolios of randomly selected firms have the same size and book-to-market composition of the event portfolio. Mitchell and Stafford (2000) calculate the t-statistic for the adjusted intercept, i.e. the difference between the estimated intercept $\hat{\alpha}$ and the expected intercept $\hat{\alpha}_0$, as:

$$t = \frac{\hat{\alpha} - \hat{\alpha}_0}{\hat{s}} \tag{2}$$

where $\hat{s}$ is the standard error estimate of the estimated intercept.


[Please insert Table 10 about here]


Table 10 reports the calendar-time regressions results.[18] Panel A presents the results using all the monthly portfolios. Panel B presents the results using monthly portfolios with at least 10 observations, as suggested by Mitchell and Stafford (2000) to mitigate the Heteroskedasticity problem.[19]

The full sample of 459 target firms (*All*) reports negative but insignificant abnormal performance, both when all the monthly portfolios are included (-0.0666% monthly, -0.80 annually) and when only portfolios with at least 10 observations are included (-0.3352% monthly, -4.02% annually).

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[18] I also run calendar time regressions using a four factor model including momentum. Results for adjusted alphas are similar. I omit the results in the sake of brevity.
[19] The subsample for antitrust terminated deals and the no-reason subsample do not have monthly portfolios satisfying the 10-firm requirement.

The adjusted alpha for the various subsamples in Panel A is only significant for two of them: *Rival* and *TO*. Firms that received another offer by the time of the termination exhibit a negative abnormal performance in the long-run (-1.43% monthly, -17.18% annually). While quite surprising, this result is mainly determined by two factors. First, firms that are taken over are delisted shortly after the termination and generally do not report significant changes in their stock prices. Second, the 16 firms that are not taken over trade for a longer period in which at least another termination announcement takes place. However, since even the merger subsample reports a negative adjusted alpha (not significant), a third factor causing the negative performance is that the market expects either further offers or a higher final price. When this expectation does not realize, prices goes down. The positive and significant coefficient for firms that will be taken over within three years is consistent with the arrival of new takeover offers (1.66% monthly, 19.92% annually).

In Panel B, where at least 10 observations in a monthly portfolio are required, no adjusted alpha is significant. The coefficient for *Rival* and *TO* subsamples loses their significance. It is not surprising that the coefficient for the *TO* subsample is no longer significant. In fact, a larger number of firms in the monthly portfolio obviously reduces the impact of the acquisition announcement for a firm. Consistent with the fact that firms that received an offer before the termination date are taken over briefly after this date, the number of monthly portfolios with at least 10 firms is only 23, preventing any meaningful conclusions.

Generally, Table 10 also suggests that firms that suffer heavily at the time of the termination do not seem to be able to recoup their losses in the long run. This result is particularly important because it stresses once more the importance of the price changes around failed M&A deals

## 7. Conclusion

The paper studies target firms in 459 unsuccessful M&A deals in the period 1990-2002. Target shareholders report large losses when an acquisition attempt fails, and the losses are not limited to the takeover premium offered by the bidder. At the time of the termination announcement, target firm share prices are lower than the pre-offer levels. In fact, from the acquisition announcement to the termination, target firms have an abnormal report of -10.61%. This result cannot be explained by the synergy theory alone as in Bradley *et al.* (1983). The negative abnormal return for the period from the acquisition announcement to the termination is consistent with the hypothesis that during failed deal new information about the target firm is released.

The evidence does not support the permanent share revaluation found by Dodd (1980) for target firms whose management rejects the offer. Contrary to Bradley et al (1983), acquisition announcement returns are dissipated even if a subsequent offer arrives within three years of the termination announcement, except when a rival offer has already been made by the time of the termination.

The market reaction is different according to the party which terminates the deal. This result is consistent with the hypothesis that new information released during the acquisition attempt drives the stock price performance of the target firm. At the time of the termination, stock prices of targets that reject an offer decline less than those of targets involved in bidder terminated deals. Thus, it seems that a bidder termination contains more negative information for the shareholder of the target firms than a rejection by the target management. The market reaction of firms that already have a competing offer in place is positive. The positive abnormal return can be explained by the two facts. First, the termination of one offer increase the probability that the rival offer will be completed, ending the takeover battle. Second, the termination announcement is made just after the rival offer is announced.

The reason of termination is correlated with the fact that the initial offer is unsolicited or friendly. The termination announcement reaction is consistent with the hypothesis that the termination of a friendly deal is a much bigger surprise than the cancellation of an unsolicited acquisition attempt.

Finally, the termination announcement is not a complete surprise. Abnormal returns during the period between the announcement and the termination are large and negative. In fact, the gain at the time of the bid announcement is completely dissipated before the deal is officially cancelled. Moreover, abnormal returns at the termination announcement have the same sign as of those of abnormal returns during the interim period.

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## Table 1 - Sample Firms

Panel A subdivides the number and the percentage of the 459 M&A deals that were terminated for the period 1989 to 2001 according to the reason of termination. Panel B reports the number of target that were delisted from CRSP due to bankruptcy (or related delisting code), merger or were still trading at the end of the 36th month after the merger withdrawn. Panel C reports descriptive statistics of target firms. Size ($m) is the log of the market value of the common equity two months before the termination month. Total Assets ($m) is the book value of firm's assets. Leverage is measured as the book value of total debt scaled by the book value of assets. Cash Holdings is the ratio of cash & equivalents to total assets. Liquidity is measured as the ratio of net liquid assets to total assets. The Return on assets (ROA) is the ratio of Operating Income After Depreciation over total operating assets. Book-to-Market is measured as the ratio of the book value of equity to the year-end market value of common stock. Sales Growth is measured as the change in sales over the prior fiscal year. Total Assets, Leverage, Liquidity, Roe, Book-to-Market, and Sales Growth, are all measured at the end of the fiscal year prior to the termination announcement.

### Panel A: Reason of Termination

|  | Friendly | Unsolicited | Total | % Total |
|---|---|---|---|---|
| Antitrust | 16 | 0 | 16 | 3.49% |
| Mutually Rejected | 75 | 4 | 79 | 17.21% |
| No Reason | 6 | 2 | 8 | 1.74% |
| Rejected Target | 25 | 97 | 122 | 26.58% |
| Rival Offer | 42 | 53 | 95 | 20.70% |
| Term. by Bidder | 90 | 49 | 139 | 30.28% |
| Total | 254 | 205 | 459 | 100.00% |

### Panel B: Target Firms' Status after 36 months

|  | Bankruptcy | Merger | Trading | Total |
|---|---|---|---|---|
| Antitrust | 0 | 5 | 11 | 16 |
| Mutually Rejected | 8 | 19 | 52 | 79 |
| No Reason | 1 | 1 | 6 | 8 |
| Rejected Target | 17 | 40 | 65 | 122 |
| Rival Offer | 3 | 79 | 13 | 95 |
| Term. by Bidder | 21 | 48 | 70 | 139 |
| Total | 50 | 192 | 217 | 459 |

### Panel C: Descriptive Statistics

|  | No. Obs. | Mean | Median | Std. Deviation |
|---|---|---|---|---|
| Total Assets | 451 | 1056.231 | 142.262 | 3770.017 |
| Leverage | 450 | 0.217 | 0.181 | 0.208 |
| ROA | 435 | 0.0289 | 0.089 | 0.513 |
| Sales Growth | 431 | 0.143 | 0.111 | 0.697 |
| Cash Holdings | 450 | 0.1311 | 0.0448 | 0.1892 |
| Liquidity | 440 | 0.216 | 0.206 | 0.267 |
| Book-to-Market | 459 | 0.692 | 0.544 | 0.644 |
| Size | 459 | 859.66 | 97.95 | 3380.705 |

## Table 2 - Cumulative Abnormal Returns of Acquisition Announcements

Cumulative abnormal returns for target firms of unsuccessful M&A at the time of the acquisition announcement in the period 1989 to 2001. CARs are calculated for the five days (-2, +2) around the announcement day of a takeover. Abnormal returns are estimated using the market model with an equally weighted index. All targets are U.S. listed firms. Panel A reports the results for all targets in the sample. Panel B reports the results for the subsamples of friendly announcements and unsolicited announcements. Panel C shows the results for acquisitions partitioned according to the reason of the termination. Results for the t-test and Wilcoxon rank test for the median are shown. ***, **, *, denote the statistical significance of the coefficient at 1%, 5%, 10%, using a 2-tailed test.

| | No. Obs. | Av. CAR | t-test | Median CAR | Wilcoxon |
|---|---|---|---|---|---|
| **Panel A: All** | | | | | |
| All | 459 | 17.32%*** | 38.902 | 14.15%*** | 14.709 |
| **Panel B: Friendly vs. Unsolicited** | | | | | |
| Friendly | 254 | 15.53%*** | 23.986 | 12.66%*** | 9.335 |
| Unsolicited | 205 | 19.55%*** | 30.389 | 15.51%*** | 11.650 |
| **Panel C: Identity of the Terminator** | | | | | |
| Antitrust | 16 | 18.35%*** | 13.628 | 20.88%*** | 3.128 |
| Mutually Rejected | 79 | 12.76%*** | 10.318 | 10.39%*** | 4.200 |
| No Reason | 8 | 7.45%** | 2.203 | 4.90% | 1.05 |
| Rejected by target | 122 | 19.23%*** | 22.676 | 16.76%*** | 8.817 |
| Rival Offer | 95 | 18.46%*** | 20.109 | 14.86%*** | 7.403 |
| Terminated by bidder | 139 | 17.27%*** | 17.659 | 11.57%*** | 7.780 |

## Table 3 - Pre-acquisition announcement Cumulative Abnormal Returns

Cumulative abnormal returns for target firms of unsuccessful M&A at the time of the acquisition announcement in the period 1989 to 2001. CARs are calculated for the five days (-2, +2) around the announcement day of a takeover. Abnormal returns are estimated using the market model with an equally weighted index. All targets are U.S. listed firms. Panel A reports the results for all targets in the sample. Panel B reports the results for the subsamples of friendly announcements and unsolicited announcements. Panel C shows the results for acquisitions partitioned according to the reason of the termination. Results for the t-test and Wilcoxon rank test for the median are shown in the table. ***, **, *, denote the statistical significance of the coefficient at 1%, 5%, 10%, using a 2-tailed test.

| | | No. Obs. | Av. CAR | t | Med. CAR | Wilcoxon |
|---|---|---|---|---|---|---|
| **Panel A: All** | | | | | | |
| All | (-30, -3) | 459 | 4.84%*** | 4.597 | 3.46%*** | 3.937 |
| | (-30, -11) | 459 | 0.84% | 0.939 | 0.54% | 0.488 |
| | (-10, -3) | 459 | 4.01%*** | 7.116 | 2.06%*** | 6.067 |
| **Panel B: Friendly vs. Unsolicited** | | | | | | |
| Friendly | (-30, -3) | 254 | 3.89%** | 2.537 | 3.53%*** | 2.88 |
| | (-30, -11) | 254 | 0.15% | 0.119 | 2.07% | 1.23 |
| | (-10, -3) | 254 | 3.73%*** | 4.557 | 1.92%*** | 3.875 |
| Unsolicited | (-30, -3) | 205 | 6.03%*** | 3.962 | 3.31%*** | 2.615 |
| | (-30, -11) | 205 | 1.68% | 1.307 | 0.87% | 0.695 |
| | (-10, -3) | 205 | 4.35%*** | 5.345 | 2.13%*** | 4.787 |
| **Panel C: Identity of the Terminator** | | | | | | |
| Antitrust | (-30, -3) | 16 | 4.07% | 0.977 | 1.82% | 0.957 |
| | (-30, -11) | 16 | -0.43% | -0.122 | -2.05% | 0.284 |
| | (-10, -3) | 16 | 4.49%** | 2.020 | 0.77% | 0.957 |
| Mut. Rejec. | (-30, -3) | 79 | 4.76% | 1.625 | 4.01%* | 1.718 |
| | (-30, -11) | 79 | 1.02% | 0.411 | 1.43% | 1.136 |
| | (-10, -3) | 79 | 3.74%** | 2.391 | 1.37% | 1.361 |
| No Reason | (-30, -3) | 8 | 7.57% | 0.871 | 2.11% | -0.07 |
| | (-30, -11) | 8 | 8.60% | 1.171 | 2.56% | -0.07 |
| | (-10, -3) | 8 | -1.03% | -0.221 | 1.88% | 0.49 |
| Rejec.Target | (-30, -3) | 122 | 2.47% | 1.233 | 3.48%** | 2.48 |
| | (-30, -11) | 122 | 0.34% | 0.307 | -0.69% | 0.095 |
| | (-10, -3) | 122 | 2.14%* | 1.991 | 2.88%*** | 4.676 |
| Rival | (-30, -3) | 95 | 7.54%*** | 3.472 | 1.88% | 1.138 |
| | (-30, -11) | 95 | 1.12% | 0.612 | 0.93% | 0.529 |
| | (-10, -3) | 95 | 6.42%*** | 5.527 | 2.75%** | 2.448b |
| Term. Bidder | (-30, -3) | 139 | 5.06%** | 2.187 | 4.60%*** | 2.204 |
| | (-30, -11) | 139 | 0.67% | 0.344 | 2.24% | 0.478 |
| | (-10, -3) | 139 | 4.39%*** | 3.549 | 1.87%*** | 3.247 |

## Table 4 - Interim Period

Cumulative abnormal returns for target firms of unsuccessful M&A in the interim period between the acquisition announcement and the termination announcement in the period 1989 to 2001. CARs are calculated from the third days after the announcement date to the third days before the termination date. Abnormal returns are estimated using the market model with an equally weighted index. All targets are U.S. listed firms. Panel A reports the results for all targets in the sample. Panel B reports the results for the subsamples of friendly announcements and unsolicited announcements. Panel C shows the results for acquisitions partitioned according to the reason of termination. Results for the t-test and Wilcoxon rank test for the median are shown in the table. ***, **, *, denote the statistical significance of the coefficient at 1%, 5%, 10%, using a 2-tailed test.

| | No. Obs. | Av. CAR | t-test | Median CAR | Wilcoxon |
|---|---|---|---|---|---|
| Panel A: All | | | | | |
| All | 459 | -20.89%*** | -12.318 | -12.25%*** | 11.523 |
| Panel B: Friendly vs. Unsolicited | | | | | |
| Friendly | 254 | -29.18%*** | -11.675 | -25.78%*** | 10.204 |
| Unsolicited | 205 | -10.62%*** | -5.361 | -5.37%*** | 5.490 |
| Panel C: Identity of the Terminator | | | | | |
| Antitrust | 16 | -70.22%*** | -7.165 | -54.43%*** | 3.490 |
| Mutually Rejected | 79 | -27..39%*** | -6.414 | -26.02%*** | 6.062 |
| No Reason | 8 | -18.01%* | -2.208 | -16.62% | 1.610 |
| Rejected by target | 122 | -16.40%*** | -5.163 | -8.17%*** | 5.339 |
| Rival Offer | 95 | -2.29% | -0.820 | 0.65% | 0.121 |
| Terminated by bidder | 139 | -28.35%*** | -9.759 | -9.85%*** | 8.272 |

**Table 5 - Cumulative Abnormal Returns of Termination Announcements**

Cumulative abnormal returns for target firms of unsuccessful M&A at the time of the termination announcement in the period 1990 to 2001. CARs are calculated for the five days (-2, +2) around the announcement day of a takeover. Abnormal returns are estimated using the market model with an equally weighted index. All targets are U.S. listed firms. Panel A reports the results for all targets in the sample. Panel B reports the results for the subsamples of friendly announcements and unsolicited announcements. Panel C shows the results for acquisitions according to the reason of termination. Results for the t-test and Wilcoxon rank test for the median are shown in the table. ***, **, *, denote the statistical significance of the coefficient at 1%, 5%, 10%, using a 2-tailed test.

| | No. Obs. | Av. CAR | t-test | Median CAR | Wilcoxon |
|---|---|---|---|---|---|
| *Panel A: All* | | | | | |
| All | 459 | -7.05%*** | -14.746 | -5.27%*** | 8.347 |
| *Panel B: Friendly vs. Unsolicited* | | | | | |
| Friendly | 254 | -9.47%*** | -13.396 | -7.95%*** | 6.945 |
| Unsolicited | 205 | -4.04%*** | -5.244 | -3.61%*** | 4.625 |
| *Panel C: Identity of the Terminator* | | | | | |
| Antitrust | 16 | -9.64%*** | -5.295 | -13.23%*** | 2.715 |
| Mutually Rejected | 79 | -11.98%*** | -9.587 | -11.43%*** | 4.406 |
| No Reason | 8 | -21.26%*** | -7.156 | -19.10%** | 2.450 |
| Rejected by target | 122 | -4.33%*** | -4.718 | -3.60%*** | 4.096 |
| Rival Offer | 95 | 6.10%*** | 6.151 | 3.62%*** | 3.858 |
| Terminated by bidder | 139 | -14.49%*** | -14.949 | 14.04%*** | 7.778 |

# Table 6 - CARs from Acquisition Announcement to Termination

Abnormal returns are the sum of the abnormal returns at the time of the acquisition announcement, the interim period abnormal returns, and the abnormal returns at the time of the termination announcement. Abnormal returns are estimated using the market model with an equally weighted index. All targets are U.S. listed firms. Panel A reports the results for all targets in the sample. Panel B reports the results for the subsamples of friendly announcements and unsolicited announcements. Panel C shows the results for acquisitions partitioned according to the reason of termination. Results for the t-test and Wilcoxon rank test for the median are shown in the table. ***, **, *, denote the statistical significance of the coefficient at 1%, 5%, 10%, using a 2-tailed test.

| | No. Obs. | Av. CAR | t-test | Median CAR | Wilcoxon |
|---|---|---|---|---|---|
| **Panel A: All** | | | | | |
| All | 459 | -10.61%*** | -5.061 | -9.34%*** | 5.049 |
| **Panel B: Friendly vs. Unsolicited** | | | | | |
| Friendly | 254 | -23.12%*** | -7.637 | -24.24%*** | 7.788 |
| Unsolicited | 205 | 4.88%** | -2.009 | 5.42%** | 2.415 |
| **Panel C: Identity of the Terminator** | | | | | |
| Antitrust | 16 | -55.90%*** | -4.961 | -48.31%*** | 3.390 |
| Mutually Rejected | 79 | -26.61%*** | -5.550 | -25.61%*** | 5.158 |
| No Reason | 8 | -31.82%*** | -3.952 | -33.96%** | 2.310 |
| Rejected by target | 122 | -1.50% | -0.444 | 0.80% | 0.046 |
| Rival Offer | 95 | 22.28%*** | 5.416 | 20.47%*** | 5.533 |
| Terminated by bidder | 139 | -25.56%*** | -7.418 | -22.33%*** | 6.811 |

## Table 7 - Acquisitions in the three-year Interval after Termination

Abnormal returns are the sum of the abnormal returns at the time of the acquisition announcement, the interim period abnormal returns, and the abnormal returns at the time of the termination announcement. Abnormal returns are estimated using the market model with an equally weighted index. All targets are U.S. listed firms. Panel A reports the results for all targets in the sample. Panel B reports the results for the subsamples of friendly announcements and unsolicited announcements. Panel C shows the results for acquisitions partitioned according to the reason of the terminator. Results for the t-test and Wilcoxon rank test for the median are shown in the table. ***, **, *, denote the statistical significance of the coefficient at 1%, 5%, 10%, using a 2-tailed test.

| | | No. Obs. | Av. CAR | t-test | Median CAR | Wilcoxon |
|---|---|---|---|---|---|---|
| **Panel A: All** | | | | | | |
| All | No Acq. | 267 | -22.70% | -8.413*** | -20.92% | 7.866*** |
| | Acq. | 192 | 6.20% | 2.119** | 5.19% | 2.180** |
| **Panel B: Friendly vs. Unsolicited** | | | | | | |
| Friendly | No Acq. | 161 | -36.05%*** | -10.738 | -33.70%*** | 8.865 |
| | Acq. | 93 | -0.72% | -0.141 | -6.67% | 0.743 |
| Unsolicited | No Acq. | 106 | -2.43% | -0.65148 | -1.52% | 0.548429 |
| | Acq. | 99 | 12.70% | 4.414*** | 12.11% | 3.618*** |
| **Panel C: Identity of the Terminator** | | | | | | |
| Antitrust | No Acq. | 11 | -65.88%*** | -4.381 | -53.85%*** | 2.801 |
| | Acq. | 5 | -33.97%** | -3.307 | -38.11%* | 1.888 |
| Mutually Rejected | No Acq. | 60 | -33.73%*** | -6.350 | -30.22%*** | 5.341 |
| | Acq. | 19 | -4.13% | -0.447 | -16.14% | 0.825 |
| No Reason | No Acq. | 7 | -34.94%*** | -4.075 | -42.18%** | 2.113 |
| | Acq. | 1 | -10.02% | n.a. | -10.02% | n.a. |
| Rejected by target | No Acq. | 82 | -0.33% | -0.081 | 1.51% | 0.060 |
| | Acq. | 40 | -3.67% | -0.583 | 1.18% | 0.021 |
| Rival Offer | No Acq. | 16 | -8.56% | -0.740 | -11.38% | 0.8001 |
| | Acq. | 79 | 28.52%*** | 7.054 | 22.52%*** | 6.497 |
| Terminated by bidder | No Acq. | 91 | -31.92% | -7.080*** | -30.92% | 6.204*** |
| | Acq. | 48 | -13.50% | -2.851*** | -11.90% | 2.764*** |

## Table 8 - Cross-Sectional Regression - CAR around Termination Day

CARs in the event window [-2, +2] around the termination announcement are regressed on a series of variables. Unsolicited is a dummy variable that takes value 1 when the initial bid is unsolicited and 0 when the offer is friendly. Size is the log of the market value of the common equity two months before the termination. Rival, Terminated, Antitrust, No Reason, and Rejected are dummy variables for the termination reason. Leverage is book value of total debt over the book value of assets. Liquidity is measured as the ratio of net liquid assets to total assets. ROA is operating profit after depreciation over operating assets. Book-to-Market is the ratio of the book value of equity to the year-end market value of common stock. Sales Growth is measured as the change in sales over the prior fiscal year. Leverage, Liquidity, ROA, Book-to-Market, and Sales Growth, are measured at the end of the fiscal year prior to the termination announcement. The premium is the percentage difference between the initial offering price and the stock price one week before the acquisition. White Heteroskedasticity-Consistent Standard Errors are in parenthesis. a, b, c, denote statistical significance at the 1%, 5%, 10% levels, respectively, using a 2-tailed test.

| | I | II | III | IV | V | VI | VII |
|---|---|---|---|---|---|---|---|
| CONSTANT | -0.2073*** | -0.2606*** | | | | | |
| | (0.0788) | (0.0899) | | | | | |
| SIZE | 0.0093 | 0.0134** | | | -0.0001 | -0.0002 | 0.0045 |
| | (0.0062) | (0.0067) | | | (0.0063) | (0.0063) | (0.0070) |
| LEVERAGE | 0.0238 | 0.0383 | | | 0.007 | 0.0087 | 0.0351 |
| | (0.0531) | (0.0558) | | | (0.0554) | (0.0553) | (0.0626) |
| LIQUIDITY | 0.0245 | 0.046 | | | 0.0337 | 0.0325 | 0.0619 |
| | (0.0407) | (0.0437) | | | (0.0579) | (0.0577) | (0.0651) |
| ROA | -0.0508** | -0.0905*** | | | -0.0429 | -0.0448 | -0.098* |
| | (0.0209) | (0.0307) | | | (0.0423) | (0.0432) | (0.0581) |
| BM | 0.0204 | 0.0205 | | | 0.0089 | 0.0082 | 0.0232 |
| | (0.0168) | (0.018) | | | (0.0164) | (0.0161) | (0.0172) |
| SALES GR. | 0.0071 | 0.002 | | | 0.0105 | 0.0119 | 0.0078 |
| | (0.015) | (0.0168) | | | (0.0118) | (0.0121) | (0.0121) |
| UNS. | | 0.0620*** | | 0.0086 | 0.0145 | 0.0129 | 0.0357 |
| | | (0.0215) | | (0.0207) | (0.0213) | (0.0212) | (0.0225) |
| PREMIUM | | -0.0007** | | | | | -0.0010*** |
| | | (0.0003) | | | | | (0.0003) |
| ANTITRUST | | | -0.0964*** | -0.0964*** | -0.0998 | -0.1089 | -0.1452 |
| | | | (0.0241) | (0.0241) | (0.1011) | (0.1016) | (0.1188) |
| MUTUALLY | | | -0.1198*** | -0.1203*** | -0.1175 | -0.1243 | -0.1664 |
| | | | (0.0312) | (0.0313) | (0.093) | (0.0934) | (0.1066) |
| NO REASON | | | -0.2126*** | -0.2125*** | -0.2342** | -0.2375** | -0.2828*** |
| | | | (0.0468) | (0.0466) | (0.0955) | (0.0944) | (0.1065) |
| REJECTED | | | -0.0433*** | -0.0502** | -0.0677 | -0.0761 | -0.1335 |
| | | | (0.0117) | (0.0217) | (0.0922) | (0.0928) | (0.1081) |
| RIVAL | | | 0.0610*** | 0.0562*** | 0.0242 | -0.0006 | -0.0352 |
| | | | (0.0154) | (0.0189) | (0.0927) | (0.0949) | (0.1098) |
| TERMINATED | | | -0.1449*** | -0.1479*** | -0.1756* | -0.1856** | -0.2365** |
| | | | (0.0207) | (0.0231) | (0.0904) | (0.0909) | (0.1091) |
| TO | | | | | | 0.0324 | 0.0381* |
| | | | | | | (0.0205) | (0.0216) |
| R-squared | 0.0226 | 0.0655 | 0.1336 | 0.1339 | 0.1614 | 0.16653 | 0.2166 |
| Adj. R^2 | 0.0077 | 0.0438 | 0.1241 | 0.1224 | 0.1355 | 0.138604 | 0.184248 |
| No. Obs. | 402 | 354 | 459 | 459 | 402 | 402 | 354 |

# Table 9 - Cross-Sectional Regressions - From Announcement to Termination

CARs from two days before the acquisition announcement to two days after the termination announcement are regressed on a series of variables. Unsolicited is a dummy variable that takes value 1 when the initial bid is unsolicited and 0 when the offer is friendly. Size is the log of the market value of the common equity two months before the termination month. Rival, Terminated, Antitrust, No Reason, and Rejected are dummy variables based on the identity of the terminator. Leverage is book value of total debt over the book value of assets. Liquidity is measured as the ratio of net liquid assets to total assets. ROA is operating profits after depreciation over operating assets. Book-to-Market is the ratio of the book value of equity to the year-end market value of common stock. Sales Growth is the change in sales over the prior fiscal year. Leverage, Liquidity, Roe, Book-to-Market, and Sales Growth, are measured at the end of the fiscal year prior to the termination. Premium is the percentage difference between the initial offering price and the stock price one week before the acquisition. White Heteroskedasticity-Consistent Standard Errors are in parenthesis. a, b, c, denote statistical significance at the 1%, 5%, 10% levels, respectively, using a 2-tailed test.

| | I | II | III | IV | V | VI | VII |
|---|---|---|---|---|---|---|---|
| CONSTANT | -0.4258*** | -0.6775*** | | | | | |
| | (0.1745) | (0.1864) | | | | | |
| SIZE | 0.0141 | 0.0188 | | | -0.0028 | 0.0025 | 0.0201 |
| | (0.0137) | (0.0140) | | | (0.0125) | (0.0122) | (0.0138) |
| LEVERAGE | 0.0108 | 0.0116 | | | -0.0316 | -0.0236 | 0.0106 |
| | (0.1176) | (0.1157) | | | (0.1103) | (0.1077) | (0.1148) |
| LIQUIDITY | 0.2077** | 0.2225** | | | 0.2536** | 0.2483** | 0.2548** |
| | (0.0900) | (0.0906) | | | (0.1008) | (0.0998) | (0.1109) |
| ROA | -0.0562 | -0.0905*** | | | 0.0805 | 0.0722 | 0.1097 |
| | (0.0462) | (0.0637) | | | (0.0722) | (0.0699) | (0.1120) |
| BM | 0.1465** | 0.0677* | | | 0.0988** | 0.0959* | 0.0710* |
| | (0.0372) | (0.0374) | | | (0.0490) | (0.0495) | (0.0398) |
| SALES GR. | -0.0034 | 0.0119 | | | -0.0002 | 0.006034 | 0.0221 |
| | (0.0332) | (0.0349) | | | (0.0246) | (0.0248) | (0.0220) |
| UNS. | | 0.1903*** | | 0.1728*** | 0.1489*** | 0.1416*** | 0.0954** |
| | | (0.0445) | | (0.0456) | (0.0493) | (0.0489) | (0.0466) |
| PREMIUM | | -0.0038** | | | | | 0.0034*** |
| | | (0.0006) | | | | | (0.0008) |
| ANTITRUST | | | -0.5590*** | -0.5590*** | -0.6806*** | -0.7210*** | -1.1600*** |
| | | | (0.1098) | (0.1099) | (0.2220) | (0.2194) | (0.2516) |
| MUTUALLY | | | -0.2661*** | -0.2748*** | -0.4126** | -0.4426** | -0.7521*** |
| | | | (0.0480) | (0.0472) | (0.1762) | (0.1734) | (0.2106) |
| NO REASON | | | -0.3182*** | -0.3614*** | -0.5592*** | -0.5734*** | -0.8426*** |
| | | | (0.0758) | (0.0579) | (0.1690) | (0.1650) | (0.1960) |
| REJECTED | | | -0.0150 | -0.1524*** | -0.3136* | -0.3511** | -0.66203 |
| | | | (0.0339) | (0.0516) | (0.1701) | (0.1700) | (0.2102) |
| RIVAL | | | 0.2228*** | 0.1264** | 0.0038 | -0.10697 | -0.4904** |
| | | | (0.0412) | (0.0535) | (0.1757) | (0.1804) | (0.2246) |
| TERMINATED | | | -0.2556*** | -0.3165*** | -0.4570*** | -0.5015*** | -0.8321*** |
| | | | (0.0346) | (0.0377) | (0.1679) | (0.1681) | (0.2110) |
| TO | | | | | | 0.1443*** | 0.1756*** |
| | | | | | | (0.0440) | (0.0465) |
| | | | | | | | |
| R-squared | 0.0653 | 0.2191 | 0.2170 | 0.2429 | 0.2905 | 0.3105 | 0.3976 |
| Adj. R-squared | 0.0511 | 0.2010 | 0.2084 | 0.2329 | 0.2686 | 0.2874 | 0.3727 |
| No. Obs. | 402 | 354 | 459 | 459 | 402 | 402 | 354 |

# Table 10 – Calendar Time Portfolio Regressions

The table shows the results of the calendar time portfolio regression. For each month from January 1990 to December 2004, I form an equally-weighted portfolio of all firms targeted in an unsuccessful acquisition. Target companies are added to the portfolios starting from the month of the termination announcement and dropped either 36 months later or when they cease to be listed on CRSP. The excess portfolios returns on the one-month Treasury bill rate are regressed on the Fama and French (1993) three-factor model. The three factors are the excess return of the market; the difference between a portfolio of small stocks and big stocks, SMB; and the difference of a portfolio of high book-to-market stocks and low book-to-market stocks, HML. The factors are from Kenneth French's website. The intercept α measures the average monthly abnormal return of the target firms' portfolio. The adjusted α is the difference between the estimated intercept using the event portfolio and the average intercept estimated from 1,000 calendar-time portfolio regressions of random samples of similar (based on size, and book-to-value) non-event firms. The symbols *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

## Panel A: All

|  | All | Friendly | Unsolicited | Rejected | Rival | Antitrust |
|---|---|---|---|---|---|---|
| Alpha | 0.3144 | 0.2779 | 0.4199 | 0.7242 | -1.0823 | 0.2350 |
| Adj. Alpha | -0.0666 | -0.0783 | -0.0045 | 0.3503 | -1.4316 | 0.2847 |
| t-stat alpha | 1.0512 | 0.7476 | 1.1949 | 1.9033 | -1.8123 | 0.2404 |
| t-stat adj.alpha | -0.2228 | -0.2108 | -0.0129 | 0.9207 | -2.3973 | 0.2913 |
| No. Obs. | 178 | 177 | 178 | 176 | 149 | 113 |

|  | Bidder | Mutually | No Reason | TO | No TO |
|---|---|---|---|---|---|
| Alpha | 0.5799 | -0.0803 | 0.7951 | 2.1099 | 0.3089 |
| Adj. Alpha | 0.1242 | -0.4855 | 0.1803 | 1.6657 | -0.0285 |
| t-stat Alpha | 1.1749 | -0.1658 | 0.6131 | 3.1544 | 0.8536 |
| t-stat adj.alpha | 0.2517 | -1.0021 | 0.1390 | 2.4903 | -0.0788 |
| No. Obs. | 178 | 169 | 123 | 167 | 178 |

## Panel B: Monthly Portfolios with at least 10 observations

|  | All | Friendly | Unsolicited | Rejected | Rival | Antitrust |
|---|---|---|---|---|---|---|
| Alpha | 0.4198 | 0.5301 | 0.3114 | 0.2039 | 0.4364 |  |
| Adj. Alpha | -0.3352 | -0.2117 | -0.4893 | -0.5358 | -0.2234 |  |
| t-stat alpha | 1.5601 | 1.4799 | 0.9106 | 0.5871 | 0.3989 |  |
| t-stat adj.alpha | -1.2458 | -0.5911 | -1.4306 | -1.5432 | -0.2042 |  |
| No. Obs. | 168 | 158 | 155 | 143 | 23 |  |

|  | Bidder | Mutually | No Reason | TO | No TO |
|---|---|---|---|---|---|
| Alpha | 0.9674 | 0.4873 |  | 0.8772 | 0.3964 |
| Adj. Alpha | 0.1306 | -0.3058 |  | 0.0921 | -0.3142 |
| t-stat alpha | 1.9985 | 0.8028 |  | 1.8953 | 1.2402 |
| t-stat adj.alpha | 0.2698 | -0.5038 |  | 0.1990 | -0.9830 |
| No. Obs. | 149 | 98 |  | 96 | 165 |