

# The Benefits of Market Timing: Evidence from Mergers and Acquisitions

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## Abstract

We examine the benefits of timing the market in a Mergers and Acquisitions framework. Theoretical propositions suggest that managers of the bidding firm (should) time the market, take advantage of their overvalued equity in order to benefit from the acquisition even if no synergies are involved. On the other hand, empirical evidence heavily criticizes stock acquisitions and also short-run benefits of takeovers announced during high valuation periods disappear in the long-run. We examine short and long-run abnormal returns for acquirers who time the market vs. those who do not take advantage of a possible stock overvaluation. Our findings are consistent with the market timing theory. We find that market timers who employ equity as a means of financing the acquisition outperform those who do not time the market both in the short and in the long-run. No marketing benefits are associated with cash acquisitions and therefore, as expected, we observe a long –run reversal in bidder’s stock price.

**JEL Classification:** G14, G30, G34

**Key Words:** Market-Timing, Stock, Cash, Long-Run, Sentiment, Signaling

## 1. Introduction

The last thirty years, massive empirical literature attempts to explain motives of Mergers and Acquisitions as well as factors that affect the merger performance. Neoclassical theories suggest that M&As are driven by economic, technological or regulatory changes in the economy (Mitchell and Mulherin, 1996; Harford, 2005; Gugler et al., 2006; Owen, 2006). Through M&As, firms attempt to unlock synergistic gains invoked by such shocks. The Behavioral approach argues that a major motive for M&As is market valuations. Shleifer and Vishny (2003) propose the market timing theory which claims that bidding firms take advantage of their overvalued equity in order to acquire less overvalued target firms. Even if no synergies are involved in the takeover, shareholders of bidding firms benefit in the expense of the shareholders of the target firms. Ang and Cheng (2006) show that overvalued firms are more likely to use equity in the acquisition process. Period of high market-mispricing have been associated with high merger activity. (Rhodes-Kropf, Robinson and Viswanathan, 2005)

Rhodes-Kropf and Viswanathan (2004) raise the question of why shareholders of the target firm are willing to accept bidder's overvalued equity. They propose a model which assumes that the managers of the bidding and target firm know the stand alone value of their own firms. However, the market value of the two firms may not depict the intrinsic value of the firm but has a firm-specific and market specific misevaluation component. The management of the target firm has limited information about the misevaluation component of the bidding firm, and therefore has difficulty to assess synergies. The target firm tries to correct for this overvaluation but tends to puts more weight on high synergies. Therefore, when the market-wide component is highly overvalued, the estimation error is higher, synergies are perceived to be higher and the probability of accepting a takeover deal increases.

No matter why target accept any means of payment such as cash, overvalued, fairly valued or undervalued stock, the theoretical argument is that bidding firm's long-term shareholders should benefit when overvalued equity is employed in the acquisition process. The most often cited example in the academic literature regarding market timing in Mergers and Acquisitions is that of American Online (AOL) and Time Warner. The deal was financed with 'highly overvalued'

stock. Despite the fact that is widely considered as a deal, which created no synergy gains, strangely enough, the long-term shareholders of the acquiring firm (AOL) are believed to be better-off, had the deal not been realized. It is said that in September 2002, the shares of AOL were trading at double the price of what they would had been trading, if AOL had not undertaken the acquisition. On the other hand, estimations show that the shares of Time Warner were trading at half the price of what they would have been trading, if the deal had not been accepted. This example shows that even when no synergies are involved, bidders can benefit in the expense of target's shareholders, by taking advantage of their overvalued equity.

Despite the theoretical prediction of Shleifer and Vishny's (2003) model and the case of AOL-Time Warner, there is vast evidence in the finance literature that heavily criticizes stock acquisitions. Empirical evidence suggests negative abnormal returns for takeovers financed with equity both in the short and in the long-run. Travlos (1987) reports negative announcement abnormal returns for stock deals (-0.69%) as well as significant negative cumulative abnormal returns (-1.47%), two days surrounding the announcement date. Similarly, Fuller, Netter and Stegemoller (2002) also find significant negative cumulative abnormal returns (-1.86%) for the five days surrounding the announcement day. Moeller, Schlingemann and Stulz (2004) examine the size effect on bidders' abnormal returns. They show that small bidders gain significantly more with the exception of public stock deals. Both small and large bidders suffer significant losses when equity is offered as a means of financing the acquisition. Furthermore, Moeller, Schlingemann and Stulz (2005) show that the high synergy losses are driven by a small number of large acquisitions with extremely high valuations. Evidence about M&As long-run performance is not any more different for equity-finance acquisitions. Loughran and Vijh (1997) for mergers and tender offer and Rau and Vermaelen (1998) for value and glamour bidders reports negative abnormal returns for bidding firms in the long-run. Both studies use event-time portfolio approach. Mitchell and Stafford (2000) use a calendar-time approach and also report negative long-run abnormal returns for bidding firms that use stock as a method of payment.

The puzzling picture described above becomes even more puzzling by empirical studies which attempt to more directly examine the effect of timing the market. Bouwman, Fuller and Nain (2009) show that acquisitions announced during high valuation periods gain significantly higher abnormal returns than those announced during depressing periods. However, reversal is observed

in the long-run. Managerial herding is the predominant reason to explain the long-run underperformance. Rosen (2006) offers similar evidence. Takeovers announced during 'hot' merger periods outperform those announced during 'cold' merger periods followed by a long-run reversal. Investor sentiment is the driving force for the long-run reversal. In contrast to the market timing theory, evidence suggests that managers who time the market and announce takeovers during high valuation or 'hot' merger periods underperform those who announce takeovers during low valuation or 'cold' merger periods. The natural question that comes up is the following: should managers time the market or not? Is it more beneficial for long-term shareholders if managers timed the market and took advantage of their overvalued equity or not? In the case of AOL and Time Warner, anecdotal evidence suggests that long-term shareholders suffer negative abnormal returns but they would have been worse-off had the deal not been completed. What would the outcome be, if AOL had not timed the market, if they had not offered overvalued equity?

Savor and Lu (2009) compares a sample of successful stock deals with a sample of exogenously failed acquisitions. They show that long-term shareholders of stock deals are better-off when the deal is completed than if the deal was rejected.

The question we address in this paper is what are the benefits for bidders who time the market and offer stock as a means of financing the deal when their stock price is at a peak compared to equity-finance acquisitions who had not timed the market (share price is close to a past-low). In other words, what would the outcome be for stock acquisitions, had they not timed the market? We examine market timers vs. non-market timers in an attempt to identify the benefits or not of timing the market in the case of M&As.

We classify as (non)-market-timers bidding firms which announce a takeover when its share price is close to a historical peak (low). We employ 2 and 1 year windows to compare the price at the announcement day with past price performance. Furthermore, we employ and combine the PE ratio of the bidding firm with the above criterion as well. Therefore, if the deal meets the previous criterion and the PE ratio of the bidding firm on the announcement month is higher (lower) than the average of the last 24 or 12 monthly PE respectively, the deal is classified as a (non)-market-timing deal.

We study both short and long-run performance for market-timers and non-market-timers. We employ different short-run event windows for the short-run and 1, 3 and 5 years BHARs for the long-run.

Our findings suggest that bidders that time the market gain significantly higher abnormal returns in the short-run. That holds both for stock and cash acquirers. This evidence suggests that apart from the benefits of timing the market for stock acquisition, the outperformance of market-timers may also be driven by investor sentiment. Cash acquirers are not associated with any market-timing benefits, therefore the positive sentiment that drove to the price run-up boosts the even higher the performance of market-timers while the opposite effect is observed for non-market-timers. The long-run performance shows that market-timers who employed their overvalued equity as a means of financing the acquisition, keep outperforming those who did not, indicating that market-timers create more or destroy less value than non-market-timers, just by taking advantage their overvaluation. On the other hand, cash acquirers exhibit a long-run reversal which shows that there is a natural long-run price correction.

This paper contributes in the following ways: We provide direct evidence to the market timing theory of Shleifer and Vishny (2003). Stock Market-timers exhibit better performance than non-timers both in the short and in the long-run while this is not the case for cash acquirers. It is the second paper (after Savor and Lu, 2009) in the finance literature which provides positive evidence towards stock acquisitions, suggesting that it is worth for managers to time the market and undertake acquisitions.

The remainder of this paper is structured as follows: section 2 describes the data and methodology, section 3 analyses the empirical findings and section 4 summarizes the conclusions of our findings.

## **2. Data and Methodology**

### **A. Sample**

The sample consists of US takeovers undertaken in the period between 01/01/85-28/2/2011. The announcements were collected by Thomson Security Data Corporations (SDC). For a deal to be included in our sample, it needs to meet the following criteria:

- Both the acquirer and the target firm is US listed firm.
- The acquiring firm purchases at least 50% of the shares of the target firm.
- The deal value is at least \$1m.
- The method of financing the acquisition is either 100% in stock or 100% in cash.
- Financial and utility firms, for both bidders and targets, are excluded from the sample (Fuller at al., 2002).
- Deals with no four days return data around the announcement period are not included in our sample.

### **B. Market and non-Market Timers**

To identify market-timers and non-market-timers, we adopt the following procedure: we collect daily prices for the bidding firm for a period N days (we report results for 1 and 2 years in this paper)<sup>1</sup> before the announcement date. Then we identify the maximum (pick) and minimum (low) price during that period. We compare the stock price of the bidding firm on the announcement date with pick and low prices. If the difference between the price on the announcement date and the pick (low) price over the difference between maximum and minimum price is below a specific ( $\alpha\%$ ) percentage, this deal is classified as market-timing (non-market-timing) deal. In this paper, we report results for deals for which prices are 5% and 15%

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<sup>1</sup> We have performed the analysis for 9 and 18 months period before the announcement day. The results remain robust

away from past maximum and minimum prices. We adopt the following formulas to classify timers and non-timers.

If  $\frac{Max-P}{Max-Min} 100 < \alpha\%$ , then the deal is classified as a market timed deal.

If  $\frac{P-Min}{Max-Min} 100 < \alpha\%$ , then the deal is classified as a non-market timed deal.

For example, say, the stock price of the bidding firm for the period of two years before the announcement date fluctuates from a minimum price of 400p to a maximum price of 1000p. The range is 600p. If the stock price of the bidding firm on the announcement date is 970p (910p) or more, that means, it is 30p (90p) away from the past maximum. As a percentage relative to its range, it translates to  $\frac{30(90)}{600}$  or 5% (15%) away from a past pick. This deal is classified as a market timed acquisition and the respective bidder for the specific deals as market timer.

If the stock price of the bidding firm on the announcement date is 430p (490p) or less, that means, it is 30p (90p) away from the past minimum, as a percentage relative to its range, it translates to  $\frac{30(90)}{600}$  or 5% (15%) away from a past low. This deal is classified as a non-market timed acquisition and the respective bidder for the specific deals as non-market-timer.

However, there are a number of cases in our sample for which there is very low volatility in past prices. We construct a relative range measure which could capture these deals and are excluded from our sample.

If  $\frac{Max-Min}{Average(Max,Min)} < 0.2$ , deals are excluded from our sample

Furthermore, one might argue that if share price is close to a pick relative to its past performance, that might not depict overvaluation but simply high growth opportunities and the price is probably correctly reflecting the intrinsic value of the bidding firm. For that reason, we combine the above approach with the Price-Earnings (PE) ratio of the acquiring firm. Therefore, we classify as market timers, bidders that meet the above “market-timing criterion” and also the PE of the firm in the acquisition month is higher than the average of the past 12 or 24<sup>2</sup> monthly

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<sup>2</sup> When we examine 1 year past prices, we employ the average of the past 12 months of the PE ratio. Respectively, when we examine 2 year past prices, we employ the average of the past 24 months of the PE ratio.

PE ratios of the firm. Similarly, we classify as non-market timers, bidders that meet the above “non-market-timing criterion” and also the PE of the firm in the acquisition month is lower than the average of the past 12 or 24 monthly PE ratios of the firm. We therefore end up with four different approaches for market and non-market-timers. a) by examining 2 year past prices, b) by examining 1 year past prices, c) by examining 2 year past prices combined with the 24 months past PE ratios and d) by examining 1 year past prices combined with the 12 months past PE ratios.

Deals for which the share price on the announcement date min the past maximum relative to the range is between 45% and 55% are classified as neutral. It is deals which follow the formula, below:

$$45\% < \frac{Max-P}{Max-Min} 100 < 55\%,$$

## C. Methodology

### 2.3 Short-Run Event Study Methodology

To calculate the acquiring firms’ short-run performance, we employ standard event study methodology (Fuller et al., 2002) to calculate the Cumulative Abnormal Returns (CARs) for a two-day period (0, +1) and four-day period (0,+3) around the announcement date, as provided by DataStream. We estimate abnormal returns using the modified market model as follows:

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

Where  $AR_{i,t}$  is the excess return of bidder  $i$  on day  $t$ ;  $R_{i,t}$  is the return of bidder  $i$  on day  $t$  measured as the percentage change in return index including dividends of bidder  $i$ ; and  $R_{m,t}$  is the market return estimated as the percentage change in TOTMKUS Index (value weighted) on day  $t$ . The CARs are calculated as the sum of the Abnormal Returns ( $AR_{i,t}$ ) for the two and four days surrounding the announcement of the bid as per the following equation:

$$CAR_i = \sum_{t=0}^{+t} R_i - R_m$$

We have conducted the analysis for different windows such as (-3,+3), (-2,+2), (-1,+1), (0,+2), (0,+5), (0,+10). We choose to report results for the two and four-day period (0,+1) and (0,+3) in order to avoid any biases from price run-ups or price declines regarding market timers and non-timers. The overall picture is consistent across all different windows.

T-statistics are used to test the null hypothesis that the mean CAR is equal to zero for a sample of  $n$  firms. We do not report the t-statistic in tables but the p-value instead. The p-value provides a sense of strength of the evidence against the null hypothesis. The lower the p-value, the stronger the evidence that the mean CAR is statistically significantly different from zero.

### ***Long-Run Event Study Methodology***

To examine the long-run abnormal stock returns, we employ the 12- and 36-month buy-and-hold abnormal return (BHAR) approach advocated by Barber and Lyon (1997). The BHAR is computed as:

$$BHAR_i = \prod_1^T (1 + R_{it}) - \prod_1^T (1 + R_{mt})$$

where  $R_{it}$  is the monthly return for company  $i$  and  $R_{mt}$  is the monthly return of the market index (TOTMKUS). Following Lyon, Barber and Tsai (1999), the skewness adjusted bootstrap t-statistics procedure is employed to compute the statistical significance of the abnormal returns.

## **3. Results**

### **A. Summary Statistics**

Table 1 presents the time series distribution of acquisitions during the sample period, 1985-2011. The first three columns of Panel A show the distribution for the overall sample, for stock and cash acquisitions. There is an increasing trend in the middle of 1990s decade which reaches a maximum during the dot-com period of 1998-99. Between 2000 and 2010, there is a small decline in takeover activity but there seems to be a rather stable merger activity with about 50-70 takeovers taking place per year. Stock acquisitions pick during the same period. The maximum

number of deals occur in years 1998 and 99 ((88 and 81 deals respectively). By 1993, cash and stock deals seem to move to similar levels. During the period 1995 to 2000, bidders are more willing to perform stock rather than cash takeovers. However, the picture is reversed after 2000. This evidence is consistent with behavioral explanation of merger waves. More takeovers and especially equity financed ones are related to high market valuations (Bouwman et al., 2009; Rhodes-Kropf et al, 2005; Harford, 2005). The rest of the columns show the time distribution of takeovers for market and non-market-timers as classified with the 5% away from maximum and minimum approach in four different ways for stock and cash acquisitions. Market timers tend to employ equity in many more cases than non-market-timers. Furthermore, stock acquisitions tend to cluster for market-timers during the period of 1995-1999. During the same period, significantly less stock acquisitions are executed by non-market-timers. The picture is consistent across all four different ways of clasiffing timers and non-timers. The picture is similar for cash acquisitions. When price is close to a pick, managers are more willing to proceed to takeovers even in the cases in which cash is used as a means of financing the deal. Cash acquisitions for market-timers are more evenly distributed across time while stock deals cluster during the dot-com booming period. During this booming period, stocks acquisitions for market-timers are almost twice as many as the cash takeovers. Therefore, managers prefer to use equity as a means of financing the deal when stock is more likely to be overvalued. Also, there is a tendency for takeovers to take place when the bidder's share price is close to a pick irrespective of the method of payment. Panel B of the Table 1 presents the time-series distribution of stock and cash takeovers for timers and non-timers as classified with the 15% away from maximum and minimum approach. Since the window widens from 5% to 15%, naturally, our sample size for timers and non-timers increases. The overall pictures remains similar to the one described above. We observe more acquisitions for market-timers both stock and cash takeovers and stock deals for market-timers tend to cluster during the dot-com bull market period. Stock market-timers seem to cluster during the bull period of 1995-99 due to the fact that during high valuation periods targets are more likely to be subject to errors and accept the acquirer's offer (Rhodes-Kropf and Viswanathan (2004))

## **B. Bidders' Announcement Abnormal Returns**

For the short-run analysis, we performed our analysis by employing various short-run windows for Cumulative Abnormal Returns (CARs) such as (-3,+3), (-2,+2), (-1,+1), (0,+1), (0,+2), (0,+3), (0,+5), (0,+10). We avoid windows which include days before the announcement in order to avoid biases related to our approaches for market and non-market-timers. For market-timers, there might be a price run-up before the announcement date and a positive bias could affect our results. On the other hand, for non-market-timers, there might be a price decline before the announcement date and a negative bias could affect short-run abnormal returns. For these reasons, we report results for two and four-day windows [CARs(0,+1) and CARs(0,+3)]. Nevertheless, our results produced with all different windows generate similar results like the ones presented in this paper.

Table 2 shows the overall short and long-run performance of all takeovers in our sample. The short-run performance for the whole sample is negative and significant and is mainly driven by equity financed acquisitions. We find negative and significant abnormal returns (-2.60% and -2.70%) for stock deals while cash financed takeovers generate slightly positive but insignificant results (0.22%). This evidence is consistent with the finding of Travlos (1987). The 12, 36 and 60 months Buy-Hold Abnormal Returns show that acquisition underperform in the long-run and this is again driven by stock-financed deals. Loughran and Vijh (1997) and Rau and Vermaelen (1998) report similar results. This tables shows that the overall picture of our sample is consistent with the literature.

Table 3 depicts the short-run performance [CARs(0,+1) and CARs(0,+3)] for market-timers versus non-market-timers as classified by the 5% away from maximum and minimum prices approach. We report results by looking at 2 and 1 year past prices as well as combined with the PE ratio of the bidding firm.

Panel A of Table 3 shows the short-run abnormal returns for the whole sample (both stock and cash deals). Finding show that takeovers that are announced when the bidder's share price was close to a pick (market-timers) generate positive and significant abnormal returns of around about 1%. On the other hand, bidders whose share price is close to a low and announce a takeover, they suffer high significant losses of around about 4 to 9% in the different portfolios.

The differentials range from 5 to 9% and are all highly statistically significant. Panel B and C of Table 3 show the performance of stock and cash takeovers separately. For equity financed acquisitions, bidder who time the market generate almost zero and insignificant abnormal returns while non-market-timers suffer significant losses. Findings are similar for both two- and four-days CARs. Therefore, the overall negative announcement performance of stock acquisitions is mainly affected by non-market-timers. Panel C of Table 3 presents the performance of cash deals. Bidders that time the market and pay in cash generate positive and significant abnormal returns of around about 2% with all different proxies and taking into consideration both windows. On the other hand, non-market-timers suffer significant losses (-4 to -6%). The difference between timers and non-timers is statistically significant in all portfolios. The same picture is depicted in Table 4, where we use the 15% away from the maximum and minimum price approach.

The main purpose of this paper is to identify the benefits of timing the market. The initial short-run evidence shows that bidders who employ their stock when their share price is close to a pick perform much better than those who use equity when their share price is close to a low. The market rewards more or punishes less, bidders who take advantage their overvalued equity and engage in takeovers. A similar picture is observed for cash acquisitions. Market-timers that use cash outperform non-market-timers. However, cash payments are not related to market-timing benefits. The short-run evidence indicates that stock acquirers might benefits from timing the market but if this is the case that should persist in the long-run as well. The long-run analysis is described in the next section.

Investor sentiment could explain the announcement market reaction of market-timers both for stock and cash acquisitions. Investor sentiment for bidders whose stock price is close to a pick must be quite high. Therefore, when managers announce a takeover at that time, they take advantage of investor optimism and enjoy some short-term benefits whether they method of payment used is either stock or cash.

Finally, the signaling effect (Travlos, 1987; Myers and Majluf, 1984) seems to play an important role as well. Stock-financed deals look as if they are always perceived as overvalued. Even when equity is more likely to be undervalued (non-market-timers), the market heavily punishes these

deals and they significantly underperform. However, the respective cash portfolios always outperform the equity-financed deals.

The long-run analysis that follows will throw more light on whether the initial short-run market reaction is driven by sentiment or market-timers really benefit from exploiting their overvalued equity.

### **C. Post Acquisition Performance**

This section discusses the long-run performance of acquiring firm for 1, 3 and 5 years after the announcement date. We would expect a natural price correction in the long-run and therefore overvalued market-timers should underperform the undervalued non-market-timers, unless the overvaluation effect was utilized accordingly and created value for the bidding firm.

Table 5 shows the 12, 36 and 60 month BHARs for acquirers who time the market versus those who do not as approached with the 5% away from the maximum and minimum approach. Panel A shows the performance of the overall sample. It would not be wise to draw any conclusions based on these portfolios since they include both stock and cash takeovers. Panel B of Table 5 depicts the long-run performance of market and non-market-timers for equity financed acquisitions only. One year after the announcement date, market-timers report slightly positive but insignificant abnormal returns while non-market-timers suffer significant losses. The differentials between the two portfolios range from 30% to 65% within the various 'market-timing' approaches and are statistically significant at the 1%, 5% and 10% significance level. The 3 year BHARs reveal that market-timers keep outperforming non-market-timers. The differentials are still positive in favor of market-timers but the significance levels drops to 25-35% for most of the portfolios. Even 5 years after the acquisitions, despite the negative performance of both market and non-market-timers, bidders who had timed their stock price statistically outperform those that announced a deal when their share price was close to a low. Stock market-timers outperform stock non-market-timers by 38%, 31%, 10% and 21% (the first two differentials are statistically significant at the 5% and 10% significance level. Differentials for the portfolios that take into account the PE ratio as well are probably not statistically significant due to the smaller number of observations). If the initial short-run outperformance of

stock market-timers was driven by investor sentiment, one would expect to observe a long-run reversal. However, this is not the case. Bidders who use their equity when it is close to its pick are significantly better-off than those who do not, 1, 3 and 5 years after the announcement date. This finding provides direct support to the market-timing theory of Shleifer and Vishny (2003), suggesting that managers who take advantage of their overvalued equity create more value than those who do not. The strength of this argument is further enhanced by the performance of cash acquisitions. Cash takeovers are not linked with market timing benefits. Panel C of table 5 shows that the initial market reaction is reversed in the long-run. 1 year after the takeover announcement, market-timers generate similar or lower abnormal returns than non-market-timers. This difference increases in favor of non-market-timers 3 years later and widens even more 5 years after the acquisition was announced. The differentials are statistically insignificant in most of the cases. Similar findings are presented in Table 6. Table 6 employs the 15% away from the maximum and minimum approach to capture market and non-market-timing acquiring firms. In Panel B of Table 6, bidders who time the market and use stock as a method of payment significantly outperform those who do not time their share price. Differential between market and non-market-timers are positive and highly statistically significant especially when the PE approach is combined with the past price performance approach. On the other hand, the difference between timers and non-timers for cash acquisitions are economically and statistically insignificant.

The initial short-run outperformance of market-timers is driven by investor sentiment for cash acquisitions and by possibly both sentiment and market-timing benefits for stock acquirers. This is verified by the long-run results which that the initial announcement performance of cash acquirers is reversed while stock market-timers enjoy the benefits of having exploited their overvalued equity and keep outperforming their non-market-timer counterparts.

### **C. Multivariate analysis**

A number of factors which affect the performance of acquiring firms have been documented in the M&As literature. Some of them are the following: market-to-book ((Rau and Vermaelen,

1998), relative size (Fuller et al., 2002; Asquith et al., 1983), Size (Moeller et al., 2004) and industry diversification (Doukas and Kan, 2004).

The short-run analysis so far shows that bidders that time their share price and announce takeovers when it is close to its peak generate higher abnormal returns than those who do not, whether they use either stock or cash to finance the deal. The long-run evidence shows that market-timers keep outperform non-market-timers for stock deals while a long-run reversal is observed for cash acquisitions. To better examine whether difference in acquirer and deal characteristics explain announcement abnormal returns and Buy-Hold Abnormal Returns, we adopt a multivariate regression analysis. Announcement abnormal returns (CARs) and Buy-Hold abnormal returns (BHARs) are regressed against a number of explanatory variables which have been proved to affect bidder performance. Furthermore, the multivariate regression analysis enables us to overcome issues related to the small number of observations in some portfolios.

In all regressions we include the following control variables: a dummy variable for market-timers (non-market-timers) that takes the value of 1 if the acquiring firm announces a takeover when its share price is low to a peak (low) and the PE ratio in the acquisition month is higher (lower) than the average PE ratio of the bidding firm the last 12 or 24 months. As close to a peak or low, we employ for different ways: we look at share prices either one or two years prior to the announcement date and observe whether the share price is 5% or 15% away from the maximum or minimum (as explained in the data and methodology section). The combination of 1 and 2 years and 5 and 15% create four approaches. We indicate above each model which of the combinations is used to capture market and non-market-timers.

Other variables used is: the bidder's book-to-market value, which is measured by the bidder's net book value of assets divided by its market value one month before the announcement of the deal; the deal's relative size, which is measured as the ratio of the deal value over the bidder's value; a dummy variable for diversifying deals which takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and zero otherwise; and the log of bidder's market value one month prior to the announcement date.

Panel A of Table 7 presents findings only for stock acquisitions. It depicts regressions of announcement abnormal returns [CARs(0,+1) and CARs(0,+3)] against the variables described

above and all four combinations of timers and non-timers. The market-timers dummy carries a positive and in most of the cases (models 1, 2, 3, 4, 6 and 7) statistically significant coefficient while the coefficient of non-market-timers is negative and in most of the cases (models 2, 3, 4, 6, 7 and 8) statistically significant as well. These findings indicate announcement abnormal returns are positively related to market-timers and negatively related to non-market-timers and confirm the results of the short-run univariate analysis. In Panel B, BHARs for 12, 36 and 60 months are the dependent variables. Findings are similar to the short-run evidence. The market-timers dummy coefficients remain positive for all one, three and five years BHARs. They are statistically significant for the 12 month BHARs as well as in one model (14) for the 36 BHARs. Coefficients for the non-market-timers dummy are negative and statistically insignificant. Cross-sectional regression findings are consistent with the long-run analysis. BHARs are significantly and positively related to market-timers while there is no significant relationship with non-market-timers.

In table 8, we perform the same analysis for bidders who employ 100% cash as a means of financing the acquisition. Panel A shows the regression analysis of announcement abnormal returns. Coefficients for market-timers are positive and significant while for non-market-timers, they are negative and statistically significant. This reinforces the short-run univariate analysis results and the conclusions drawn. Panel B of Table 8 shows the cross-sectional results for BHARs for 12, 36 and 60 months respectively. For BHARs12, coefficients for both the market and non-market-timers dummy are positive but insignificant (apart from model 10) and in most of the cases coefficients for non-market-timers are higher than market-timers. When BHARs36 and BHARs60 are the independent variables, coefficient for the non-market-timers dummy variable are positive but statistically insignificant. Coefficients for the market-timers dummy are also statistically insignificant and in some cases (models 13, 15 and 16) are negative while in the rest of them marginally positive and in any case less positive than the respective non-market-timers coefficients. These results indicate that the initial short-run outperformance of market-timers is reversed in the long-run.

#### **4. Conclusion**

The empirical findings provide strong support to the market-timing hypothesis proposed by Shleifer and Vishny (2003). We adopt a firm specific approach to identify market-timers and non-market-timers. We find that acquirers whose share price is close to a pick and use their equity to finance the takeover significantly outperform those who do not time the market, both in the short-run and in the long-run. The benefits of timing the market are prominent for stock acquirers. On the other hand, cash acquirers whose share price is close to a pick and offer cash outperform those whose share price is close to a low on the announcement date but only in the short-run. In the long-run, there is a stock price correction indicating that the initial outperformance was driven by positive investor sentiment. These findings are robust in cross-sectional analysis where we control for various bidders and deal characteristics.

This paper contributes in several ways: it offers direct answer to the question of whether it is worth timing the market or not. The puzzling picture created by the theoretical model of Shleifer and Vishny (2003) and the contradicting evidence of the empirical literature (Bouwman et al., 2009; Rosen, 2006) raised questions of whether long-term shareholders benefit from overvaluation effects or not. We show that stock acquirers that time the market are better-off than those who do not both in the short and in the long-run. Furthermore, we would argue that this is the second paper (after Savor and Lu (2009)) in the M&As literature which offers positive support towards stock acquisitions. Savor and Lu (2009) argue that stock acquirers are better-off with the deal than without. We argue that stock acquirers are better-off when they time their stock price than those who do not.

The findings of this paper trigger more questions and further investigation is required. Why do some bidders offer stock when their share price is close to a low? Either they cannot raise cash or are targets more willing to accept their stock or a combination of both? Similarly, why do some bidders offer cash when their share price is close to a high? Why do not they take advantage of their overvalued equity? Is it really cash what they offer or had they raised cash by selling equity in the recent past? Why is the 2006-07 merger wave dominated by cash rather than stock acquisitions? Further research needs to be done to offer explanation to the above questions.

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**Table 1. Time-Series Distribution of Market-Timers and Non-Market-Timers**

This table presents the time series distribution of takeovers by year as well as by stock and cash market and non-market-timers. The summary statistics are provided for 1766 acquisitions from 1985 to 2011. The first three columns show the distribution of the overall sample, for 100% stock and 100% cash financed acquisitions. The rest of the column present the distribution for market and non-market-timers for stock and cash deals respectively. (Non)-Market-timers are classified according to four different ways. If the share price of the acquiring firm on the announcement date is 'close' to its past 2 or 1 year maximum (minimum), the deal is classified as a (non)-market-timing deal. Also, if the deal meets the previous criterion as well as the PE ratio of the bidding firm on the announcement month is higher (lower) than the average of the last 24 or 12 monthly PE respectively, the deal is classified as a (non)-market-timing deal. To define how 'close' the price at the announcement date is relative to a past maximum or minimum, we employ the following formulas:

If  $\frac{\text{Max}-P}{\text{Max}-\text{Min}} 100 < \alpha\%$ , then the deal is classified as a market timed deal.

If  $\frac{P-\text{Min}}{\text{Max}-\text{Min}} 100 < \alpha\%$ , then the deal is classified as a non-market timed deal.

Panel A depicts results for (non)-market-timing deals if  $\alpha$  is 5% or lower and Panel B presents results if  $\alpha$  is 15% or lower.

Panel A				Stock-5%								Cash-5%							
Year	All	Stock	Cash	2 Year Past Prices		1 Year Past Prices		2 Year Past Prices combined with past PE ratio		1 Year Past Prices combined with past PE ratio		2 Year Past Prices		1 Year Past Prices		2 Year Past Prices combined with past PE ratio		1 Year Past Prices combined with past PE ratio	
				Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers
1985	48	17	31	2	0	4	0	2	0	3	0	6	0	7	0	5	0	5	0
1986	55	9	46	3	0	3	0	3	0	3	0	8	0	7	1	6	0	5	0
1987	51	17	34	3	1	2	1	2	1	1	1	7	0	7	1	4	0	3	1
1988	59	15	44	2	0	2	0	2	0	2	0	1	1	2	1	1	1	1	1
1989	46	20	26	6	2	4	1	2	0	2	1	5	0	4	0	5	0	4	0
1990	36	20	16	1	2	1	1	1	0	1	0	3	4	3	4	3	2	3	2
1991	23	18	5	3	2	3	2	3	1	3	1	0	0	0	0	0	0	0	0
1992	26	15	11	0	1	0	4	0	1	0	2	5	0	5	0	5	0	4	0
1993	36	22	14	2	0	2	0	1	0	2	0	2	0	3	0	1	0	1	0
1994	77	55	22	4	1	6	4	2	1	3	4	4	1	5	0	4	1	4	0
1995	96	68	28	14	1	13	0	9	0	12	0	6	1	5	1	3	1	5	1
1996	95	66	29	10	0	10	0	6	0	7	0	8	1	7	1	4	1	5	0
1997	111	77	34	8	3	11	4	5	2	4	2	5	0	5	0	5	0	4	0
1998	136	88	48	12	5	9	6	11	4	8	5	9	3	8	3	8	3	8	3
1999	135	81	54	15	2	13	3	11	1	7	2	8	1	9	2	5	1	6	2
2000	97	59	38	5	2	6	2	3	2	4	2	2	7	2	7	1	6	1	6
2001	79	42	37	3	5	3	5	2	4	2	3	2	1	1	3	1	1	1	3
2002	63	27	36	1	4	0	4	1	3	0	2	1	3	1	3	1	1	1	1
2003	76	36	40	2	4	3	2	0	2	0	1	7	0	7	0	3	0	4	0
2004	69	26	43	3	0	2	2	1	0	1	2	5	1	4	2	2	0	2	0
2005	63	20	43	1	0	2	0	0	0	0	0	5	2	6	1	2	2	4	1
2006	69	14	55	1	1	0	1	1	1	0	1	14	0	11	2	6	0	7	2
2007	73	12	61	2	2	2	2	0	0	0	1	17	0	16	2	8	0	8	0
2008	50	13	37	0	3	0	4	0	1	0	1	0	6	0	6	0	4	0	5
2009	43	17	26	0	1	0	0	0	0	0	0	0	1	3	1	0	1	3	0
2010	53	7	46	2	0	2	0	2	0	2	0	8	0	5	2	6	0	3	2
2011	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
<b>Total</b>	<b>1766</b>	<b>861</b>	<b>905</b>	<b>105</b>	<b>42</b>	<b>103</b>	<b>48</b>	<b>70</b>	<b>24</b>	<b>67</b>	<b>31</b>	<b>139</b>	<b>33</b>	<b>133</b>	<b>43</b>	<b>90</b>	<b>25</b>	<b>92</b>	<b>30</b>

Panel B	Stock-15%								Cash-15%							
	2 Year Past Prices		1 Year Past Prices		2 Year Past Prices combined with past PE ratio		1 Year Past Prices combined with past PE ratio		2 Year Past Prices		1 Year Past Prices		2 Year Past Prices combined with past PE ratio		1 Year Past Prices combined with past PE ratio	
Year	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers	Market-Timers	Non-Market-Timers
1985	7	2	9	0	6	2	8	0	10	1	11	1	8	0	8	0
1986	6	1	5	0	6	0	5	0	15	0	16	2	12	0	13	1
1987	5	2	3	3	4	2	1	1	13	4	13	4	10	3	8	4
1988	3	0	4	0	3	0	4	0	4	4	5	7	4	3	4	5
1989	8	2	8	2	4	0	5	1	9	1	7	0	7	1	6	0
1990	2	3	2	4	2	1	2	2	3	4	3	4	3	2	3	2
1991	9	3	8	3	8	2	7	2	2	0	2	0	2	0	2	0
1992	1	2	2	4	1	1	1	2	5	0	5	0	5	0	4	0
1993	5	2	4	2	3	1	4	1	3	2	4	2	1	2	2	2
1994	6	3	9	9	4	2	5	7	5	1	7	3	5	1	6	3
1995	32	3	30	5	21	2	25	4	15	2	13	2	8	1	9	2
1996	25	0	22	1	13	0	13	1	13	2	14	2	7	2	8	1
1997	20	4	21	7	11	3	10	5	10	2	10	3	9	0	9	2
1998	25	9	23	12	21	8	17	10	13	5	14	6	11	5	13	6
1999	29	9	31	7	21	4	19	3	17	7	14	7	12	4	10	5
2000	16	4	16	4	11	3	10	3	4	12	3	14	2	10	1	12
2001	7	9	7	10	6	7	5	6	6	4	8	6	3	2	4	6
2002	4	7	3	6	4	4	3	3	4	10	3	11	4	7	3	6
2003	5	10	11	8	2	4	4	3	11	6	16	2	6	2	9	0
2004	6	3	5	6	3	3	3	2	11	1	8	4	5	0	3	2
2005	5	3	4	2	0	0	0	1	10	3	7	5	6	2	5	4
2006	4	2	4	3	2	2	2	2	20	3	19	6	10	1	12	4
2007	3	2	3	2	0	0	0	1	24	4	24	5	11	2	14	1
2008	0	6	0	6	0	2	0	2	0	7	0	13	0	5	0	11
2009	0	5	3	5	0	4	2	3	1	4	7	2	1	4	6	1
2010	3	0	3	0	2	0	2	0	13	1	16	4	9	1	12	3
2011	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0
<b>Total</b>	<b>236</b>	<b>96</b>	<b>240</b>	<b>111</b>	<b>158</b>	<b>57</b>	<b>157</b>	<b>65</b>	<b>242</b>	<b>90</b>	<b>250</b>	<b>115</b>	<b>162</b>	<b>60</b>	<b>175</b>	<b>83</b>

**Table 2. Cumulative Abnormal Returns CARs (0,+1) and CARs (0,+3) and Buy-Hold Abnormal Returns (BHARs) for 12, 36 and 60 months post-acquisition announcement for the overall sample**

This table presents the Cumulative Abnormal Returns (CARs) during two (0, +1) and four (0,+3) days surrounding the announcement for the entire sample. Abnormal returns are calculated using a modified market-adjusted model:

$$AR_{it} = R_{it} - R_{mt}$$

where  $R_{it}$  is the return on firm  $i$  at time  $t$  and  $R_{mt}$  is the value-weighted Market Index Return TOTMKUS at time  $t$ . The table also presents bidder Buy-Hold Abnormal Returns for the 12, 36 and 60-month post-acquisition period. We calculate the abnormal return as the acquiring firm's BHAR less the BHAR of the market index over the one, three and five years following the acquisition announcement:

$$BHAR_{it} = \prod_{t=1}^T (1 + R_{it}) - \prod_{t=1}^T (1 + R_{Mit})$$

where  $R_{it}$  is the monthly return for firm  $i$ , and  $R_{mit}$  is the monthly return of the market index (TOTMKUS). To calculate statistical significance, we adopt a skewness-adjusted t-statistics. All acquirers are publicly traded firms listed on the Major US markets. P-values are reported below the mean return and the number of bids for each category is reported below the p-values. Significance levels at 1%, 5% and 10% are represented by 'a', 'b' and 'c', respectively. Stock is 100% equity-financed acquisitions and cash is 100% cash-financed acquisitions.

	<b>CARs(0,+1)</b>	<b>CARs(0,+3)</b>	<b>BHARs12</b>	<b>BHARs36</b>	<b>BHARs60</b>
<b>All</b>	<b>-1.15%<sup>a</sup></b>	<b>-1.20%<sup>a</sup></b>	<b>-10.86%<sup>a</sup></b>	<b>-31.74%<sup>a</sup></b>	<b>-47.95%<sup>a</sup></b>
p-values	(0.000)	(0.000)	(0.000)	(0.000)	(0.005)
N	1766	1766	1722	1623	1474
<b>Stock</b>	<b>-2.60%<sup>a</sup></b>	<b>-2.70%<sup>a</sup></b>	<b>-18.29%<sup>a</sup></b>	<b>-46.40%<sup>a</sup></b>	<b>-63.55%<sup>a</sup></b>
p-values	(0.000)	(0.000)	(0.000)	(0.000)	(0.137)
N	861	861	856	820	788
<b>Cash</b>	<b>0.22%</b>	<b>0.22%</b>	<b>-3.51%<sup>a</sup></b>	<b>-16.76%<sup>a</sup></b>	<b>-30.04%<sup>a</sup></b>
p-values	(0.305)	(0.362)	(0.009)	(0.000)	(0.000)
N	905	905	866	803	686

**Table 3. Short-Run Abnormal Returns CARs (0,+1) and CARs (0,+3) for market-timers and non-market-timers whose share price is 5% away from past pick-low prices.**

This table presents the Cumulative Abnormal Returns (CARs) during two (0, +1) and four (0,+3) days surrounding the announcement for the entire sample. Abnormal returns are calculated using a modified market-adjusted model:

$$AR_{it} = R_{it} - R_{mt}$$

where  $R_{it}$  is the return on firm  $i$  at time  $t$  and  $R_{mt}$  is the value-weighted Market Index Return, TOTMKUS at time  $t$ . (Non)-Market-timers are classified according to four different ways. If the share price of the acquiring firm on the announcement date is 'close' to its past 2 or 1 year maximum (minimum), the deal is classified as a (non)-market-timing deal. Also, if the deal meets the previous criterion as well as the PE ratio of the bidding firm on the announcement month is higher (lower) than the average of the last 24 or 12 monthly PE respectively, the deal is classified as a (non)-market-timing deal. To define how 'close' the price at the announcement date is relative to a past maximum or minimum, we employ the following formulas:

If  $\frac{Max-P}{Max-Min} 100 < \alpha\%$ , then the deal is classified as a market timed deal.

If  $\frac{P-Min}{Max-Min} 100 < \alpha\%$ , then the deal is classified as a non-market timed deal.

Deals for which the share price on the announcement date min the past maximum relative to the range is between 45% and 55% are classified as neutral. This table depicts results for (non)-market-timing deals if  $\alpha$  is 5% or lower. Panel A presents results for the overall sample, Panel B for 100% equity-financed acquisitions and Panel C for 100% cash-financed acquisitions.

	CARs(0,+1)				CARs(0,+3)			
Panel A: All-5%								
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>								
<b>Mean</b>	1.23% <sup>a</sup>	-4.90% <sup>a</sup>	-0.05%	<b>6.13%<sup>a</sup></b>	1.28% <sup>a</sup>	-5.87% <sup>a</sup>	-0.49%	<b>7.15%<sup>a</sup></b>
<b>p-value</b>	(0.004)	(0.004)	(0.938)	<b>(0.001)</b>	(0.009)	(0.005)	(0.466)	<b>(0.001)</b>
<b>N</b>	244	75	144		244	75	144	
<b>1 Year Past Prices</b>								
<b>Mean</b>	1.34% <sup>a</sup>	-7.18% <sup>a</sup>	-1.56% <sup>b</sup>	<b>8.53%<sup>a</sup></b>	1.39% <sup>a</sup>	-8.03% <sup>a</sup>	-1.98% <sup>a</sup>	<b>9.43%<sup>a</sup></b>
<b>p-value</b>	(0.002)	(0.000)	(0.018)	<b>(0.000)</b>	(0.007)	(0.000)	(0.005)	<b>(0.000)</b>
<b>N</b>	236	91	134		236	91	134	
<b>2 Year Past Prices combined with past PE ratio</b>								
<b>Mean</b>	0.90% <sup>c</sup>	-4.29% <sup>c</sup>		<b>5.18%<sup>b</sup></b>	0.86%	-4.98% <sup>c</sup>		<b>5.84%<sup>b</sup></b>
<b>p-value</b>	(0.084)	(0.054)		<b>(0.024)</b>	(0.159)	(0.064)		<b>(0.035)</b>
<b>N</b>	160	49			160	49		
<b>1 Year Past Prices combined with past PE ratio</b>								
<b>Mean</b>	0.85% <sup>c</sup>	-7.40% <sup>a</sup>		<b>8.25%<sup>a</sup></b>	0.87%	-8.20% <sup>a</sup>		<b>9.06%<sup>a</sup></b>
<b>p-value</b>	(0.095)	(0.000)		<b>(0.000)</b>	(0.148)	(0.000)		<b>(0.000)</b>
<b>N</b>	159	61			159	61		

Panel B: Stock-5%								
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>								
Mean	0.37%	-4.92% <sup>b</sup>	-1.20%	<b>5.30%<sup>b</sup></b>	0.41%	-6.65% <sup>b</sup>	-1.54%	<b>7.06%<sup>b</sup></b>
p-value	(0.601)	(0.022)	(0.187)	<b>(0.019)</b>	(0.634)	(0.024)	(0.140)	<b>(0.021)</b>
N	105	42	62		105	42	62	
<b>1 Year Past Prices</b>								
Mean	0.57%	-9.62% <sup>a</sup>	-3.84% <sup>a</sup>	<b>10.19%<sup>a</sup></b>	0.65%	-10.80% <sup>a</sup>	-4.17% <sup>a</sup>	<b>11.45%<sup>a</sup></b>
p-value	(0.438)	(0.000)	(0.000)	<b>(0.000)</b>	(0.464)	(0.000)	(0.000)	<b>(0.000)</b>
N	103	48	66		103	48	66	
<b>2 Year Past Prices combined with past PE ratio</b>								
Mean	-0.53%	-4.38%		<b>3.85%</b>	-0.45%	-5.57%		<b>5.12%</b>
p-value	(0.563)	(0.151)		<b>(0.223)</b>	(0.690)	(0.180)		<b>(0.231)</b>
N	70	24			70	24		
<b>1 Year Past Prices combined with past PE ratio</b>								
Mean	-0.30%	-9.16% <sup>a</sup>		<b>8.86%<sup>a</sup></b>	-0.26%	-9.85% <sup>a</sup>		<b>9.60%<sup>a</sup></b>
p-value	(0.740)	(0.001)		<b>(0.002)</b>	(0.822)	(0.005)		<b>(0.008)</b>
N	67	31			67	31		
Panel C: Cash-5%								
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>								
Mean	1.88% <sup>a</sup>	-4.87% <sup>c</sup>	0.82%	<b>6.76%<sup>b</sup></b>	1.94% <sup>a</sup>	-4.89%	0.31%	<b>6.83%<sup>b</sup></b>
p-value	(0.000)	(0.081)	(0.355)	<b>(0.019)</b>	(0.001)	(0.100)	(0.720)	<b>(0.026)</b>
N	139	33	82		139	33	82	
<b>1 Year Past Prices</b>								
Mean	1.94% <sup>a</sup>	-4.46% <sup>b</sup>	0.64%	<b>6.41%<sup>a</sup></b>	1.97% <sup>a</sup>	-4.95% <sup>b</sup>	0.15%	<b>6.91%<sup>a</sup></b>
p-value	(0.000)	(0.040)	(0.526)	<b>(0.005)</b>	(0.001)	(0.035)	(0.863)	<b>(0.005)</b>
N	133	43	68		133	43	68	
<b>2 Year Past Prices combined with past PE ratio</b>								
Mean	2.00% <sup>a</sup>	-4.20%		<b>6.20%<sup>c</sup></b>	1.87% <sup>a</sup>	-4.42%		<b>6.29%<sup>c</sup></b>
p-value	(0.001)	(0.207)		<b>(0.071)</b>	(0.003)	(0.219)		<b>(0.088)</b>
N	90	25			90	25		
<b>1 Year Past Prices combined with past PE ratio</b>								
Mean	1.68% <sup>a</sup>	-5.58% <sup>b</sup>		<b>7.27%<sup>a</sup></b>	1.69% <sup>a</sup>	-6.48% <sup>b</sup>		<b>8.17%<sup>a</sup></b>
p-value	(0.004)	(0.021)		<b>(0.004)</b>	(0.007)	(0.012)		<b>(0.002)</b>
N	92	30			92	30		

**Table 4. Short-Run Abnormal Returns CARs (0,+1) and CARs (0,+3) for market-timers and non-market-timers whose share price is 15% away from past pick-low prices.**

This table presents the Cumulative Abnormal Returns (CARs) during two (0, +1) and four (0,+3) days surrounding the announcement for the entire sample. Abnormal returns are calculated using a modified market-adjusted model:

$$AR_{it} = R_{it} - R_{mt}$$

where  $R_{it}$  is the return on firm  $i$  at time  $t$  and  $R_{mt}$  is the value-weighted Market Index Return, TOTMKUS at time  $t$ . (Non)-Market-timers are classified according to four different ways. If the share price of the acquiring firm on the announcement date is 'close' to its past 2 or 1 year maximum (minimum), the deal is classified as a (non)-market-timing deal. Also, if the deal meets the previous criterion as well as the PE ratio of the bidding firm on the announcement month is higher (lower) than the average of the last 24 or 12 monthly PE respectively, the deal is classified as a (non)-market-timing deal. To define how 'close' the price at the announcement date is relative to a past maximum or minimum, we employ the following formulas:

If  $\frac{Max-P}{Max-Min} 100 < \alpha\%$ , then the deal is classified as a market timed deal.

If  $\frac{P-Min}{Max-Min} 100 < \alpha\%$ , then the deal is classified as a non-market timed deal.

Deals for which the share price on the announcement date min the past maximum relative to the range is between 45% and 55% are classified as neutral. This table depicts results for (non)-market-timing deals if  $\alpha$  is 15% or lower. Panel A presents results for the overall sample, Panel B for 100% equity-financed acquisitions and Panel C for 100% cash-financed acquisitions.

	CARs(0,+1)				CARs(0,+3)			
Panel A: All-15%								
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>								
Mean	0.07%	-2.89% <sup>a</sup>	-0.05%	<b>2.96%<sup>a</sup></b>	0.20%	-3.35% <sup>a</sup>	-0.49%	<b>3.55%<sup>a</sup></b>
p-value	(0.804)	(0.002)	(0.938)	<b>(0.002)</b>	(0.532)	(0.003)	(0.466)	<b>(0.002)</b>
N	478	186	144		478	186	144	
<b>1 Year Past Prices</b>								
Mean	0.09%	-3.88% <sup>a</sup>	-1.56% <sup>b</sup>	<b>3.97%<sup>a</sup></b>	0.14%	-4.01% <sup>a</sup>	-1.98% <sup>a</sup>	<b>4.14%<sup>a</sup></b>
p-value	(0.743)	(0.000)	(0.018)	<b>(0.000)</b>	(0.678)	(0.000)	(0.005)	<b>(0.000)</b>
N	490	226	134		490	226	134	
<b>2 Year Past Prices combined with past PE ratio</b>								
Mean	-0.08%	-3.69% <sup>a</sup>		<b>3.60%<sup>a</sup></b>	-0.03%	-4.06% <sup>a</sup>		<b>4.03%<sup>a</sup></b>
p-value	(0.797)	(0.001)		<b>(0.002)</b>	(0.931)	(0.004)		<b>(0.005)</b>
N	320	117			320	117		
<b>1 Year Past Prices combined with past PE ratio</b>								
Mean	-0.08%	-3.93% <sup>a</sup>		<b>3.85%<sup>a</sup></b>	-0.03%	-4.31% <sup>a</sup>		<b>4.29%<sup>a</sup></b>
p-value	(0.786)	(0.000)		<b>(0.000)</b>	(0.942)	(0.000)		<b>(0.000)</b>
N	332	148			332	148		

Panel B: Stock-15%								
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>								
Mean	-0.78% <sup>c</sup>	-4.04% <sup>a</sup>	-1.20%	<b>3.26%<sup>b</sup></b>	-0.73%	-4.89% <sup>a</sup>	-1.54%	<b>4.16%<sup>b</sup></b>
p-value	(0.075)	(0.003)	(0.187)	<b>(0.020)</b>	(0.169)	(0.006)	(0.140)	<b>(0.023)</b>
N	236	96	62		236	96	62	
<b>1 Year Past Prices</b>								
Mean	-0.86% <sup>b</sup>	-6.18% <sup>a</sup>	-3.84% <sup>a</sup>	<b>5.32%<sup>a</sup></b>	-0.89% <sup>c</sup>	-6.17% <sup>a</sup>	-4.17% <sup>a</sup>	<b>5.28%<sup>a</sup></b>
p-value	(0.049)	(0.000)	(0.000)	<b>(0.000)</b>	(0.087)	(0.000)	(0.000)	<b>(0.002)</b>
N	240	111	66		240	111	66	
<b>2 Year Past Prices combined with past PE ratio</b>								
Mean	-1.02% <sup>b</sup>	-5.11% <sup>a</sup>		<b>4.09%<sup>b</sup></b>	-1.15% <sup>c</sup>	-5.60% <sup>a</sup>		<b>4.45%<sup>b</sup></b>
p-value	(0.044)	(0.002)		<b>(0.015)</b>	(0.062)	(0.009)		<b>(0.043)</b>
N	158	57			158	57		
<b>1 Year Past Prices combined with past PE ratio</b>								
Mean	-1.07% <sup>b</sup>	-6.58% <sup>a</sup>		<b>5.51%<sup>a</sup></b>	-1.18% <sup>c</sup>	-7.07% <sup>a</sup>		<b>5.89%<sup>a</sup></b>
p-value	(0.026)	(0.000)		<b>(0.001)</b>	(0.053)	(0.000)		<b>(0.003)</b>
N	157	65			157	65		
Panel C: Cash-15%								
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>								
Mean	0.90% <sup>a</sup>	-1.66%	0.82%	<b>2.56%<sup>b</sup></b>	1.12% <sup>a</sup>	-1.71%	0.31%	<b>2.83%<sup>b</sup></b>
p-value	(0.009)	(0.179)	(0.355)	<b>(0.047)</b>	(0.004)	(0.207)	(0.720)	<b>(0.046)</b>
N	242	90	82		242	90	82	
<b>1 Year Past Prices</b>								
Mean	1.00% <sup>a</sup>	-1.66% <sup>c</sup>	0.64%	<b>2.66%<sup>a</sup></b>	1.12% <sup>a</sup>	-1.92% <sup>c</sup>	0.15%	<b>3.04%<sup>a</sup></b>
p-value	(0.004)	(0.076)	(0.526)	<b>(0.008)</b>	(0.004)	(0.068)	(0.863)	<b>(0.007)</b>
N	250	115	68		250	115	68	
<b>2 Year Past Prices combined with past PE ratio</b>								
Mean	0.83% <sup>b</sup>	-2.33%		<b>3.16%<sup>c</sup></b>	1.05% <sup>b</sup>	-2.60%		<b>3.65%<sup>a</sup></b>
p-value	(0.037)	(0.147)		<b>(0.057)</b>	(0.018)	(0.151)		<b>(0.052)</b>
N	162	60			162	60		
<b>1 Year Past Prices combined with past PE ratio</b>								
Mean	0.81% <sup>b</sup>	-1.86% <sup>b</sup>		<b>2.67%<sup>a</sup></b>	1.01% <sup>b</sup>	-2.16% <sup>b</sup>		<b>3.17%<sup>a</sup></b>
p-value	(0.021)	(0.049)		<b>(0.008)</b>	(0.010)	(0.046)		<b>(0.006)</b>
N	175	83			175	83		

**Table 5. Buy-Hold Abnormal Returns (BHARs) for 12, 36 and 60 months post-acquisition announcement for market and non-market-timers whose share price is 5% away from past pick-low prices**

This table presents bidder Buy-Hold Abnormal Returns for the 12, 36 and 60-month post-acquisition period. We calculate the abnormal return as the acquiring firm's BHAR less the BHAR of the market index over the one, three and five years following the acquisition announcement:

$$(2) BHAR_{it} = \prod_{t=1}^T (1 + R_{it}) - \prod_{t=1}^T (1 + R_{Mit})$$

where  $R_{it}$  is the monthly return for firm  $i$ , and  $R_{Mit}$  is the monthly return of the market index, TOTMKUS. To calculate statistical significance, we adopt a skewness-adjusted t-statistics. P-values are reported below the mean return and the number of bids for each category is reported below the p-values. Significance levels at 1%, 5% and 10% are represented by 'a', 'b' and 'c', respectively. (Non)-Market-timers are classified according to four different ways. If the share price of the acquiring firm on the announcement date is 'close' to its past 2 or 1 year maximum (minimum), the deal is classified as a (non)-market-timing deal. Also, if the deal meets the previous criterion as well as the PE ratio of the bidding firm on the announcement month is higher (lower) than the average of the last 24 or 12 monthly PE respectively, the deal is classified as a (non)-market-timing deal. To define how 'close' the price at the announcement date is relative to a past maximum or minimum, we employ the following formulas:

$$\text{If } \frac{Max-P}{Max-Min} 100 < \alpha\%, \text{ then the deal is classified as a market timed deal.}$$

$$\text{If } \frac{P-Min}{Max-Min} 100 < \alpha\%, \text{ then the deal is classified as a non-market timed deal.}$$

Deals for which the share price on the announcement date min the past maximum relative to the range is between 45% and 55% are classified as neutral. This table depicts results for (non)-market-timing deals if  $\alpha$  is 5% or lower. Panel A presents results for the overall sample, Panel B for 100% equity-financed acquisitions and Panel C for 100% cash-financed acquisitions.

	BHARs12				BHARs36				BHARs60			
All-5%												
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>												
<b>Mean</b>	2.41%	-34.43% <sup>b</sup>	-14.86% <sup>a</sup>	<b>36.84%<sup>c</sup></b>	-24.01%	-43.48% <sup>a</sup>	-31.10% <sup>a</sup>	<b>19.48%<sup>c</sup></b>	-34.36% <sup>a</sup>	-53.10% <sup>a</sup>	-44.16% <sup>a</sup>	<b>18.74%</b>
<b>p-value</b>	(0.405)	(0.010)	(0.001)	<b>(0.083)</b>	(0.141)	(0.002)	(0.000)	<b>(0.075)</b>	(0.000)	(0.009)	(0.000)	<b>(0.211)</b>
<b>N</b>	235	75	141		232	64	130		200	59	120	
<b>1 Year Past Prices</b>												
<b>Mean</b>	1.02%	-35.66% <sup>a</sup>	-17.63% <sup>a</sup>	<b>36.68%<sup>b</sup></b>	-29.50%	-36.10% <sup>a</sup>	-39.87% <sup>a</sup>	<b>6.60%</b>	-40.35% <sup>a</sup>	-53.56% <sup>a</sup>	-54.58% <sup>a</sup>	<b>13.20%</b>
<b>p-value</b>	(0.735)	(0.002)	(0.000)	<b>(0.042)</b>	(0.141)	(0.000)	(0.000)	<b>(0.511)</b>	(0.000)	(0.002)	(0.000)	<b>(0.366)</b>
<b>N</b>	231	89	132		224	78	126		197	70	122	
<b>2 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	5.81%	-6.85%		<b>12.66%</b>	-25.71%	-32.04% <sup>b</sup>		<b>6.33%</b>	-36.73% <sup>a</sup>	-36.79% <sup>c</sup>		<b>0.06%</b>
<b>p-value</b>	(0.113)	(0.610)		<b>(0.184)</b>	(0.337)	(0.040)		<b>(0.643)</b>	(0.002)	(0.096)		<b>(0.997)</b>
<b>N</b>	152	49			151	43			137	42		
<b>1 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	4.24%	-13.86%		<b>18.10%<sup>b</sup></b>	-27.99%	-27.45% <sup>b</sup>		<b>-0.54%</b>	-42.00% <sup>a</sup>	-42.89% <sup>b</sup>		<b>0.89%</b>
<b>p-value</b>	(0.217)	(0.331)		<b>(0.032)</b>	(0.266)	(0.026)		<b>(0.967)</b>	(0.001)	(0.025)		<b>(0.961)</b>
<b>N</b>	155	59			151	53			138	50		
Stock-5%												
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>												
<b>Mean</b>	2.52%	-62.64% <sup>a</sup>	-28.35% <sup>a</sup>	<b>65.16%<sup>c</sup></b>	-26.61%	-61.31% <sup>a</sup>	-52.67% <sup>a</sup>	<b>34.70%<sup>b</sup></b>	-40.64% <sup>b</sup>	-79.25% <sup>a</sup>	-64.42% <sup>a</sup>	<b>38.61%<sup>b</sup></b>
<b>p-value</b>	(0.604)	(0.002)	(0.008)	<b>(0.077)</b>	(0.252)	(0.005)	(0.001)	<b>(0.024)</b>	(0.011)	(0.006)	(0.000)	<b>(0.039)</b>
<b>N</b>	104	42	62		102	37	60		99	33	58	
<b>1 Year Past Prices</b>												
<b>Mean</b>	0.27%	-65.71% <sup>a</sup>	-26.99% <sup>a</sup>	<b>65.98%<sup>b</sup></b>	-38.88%	-54.75% <sup>b</sup>	-64.11% <sup>a</sup>	<b>15.87%</b>	-52.74% <sup>a</sup>	-84.15% <sup>a</sup>	-78.24% <sup>a</sup>	<b>31.41%<sup>c</sup></b>
<b>p-value</b>	(0.944)	(0.001)	(0.003)	<b>(0.041)</b>	(0.266)	(0.011)	(0.000)	<b>(0.277)</b>	(0.005)	(0.000)	(0.000)	<b>(0.084)</b>
<b>N</b>	102	48	66		99	43	64		97	39	63	

<b>2 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	9.40%	-20.89% <sup>b</sup>		<b>30.29%<sup>a</sup></b>	-25.99%	-46.57% <sup>b</sup>		<b>20.58%</b>	-48.36% <sup>b</sup>	-59.12% <sup>b</sup>		<b>10.76%</b>
<b>p-value</b>	(0.142)	(0.031)		<b>(0.004)</b>	(0.492)	(0.013)		<b>(0.258)</b>	(0.041)	(0.023)		<b>(0.579)</b>
<b>N</b>	69	24			68	23			67	22		
<b>1 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	7.01%	-30.77% <sup>a</sup>		<b>37.78%<sup>a</sup></b>	-32.58%	-51.03% <sup>b</sup>		<b>18.45%</b>	-58.11% <sup>c</sup>	-79.48% <sup>a</sup>		<b>21.37%</b>
<b>p-value</b>	(0.263)	(0.002)		<b>(0.000)</b>	(0.448)	(0.037)		<b>(0.342)</b>	(0.050)	(0.004)		<b>(0.340)</b>
<b>N</b>	66	31			65	30			65	28		
<b>Cash-5%</b>												
	<b>Market Timers</b>	<b>Non-Market-Timers</b>	<b>Neutral</b>	<b>Difference (MT-nonMT)</b>	<b>Market Timers</b>	<b>Non-Market-Timers</b>	<b>Neutral</b>	<b>Difference (MT-nonMT)</b>	<b>Market Timers</b>	<b>Non-Market-Timers</b>	<b>Neutral</b>	<b>Difference (MT-nonMT)</b>
<b>2 Year Past Prices</b>												
<b>Mean</b>	2.32%	1.47%	-4.27%	<b>0.85%</b>	-21.96% <sup>a</sup>	-19.05%	-12.60%	<b>-2.91%</b>	-28.20% <sup>b</sup>	-19.90%	-25.20% <sup>b</sup>	<b>-8.30%</b>
<b>p-value</b>	(0.451)	(0.866)	(0.334)	<b>(0.944)</b>	(0.000)	(0.320)	(0.213)	<b>(0.863)</b>	(0.012)	(0.464)	(0.042)	<b>(0.727)</b>
<b>N</b>	131	33	79		130	27	70		101	26	62	
<b>1 Year Past Prices</b>												
<b>Mean</b>	1.60%	-0.48%	-8.27%	<b>2.09%</b>	-22.07% <sup>a</sup>	-13.18%	-14.86%	<b>-8.88%</b>	-28.34% <sup>a</sup>	-15.07%	-29.32% <sup>c</sup>	<b>-13.27%</b>
<b>p-value</b>	(0.640)	(0.986)	(0.108)	<b>(0.839)</b>	(0.000)	(0.399)	(0.150)	<b>(0.543)</b>	(0.009)	(0.551)	(0.070)	<b>(0.560)</b>
<b>N</b>	129	41	66		125	35	62		100	31	59	
<b>2 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	2.83%	6.63%		<b>-3.80%</b>	-25.47% <sup>a</sup>	-15.32%		<b>-10.15%</b>	-25.59% <sup>c</sup>	-12.22%		<b>-13.37%</b>
<b>p-value</b>	(0.484)	(0.629)		<b>(0.810)</b>	(0.000)	(0.511)		<b>(0.650)</b>	(0.082)	(0.719)		<b>(0.651)</b>
<b>N</b>	83	25			83	20			70	20		
<b>1 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	2.19%	4.87%		<b>-2.68%</b>	-24.52% <sup>a</sup>	3.30%		<b>-27.82%</b>	-27.65% <sup>c</sup>	3.69%		<b>-31.34%</b>
<b>p-value</b>	(0.544)	(0.698)		<b>(0.847)</b>	(0.000)	(0.856)		<b>(0.153)</b>	(0.052)	(0.872)		<b>(0.279)</b>
<b>N</b>	89	28			86	23			73	22		

**Table 6. Buy-Hold Abnormal Returns (BHARs) for 12, 36 and 60 months post-acquisition announcement for market and non-market-timers whose share price is 15% away from past pick-low prices**

This table presents bidder Buy-Hold Abnormal Returns for the 12, 36 and 60-month post-acquisition period. We calculate the abnormal return as the acquiring firm's BHAR less the BHAR of the market index over the one, three and five years following the acquisition announcement:

$$(2) BHAR_{it} = \prod_{t=1}^T (1 + R_{it}) - \prod_{t=1}^T (1 + R_{Mit})$$

where  $R_{it}$  is the monthly return for firm  $i$ , and  $R_{Mit}$  is the monthly return of the market index, TOTMKUS. To calculate statistical significance, we adopt a skewness-adjusted t-statistics. P-values are reported below the mean return and the number of bids for each category is reported below the p-values. Significance levels at 1%, 5% and 10% are represented by 'a', 'b' and 'c', respectively. (Non)-Market-timers are classified according to four different ways. If the share price of the acquiring firm on the announcement date is 'close' to its past 2 or 1 year maximum (minimum), the deal is classified as a (non)-market-timing deal. Also, if the deal meets the previous criterion as well as the PE ratio of the bidding firm on the announcement month is higher (lower) than the average of the last 24 or 12 monthly PE respectively, the deal is classified as a (non)-market-timing deal. To define how 'close' the price at the announcement date is relative to a past maximum or minimum, we employ the following formulas:

$$\text{If } \frac{Max-P}{Max-Min} 100 < \alpha\%, \text{ then the deal is classified as a market timed deal.}$$

$$\text{If } \frac{P-Min}{Max-Min} 100 < \alpha\%, \text{ then the deal is classified as a non-market timed deal.}$$

Deals for which the share price on the announcement date min the past maximum relative to the range is between 45% and 55% are classified as neutral. This table depicts results for (non)-market-timing deals if  $\alpha$  is 15% or lower. Panel A presents results for the overall sample, Panel B for 100% equity-financed acquisitions and Panel C for 100% cash-financed acquisitions.

	BHARs12				BHARs36				BHARs60			
All-15%												
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>												
<b>Mean</b>	-3.15%	-18.72% <sup>a</sup>	-14.86% <sup>a</sup>	<b>15.56%<sup>c</sup></b>	-25.67% <sup>a</sup>	-26.44% <sup>a</sup>	-31.10% <sup>a</sup>	<b>0.78%</b>	-37.61% <sup>a</sup>	-41.28%	-44.16% <sup>a</sup>	<b>3.67%</b>
<b>p-value</b>	(0.134)	(0.004)	(0.001)	<b>(0.096)</b>	(0.003)	(0.009)	(0.000)	<b>(0.930)</b>	(0.000)	(0.391)	(0.000)	<b>(0.801)</b>
<b>N</b>	463	185	141		459	162	130		412	150	120	
<b>1 Year Past Prices</b>												
<b>Mean</b>	-3.91% <sup>c</sup>	-22.41% <sup>a</sup>	-17.63% <sup>a</sup>	<b>18.50%<sup>b</sup></b>	-29.22% <sup>a</sup>	-35.50% <sup>a</sup>	-39.87% <sup>a</sup>	<b>6.27%</b>	-39.23% <sup>a</sup>	-51.31%	-54.58% <sup>a</sup>	<b>12.09%</b>
<b>p-value</b>	(0.058)	(0.000)	(0.000)	<b>(0.018)</b>	(0.004)	(0.003)	(0.000)	<b>(0.391)</b>	(0.000)	(0.383)	(0.000)	<b>(0.355)</b>
<b>N</b>	474	222	132		458	197	126		409	177	122	
<b>2 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	-1.07%	-9.50%		<b>8.43%</b>	-22.33% <sup>b</sup>	-31.40% <sup>a</sup>		<b>9.07%</b>	-33.56% <sup>a</sup>	-48.23% <sup>b</sup>		<b>14.68%</b>
<b>p-value</b>	(0.681)	(0.126)		<b>(0.142)</b>	(0.023)	(0.001)		<b>(0.329)</b>	(0.000)	(0.043)		<b>(0.236)</b>
<b>N</b>	309	116			307	101			287	96		
<b>1 Year Past Prices combined with past PE ratio</b>												
<b>Mean</b>	-1.86%	-11.47% <sup>b</sup>		<b>9.61%<sup>c</sup></b>	-26.79% <sup>b</sup>	-35.00% <sup>a</sup>		<b>8.21%</b>	-39.11% <sup>a</sup>	-52.99% <sup>a</sup>		<b>13.88%</b>
<b>p-value</b>	(0.417)	(0.039)		<b>(0.053)</b>	(0.036)	(0.000)		<b>(0.337)</b>	(0.000)	(0.003)		<b>(0.251)</b>
<b>N</b>	319	145			309	130			283	119		
<b>Stock-15%</b>												
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
<b>2 Year Past Prices</b>												
<b>Mean</b>	-7.98% <sup>b</sup>	-36.18% <sup>a</sup>	-28.35% <sup>a</sup>	<b>28.20%<sup>c</sup></b>	-37.68% <sup>b</sup>	-44.56%	-52.67% <sup>a</sup>	<b>6.88%</b>	-49.99% <sup>a</sup>	-57.98%	-64.42% <sup>a</sup>	<b>7.98%</b>
<b>p-value</b>	(0.020)	(0.000)	(0.007)	<b>(0.097)</b>	(0.030)	(0.116)	(0.001)	<b>(0.604)</b>	(0.000)	(0.695)	(0.000)	<b>(0.741)</b>
<b>N</b>	234	96	62		232	84	60		225	79	58	
<b>1 Year Past Prices</b>												
<b>Mean</b>	-8.24% <sup>b</sup>	-39.03% <sup>a</sup>	-26.99% <sup>a</sup>	<b>30.79%<sup>b</sup></b>	-40.41% <sup>b</sup>	-53.02%	-64.11% <sup>a</sup>	<b>12.61%</b>	-51.63% <sup>a</sup>	-73.92%	-78.24% <sup>a</sup>	<b>22.29%</b>
<b>p-value</b>	(0.013)	(0.000)	(0.003)	<b>(0.036)</b>	(0.036)	(0.148)	(0.000)	<b>(0.267)</b>	(0.000)	(0.755)	(0.000)	<b>(0.290)</b>
<b>N</b>	238	111	66		232	99	64		223	93	63	

2 Year Past Prices combined with past PE ratio												
<b>Mean</b>	-3.47%	-23.65% <sup>a</sup>		<b>20.18%<sup>b</sup></b>	-29.99% <sup>c</sup>	-52.92% <sup>a</sup>		<b>22.93%<sup>b</sup></b>	-46.09% <sup>a</sup>	-77.92% <sup>b</sup>		<b>31.83%<sup>b</sup></b>
<b>p-value</b>	(0.420)	(0.006)		<b>(0.011)</b>	(0.092)	(0.008)		<b>(0.063)</b>	(0.000)	(0.027)		<b>(0.015)</b>
<b>N</b>	157	57			156	51			154	49		
1 Year Past Prices combined with past PE ratio												
<b>Mean</b>	-3.18%	-22.00% <sup>a</sup>		<b>18.82%<sup>b</sup></b>	-35.40% <sup>c</sup>	-59.71% <sup>a</sup>		<b>24.30%<sup>b</sup></b>	-53.88% <sup>a</sup>	-92.25% <sup>a</sup>		<b>38.37%<sup>a</sup></b>
<b>p-value</b>	(0.443)	(0.005)		<b>(0.016)</b>	(0.095)	(0.000)		<b>(0.052)</b>	(0.000)	(0.000)		<b>(0.007)</b>
<b>N</b>	156	65			153	60			150	56		
Cash-15%												
	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)	Market Timers	Non-Market-Timers	Neutral	Difference (MT-nonMT)
2 Year Past Prices												
<b>Mean</b>	1.77%	0.11%	-4.27%	<b>1.66%</b>	-13.38% <sup>a</sup>	-6.93%	-12.60%	<b>-6.45%</b>	-22.71% <sup>a</sup>	-22.70%	-25.20% <sup>c</sup>	<b>-0.01%</b>
<b>p-value</b>	(0.443)	(0.959)	(0.342)	<b>(0.789)</b>	(0.001)	(0.543)	(0.199)	<b>(0.564)</b>	(0.003)	(0.229)	(0.051)	<b>(1.000)</b>
<b>N</b>	229	89	79		227	78	70		187	71	62	
1 Year Past Prices												
<b>Mean</b>	0.46%	-5.79%	-8.27%	<b>6.25%</b>	-17.73%	-17.79% <sup>b</sup>	-14.86%	<b>0.06%</b>	-24.36% <sup>a</sup>	-26.28%	-29.32% <sup>c</sup>	<b>1.92%</b>
<b>p-value</b>	(0.841)	(0.317)	(0.121)	<b>(0.221)</b>	(0.199)	(0.036)	(0.137)	<b>(0.995)</b>	(0.002)	(0.115)	(0.075)	<b>(0.893)</b>
<b>N</b>	236	111	66		226	98	62		186	84	59	
2 Year Past Prices combined with past PE ratio												
<b>Mean</b>	1.41%	4.17%		<b>-2.76%</b>	-14.42% <sup>a</sup>	-9.45%		<b>-4.96%</b>	-19.04% <sup>b</sup>	-17.28%		<b>-1.75%</b>
<b>p-value</b>	(0.602)	(0.565)		<b>(0.731)</b>	(0.004)	(0.469)		<b>(0.710)</b>	(0.038)	(0.478)		<b>(0.932)</b>
<b>N</b>	152	59			151	50			133	47		
1 Year Past Prices combined with past PE ratio												
<b>Mean</b>	-0.60%	-2.91%		<b>2.32%</b>	-18.34% <sup>a</sup>	-13.83%		<b>-4.51%</b>	-22.46% <sup>b</sup>	-18.10%		<b>-4.36%</b>
<b>p-value</b>	(0.822)	(0.699)		<b>(0.710)</b>	(0.000)	(0.167)		<b>(0.681)</b>	(0.023)	(0.367)		<b>(0.808)</b>
<b>N</b>	163	80			156	70			133	63		

### **Table 7. Cross –Sectional Analysis for only 100% Equity-Financed deals**

This table presents results for bidders that offer *100% of their stock* as a means of financing the takeover. It depicts regression estimates of the acquirer's two (0,+1) and four (0,+3) -day cumulative abnormal return surrounding the announcement (Panel A) as well as regression estimates of Buy-Hold Abnormal Returns (BHARs) for 12, 36 and 60 months post acquisition announcement (Panel B) controlling for market-timing effects and other deal and acquirer characteristics. The vector of explanatory variables includes dummies representing bids announced by firms that timed their share price and by firms that did not. (Non)-market-timers is binary variable that takes the value of 1 if the bid was announced when the share price was 5% or 15% away from the firm's 2 or 1 year past maximum (minimum) and also the PE ratio of the bidding firm on the acquisition month was higher (lower) than the average of the past 24 or 12 months prior to the acquisition. A dummy variable for diversifying deals take the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. The size of acquirers is measured by the log of the market value a month before the deal's announcement. Bidder's book-to-market is measured by the bidder's net book value of assets divided by its market value a month before the announcement of the deal; a deal's relative size is the ratio between the deal value and the market value of the bidder firm. Significance levels at 1%, 5% and 10% are represented by 'a', 'b' and 'c', respectively. N denotes the number of observations. P-values are reported in brackets.

**Panel A: Announcement Abnormal Returns**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	CARs(0,+1)				CARs(0,+3)			
	2Years - 5%	2Years - 15%	1Year - 5%	1Year - 15%	2Years - 5%	2Years - 15%	1Year - 5%	1Year - 15%
<b>Market-Timers</b>	0.020 <sup>c</sup>	0.019 <sup>b</sup>	0.021 <sup>c</sup>	0.017 <sup>b</sup>	0.019	0.016 <sup>c</sup>	0.022 <sup>c</sup>	0.015
p-value	(0.085)	(0.021)	(0.069)	(0.043)	(0.152)	(0.095)	(0.097)	(0.117)
<b>Non-Market-Timers</b>	-0.020	-0.024 <sup>c</sup>	-0.069 <sup>a</sup>	-0.039 <sup>a</sup>	-0.037	-0.032 <sup>b</sup>	-0.077 <sup>a</sup>	-0.041 <sup>a</sup>
p-value	(0.302)	(0.059)	(0.000)	(0.001)	(0.111)	(0.035)	(0.000)	(0.004)
<b>Diversifying</b>	0.006	0.006	0.006	0.005	0.008	0.008	0.008	0.007
p-value	(0.348)	(0.361)	(0.341)	(0.399)	(0.296)	(0.307)	(0.287)	(0.327)
<b>Log(MV)</b>	-0.004	-0.005	-0.004	-0.005	0.000	-0.001	0.000	0.000
p-value	(0.324)	(0.193)	(0.288)	(0.210)	(0.928)	(0.878)	(0.968)	(0.924)
<b>Relative Size</b>	-0.020 <sup>a</sup>	-0.021 <sup>a</sup>	-0.021 <sup>a</sup>	-0.021 <sup>a</sup>	-0.023 <sup>a</sup>	-0.023 <sup>a</sup>	-0.023 <sup>a</sup>	-0.023 <sup>a</sup>
p-value	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
<b>MTBV</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value	(0.943)	(0.900)	(0.950)	(0.806)	(0.661)	(0.631)	(0.667)	(0.568)
<b>Constant</b>	-0.012	-0.009	-0.009	-0.008	-0.024	-0.021	-0.021	-0.020
p-value	(0.352)	(0.482)	(0.467)	(0.540)	(0.106)	(0.160)	(0.140)	(0.166)
<b>N</b>	784	784	784	784	784	784	784	784
<b>R<sup>2</sup></b>	2.45%	3.18%	4.53%	3.94%	2.81%	3.22%	4.56%	3.74%

**Panel B: Buy-Hold Abnormal Returns (BHARs)**

	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>	<b>Model 15</b>	<b>Model 16</b>	<b>Model 17</b>	<b>Model 18</b>	<b>Model 19</b>	<b>Model 20</b>
	<b>BHARs12</b>				<b>BHARs36</b>				<b>BHARs60</b>			
	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>
<b>Market-Timers</b>	0.226 <sup>a</sup>	0.114 <sup>b</sup>	0.229 <sup>a</sup>	0.142 <sup>a</sup>	0.171	0.151 <sup>c</sup>	0.114	0.086	0.076	0.128	0.004	0.032
p-value	(0.000)	(0.010)	(0.000)	(0.001)	(0.147)	(0.072)	(0.338)	(0.311)	(0.628)	(0.251)	(0.981)	(0.773)
<b>Non-Market-Timers</b>	-0.059	-0.059	-0.124	-0.018	0.007	-0.031	-0.012	-0.135	0.125	-0.073	-0.125	-0.265
p-value	(0.575)	(0.397)	(0.169)	(0.781)	(0.974)	(0.824)	(0.945)	(0.295)	(0.651)	(0.696)	(0.597)	(0.131)
<b>Diversifying</b>	-0.017	-0.013	-0.016	-0.016	-0.050	-0.047	-0.047	-0.050	-0.157 <sup>c</sup>	-0.160 <sup>c</sup>	-0.159 <sup>c</sup>	-0.164 <sup>c</sup>
p-value	(0.633)	(0.716)	(0.648)	(0.652)	(0.461)	(0.482)	(0.481)	(0.459)	(0.083)	(0.076)	(0.079)	(0.069)
<b>Log(MV)</b>	0.038 <sup>b</sup>	0.037 <sup>c</sup>	0.041 <sup>b</sup>	0.037 <sup>c</sup>	0.089 <sup>b</sup>	0.083 <sup>b</sup>	0.093 <sup>b</sup>	0.087 <sup>b</sup>	0.181 <sup>a</sup>	0.173 <sup>a</sup>	0.182 <sup>a</sup>	0.177 <sup>a</sup>
p-value	(0.049)	(0.057)	(0.031)	(0.056)	(0.019)	(0.029)	(0.013)	(0.021)	(0.000)	(0.001)	(0.000)	(0.000)
<b>Relative Size</b>	-0.041	-0.044	-0.042	-0.043	0.080	0.077	0.079	0.077	0.082	0.079	0.079	0.077
p-value	(0.171)	(0.139)	(0.165)	(0.147)	(0.169)	(0.187)	(0.175)	(0.187)	(0.320)	(0.340)	(0.341)	(0.349)
<b>MTBV</b>	-0.001 <sup>b</sup>	-0.001 <sup>b</sup>	-0.001 <sup>b</sup>	-0.001 <sup>a</sup>	-0.001 <sup>c</sup>	-0.001 <sup>c</sup>	-0.001 <sup>c</sup>	-0.001 <sup>c</sup>	-0.001	-0.001	-0.001	-0.001
p-value	(0.012)	(0.010)	(0.012)	(0.006)	(0.097)	(0.090)	(0.097)	(0.081)	(0.127)	(0.120)	(0.126)	(0.119)
<b>Constant</b>	-0.265 <sup>a</sup>	-0.263 <sup>a</sup>	-0.272 <sup>a</sup>	-0.270 <sup>a</sup>	-0.735 <sup>a</sup>	-0.731 <sup>a</sup>	-0.743 <sup>a</sup>	-0.721 <sup>a</sup>	-1.139 <sup>a</sup>	-1.121 <sup>a</sup>	-1.126 <sup>a</sup>	-1.098 <sup>a</sup>
p-value	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
<b>N</b>	779	779	779	779	748	748	748	748	720	720	720	720
<b>R<sup>2</sup></b>	4.03%	3.28%	4.27%	3.63%	1.57%	1.74%	1.41%	1.61%	2.59%	2.75%	2.57%	2.88%

**Table 8. Cross –Sectional Analysis for only 100% Cash-financed deals**

This table presents results for bidders that offer *100% of their cash* as a means of financing the takeover. It depicts regression estimates of the acquirer's two (0,+1) and four (0,+3) -day cumulative abnormal return surrounding the announcement (Panel A) as well as regression estimates of Buy-Hold Abnormal Returns (BHARs) for 12, 36 and 60 months post acquisition announcement (Panel B) controlling for market-timing effects and other deal and acquirer characteristics. The vector of explanatory variables includes dummies representing bids announced by firms that timed their share price and by firms that did not. (Non)-market-timers is binary variable that takes the value of 1 if the bid was announced when the share price was 5% or 15% away from the firm's 2 or 1 year past maximum (minimum) and also the PE ratio of the bidding firm on the acquisition month was higher (lower) than the average of the past 24 or 12 months prior to the acquisition. A dummy variable for diversifying deals take the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. The size of acquirers is measured by the log of the market value a month before the deal's announcement. Bidder's book-to-market is measured by the bidder's net book value of assets divided by its market value a month before the announcement of the deal; a deal's relative size is the ratio between the deal value and the market value of the bidder firm. Significance levels at 1%, 5% and 10% are represented by 'a', 'b' and 'c', respectively. N denotes the number of observations. P-values are reported in brackets.

**Panel A: Announcement Abnormal Returns**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>
	<b>CARs(0,+1)</b>				<b>CARs(0,+3)</b>			
	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>
<b>Market-Timers</b>	0.020 <sup>a</sup>	0.006	0.015 <sup>b</sup>	0.007	0.018 <sup>b</sup>	0.009	0.015 <sup>c</sup>	0.008
p-value	(0.008)	(0.270)	(0.036)	(0.234)	(0.027)	(0.174)	(0.063)	(0.178)
<b>Non-Market-Timers</b>	-0.045 <sup>a</sup>	-0.031 <sup>a</sup>	-0.057 <sup>a</sup>	-0.021 <sup>a</sup>	-0.048 <sup>a</sup>	-0.033 <sup>a</sup>	-0.067 <sup>a</sup>	-0.025 <sup>a</sup>
p-value	(0.001)	(0.000)	(0.000)	(0.005)	(0.001)	(0.001)	(0.000)	(0.003)
<b>Diversifying</b>	-0.003	-0.002	-0.002	-0.002	-0.003	-0.001	-0.001	-0.002
p-value	(0.483)	(0.670)	(0.639)	(0.625)	(0.600)	(0.784)	(0.769)	(0.741)
<b>Log(MV)</b>	-0.005 <sup>b</sup>	-0.005 <sup>b</sup>	-0.005 <sup>c</sup>	-0.005 <sup>b</sup>	-0.004	-0.005 <sup>c</sup>	-0.004	-0.004
p-value	(0.040)	(0.027)	(0.054)	(0.044)	(0.129)	(0.091)	(0.160)	(0.128)
<b>Relative Size</b>	0.008 <sup>c</sup>	0.007 <sup>c</sup>	0.008 <sup>c</sup>	0.008 <sup>c</sup>	0.007	0.007	0.007	0.007
p-value	(0.061)	(0.088)	(0.070)	(0.072)	(0.113)	(0.149)	(0.125)	(0.127)
<b>MTBV</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value	(0.877)	(0.854)	(0.867)	(0.856)	(0.444)	(0.432)	(0.433)	(0.431)
<b>Constant</b>	0.018 <sup>c</sup>	0.020 <sup>b</sup>	0.017 <sup>c</sup>	0.018 <sup>b</sup>	0.015	0.017 <sup>c</sup>	0.015	0.016
p-value	(0.058)	(0.031)	(0.062)	(0.049)	(0.140)	(0.092)	(0.146)	(0.121)
<b>N</b>	873	873	873	873	873	873	873	873
<b>R<sup>2</sup></b>	3.58%	3.02%	4.54%	2.55%	2.78%	2.59%	4.33%	2.30%

**Panel B: Buy-Hold Abnormal Returns (BHARs)**

	<b>Model 9</b>	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>	<b>Model 14</b>	<b>Model 15</b>	<b>Model 16</b>	<b>Model 17</b>	<b>Model 18</b>	<b>Model 19</b>	<b>Model 20</b>
	<b>BHARs12</b>				<b>BHARs36</b>				<b>BHARs60</b>			
	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>	<b>2Years - 5%</b>	<b>2Years - 15%</b>	<b>1Year - 5%</b>	<b>1Year - 15%</b>
<b>Market-Timers</b>	0.073	0.074 <sup>b</sup>	0.067	0.039	-0.100	0.031	-0.088	-0.027	0.060	0.142	0.032	0.104
p-value	(0.109)	(0.036)	(0.131)	(0.255)	(0.211)	(0.625)	(0.264)	(0.661)	(0.616)	(0.118)	(0.785)	(0.253)
<b>Non-Market-Timers</b>	0.106	0.113 <sup>b</sup>	0.095	0.018	0.026	0.135	0.212	0.047	0.202	0.202	0.348 <sup>c</sup>	0.164
p-value	(0.173)	(0.033)	(0.199)	(0.697)	(0.862)	(0.179)	(0.136)	(0.586)	(0.327)	(0.149)	(0.077)	(0.182)
<b>Diversifying</b>	-0.031	-0.034	-0.034	-0.033	-0.097 <sup>b</sup>	-0.102 <sup>b</sup>	-0.099 <sup>b</sup>	-0.099 <sup>b</sup>	-0.005	-0.016	-0.010	-0.014
p-value	(0.242)	(0.195)	(0.204)	(0.217)	(0.046)	(0.035)	(0.041)	(0.042)	(0.945)	(0.824)	(0.893)	(0.848)
<b>Log(MV)</b>	0.004	0.005	0.002	0.002	0.087 <sup>a</sup>	0.089 <sup>a</sup>	0.088 <sup>a</sup>	0.088 <sup>a</sup>	0.070 <sup>c</sup>	0.072 <sup>c</sup>	0.069 <sup>c</sup>	0.068 <sup>c</sup>
p-value	(0.798)	(0.742)	(0.874)	(0.890)	(0.002)	(0.001)	(0.001)	(0.002)	(0.086)	(0.078)	(0.089)	(0.093)
<b>Relative Size</b>	0.011	0.014	0.011	0.011	-0.031	-0.026	-0.029	-0.029	-0.051	-0.046	-0.050	-0.049
p-value	(0.645)	(0.581)	(0.653)	(0.655)	(0.481)	(0.551)	(0.514)	(0.502)	(0.410)	(0.463)	(0.417)	(0.432)
<b>MTBV</b>	-0.001	-0.001	-0.001	-0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value	(0.143)	(0.149)	(0.144)	(0.143)	(0.959)	(0.931)	(0.949)	(0.947)	(0.943)	(0.914)	(0.935)	(0.914)
<b>Constant</b>	-0.042	-0.056	-0.036	-0.034	-0.392 <sup>a</sup>	-0.424 <sup>a</sup>	-0.404 <sup>a</sup>	-0.403 <sup>a</sup>	-0.517 <sup>a</sup>	-0.549 <sup>a</sup>	-0.516 <sup>a</sup>	-0.532 <sup>a</sup>
p-value	(0.452)	(0.325)	(0.521)	(0.541)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
<b>N</b>	834	834	834	834	772	772	772	772	656	656	656	656
<b>R<sup>2</sup></b>	0.97%	1.42%	0.91%	0.63%	2.47%	2.51%	2.73%	2.34%	1.05%	1.48%	1.35%	1.28%