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Glamour versus value, market timing and firm performance: evidence from mergers and acquisitions

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Abstract This study examines the performance of glamour versus value firms in M&As. Specifically, the current study takes into account the market timing to explore the performance of glamour versus value firms in M&As. Using the standard event study methodology with 1109 targets and 6980 bidders during the 2000–2013 period, the results show that glamour (value) firms are more likely to choose the hot (cold) market condition to engage in M&As for both targets and bidders. The evidence also reveals that the performance of glamour versus value firms is less sensitive to the market timing for targets. While glamour bidding firms obtain lower announcement returns, the losses are even more significant during long run post-announcement period. A further analysis indicates that bidders in general experience negative announcement returns in the hot market irrespective of glamour versus value firms. While glamour bidding firms obtain lower post-announcement returns in the hot market relative to their value counterparts, glamour bidders generate higher post-announcement returns during the cold market than value bidders. The regression analysis finds consistent results for bidders. Overall, this study sheds lights on the importance of the market timing on the performance of glamour versus value firms in M&As.

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1 Introduction

Mergers and acquisitions have drawn many attentions in corporate finance. One of research streams is to examine the performance of glamour versus value firms[1] around merger and acquisition announcements. While several studies have examined the performance of glamour versus value firms in M&As (e.g., Rau and Vermealen 1998; Sudarsanam and Mahate 2003; Andriosopoulos et al. 2015), none of prior studies takes into account the market timing to explore this issue in M&As. It is not clear as to whether the market timing plays a role to influence the performance of glamour versus value firms in M&As. Thus, this study intends to fill up this gap.

Prior studies have proposed the theory to explain the performance of glamour versus value firms in M&As from the perspective of bidding firms. Rau and Vermealen (1998) propose the performance extrapolation hypothesis and argue that the market may overextrapolate the past performance of bidding firms when evaluating M&A transactions. Prior studies argue that glamour firms are firms with high past stock returns and these firms appear to have high past growth in cash flow and earnings (Lakonishok et al. 1994; Rau and Vermealen 1998). While glamour firms tend to have better past performance prior to M&A transactions, managers may overconfidence their abilities to manage the deals due to the presence of hubris perspective (Roll 1986). In this regard, managers of glamour firms are more likely to engage in value-decreasing M&A transactions. Alternatively, value firms tend to have low growth and may in general have poor past performance. These value firms appear to have low share price. When engaging in mergers and acquisitions, managers of value firms may be more prudent to evaluate the transactions resulted in higher synergies to their shareholders. Thus, it can be expected that there is a difference in announcement returns for glamour versus value firms in M&As.

In addition, several studies focus on the behavior perspective to explain firm performance in relation to the market condition[2] (Shleifer and Vishny 2003; Rosen 2006; Chidambaran et al. 2010; Tebourbi 2012). Shleifer and Vishny (2003) and Chidambaran et al. (2010) argue that mergers take place during the periods of high market valuation. Rosen (2006) also reports that the market reaction to a merger for bidding firms is positively related to merger announcements by other firms in the recent past during the hot market. As there may have many investment opportunities in the hot market, managers of glamour firms may be hubris their ability to manage the deals due to their better past performance. Managers of glamour firms may be more likely to engage in value-decreasing transactions in the hot market condition that may damage firm value in M&As. Alternatively, as value firms in general have poor past performance, managers of value firms would be careful to evaluate the deals regardless of the market timing. Hence, it can be predicted that announcement returns to glamour versus value firms can differ within different market timing.

A number of the existing literatures have examined stock returns for value and growth stock (Fama and French 1992, 1993; Lakonishok et al. 1994; Chan et al. 1995; Daniel and Titman 1997; Bauman et al. 2001; Fama and French 2012; Chiang 2016). Chan et al. (1995) argue that value stocks seem to be cheap that earn higher returns than expensive

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[1] This study examines the performance of glamour, neutral and value firms in M&As. For brevity, the term of "glamour versus value firms" is used to indicate different types of firms in terms of glamour, neutral and value firms.

[2] This study uses the terms of "the market condition" and "the market timing" interchangeably.

glamour stocks. Fama and French (1992, 1993) also point out that higher returns to value stock simply compensate their higher risk. Bauman et al. (2001) find that value stocks generally outperform growth stocks over the 10-year period in the various Pacific Rim country stock markets. Chiang (2016) also confirms that value stocks obtain higher market-adjusted returns than growth stocks during out-of-sample years from 2009 to 2012. Focusing on mergers and acquisitions, several studies have investigated firm performance for glamour versus value firms in M&As (Rau and Vermealen 1998; Sudarsanam and Mahate 2003; Andre et al. 2004; Kohers et al. 2007; Andriosopoulos et al. 2015). However, these studies report mixed results. In addition, none of prior studies takes into account the market timing to examine the performance of glamour versus value firms in M&As It remains a puzzle as to whether the market timing plays an important role to influence the performance of glamour versus value firms in M&As.

Several studies report that glamour acquirers obtain higher announcement returns than their value counterparts (Lang et al. 1989; Servaes 1991; Rau and Vermealen 1998; Megginson et al. 2004). Instead, Conn et al. (2005) find that glamour bidders have poor performance when acquiring public firms. Andriosopoulos et al. (2015) similarly find that value bidders outperform glamour bidders during and after the M&A announcement. However, Alexandridis et al. (2008) do not find a significant relationship between market to book value and bidder announcement returns around the M&A announcement.

Focusing on long run post-announcement performance, Rau and Vermealen (1998) report that glamour acquirers underperform over the three years following an M&A. The authors attribute to the fact that the market may over-extrapolate past performance of glamour firms leading to poor post-announcement returns. Sudarsanam and Mahate (2003) lend support to Rau and Vermealen (1998) findings and report that value acquirers outperform glamour acquirers over a 3 years post-acquisition period. Kohers and Kohers (2007) indicate that glamour acquirers experience poor post-announcement performance that is driven by the adverse effects of acquirers' agency problems.

Turning to the empirical evidence related to the market timing, Rosen (2006) reports that the market reaction to a merger for bidding firms is positively related to merger announcements by other firms in the recent past during the hot market. However, their results further show that long run bidder returns are lower when the market is hot. The evidence suggests that managers are overoptimistic their ability to manage their firms in the future. Thus, the evidence suggests that the market timing can influence managerial decisions in M&As. Petmezas (2009) consistently finds that bidder announcement returns decline in the long run when acquisitions are announced during stock market boom periods. However, Antoniou et al. (2008) report that merger deals that are announced during hot merger markets perform worse than those during other periods.

Croci et al. (2010) further look into bidder performance in high and low market valuation periods by overconfident and non-overconfident managers. Their evidence indicates that bidders with non-overconfident managers gain the most in high valuation periods. The results also show that acquisitions by overconfident bidders continue to perform worse than acquisitions by non-overconfident bidders in the long term.

This study examines the performance of glamour versus value firms in M&As in the US market. Specifically, the current study takes into account the market timing to examine firm performance for glamour versus value firms in M&As. While the US takeover market is more active, a large number of M&A transactions allows the current study to examine the performance of glamour versus value firms effectively. In addition, the US stock market is one of leading markets for stock trading. With a plenty of stock trading in the US market, it can directly observe stock market condition that can enable this study to classify the market

timing into the hot, normal and cold market condition clearly. Hence, this offers of great valuable opportunity to look into the performance of glamour versus value firms within different market timing in M&As. This can also allow the current study to address whether managers of glamour versus value firms can take advantage of the market timing to create higher synergies to their firms in M&As.

Due to inconsistent results and limited evidence, it is not clear as to whether the performance of glamour firms can outperform to their value counterparts in M&As. More importantly, none of prior studies examines the performance of glamour versus value firms in light of the market timing in M&As. It is not clear as to whether glamour firms can outperform to value firms within different market conditions. This suggests a need to further examine this issue in M&As. Accordingly, this study firstly explores what factors can influence glamour versus value firms in M&As. Secondly, the current study further looks into whether glamour versus value firms are more likely to choose different market timing to engage in mergers and acquisitions. In addition, this study further examines the performance of glamour versus value firms in M&As. In particular, the current study takes into account the market timing to explore whether the performance of glamour versus value firms in M&As can differ with respect to different market conditions. This can shed lights on the importance of the market timing on firm performance for glamour versus value firms in M&As.

Unlike prior studies, this study extends the existing literatures to examine the performance of glamour versus value firms accounting for the importance of the market condition. In addition, the empirical analysis covers not only for bidding firms but also for target firms. While the choice of the market timing may be self-selective for glamour versus value firms, the empirical analysis addresses the issue of self-selective bias. Furthermore, this study also takes into account reversed causality concern in the empirical analysis as the market condition can firstly affect the classification of glamour versus value firms. This can provide additional insights to address the performance of glamour versus value firms in M&As within different market conditions.

To measure the performance of glamour versus value firms in M&As, this study uses the market to book ratio to classify the firms into glamour, neutral and value firms respectively. In addition, following Antoniou et al. (2008) and Petmezas's (2009) procedure, this study uses the detrended market index to identify the market conditions into the hot, normal and cold market. While prior studies have observed an upward trend for the market index, the advantage of this procedure can remove the best straight line fit (OLS) from the index of the month. This can also reduce the bias introduced to the identification of the market conditions.

Accordingly, this study uses the standard event study methodology to examine the performance of glamour versus value firms in M&As. The market model is applied to compute the abnormal returns. In addition, the current study also compute buy and hold abnormal returns to measure long run post-announcement performance during the post-announcement period. Using 1109 targets and 6980 bidders during the 2000–2013 period, the results reveal that firm specific characteristics, such as ROA, leverage and firm size, can be determinants to influence glamour versus value firms for targets and bidders. In addition, the method of payment in terms of cash payment can also be an important determinant to influence glamour versus value bidding firms. The results also show that glamour target firms are more (less) likely to choose the hot (cold) market to engage in mergers and acquisitions. Instead, value target firms are more likely to involve in mergers and acquisitions during the cold market. Similar findings can also be found for bidding firms. The evidence consistently shows that glamour bidding firms are more (less) likely to engage in

M&As during the hot (cold) market. On the contrary, value bidding firms are less (more) likely to involve in M&As during the hot (cold) market.

With regard to the performance of glamour versus value firms, the results show that targets earn significant positive announcement returns around merger and acquisition announcements. However, the difference in target announcement returns is not significant for glamour versus value target firms. A further analysis reveals that targets earn higher announcement returns during the cold market relative to the hot and neutral market regardless of glamour versus value target firms. Given the cold market, value target firms earn higher announcement returns than their glamour and neutral counterparts. In contrast, glamour target firms obtain higher announcement returns relative to neutral and value target firms when the market is under the hot condition. However, the regression analysis does not find any significant relationship between target announcement returns and glamour versus value firms within various market conditions.

Turning to the empirical evidence for bidding firms, the results show that bidders obtain marginal positive announcement returns around merger and acquisition announcements. However, the results are reverse, showing that bidders experience negative announcement returns during long run post-announcement period. Interestingly, the evidence reveals that glamour bidding firms on average obtain lower announcement returns around merger and acquisition announcements relative to their neutral and value counterparts. The losses for glamour bidding firms are even more significant during long run post-announcement period. An additional analysis also indicates that bidders on average experience negative (positive) announcement returns around merger and acquisition announcements during the hot (cold) market regardless of glamour versus value firms. The evidence also reveals that bidders experience more losses in the hot market relative to other periods of market conditions during long run post-announcement period for glamour and neutral firms. Interestingly, glamour bidding firms appear to outperform their value counterparts during long run post-announcement period when the market is under cold condition. This suggests that glamour bidding firms can have more ability to capture the cold market condition in creating higher synergies to their firms. While performing the regression analysis, the results for bidders classified as glamour versus value firms are in general consistent with previous findings in this study.

This study makes several contributions to academic research. First, the current study offers new evidence to examine the performance of glamour versus value firms in M&As. More importantly, this study further takes into account the market timing to look into whether the performance of glamour versus value firms can differ with respect to various market conditions. The empirical evidence indicates that the performance of glamour versus value firms can be less sensitive to the market conditions for target firms. In contrast, the market timing seems to play an important role to influence the performance of glamour versus value bidding firms. While the choice of the market timing can be self-selective to glamour versus value firms, this may raise the concern of self-selection bias. Using Heckman's (1979) procedure to control for self-selection bias, the results indicate that the market timing can be a determinant to influence the performance of glamour versus value firms in M&As. Alternatively, using the market to book ratio to classify the firms into glamour versus value firms can be correlated to the market timing. This may raise the concern of causality that may bias the results in this study. This study also deals with this issue and reinforces the empirical results in the regression analysis. Thus, the empirical evidence provides new insights to reveal the importance of the market timing on the performance of glamour versus value firms in M&As. Consequently, the empirical evidence in this study

can enhance our knowledge and understanding to shed lights on the importance of the market timing on the performance of glamour versus value firms in M&As.

This paper is organized as follows. Section two describes sample selection. The classification of glamour versus value firms as well as the identification of the market conditions is also presented in section two. Section three discusses methodology. Section four presents the empirical results. Conclusion is in section five.

2 Sample selection, the classification of glamour versus value firms and the identification of the market condition

2.1 Sample selection

This study examines the performance of glamour versus value firms in M&As in the US market. In particular, the current study further takes into account the market timing to explore firm performance for glamour versus value firms in M&As. The sample of mergers and acquisitions is collected from SDC platinum database. To be included in the final sample, the transaction is required to meet the following criteria. The investigation period covers from 2000 to 2013. The longer sampling period enables the current study to obtain a sufficient large sample in M&As and also allows this study to classify the firms into glamour, neutral and value firms effectively. In addition, a longer period can also allow the current study to capture the market timing sufficiently in terms of the hot, normal and cold market condition.

Bidders are required to be US firms. Both the target and bidder are required to be listed on the stock exchange. As targets may be small firms and are not listed on stock exchange, this can be expected to yield unmatched sample for targets and bidders. The transactions are complete and deals are limited to acquisitions, acquisition of majority interests and mergers. In addition, bidders own more than 50% of target shares after the transaction in order to focus on the change of control. To avoid bias introduced by the presence of many small deals, transaction value is restricted to be at least larger than 10 million US dollars.

Share price and financial data are collected from Datastream database. If share price is missing, the transaction is removed from the sample. Financial characteristics are gathered from the calendar year end prior to the announcement date. More importantly, the transaction is further eliminated if the market to book ratio at the time of announcement is not available for targets and bidders collected from Datastream database. This can allow the current study to classify the firms into glamour versus value firms clearly. In addition, this study further removes financial firms (SIC codes 6000-6999) and utility firms (SIC codes 4900-4999) as the characteristics of financial and utility firms can differ from other firms. After imposing these criteria, the final sample covers 1109 targets and 6980 bidders.

2.2 The classification of glamour versus value firms

A number of prior studies have examined the performance of glamour versus value firms in finance (e.g., Fama and French 1992, 1993, 2012; Lakonishok et al. 1994; Chan et al. 1995; Daniel and Titman 1997; Rau and Vermealen 1998; Conn et al. 2005; Sudarsanam and Mahate 2003; Andre et al. 2004; Kohers et al. 2007; Andriosopoulos et al. 2015). Chan et al. (1995) argue that value stocks seem to be cheap that earn higher returns than expensive glamour stocks. Fama and French (1992, 1993) also point out that higher returns to

value stock simply compensate their higher risk. Focusing on mergers and acquisitions, studies, such as Rau and Vermealen (1998), Sudarsanam and Mahate (2003) and Andriosopoulos et al. (2015), argue that glamour firms generally have high growth and better past performance. Glamour firms tend to have higher market valuation. Alternatively, value firms in general have lower share price in accompany with low growth. Rau and Vermealen (1998) find that glamour bidders obtain higher announcement returns than value bidders. On the contrary, Andriosopoulos et al. (2015) find that value acquirers outperform to glamour acquirers during and after merger and acquisition announcements. To classify glamour versus value firms, Rau and Vermealen (1998) use the book to market ratio to identify different types of firms in the US market. However, Sudarsanam and Mahate (2003) and Andriosopoulos et al. (2015) focus on the UK market and use either the price to earnings ratio or the market to book ratio to determine the pre-bid status of firms.

Similar to Rau and Vermealen (1998) study, the current study uses the market to book ratio at the time of M&A announcements to classify the firms into glamour, neutral and value firms. The market to book ratio is collected from Datastream database at the time of announcement. Using the market to book ratio as a single indicator can enable the current study to identify glamour versus value firms consistently. Accordingly, the sample of firms is partitioned into three groups on the basis of the market to book ratio. The classification of three groups of firms allows the current study to better distinguish the firms with high or low growth potential in terms of glamour versus value firms. In addition, this classification can also reduce ambiguous definitions in determining glamour versus value firms. If the market to book ratio for the firms is in a group with the bottom 1/3 samples (low market to book ratio), these firms are classified as "value firms". If the market to book ratio for the firms is in a group with the top 1/3 samples (high market to book ratio), these firms are grouped as "glamour firms". The rest of firms are classified as "neutral firms".

2.3 The identification of the market condition

A number of prior studies have examined mergers and acquisitions in relation to the market condition in terms of the hot and cold market (Rosen 2006; Antoniou et al. 2008; Petmezas 2009; Chidambaran et al. 2010; Tebourbi 2012). Rosen (2006) finds that bidder stock price is more likely to increase when mergers are announced in a hot merger market or if the overall stock market is doing better. Antoniou et al. (2008) report that merger outcome relates to broader market conditions and stock market price levels. The authors find that high market valuations stimulate the short run returns. Petmezas (2009) similarly finds that bidders generate significantly positive abnormal returns during high-valuation periods while they exhibit insignificant returns during low-valuation periods. Tebourbi's (2012) study lends support to prior studies and reports that bidders significantly outperform the market benchmarks in hot merger markets during the pre-merger year. The author finds that bidders obtain higher announcement returns in the hot market relative to those in the cold and normal markets. On the contrary, Chidambaran et al. (2010) report that returns to bidders are lower when merger markets are intense. Their evidence also indicates that acquisition premium is larger in the hot merger markets.

This study focuses on the performance of the stock market in each month to identify the market condition. Total return index for US market collected from Datastream database is employed as the benchmark to classify the market condition in terms of the hot, normal and cold market. While the market index has trended upwards, Antoniou et al. (2008) and Petmezas (2009) point out that it is necessary to remove the trend from the market index.

In order to classify the market condition for each month, the current study follows the study of Antoniou et al. (2008) and Petmezas (2009) to detrend the market index. This can avoid introducing the bias to the identification of the market condition.[3] In addition, the current study classifies the market timing into the hot, normal and cold conditions. This can reduce ambiguous identifications when the market timing is classified into two parts in terms of the hot and cold market only. In addition, the classification of three market conditions in terms of the hot, neutral and cold market can also make a clear comparison to the performance of glamour versus value firms in the hot and cold market. Following their procedure, Total return index of the US market is detrended by removing the best straight line fit (OLS) from the index of the month in question and the five preceding years. Accordingly, the months in question are classified into an above (below) average group if its de-trended index is above (below) the past 5-year average. When the above (below) group is identified, the group of the months is ranked. Months that belong to the top half of the above average group are classified as "hot" months and those that belong to the bottom half of the below average group are classified as "cold" months. All remaining months are classified as "normal" months.[4]

2.4 Control variables

A number of the existing literatures have documented the importance of deal and firm specific characteristics on firm performance in M&As. Bidders with cash payment obtain higher announcement returns than those with stock payment (Travlos 1987; Draper and Paudyal 1999). Moeller et al. (2004) report that bidders paid by cash obtain positive announcement returns. However, Moeller et al. (2004) also find negative announcement returns to bidders with stock payment. Cai et al. (2011) similarly find that bidders in stock payment obtain lower returns than those in cash or mixed payment.

In addition, several studies have reported positive announcement returns to bidders in friendly deals (Jarrell and Bradley 1980; Bradley et al. 1983). On the contrary, Goergen and Renneboog (2004) find that bidders in hostile bids obtain negative abnormal returns. Dullard and Hawtrey (2012) point out that hostile target firms obtain large negative abnormal returns in the short terms. Servaes (1991) also reports that bidder announcement returns are lower when engaging in hostile deals. However, Sudarsanam and Mahate (2003) find insignificant short-run returns for hostile bidders. Schwert (2000) finds no significant effect between bidder announcement returns and hostile deals.

Furthermore, several studies have reported that bidders involved in focusing acquisitions obtain positive abnormal returns (Sudarsanam et al. 1996; Walker 2000). Morck et al. (1990) find that bidders obtain lower abnormal returns when engaging in diversifying acquisitions. Lang and Stulz (1994) and Servaes and Zenner (1996) also report that diversification acquisitions reduce the wealth to bidder shareholders. In contrast, prior evidence shows that bidders in diversification acquisitions are associated with positive abnormal returns (Jensen and Ruback 1983; Bradley et al. 1988; Hadlock et al. 2001). In addition,

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[3] Antoniou et al. (2008) argue that the market P/E ratio has upward trend. Without removing the trend, this may introduce the bias to classify the market condition. This may attribute to the fact that more recent acquisitions would be classified as high-valuation acquisitions and older acquisitions as low-valuation acquisitions.

[4] Months classified as hot, normal and cold months are replaced by the hot, normal and cold markets in this study.

Harris and Ravenscraft ([1991]) document that targets earn higher gains when foreign bidders involve in M&A transactions. However, Conn et al. ([2005]) report that bidders in cross border deals obtain lower announcement returns. Eckbo and Thorburn ([2000]) report that domestic bidders obtain positive abnormal returns. Lowinski et al. ([2004]) find that there is no difference in announcement returns between national and cross-border mergers.

The existing literature has reported that firm specific characteristics are important determinants to affect firm performance in M&As. Morck et al. ([1990]) report that firms with superior prior performance make better acquisitions. Harrison et al. ([2014]) report a negative relationship between leverage and post-acquisition returns. Hunter and Jagtiani ([2003]) find that bidders obtain higher post-merger gains when bidder size is large.

While prior studies have demonstrated that deal and firm specific characteristics are important determinants to influence firm performance in M&As, this study also controls for these characteristics in the regression analysis. Controlling for these characteristics also allows the current study to further explore the determinants that can affect firm performance in M&As. Hence, the regression analysis controls for cash payment, cross border deals, friendly deals, number of bidders, relatedness,[5] ROA, leverage and firm size. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Firm size is measured as ln(total assets).

3 Methodology

This study examines the performance of glamour versus value firms in M&As. Specifically, the current study takes into account the market timing to examine the performance of glamour versus value firms in M&As. In this regard, the current study explores what determinants can influence glamour versus value firms in M&As and whether glamour versus value firms are more likely to choose different market conditions to engage in M&As. In addition, this study also investigates whether the performance of glamour versus value firms can differ with respect to different market conditions. To carry out the empirical analysis, this study first employs the probit regression analysis to explore what factors can influence glamour versus value firms in M&As. While prior studies have demonstrated the importance of deal and firm specific characteristics in M&As, these characteristics are included in the regression analysis. The variables include cash payment, cross-border deals, friendly deals, number of bidders, relatedness, ROA, leverage and firm size. In addition, the current study also employs the probit regression analysis to look into whether glamour versus value firms are more likely to choose various market timing to engage in M&As.

Furthermore, this study employs the standard event study methodology to calculate the abnormal returns in order to measure the performance of glamour versus value firms in M&As. Following Brown and Warner's ([1985]) study, the market model is applied to calculate the abnormal returns. The market model parameters are estimated from day-270 to day-61, where day 0 is the announcement date. The Datastream market index is selected as the benchmark for the US market and other markets. Abnormal returns are calculated by subtracting expected returns from actual returns.

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5 This study uses 4-digit SIC code (XXXX) to classify diversifying or focusing deals. If 2-digit SIC code (e.g. 10XX) for the target and bidder is the same, the transaction is classified as focusing deals; otherwise, diversifying deals.

$$AR_{it} = R_{it} - \left(\alpha + \beta R_{mt} \right)$$

where AR_{it}, the abnormal returns for stock i on day t; R_{it}, the return for stock i on day t; R_{mt}, the returns for the market on day t; α, β, the market model parameters.

The cumulative abnormal returns are calculated by aggregating the abnormal returns over a certain period of the event window. This study focuses on short term announcement returns as share price tends to have a significant impact around the announcement date. Hence, this study uses three event windows in terms of $(-1, +1)$, $(-2, +2)$ and $(-5, +5)$ event windows to examine the performance of glamour versus value firms in M&As within different market conditions. In addition, this study also looks at post-announcement returns to look into long run performance of glamour versus value bidding firms in M&As during the post-announcement period. This can also allow the current study to explore whether glamour versus value bidding firms can have more ability to capture the market timing in creating value to their firms in M&As.

Prior studies, such as Barber and Lyon (1997), Kothari and Warner (1997) and Lyon et al. (1999), address several concerns when examining long run post-announcement returns. When using cumulative abnormal returns to compute long run post-announcement returns, the results may be biased due to the problem of new listing, frequent rebalancing and skewness biases. Thus, cumulative abnormal returns poorly detect any long run abnormal performance. Barber and Lyon (1997) advocate the use of buy and hold abnormal returns (BHAR) and the benchmark would be better to take into account size and book to market ratio. This study identifies a control firm with similar size and book to market ratio.

Following Barber and Lyon's (1997) study, the current study first identifies all firms with a market value of equity between 70 and 130% of the market value of equity of the sample firm, except for financial and utility firms. This study further chooses the firm with the book to market ratio closest to that of the sample firm. The size and book to market ratio are collected from the calendar year end prior to the announcement date. The buy and hold abnormal returns is defined as the value of holding a long position in the stock of the bidding firm and a short position in a benchmark over the time horizon. Thus, this study measures long run buy and hold abnormal returns for different event windows in this study, including $(+1, +90)$, $(+1, +180)$, $(+1, +270)$ and $(+1, +360)$ event windows. These event windows can be expected to better capture long run post-announcement drifts in announcement returns in M&As. This can also provide additional insights to reveal bidder post-announcement returns in M&As for glamour versus value bidding firms during long run post-announcement period. In addition, cross-sectional t statistics is used to test the significance level for the hypothesis, H_0: mean abnormal returns are equal to 0.

$$BHAR_{Bidder} = \prod_{t=1}^{T} \left(1 + R_t \right) - \prod_{t=1}^{T} \left(1 + R_{controlfirm,t} \right)$$

To better understand the performance of glamour versus value firms in M&As, this study further runs cross-sectional regression analysis to explore the relationship between announcement returns and glamour versus value firms. While prior studies have reported the importance of deal and firm specific characteristics on firm performance in M&As, the regression analysis also controls for these characteristics. Controlling for these characteristics, this study can better reveal the relationship between announcement returns and glamour versus value firms in M&As.

Table 1 Descriptive statistics

Panel A	Targets				Bidders			
	All	Glamour	Neutral	Value	All	Glamour	Neutral	Value
2000	172	72	46	54	847	452	174	221
2001	141	42	38	61	574	208	164	202
2002	66	18	18	30	579	164	190	225
2003	92	23	26	43	546	132	178	236
2004	107	36	42	29	661	206	240	215
2005	99	39	31	29	652	227	243	182
2006	83	29	39	15	580	210	223	147
2007	91	43	28	20	557	209	209	139
2008	52	16	16	20	385	127	143	115
2009	52	5	24	23	276	49	95	132
2010	47	16	15	16	348	77	120	151
2011	32	9	15	8	354	97	121	136
2012	46	13	21	12	349	86	123	140
2013	29	9	11	9	272	83	104	85
N	1109	370	370	369	6980	2327	2327	2326

Panel B	Targets					Bidders				
	Mean	Median	SD	Minimum	Maximum	Mean	Median	SD	Minimum	Maximum
ROA										
Glamour	− 0.0574	0.0360	0.3257	− 2.3892	0.7872	0.0419	0.0805	0.2516	− 6.9595	0.6884
Neutral	− 0.0131	0.0389	0.2165	− 1.7140	0.4413	0.0420	0.0600	0.1418	− 2.2732	0.3755
Value	− 0.1066	0.0074	0.3065	− 2.0906	0.7536	0.0033	0.0380	0.2130	− 4.2958	2.1905
Leverage										
Glamour	0.1749	0.0822	0.2039	0.0000	0.9313	0.1765	0.1366	0.1881	0.0000	2.0288
Neutral	0.1527	0.1043	0.1625	0.0000	0.7233	0.1848	0.1731	0.1595	0.0000	0.8002
Value	0.1597	0.0896	0.1791	0.0000	0.7699	0.1945	0.1811	0.1662	0.0000	0.8597
ln(total assets)										
Glamour	12.1520	12.0500	1.7310	7.5020	16.9240	14.1580	14.0970	2.0990	5.9300	20.3630
Neutral	12.6900	12.5640	1.8010	8.6780	18.6190	13.9810	13.9710	1.7600	8.5370	20.4940
Value	12.2600	12.0710	1.6600	8.6910	17.6340	13.6250	13.5740	1.7730	8.0510	20.4970

This table presents the summary of descriptive statistics for targets and bidders. Panel A presents the distribution of the sample based on the year and glamour versus value firms for 1109 targets and 6980 bidders during the 2000–2013 period. Panel B presents descriptive statistics of firm specific characteristics for glamour versus value firms. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Ln(total assets) is measured as the log of total assets

4 The empirical results

4.1 Descriptive statistics

This section presents descriptive statistics for targets and bidders. As shows in Table 1, the figures in panel A show that the sample accounts for 172 targets in the year of 2000. After that, the sample of target firms reduces significantly up to 92 targets in the year of 2003. While the sample of targets remains stable during the period of 2004–2007, the sample further reduces after the year of 2008. This can be attributable to the impact of the financial crisis in 2008. A similar pattern can also be found for bidding firms. The figures indicate that the sample constitutes 847 bidders in 2000. Then, the sample of bidders reduces up to 546 in 2003. The sample of bidding firms does not change significantly during the 2004–2007 period. With a significant decrease of bidders at 385 in 2008, the figures reveal that the sample of bidding firms during the 2009–2013 period is lower than that of the pre-2008 period. This consistently indicates that the financial crisis in the year of 2008 has a negative impact to US takeover market.[6]

Panel B presents descriptive statistics of firm specific characteristics for targets and bidders. The figures show that targets generally have poor performance prior to M&A transactions regardless of glamour versus value firms. Mean value of ROA is − 0.0574, − 0.0131 and − 0.1066 for glamour, neutral and value target firms respectively. However, median value of ROA for glamour versus value firms is positive, suggesting that poor prior performance measured by mean value of ROA can be affected by a small number of poor performance of target firms. It should be cautious to interpret the figures. While looking at leverage, the figures show that glamour target firms appear to have slightly higher leverage at 0.1749 than their neutral and value counterparts at 0.1527 and 0.1597, respectively. As glamour target firms in general have higher growth, these targets may need to maintain higher leverage to support their growth ability. With regard to firm size, there is no significant difference for glamour versus value target firms.

With respect to descriptive statistics for bidders, the figures show that glamour and neutral bidding firms on average have better performance prior to M&A transactions relative to their value counterparts. Mean value of ROA is 0.0419, 0.0420 and 0.0033 for glamour, neutral and value bidding firms respectively. While value bidding firms on average have higher leverage than glamour and neutral bidding firms, the difference is not significant. Similarly, as glamour bidding firms appear to be larger than their neutral and value counterparts, there is no significant difference of firm size for glamour versus value bidding firms.

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[6] While the financial crisis in the year of 2008 can influence the US takeover market, it may be arguable that it may commonly define the months as the cold market after the year of 2008. Hence, the regression analysis with the full sample also controls for a dummy for the year of 2008 financial crisis. The results quantitatively remain the same. As the current study further partitions the sample on the basis of the market conditions in terms of the hot, normal and cold market to run the regression analysis separately, this study does not find any significant impact for the normal and cold regression analysis. While the hot market does not include any months in the year of 2008 financial crisis, we do not further run the regression analysis for the subsample of the hot market.

Table 2 The determinants to influence glamour versus value firms

	Targets			Bidders		
	Glamour	Neutral	Value	Glamour	Neutral	Value
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.111	− 1.058**	− 0.419	− 1.144***	− 0.805***	0.658***
	(0.469)	(0.457)	(0.443)	(0.242)	(0.246)	(0.231)
Cash	0.081	0.039	− 0.132	− 0.119***	0.224***	− 0.106***
	(0.084)	(0.082)	(0.084)	(0.033)	(0.034)	(0.034)
Cross border	− 0.075	0.067	0.005	0.008	0.046	− 0.053
	(0.120)	(0.118)	(0.119)	(0.038)	(0.037)	(0.038)
Friendly	0.669**	− 0.334	− 0.207	− 0.020	0.394**	− 0.323**
	(0.343)	(0.267)	(0.266)	(0.151)	(0.167)	(0.147)
Number of bidders	− 0.199	− 0.202	0.356***	− 0.123	− 0.053	0.169
	(0.134)	(0.140)	(0.126)	(0.128)	(0.125)	(0.119)
Relatedness	− 0.012	− 0.012	0.023	− 0.068**	0.034	0.032
	(0.083)	(0.082)	(0.083)	(0.032)	(0.032)	(0.032)
ROA	0.147	0.430***	− 0.471***	0.129	0.266***	− 0.313**
	(0.152)	(0.171)	(0.153)	(0.126)	(0.093)	(0.135)
Leverage	0.612***	− 0.661***	0.015	− 0.370***	− 0.055	0.450***
	(0.232)	(0.232)	(0.230)	(0.103)	(0.092)	(0.098)
ln(total assets)	− 0.088***	0.103***	− 0.016	0.073***	− 0.008	− 0.069***
	(0.025)	(0.026)	(0.025)	(0.009)	(0.009)	(0.009)
N	1083	1083	1083	6971	6971	6971
Pseudo R square	0.0180	0.0283	0.0184	0.0105	0.0084	0.0175

This table presents probit regression analysis to explore what determinants can influence glamour versus value firms in M&As for targets and bidders. Dependent variable is a dummy that equals to one if firms are classified as glamour, neutral and value firms respectively. Control variables include cash, cross border deals, friendly deals, number of bidders, relatedness, ROA, leverage and ln(total assets). A dummy equals to one if payment is cash, deals are cross border transactions, transactions involve in friendly deals, transactions involve in multiple bidders and deals are diversification acquisitions; 0 otherwise. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Ln(total assets) is measured as the log of total assets. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute *p value*. Standard errors are reported in parentheses

***Significance at 0.01 level; **significance at 0.05 level; *significance at 0.1 level

4.2 The determinants to influence glamour versus value firms

This section runs the probit regression analysis to explore what determinants can influence glamour versus value firms in M&As for targets and bidders. While prior studies have reported the importance of deal and firm specific characteristics in M&As, these characteristics are used to explore what factors can affect glamour versus value firms in M&As. Dependent variable is a dummy, indicating that the firms are classified as glamour, neutral and value firms respectively. As can be seen in Table 2, the results in model specification (1) show that glamour targets are more likely to involve in friendly deals, the coefficient at 0.669. When targets are classified as value firms, the results in model specification (3)

reveal that value targets are more likely to be bid by multiple bidders. The coefficient is 0.356.

In addition, the results interestingly show that firm specific characteristics appear to have an influence to glamour versus value targets firms in M&As. The evidence reveals that neutral targets appear to have better performance prior to M&A transactions, the coefficient at 0.430 in model specification (2). Instead, value target firms are more likely to have poor performance before the transactions with the coefficient at − 0.471 in model specification (3). When targets are classified as glamour firms, the results in model specification (1) reveal that glamour targets are more likely to have higher leverage and to be small firms, the coefficient at 0.612 and − 0.088 respectively. When targets are categorized as neutral firms, neutral target firms are more likely to have lower leverage and to be large firms, the coefficient at − 0.661 and 0.103 in model specification (2) respectively.

Turning to the evidence for bidding firms, the results show that glamour and value bidding firms are less likely to engage in cash payment, the coefficient at − 0.119 and − 0.106 in model specification (4) and (6) respectively. In contrast, neutral bidding firms are more likely to involve in cash payment, the coefficient at 0.224. The evidence also reveals that neutral (value) bidding firms are more (less) likely to involve in friendly deals. The coefficients are 0.394 and − 0.323 for neutral and value bidding firms, respectively. The results also indicate that glamour bidding firms are less likely to engage in diversifying acquisitions, the coefficient at − 0.068. Consistent with the empirical results for targets, bidders that are classified as neutral (value) firms are more likely to have better (poor) performance prior to M&A transactions. The coefficients for neutral and value bidding firms are 0.266 and − 0.313 respectively. In addition, the results also reveal that glamour (value) bidding firms are more likely to have lower (higher) leverage. The coefficient is − 0.370 for glamour bidding firms relative to 0.450 for their value counterparts. With regard to firm size, glamour (value) bidding firms are more likely to be large (small) firms, the coefficient at 0.073 (− 0.069).

4.3 The choice of the market timing for glamour versus value firms

This section runs probit regression analysis to explore whether glamour versus value firms are more likely to choose different market conditions to engage in mergers and acquisitions for targets and bidders. Dependent variable is a dummy, indicating that the market is under the hot, normal and cold market condition respectively. As shows in Table 3, the results in model specification (1) and (2) reveal that glamour (neutral) targets are more (less) likely to choose the hot market timing to engage in M&As, the coefficient at 0.176 (− 0.191). When the market is under normal condition, the evidence in model specification (4) and (6) indicates that targets are more (less) likely to involve in M&As for glamour (value) target firms. The coefficients for glamour and value target firms are 0.156 and − 0.209, respectively. On the contrary, the results in model specification (7) indicate that glamour targets are less likely to engage in M&As during the cold market condition, the coefficient at − 0.408. The evidence in model specification (9) also reveals that value targets are more likely to engage in M&As in the cold market condition with the coefficient at 0.268. As glamour firms tend to have a plenty of intangible assets, the value of these assets may be inflated and more valuable during the hot market condition relative to the cold market timing. Thus, glamour target firms are more likely to involve in M&As during the hot market timing in comparison to those in the cold market condition. On the other hand, value firms in general may have many tangible assets and these assets can be valued correctly

Table 3 The choice of the market timing of glamour versus value firms for targets

	Hot			Normal			Cold		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	− 0.346	− 0.228	− 0.251	− 0.951**	− 0.862**	− 0.790*	0.147	− 0.114	− 0.181
	(0.501)	(0.497)	(0.496)	(0.445)	(0.441)	(0.442)	(0.471)	(0.468)	(0.470)
Glamour	0.176**			0.156*			− 0.408***		
	(0.091)			(0.083)			(0.095)		
Neutral		− 0.191**			0.051			0.111	
		(0.095)			(0.083)			(0.091)	
Value			0.002			− 0.209***			0.268***
			(0.092)			(0.084)			(0.089)
Cash	− 0.682***	− 0.676***	− 0.677***	0.363***	0.366***	0.358***	0.181**	0.162*	0.178***
	(0.094)	(0.094)	(0.094)	(0.081)	(0.081)	(0.081)	(0.090)	(0.089)	(0.089)
Cross border	− 0.212	− 0.214	− 0.214	0.080	0.076	0.079	0.086	0.091	0.094
	(0.140)	(0.140)	(0.140)	(0.117)	(0.117)	(0.117)	(0.127)	(0.126)	(0.126)
Friendly	0.374	0.384	0.413	0.002	0.037	0.013	− 0.291	− 0.339	− 0.331
	(0.312)	(0.309)	(0.310)	(0.276)	(0.273)	(0.273)	(0.269)	(0.262)	(0.262)
Number of bidders	0.144	0.118	0.127	− 0.144	− 0.151	− 0.128	0.049	0.087	0.036
	(0.151)	(0.150)	(0.150)	(0.128)	(0.128)	(0.128)	(0.134)	(0.135)	(0.135)
Relatedness	0.041	0.042	0.041	0.010	0.009	0.010	− 0.051	− 0.046	− 0.050
	(0.089)	(0.089)	(0.089)	(0.081)	(0.081)	(0.081)	(0.089)	(0.088)	(0.088)
ROA	− 0.189	− 0.162	− 0.181	0.474***	0.475***	0.442***	− 0.331**	− 0.356**	− 0.299**
	(0.153)	(0.155)	(0.154)	(0.152)	(0.154)	(0.152)	(0.149)	(0.150)	(0.148)
Leverage	0.646***	0.638***	0.670***	− 0.418**	− 0.370*	− 0.385*	− 0.085	− 0.153	− 0.166
	(0.245)	(0.243)	(0.243)	(0.228)	(0.229)	(0.227)	(0.251)	(0.247)	(0.247)
ln(total assets)	− 0.064**	− 0.062**	− 0.069***	0.083***	0.076***	0.077***	− 0.049*	− 0.039	− 0.034
	(0.027)	(0.028)	(0.027)	(0.025)	(0.025)	(0.025)	(0.029)	(0.029)	(0.029)

Table 3 (continued)

	Hot			Normal			Cold		
N	1083	1083	1083	1083	1083	1083	1083	1083	1083
Pseudo R square	0.0709	0.0712	0.0678	0.0402	0.0381	0.0420	0.0312	0.0165	0.0229

This table presents probit regression analysis for targets to explore whether glamour versus value firms are more likely to choose different market timing to engage in M&As. Dependent variable is a dummy that equals to one if transactions take place during the hot, neutral and cold market conditions respectively. Control variables include cash, cross border deals, friendly deals, number of bidders, relatedness, ROA, leverage and ln(total assets). A dummy equals to one if payment is cash, deals are cross border transactions, transactions involve in friendly deals, transactions involve in multiple bidders and deals are diversification acquisitions; 0 otherwise. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Ln(total assets) is measured as the log of total assets. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute p value. Standard errors are reported in parentheses

***Significance at 0.01 level; **significance at 0.05 level; *significance at 0.1 level

Table 4 The choice of the market timing of glamour versus value firms for bidders

	Hot			Normal			Cold		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Constant	− 0.226	− 0.141	− 0.026	0.579***	0.541**	0.716***	− 1.893***	− 1.883***	− 2.269***
	(0.282)	(0.275)	(0.278)	(0.231)	(0.231)	(0.231)	(0.258)	(0.250)	(0.257)
Glamour	0.471***			− 0.029			− 0.457***		
	(0.036)			(0.033)			(0.039)		
Neutral		− 0.285***			0.212***			− 0.027	
		(0.039)			(0.033)			(0.036)	
Value			− 0.224***			− 0.182***			0.442***
			(0.038)			(0.033)			(0.036)
Cash	− 0.377***	− 0.372***	− 0.401***	0.205***	0.190***	0.200***	0.091***	0.104***	0.126***
	(0.037)	(0.037)	(0.037)	(0.033)	(0.033)	(0.033)	(0.037)	(0.037)	(0.037)
Cross border	0.005	0.012	0.002	− 0.015	− 0.019	− 0.019	0.012	0.016	0.023
	(0.043)	(0.043)	(0.043)	(0.037)	(0.037)	(0.037)	(0.041)	(0.040)	(0.041)
Friendly	0.190	0.248	0.166	− 0.199	− 0.230	− 0.225	0.058	0.080	0.132
	(0.192)	(0.184)	(0.189)	(0.151)	(0.149)	(0.149)	(0.170)	(0.164)	(0.167)
Number of bidders	0.213	0.175	0.196	− 0.269**	− 0.265**	− 0.258**	0.153	0.167	0.146
	(0.136)	(0.133)	(0.133)	(0.120)	(0.120)	(0.120)	(0.128)	(0.126)	(0.127)
Relatedness	0.067*	0.059*	0.057*	− 0.045	− 0.047	− 0.042	− 0.008	0.003	− 0.001
	(0.036)	(0.036)	(0.036)	(0.031)	(0.031)	(0.031)	(0.035)	(0.034)	(0.035)
ROA	− 0.083	− 0.053	− 0.097	0.351***	0.335***	0.330***	− 0.317***	− 0.327***	− 0.284***
	(0.095)	(0.082)	(0.090)	(0.126)	(0.123)	(0.117)	(0.084)	(0.092)	(0.083)
Leverage	0.292***	0.205**	0.239**	− 0.040	− 0.033	− 0.008	− 0.170*	− 0.118	− 0.179*
	(0.104)	(0.103)	(0.104)	(0.095)	(0.094)	(0.094)	(0.103)	(0.100)	(0.102)
ln(total assets)	− 0.078***	− 0.065***	− 0.069***	0.000	− 0.000	− 0.005	0.073***	0.060***	0.073***
	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)

Table 4 (continued)

	Hot			Normal			Cold		
N	6971	6971	6971	6971	6971	6971	6971	6971	6971
Pseudo R square	0.0565	0.0404	0.0375	0.0090	0.0134	0.0122	0.0293	0.0093	0.0303

This table presents probit regression analysis for bidders to explore whether glamour versus value firms are more likely to choose different market timing to engage in M&As. Dependent variable is a dummy that equals to one if transactions take place during the hot, neutral and cold market conditions respectively. Control variables include cash, cross border deals, friendly deals, number of bidders, relatedness, ROA, leverage and ln(total assets). A dummy equals to one if payment is cash, deals are cross border transactions, transactions involve in friendly deals, transactions involve in multiple bidders and deals are diversification acquisitions; 0 otherwise. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Ln(total assets) is measured as the log of total assets. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute p value. Standard errors are reported in parentheses

***Significance at 0.01 level; **significance at 0.05 level; *significance at 0.1 level

Table 5 Target announcement returns

	All	Glamour	Neutral	Value	Kruskal–Wallis
(− 1, + 1)	0.2086	0.2053	0.2094	0.2112	0.10
p value	0.0000	0.0000	0.0000	0.0000	0.951
(− 2, + 2)	0.2165	0.2113	0.2159	0.2223	0.49
p value	0.0000	0.0000	0.0000	0.0000	0.783
(− 5, + 5)	0.2263	0.2169	0.2265	0.2355	1.31
p value	0.0000	0.0000	0.0000	0.0000	0.519
N	1109	370	370	369	

This table presents target announcement returns for glamour versus value firms. The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day-270 to day-61, where day 0 is the announcement date. Student t statistics is used to test the significance level, assuming cross-sectional independence of the sample. Kruskal–Wallis test is used to test the difference in target announcement returns for glamour, neutral and value firms

during the cold market condition. As a result, value target firms are more likely to involve in M&As during the cold market timing.

With regard to control variables, targets are less likely to involve in cash payment in M&As during the hot market. When the market is under normal and cold condition, targets are more likely to involve in cash payment in M&As. In addition, targets with better (poor) performance are more likely to engage in M&As during the normal (cold) period. When targets have high (low) leverage, targets are more (less) likely to engage in M&As during the hot (normal) period. Small (large) targets are more likely to engage in M&As during the hot (normal) market timing.

With regard to the empirical evidence for bidding firms, the results in Table 4 show that glamour bidding firms are more likely to engage in M&As during the hot market. Instead, neutral and value bidding firms are less likely to engage in M&As during the hot market condition. The coefficients are 0.471, − 0.285 and − 0.224 for glamour, neutral and value bidding firms respectively. When the market is under normal condition, neutral (value) bidding firms are more (less) likely to engage in M&As, the coefficient at 0.212 (− 0.182). When the market is under cold condition, glamour bidding firms are less likely to engage in M&As. On the contrary, value bidding firms are more likely to engage in M&As when the market is under cold condition. The coefficients for glamour and value bidding firms in the cold market are − 0.457 and 0.442 respectively. Consistent with the empirical results for targets, these findings indicate that glamour bidding firms prefer to engage in M&As in the hot market and their value counterparts appear to choose the cold market to involve in M&As.

With respective to control variables, the results are in general consistent with target results. However, when deals involve in multiple bidders, bidders are less likely to engage in M&As during the normal period. In addition, the evidence reveals that bidders are more likely to involve in diversifying acquisitions during the hot market. Small (large) bidding firms are more likely to engage in M&As during the hot (cold) market timing.[7]

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[7] While this section intends to explore whether different types of firms are more likely to choose different market conditions to engage in M&As, one may argue that different market conditions may cause different types of firms to engage in M&As. In this regard, the analysis in this study would contain causality concern.

4.4 Announcement returns for targets

4.4.1 Target abnormal returns

This section presents the empirical results for targets. As glamour firms in general have better past performance, glamour targets can have more bargaining power to negotiate the deals. The market can then react positively. On the other hand, value firms may have poor past performance prior to the transactions and these value firms can earn lower announcement returns. Thus, target announcement returns can differ for glamour versus value firms. As shows in Table 5, the results reveal that targets on average earn significant positive announcement returns around merger and acquisition announcements. For example, targets earn 20.86% cumulative abnormal returns over a 3-day (− 1, + 1) event window around merger and acquisition announcements. Splitting the sample on the basis of glamour versus value firms, the evidence indicates that value target firms on average obtain slightly higher announcement returns around merger and acquisition announcements relative to glamour and neutral target firms. The evidence shows that value target firms earn cumulative abnormal returns at 21.12% over a 3-day (− 1, + 1) event window around merger and acquisition announcements relative to 20.53 and 20.94% for their glamour and neutral counterparts, respectively. A possible explanation is that value target firms may own many tangible assets and bidders need to pay more to acquire these assets. Value target firms can then obtain higher announcement returns around merger and acquisition announcements in comparison to glamour and value target firms. However, the difference in target announcement returns among glamour versus value firms is not statistically significant.

Furthermore, an additional analysis further takes into account the market timing to explore the performance of glamour versus value firms in M&As. The results in Table 6 show that targets on average earn lower announcement returns during the hot market condition relative to those in the normal and cold market condition regardless of glamour versus value firms. However, the difference is statistically significant over a 5-day (− 2, + 2) and 11-day (− 5, + 5) event window for value targets only. Given that the market is under hot condition, the evidence indicates that glamour target firms can outperform to their neutral and value counterparts. The results show that glamour targets earn 18.95% cumulative abnormal returns over a 3-day (− 1, + 1) event window during the hot market in comparison to 17.19 and 15.68% for neutral and value targets, respectively. While glamour targets may have many intangible assets, the value of these assets can be more valuable during the hot market. Hence, glamour targets can obtain higher announcement returns during the hot market relative to their neutral and value counterparts. However, the difference among three types of firms is not statistically significant.

Alternatively, given that the market is under cold condition, value target firms on average earn higher announcement returns around merger and acquisition announcements relative to glamour and neutral targets. The evidence reveals that value targets obtain 26.14%

Footnote 7 (continued)

Applying for probit 2SLS to deal with causality issue in Tables 3 and 4, the results appear to be more sensitive to specific market conditions for targets and bidders. The sign and significant level for targets remain the same during the normal and cold market. On the contrary, the sign and significant level for bidders remain the same during the hot market. The results suggest that different types of firms can be more sensitive to the choice of the market timing to engage in M&As during the normal and cold market for targets and during the hot market for bidders.

Table 6 Target announcement returns for glamour versus firms within different market timing

	Glamour				Neutral				Value			
	Hot	Normal	Cold	Difference	Hot	Normal	Cold	Difference	Hot	Normal	Cold	Difference
(− 1, + 1)	0.1895	0.2037	0.2388	3.78	0.1719	0.2049	0.2502	4.31	0.1568	0.2120	0.2614	3.15
p value	0.0000	0.0000	0.0000	0.151	0.0000	0.0000	0.0000	0.116	0.0000	0.0000	0.0000	0.207
(− 2, + 2)	0.2027	0.2081	0.2376	2.07	0.1787	0.2135	0.2520	2.39	0.1519	0.2204	0.2904	5.90
p value	0.0000	0.0000	0.0000	0.356	0.0000	0.0000	0.0000	0.303	0.0000	0.0000	0.0000	0.052
(− 5, + 5)	0.2119	0.2123	0.2412	2.76	0.2014	0.2219	0.2575	1.78	0.1575	0.2323	0.3126	7.39
p value	0.0000	0.0000	0.0000	0.251	0.0000	0.0000	0.0000	0.411	0.0030	0.0000	0.0000	0.025

This table presents target announcement returns for glamour versus value firms in M&As within different market timing. The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day-270 to day-61, where day 0 is the announcement date. Student t statistics is used to test the significance level, assuming cross-sectional independence of the sample. Kruskal–Wallis test is used to test the difference in target announcement returns for glamour versus value firms within different market conditions (Difference)

cumulative abnormal returns over a 3-day $(-1, +1)$ event window higher than 23.88 and 25.02% for glamour and neutral targets, respectively. The difference is not statistically significant among three different types of firms. As value targets in general have a plenty of tangible assets, the value of these assets can be precisely evaluated during the cold market condition. Accordingly, bidders may need to pay more that can lead to higher announcement returns to value target firms during the cold market condition.

4.4.2 Cross-sectional regression analysis for targets

This section presents cross-sectional regression analysis to explore the relationship between announcement returns and glamour versus value firms for targets. In addition, the sample is further partitioned into the subsamples based on the market condition to look into whether the relationship between target announcement returns and glamour versus value firms can be influenced by the market timing in M&As. While prior studies have demonstrated the importance of deal and firm specific characteristics on firm performance in M&As, this study also controls for these characteristics in the regression analysis. The variables include cash, cross border deals, friendly deals, number of bidders, relatedness, ROA, leverage and ln(total assets). This can also allow the current study to further explore the determinants that can affect target announcement returns in M&As. Dependent variable is target 5-day $(-2, +2)$ cumulative abnormal returns.

While the choice of the market timing to engage in M&As may be self-selective to glamour versus value firms, this can result in self-selective bias to look into the relationship between target announcement returns and glamour versus value firms in M&As. Hence, the current study uses Heckman (1979) two step procedure to deal with the issue of self-selective bias. In the first stage, this study conducts probit regression analysis with controlling for deal and firm specific characteristics to obtain inverse mill's ratio for glamour, neutral and value firms respectively. In the second stage, this study further runs OLS regression analysis by controlling for inverse mill's ratio as an additional variable to take into account the potential self-selection bias. In addition, the regression analysis also controls for industry fixed effects as some industries may generally be classified as high growth (glamour) and low growth (value) firms.[8] This can also address the omitted variable issue in the regression analysis. In addition, the regression analysis also controls for year effects.[9] Alternatively, the regression analysis may encounter the issue of causality as the market condition may influence the classification of glamour versus value firms first. This study performs 2SLS with instrument variables to deal with the issue of causality.[10]

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[8] This study uses 1-dig SIC code to classify firms into various industries. In addition, the 2-dig SIC code is also employed to classify different target industries as a robustness check. The sign and significant level quantitatively remain the same.

[9] Controlling for year effects may correlate to the market timing in terms of the hot, normal and cold market. This study also excludes the variable of "year" in the regression analysis for targets and bidders separately. The sign and significance level remains the same.

[10] It is arguable that the firms are more likely to have higher market value during the hot market condition. When using the market to book ratio to classify glamour versus value firms, higher market value to the firms in the hot market can lead to higher market to book ratio. This can affect the classification of glamour versus value firms and also raise reversed causality concern. When applying 2SLS approach, the results do not find any significant relationship between target announcement returns and glamour versus value firms. The results suggest that the performance of glamour versus value firms are less sensitive to the market timing for targets.

Table 7 Cross-sectional regression analysis for targets

	All			Hot			Normal			Cold		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Constant	−6.699*	−7.432*	−7.719*	8.252	6.745	7.176	−5.789	−6.557	−6.615	−15.044*	−14.144*	−15.284*
	(4.095)	(4.403)	(4.329)	(9.332)	(8.553)	(8.847)	(5.273)	(5.387)	(5.324)	(8.511)	(8.500)	(8.432)
Glamour	−0.030**			−0.035			−0.020			−0.038		
	(0.015)			(0.045)			(0.018)			(0.037)		
Neutral		−0.002			−0.004			0.009			−0.011	
		(0.016)			(0.048)			(0.015)			(0.029)	
Value			0.027			0.012			0.010			0.039
			(0.021)			(0.059)			(0.022)			(0.036)
Cash	0.088***	0.092***	0.088***	0.142***	0.165***	0.141***	0.078***	0.084***	0.076***	0.112***	0.087***	0.113***
	(0.015)	(0.017)	(0.015)	(0.050)	(0.064)	(0.049)	(0.017)	(0.017)	(0.017)	(0.033)	(0.030)	(0.033)
Cross border	0.000	0.001	−0.005	0.028	0.053	0.020	−0.011	−0.008	−0.020	0.010	−0.022	0.018
	(0.020)	(0.023)	(0.019)	(0.036)	(0.049)	(0.030)	(0.026)	(0.028)	(0.025)	(0.040)	(0.046)	(0.039)
Friendly	−0.007	−0.027	−0.005	0.042	−0.102	0.039	−0.113***	−0.157**	−0.113***	0.165***	0.349***	0.153***
	(0.037)	(0.063)	(0.037)	(0.068)	(0.151)	(0.073)	(0.044)	(0.068)	(0.044)	(0.064)	(0.114)	(0.065)
Number of bidders	−0.038**	−0.056*	−0.038**	−0.019	−0.125*	−0.022	−0.047*	−0.082**	−0.043*	−0.059	0.077	−0.068*
	(0.017)	(0.033)	(0.017)	(0.031)	(0.078)	(0.028)	(0.025)	(0.042)	(0.026)	(0.037)	(0.062)	(0.039)
Relatedness	−0.019	−0.019	−0.017	−0.081	−0.081	−0.072	0.002	0.001	0.004	−0.008	0.002	−0.010
	(0.017)	(0.018)	(0.017)	(0.053)	(0.054)	(0.048)	(0.015)	(0.015)	(0.016)	(0.030)	(0.030)	(0.030)
ROA	−0.011	0.029	−0.008	0.070*	0.306	0.069	−0.142**	−0.058	−0.139***	0.014	−0.303**	0.024
	(0.028)	(0.082)	(0.028)	(0.042)	(0.200)	(0.044)	(0.061)	(0.097)	(0.059)	(0.042)	(0.148)	(0.044)
Leverage	−0.001	−0.046	0.007	0.068	−0.205	0.111	−0.090	−0.189	−0.086	0.068	0.470**	0.045
	(0.046)	(0.100)	(0.048)	(0.099)	(0.198)	(0.126)	(0.065)	(0.125)	(0.063)	(0.104)	(0.223)	(0.103)
ln(total assets)	−0.008**	−0.002	−0.010***	0.003	0.047	−0.002	−0.000	0.014	−0.002	−0.027***	−0.085***	−0.022***
	(0.004)	(0.015)	(0.004)	(0.008)	(0.039)	(0.009)	(0.005)	(0.016)	(0.005)	(0.008)	(0.027)	(0.008)
Year	0.004*	0.004*	0.004*	−0.004	−0.004	−0.004	0.003	0.003	0.003	0.008*	0.008*	0.008*
	(0.002)	(0.002)	(0.002)	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)

Table 7 (continued)

	All			Hot			Normal			Cold		
Industry	0.003	0.002	0.003	0.001	− 0.001	− 0.002	0.005	0.005	0.005	0.004	0.004	0.005
	(0.003)	(0.003)	(0.003)	(0.009)	(0.008)	(0.009)	(0.004)	(0.004)	(0.004)	(0.006)	(0.006)	(0.007)
Inverse mill's ratio (glamour)	− 0.020			− 0.063			− 0.023**			0.035		
	(0.014)			(0.054)			(0.011)			(0.024)		
Inverse mill's ratio (neutral)		0.107			0.654			0.226			− 0.877**	
		(0.215)			(0.569)			(0.222)			(0.382)	
Inverse mill's ratio (value)			0.016			0.037			0.023			− 0.042
			(0.014)			(0.037)			(0.015)			(0.029)
N	1083	1083	1083	269	269	269	562	562	562	252	252	252
Adjusted R square	0.0528	0.0494	0.0512	0.0616	0.0554	0.0516	0.1025	0.0982	0.0997	0.133	0.1317	0.1346

This table presents OLS regression analysis for targets. Dependent variable is target 5-day (− 2, + 2) cumulative abnormal returns. Key independent variables include glamour versus value firms, where a dummy equals to one if firms are classified as glamour, neutral and value firms respectively. Control variables include cash, cross border deals, friendly deals, number of bidders, relatedness, ROA, leverage and ln(total assets). A dummy equals to one if payment is cash, deals are cross border transactions, transactions involve in friendly deals, transactions involve in multiple bidders and deals are diversification acquisitions; 0 otherwise. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Ln(total assets) is measured as the log of total assets. Inverse mill's ratio is obtained by using two-stage Heckman (1979) procedure. The regression analysis also controls for industry fixed effects in order to address the issue of the omitted variable. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute *p* value. Standard errors are reported in parentheses

***Significance at 0.01 level; **significance at 0.05 level; *significance at 0.1 level

Table 8 Bidder announcement returns

	All	Glamour	Neutral	Value	Kruskal–Wallis
$(-1, +1)$	0.0062	0.0037	0.0055	0.0094	9.92
p value	0.0000	0.0310	0.0000	0.0000	0.007
$(-2, +2)$	0.0060	0.0002	0.0057	0.0121	22.03
p value	0.0000	0.9360	0.0000	0.0000	0.000
$(-5, +5)$	0.0044	− 0.0050	0.0044	0.0137	30.13
p value	0.0030	0.0570	0.0350	0.0000	0.000
$(+1, +90)$	− 0.0205	− 0.0535	− 0.0198	0.0117	32.02
p value	0.0000	0.0000	0.0030	0.1630	0.000
$(+1, +180)$	− 0.0398	− 0.0881	− 0.0296	− 0.0016	46.34
p value	0.0000	0.0000	0.0020	0.8860	0.000
$(+1, +270)$	− 0.0559	− 0.1026	− 0.0471	− 0.0179	30.70
p value	0.0000	0.0000	0.0000	0.1720	0.000
$(+1, +360)$	− 0.0596	− 0.1061	− 0.0402	− 0.0327	25.25
p value	0.0000	0.0000	0.0010	0.0280	0.000
N	6980	2327	2327	2326	

This table presents bidder announcement returns and long run post-announcement returns for glamour versus value firms. The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day-270 to day-61, where day 0 is the announcement date. In addition, buy and hold abnormal returns are used to capture long run post-announcement performance. The benchmark is used the matched firm's corresponding returns taking into account size and book to market ratio. Student t statistics is used to test the significance level, assuming cross-sectional independence of the sample. Kruskal–Wallis test is used to test the difference in bidder announcement returns for glamour versus value firms

This can better address the relationship between target announcement returns and glamour versus value firms in M&As within different market conditions.

As shows in Table 7, the results show that there is a negative relationship between target announcement returns and glamour target firms. The coefficient is − 0.030 in model specification (1), indicating that glamour target firms earn lower announcement returns in M&As. The evidence in model specification (3) reveals that there is a positive relationship between target announcement returns and value target firms. The coefficient is 0.027. However, the results are not statistically significant. The results also show that targets earn higher announcement returns when payment is cash. Instead, targets obtain lower announcement returns when transactions involve in multiple bidders and targets are large firms.

While splitting the sample on the basis of the market condition, the results consistently show that glamour (value) target firms earn lower (higher) announcement returns in M&As. However, none of the results is statistically significant. Hence, after controlling for deal and firm specific characteristics, the evidence suggests that the performance of glamour versus value firms can be less sensitive to the market condition in M&As. With regard to control variables, the results are in general consistent with previous findings in the regression analysis. However, given that the market is under the normal condition, targets obtain lower announcement returns when deals involve in friendly deals and targets have better performance prior to the transactions. On the other hand, given that the market

is under cold condition, the results reveal that targets earn higher announcement returns when transactions involve in friendly deals.

4.5 Announcement returns for bidders

4.5.1 Bidder abnormal returns

This section presents the empirical results for bidder announcement returns. If managers of glamour bidding firms are more confident their ability to manage the deals due to their past better performance, glamour bidding firms may possibly engage in value-decreasing acquisitions leading to lower announcement returns. Alternatively, value bidding firms may be more prudent to evaluate the deals resulting in higher announcement returns. In addition, the current study also computes long run buy and hold abnormal returns during long run post-announcement period. This can not only capture long run post-announcement drift in announcement returns, but also identify whether glamour versus value bidding firms can have superior ability to capture the market timing in creating value to their firms.

As can be seen in Table 8, the results show that bidders on average obtain marginal gains around merger and acquisition announcements, but suffer losses during long run post-announcement period. The evidence reveals that bidders obtain 0.62% cumulative abnormal returns over a 3-day ($-$ 1, $+$ 1) event window around merger and acquisition announcements. When looking at long run post-announcement period, bidders experience negative post-announcement returns up to $-$ 5.96% over a 360-day ($+$ 1, $+$ 360) post-announcement period.[11]

While partitioning the sample based on glamour, neutral and value firms, the results show that glamour bidding firms on average obtain lower announcement returns around merger and acquisition announcements relative to their neutral and value counterparts. The evidence indicates that glamour bidding firms obtain cumulative abnormal returns at 0.37% over a 3-day ($-$ 1, $+$ 1) event window relative to 0.55 and 0.94% for neutral and value bidding firms, respectively. The results lend support to Conn et al. (2005) and Andriosopoulos et al.'s (2015) study, showing that glamour bidding firms have poor performance around merger and acquisition announcements.

Looking at long run post-announcement period, the results reveal that glamour bidding firms experience more losses during long run post-announcement period. The evidence indicates that glamour bidding firms experience up to $-$ 10.61% announcement returns over a 360-day ($+$ 1, $+$ 360) post-announcement period in comparison to $-$ 4.02 and $-$ 3.27% for their neutral and value counterparts respectively. Higher losses to glamour bidding firms during long run post-announcement period suggest that managers in glamour bidding firms may be overconfident their ability to manage the deals due to their past better performance. This can result in lower announcement returns during long run post-announcement period. The results are also consistent with the study of Rau and Vermealen (1998), Kohers and Kohers (2007) and Sudarsanam and Mahate (2003).

Furthermore, this study takes into account the market condition to examine the performance of glamour versus value firms for bidders. As shows in Table 9, the results indicate that bidders in general obtain negative announcement returns around merger and

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[11] It should be noted that one of the sample firms is delisted on the stock exchange after the transactions. In this regard, this firm can measure short terms announcement returns, but does not generate long run post-announcement returns. The analysis for long run post-announcement returns is based on 6979 bidders.

Table 9 Bidder announcement returns for glamour versus value firms within different market timing

	Glamour				Neutral				Value			
	Hot	Normal	Cold	Difference	Hot	Normal	Cold	Difference	Hot	Normal	Cold	Difference
(−1, +1)	0.0002	0.0057	0.0029	4.66	−0.0080	0.0987	0.0017	11.90	−0.0059	0.0132	0.0117	10.51
p value	0.9660	0.0040	0.4570	0.097	0.1060	0.0000	0.5230	0.003	0.2930	0.0000	0.0020	0.005
(−2, +2)	−0.0102	0.0049	0.0018	8.80	−0.0097	0.0099	0.0034	8.13	−0.0047	0.0170	0.0132	8.01
p value	0.0380	0.0310	0.6660	0.012	0.1230	0.0000	0.2450	0.017	0.4780	0.0000	0.0010	0.018
(−5, +5)	−0.0265	0.0035	0.0041	11.94	−0.0126	0.0097	0.0003	6.77	−0.0039	0.0202	0.0124	2.44
p value	0.0000	0.1870	0.4980	0.003	0.1460	0.0000	0.9470	0.034	0.6450	0.0000	0.0070	0.296
(+1, +90)	−0.1574	−0.0164	0.0069	83.02	−0.0706	−0.0092	−0.0171	4.02	−0.0334	0.0290	0.0074	10.06
p value	0.0000	0.0470	0.6800	0.000	0.0040	0.2160	0.2070	0.134	0.1380	0.0130	0.5940	0.007
(+1, +180)	−0.2541	−0.0289	0.0087	122.05	−0.1038	−0.0116	−0.0333	7.80	−0.0137	0.0150	−0.0237	1.76
p value	0.0000	0.0070	0.7130	0.000	0.0010	0.3010	0.0850	0.020	0.6550	0.2400	0.3320	0.414
(+1, +270)	−0.3033	−0.0271	−0.0021	132.80	−0.1222	−0.0239	−0.0655	10.24	−0.0337	−0.0042	−0.0327	4.67
p value	0.0000	0.0330	0.9440	0.000	0.0000	0.0660	0.0060	0.006	0.3460	0.7870	0.2290	0.097
(+1, +360)	−0.3298	−0.0186	−0.0084	147.47	−0.1468	−0.0148	−0.0443	12.72	−0.0402	−0.0133	−0.0622	4.29
p value	0.0000	0.1720	0.8060	0.000	0.0000	0.2950	0.1020	0.002	0.3270	0.4770	0.0310	0.117

This table presents bidder announcement returns for glamour versus value firms in M&As within different market timing. The event study methodology with the market model is used to compute the abnormal returns. The model parameters are estimated from day−270 to day−61, where day 0 is the announcement date. In addition, buy and hold abnormal returns are used to capture long run post-announcement performance. The benchmark is used the matched firm's corresponding returns taking into account size and book to market ratio. Student t statistics is used to test the significance level, assuming cross-sectional independence of the sample. Kruskal–Wallis test is used to test the difference in bidder announcement returns within different market conditions (Difference)

acquisition announcements during the hot market in comparison to positive announcement returns during the cold market regardless of glamour versus value bidding firms. For example, bidders experience cumulative abnormal returns at 0.02%, − 0.80% and − 0.59% over a 3-day (− 1, + 1) event window during the hot market condition for glamour, neutral and value firms, respectively. Instead, bidders classified as glamour, neutral and value firms obtain 0.29, 0.17 and 1.17% cumulative abnormal returns over a 3-day (− 1, + 1) event window during the cold market condition. These results suggest that glamour versus value bidding firms can create higher value during the cold market relative to those in the hot market.

A further analysis looks at long run buy and hold abnormal returns to examine the performance of glamour versus value firms during long run post-announcement period. The evidence consistently reveals that bidders experience more losses during the hot market relative to other periods of the market conditions irrespective of glamour versus value firms. The results show that glamour bidding firms experience negative post-announcement returns at up to − 32.98% over a 360-day (+ 1, + 360) event window during the hot market in comparison to − 14.68 and − 4.02% for neutral and value bidding firms respectively. However, given that the market is under cold condition, glamour and neutral bidding firms tend to outperform to their value counterparts during long run post-announcement period. The evidence shows that glamour and neutral bidding firms obtain − 0.84 and − 4.43% post-announcement returns in the cold market during a 360-day (+ 1, + 360) post-announcement period higher than − 6.22% for their value counterparts.

As glamour bidding firms experience significant negative post-announcement returns in the hot market, the evidence suggests that managers of glamour bidding firms can be overconfident their ability to manage the deals in M&As. This can lead to lower post-announcement returns to glamour bidding firms. Similar findings can also be found for neutral bidding firms. Alternatively, while glamour bidding firms obtain higher post-announcement returns during long run post-announcement period in the cold market, the results suggest that glamour bidding firms can be more prudent to evaluate the deals during the cold market condition leading to higher post-announcement returns. On the contrary, value bidding firms obtain lower post-announcement returns in the cold market during long run post-announcement period. A possible explanation is that the market may be over-optimistic the transactions around merger and acquisition announcements during the cold market condition for value bidding firms. This can lead to adverse effects showing lower long run post-announcement returns in M&As.

4.5.2 Cross-sectional regression analysis for bidders

This section runs cross-sectional regression analysis to explore the relationship between bidder announcement returns and glamour versus value firms in M&As. Similar to target regression analysis, this study controls for deal and firm specific characteristics in the regression analysis for bidders. In addition, the regression analysis also controls for year effects and industry effects. While the choice of the market timing to engage in M&As for glamour versus value firms may be self-selective, the regression analysis also deals with the issue of self-selection bias using Heckman (1979) two step procedure. With controlling for inverse mill's ratio to account for self-selection bias, this study can address the relationship between bidder announcement returns and glamour versus value firms in M&As precisely.

Table 10 Cross-sectional regression analysis for bidders

	All			Hot			Normal			Cold		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Constant	−2.298***	−2.191***	−2.259***	−1.614	−0.436	−1.078	−0.310	−1.017	−0.459	−0.158	0.714	0.115
	(0.608)	(0.657)	(0.589)	(1.591)	(1.792)	(1.536)	(0.768)	(0.825)	(0.747)	(1.305)	(1.423)	(1.278)
Glamour	−0.005*			0.005			−0.005*			−0.006		
	(0.003)			(0.007)			(0.003)			(0.005)		
Neutral		−0.002			−0.008			−0.001			−0.005	
		(0.002)			(0.008)			(0.003)			(0.004)	
Value			0.007***			0.002			0.007*			0.009**
			(0.003)			(0.008)			(0.004)			(0.004)
Cash	0.006	−0.021	0.009**	0.008	−0.083	0.037***	0.009*	0.045	−0.006	0.000	−0.077	0.014*
	(0.004)	(0.038)	(0.004)	(0.013)	(0.134)	(0.012)	(0.006)	(0.047)	(0.006)	(0.008)	(0.076)	(0.008)
Cross border	0.003	−0.004	0.003	0.004	−0.020	0.007	0.003	0.013	0.000	0.001	−0.017	0.003
	(0.002)	(0.008)	(0.003)	(0.007)	(0.028)	(0.009)	(0.003)	(0.010)	(0.003)	(0.005)	(0.016)	(0.006)
Friendly	−0.018**	−0.073	−0.017	−0.014	−0.213	0.020	−0.010	0.070	−0.031**	−0.032	−0.185	−0.017
	(0.009)	(0.072)	(0.013)	(0.025)	(0.252)	(0.037)	(0.010)	(0.087)	(0.016)	(0.026)	(0.140)	(0.033)
Number of bidders	−0.023**	−0.013	−0.020*	−0.068**	−0.020	−0.062**	−0.004	−0.024	−0.003	−0.013	0.016	−0.011
	(0.011)	(0.013)	(0.011)	(0.030)	(0.036)	(0.032)	(0.012)	(0.016)	(0.012)	(0.014)	(0.022)	(0.015)
Relatedness	−0.001	−0.004	0.001	−0.008	−0.013	0.001	0.006	0.008	0.004	−0.008	−0.016	−0.004
	(0.003)	(0.006)	(0.003)	(0.009)	(0.022)	(0.008)	(0.004)	(0.008)	(0.003)	(0.006)	(0.012)	(0.005)
ROA	0.011	−0.031	0.007	0.034	−0.128	0.035	−0.001	0.067	−0.003	0.003	−0.114	0.005
	(0.009)	(0.051)	(0.010)	(0.024)	(0.166)	(0.033)	(0.012)	(0.063)	(0.012)	(0.016)	(0.096)	(0.022)
Leverage	0.025*	0.042***	0.035**	−0.013	0.077**	0.010	0.056***	0.018	0.056***	−0.000	0.047**	0.010
	(0.015)	(0.013)	(0.016)	(0.040)	(0.038)	(0.048)	(0.018)	(0.016)	(0.020)	(0.026)	(0.023)	(0.032)
ln(total assets)	−0.004	−0.005***	−0.006**	0.006	−0.002	−0.000	−0.011***	−0.007***	−0.010***	0.000	−0.002	−0.002
	(0.003)	(0.002)	(0.003)	(0.007)	(0.005)	(0.007)	(0.004)	(0.002)	(0.003)	(0.005)	(0.003)	(0.005)
Year	0.001***	0.001***	0.001***	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)

Table 10 (continued)

	All			Hot			Normal			Cold		
Industry	−0.001*	−0.001**	−0.001*	−0.002	−0.002	−0.002	−0.001	−0.001	−0.001	−0.000	−0.000	−0.000
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Inverse mill's ratio (glamour)	0.034			0.234*			−0.102*			0.100		
	(0.047)			(0.127)			(0.060)			(0.081)		
Inverse mill's ratio (neutral)		−0.187			−0.692			0.274			−0.529	
		(0.238)			(0.822)			(0.291)			(0.470)	
Inverse mill's ratio (value)			0.002			−0.119			0.089*			−0.055
			(0.042)			(0.133)			(0.053)			(0.083)
N	6971	6971	6971	1402	1402	1402	4041	4041	4041	1528	1528	1528
Adjusted R square	0.0163	0.0158	0.0167	0.0308	0.0291	0.0284	0.0168	0.0152	0.0171	0.0155	0.0152	0.0164

This table presents OLS regression analysis for bidders. Dependent variable is bidder 5-day (− 2, + 2) cumulative abnormal returns. Key independent variables include glamour versus value firms, where a dummy equals to one if firms are classified as glamour, neutral and value firms respectively. Control variables include cash, cross border deals, friendly deals, number of bidders, relatedness, ROA, leverage and ln(total assets). A dummy equals to one if payment is cash, deals are cross border transactions, transactions involve in friendly deals, transactions involve in multiple bidders and deals are diversification acquisitions; 0 otherwise. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Ln(total assets) is measured as the log of total assets. Inverse mill's ratio is obtained by using two-stage Heckman (1979) procedure. The regression analysis also controls for year effects. The regression analysis also controls for industry fixed effects in order to address the issue of the omitted variable. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute p value. Standard errors are reported in parentheses

***Significance at 0.01 level; **significance at 0.05 level; *significance at 0.1 level

Furthermore, the sample is further partitioned into the subsamples on the basis of the market timing to explore whether the market timing plays a role to influence the performance of glamour versus value bidding firms in M&As. Similar to the discussion for targets, this study also takes into account the issue of causality. Dependent variable is bidder $(-2, +2)$ cumulative abnormal returns. As can be seen in Table 10, the results in model specification (1) show that there is a negative relationship between bidder announcement returns and glamour bidding firms. The coefficient is -0.005, indicating that glamour bidding firms obtain lower announcement returns around merger and acquisition announcements. In contrast, the evidence in model specification (3) reveals that value bidding firms obtain higher announcement returns around merger and acquisition announcements, the coefficient at 0.007.

While splitting the sample based on the market condition, there is no significant relationship between bidder announcement returns and glamour versus value bidding firms during the hot market. Given that the market is under neutral condition, the results in model specification (7) reveal that glamour bidding firms consistently perform worse, the coefficient at -0.005. Instead, value bidding firms obtain higher announcement returns in the neutral market. The coefficient is 0.007 in the model specification (9).

When the market is under cold condition, the results in model specification (12) indicate that there is a positive relationship between bidder announcement returns and value bidding firms. The coefficient is 0.009, indicating that value bidding firms obtain higher announcement returns during the cold market condition. The results are consistent with previous findings in this study. With regard to control variables, the results show that bidders obtain lower announcement returns in relation to friendly deals, multiple bidders and large bidding firms. On the contrary, bidders obtain higher announcement returns when bidders have higher leverage.

In a further analysis, this study conducts cross-sectional regression analysis to explore the relationship between bidder long run post-announcement returns and glamour versus value firms in M&As. The regression analysis also partitions the sample on the basis of the market timing to further look into whether the relationship between bidder long run post-announcement returns and glamour versus value firms in M&As. Dependent variable is bidder $(+1, +180)$ buy and hold abnormal returns.[12] As shows in Table 11, the results in model specification (1) show that bidders classified as glamour firms obtain lower post-announcement returns during long run post-announcement period. Instead, the evidence in model specification (3) reveals that bidders obtain higher post-announcement returns in association with bidders classified as value firms. The coefficients for glamour and value bidding firms are -0.058 and 0.059, respectively. The results are consistent with previous findings in this study.

While splitting the sample based on the market timing, this study finds consistent results during the hot and normal period. The results in model specification (4) and (7) find that there is a negative relationship between bidder post-announcement returns and glamour bidding firms during the hot and normal period. The coefficients are -0.141 and -0.031, indicating that glamour bidding firms obtain lower post-announcement returns during the hot and normal period respectively. Comparing with these two coefficients, glamour bidding firms perform worse in the hot market during long run post-announcement period than those during the normal period. Alternatively, the evidence reveals that value bidding

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[12] As one bidding firm does not have long run post-announcement returns, this can reduce one observation in the regression analysis.

Table 11 Cross-sectional regression analysis for bidders during long run post-announcement period

	All			Hot			Normal			Cold		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Constant	−20.177***	−22.073***	−20.173***	−16.682*	−22.103**	−21.396***	−13.586***	−15.256***	−12.309***	−10.581	−14.696*	−10.086
	(3.157)	(3.414)	(3.080)	(8.731)	(9.571)	(8.663)	(4.311)	(4.672)	(4.156)	(7.998)	(8.655)	(7.865)
Glamour	−0.058***			−0.141***			−0.031**			0.033		
	(0.012)			(0.031)			(0.014)			(0.029)		
Neutral		0.000			−0.015			−0.003			−0.021	
		(0.012)			(0.035)			(0.014)			(0.026)	
Value			0.059***			0.185***			0.038***			−0.002
			(0.013)			(0.035)			(0.015)			(0.028)
Cash	0.051***	0.178	0.078***	0.200***	0.544	0.227***	0.002	0.284	−0.002	0.065	0.592	−0.012
	(0.021)	(0.204)	(0.021)	(0.055)	(0.510)	(0.052)	(0.023)	(0.283)	(0.026)	(0.049)	(0.465)	(0.046)
Cross border	−0.003	0.014	−0.008	−0.034	0.027	−0.033	−0.002	0.049	−0.017	0.020	0.132	−0.008
	(0.013)	(0.043)	(0.015)	(0.034)	(0.112)	(0.038)	(0.015)	(0.060)	(0.018)	(0.033)	(0.099)	(0.037)
Friendly	−0.093*	0.088	−0.100	−0.205*	0.327	−0.163	−0.064	0.418	−0.137	0.027	1.023	−0.147
	(0.051)	(0.374)	(0.070)	(0.117)	(0.955)	(0.166)	(0.059)	(0.520)	(0.088)	(0.126)	(0.841)	(0.169)
Number of bidders	0.023	0.035	0.064	−0.103	−0.117	−0.065	−0.017	−0.061	0.042	0.292***	0.140	0.357***
	(0.056)	(0.076)	(0.059)	(0.154)	(0.209)	(0.153)	(0.051)	(0.084)	(0.058)	(0.094)	(0.142)	(0.102)
Related-ness	−0.044***	−0.011	−0.024*	−0.047	0.015	−0.027	−0.041**	0.011	−0.021	0.008	0.079	0.013
	(0.016)	(0.034)	(0.013)	(0.041)	(0.087)	(0.035)	(0.019)	(0.045)	(0.016)	(0.035)	(0.075)	(0.029)
ROA	0.228***	0.309	0.182***	0.298***	0.646	0.267**	0.265***	0.575*	0.192**	−0.092	0.613	−0.215*
	(0.046)	(0.254)	(0.060)	(0.094)	(0.635)	(0.135)	(0.076)	(0.335)	(0.094)	(0.076)	(0.576)	(0.120)
Leverage	0.213***	0.293***	0.336***	0.322*	0.408***	0.441**	0.152**	0.151**	0.318***	0.424***	0.233*	0.603***
	(0.065)	(0.061)	(0.083)	(0.167)	(0.155)	(0.196)	(0.074)	(0.078)	(0.108)	(0.156)	(0.132)	(0.190)
ln(total assets)	0.015	−0.009	−0.008	0.025	−0.007	0.005	0.009	−0.015	−0.021	−0.029	−0.035*	−0.052**
	(0.011)	(0.008)	(0.012)	(0.026)	(0.020)	(0.026)	(0.012)	(0.011)	(0.015)	(0.025)	(0.019)	(0.026)
Year	0.010***	0.011***	0.010***	0.008*	0.010**	0.011***	0.007***	0.007***	0.006***	0.005	0.005	0.005
	(0.002)	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)
Industry	−0.011***	−0.012***	−0.010***	−0.032***	−0.035***	−0.033**	−0.008**	−0.008**	−0.007**	0.003	0.004	0.004
	(0.003)	(0.003)	(0.003)	(0.008)	(0.008)	(0.008)	(0.003)	(0.003)	(0.003)	(0.007)	(0.007)	(0.007)

Table 11 (continued)

	All			Hot			Normal			Cold		
Inverse mill's ratio (glamour)	0.352* (0.195)			0.290 (0.493)			0.241 (0.223)			−0.241 (0.453)		
Inverse mill's ratio (neutral)		0.592 (1.250)			1.890 (3.136)			1.617 (1.742)			3.365 (2.842)	
Inverse mill's ratio (value)			0.088 (0.216)			0.105 (0.525)			0.340 (0.291)			0.734 (0.474)
N	6970	6970	6970	1401	1401	1401	4041	4041	4041	1528	1528	1528
Adjusted R square	0.0459	0.0455	0.0425	0.149	0.1364	0.1541	0.0265	0.0272	0.0254	0.0202	0.0205	0.0206

This table presents OLS regression analysis for bidders during long run post-announcement period. Dependent variable is bidder (+ 1, + 180) buy and hold abnormal returns. Key independent variables include glamour versus value firms, where a dummy equals to one if firms are classified as glamour, neutral and value firms respectively. Control variables include cash, cross border deals, friendly deals, number of bidders, relatedness, ROA, leverage and ln(total assets). A dummy equals to one if payment is cash, deals are cross border transactions, transactions involve in friendly deals, transactions involve in multiple bidders and deals are diversification acquisitions; 0 otherwise. ROA is measured as net income to total assets. Leverage is measured as total debt to total assets. Ln(total assets) is measured as the log of total assets. Inverse mill's ratio is obtained by using two-stage Heckman (1979) procedure. The regression analysis also controls for year effects. The regression analysis also controls for industry fixed effects in order to address the issue of the omitted variable. Financial data is collected from the year end prior to the announcement date in the Datastream database. White's (1980) heteroskedasticity is used to compute p value. Standard errors are reported in parentheses

***Significance at 0.01 level; **significance at 0.05 level; *significance at 0.1 level

firms obtain higher post-announcement returns in the hot and normal period during long run post-announcement period. The coefficients in model specification (6) and (9) are 0.185 and 0.038 in the hot and normal period, respectively. Similarly, when comparing with the coefficients, the results indicate that value bidding firms outperform in the hot market relative to those in the cold market.

Given that the market is under cold condition, the results in model specification (10) and (12) show that glamour (value) bidding firms obtain higher (lower) post-announcement returns, the coefficient at 0.033 and − 0.002 respectively. However, the results are not statistically significant. With regard to control variables, the results show that bidders obtain higher post-announcement returns in correlation to cash payment, better performance and higher leverage. When transactions involve in diversifying acquisitions, bidders obtain lower post-announcement returns.[13]

5 Conclusion

This study explores the performance of glamour versus value firms in M&As. Specifically, the current study takes into account the market timing to look into what determinants can influence glamour versus value firms and whether glamour versus value firms are more likely to choose different market conditions to engage in M&As. In addition, this study accounts for the market timing to examine the performance of glamour versus value firms in M&As. Using the standard event study methodology with 1109 targets and 6980 bidders from the period of 2000–2013, the results show that firm specific characteristics in terms of ROA, leverage and firm size can be determinants to influence glamour versus value firms for targets and bidders. In addition, cash payment appears to be a determinant to influence glamour versus value bidding firms.

Additionally, the evidence reveals that glamour targets are more (less) likely to engage in M&As during the hot (cold) market condition. Instead, value targets are more likely to involve in M&As during the cold market condition. Interestingly, when the market is hot, glamour (value) bidding firms are more (less) likely to engage in M&As. In contrast, when the market is under cold condition, glamour (value) bidding firms are less (more) likely to involve in M&As.

With respective to the performance of glamour versus value firms, the results reveal that there is no significant difference in target announcement returns for glamour versus value firms. Given the hot market, glamour targets obtain higher announcement returns than value targets. However, the results are reverse during the cold market, showing that value targets earn higher announcement returns relative to their glamour counterparts. However, the regression analysis indicates that the relationship between target announcement returns and glamour versus value firms is less sensitive to the market condition.

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[13] Consistent with target regression analysis, the study also performs 2SLS with instrument variables to deal with the issue of causality. After performing 2SLS, this study interestingly finds a significant relationship between bidder announcement returns and glamour versus value firms. While the sign of the coefficients remains the same, the magnitude of the coefficients and the significance level is even stronger. The evidence indicates that the performance of glamour versus value firms can be more sensitive to the market condition for bidding firms. These results suggest that causality can be an issue to be taken into account when looking into the market timing on the influence of the performance of glamour versus value bidding firms in M&As.

Turning to the empirical evidence for bidding firms, the results show that glamour bidding firms obtain lower announcement returns around merger and acquisition announcements than their neutral and value counterparts. The evidence also reveals that glamour bidding firms experience more losses during long run post-announcement period. Taking into account the market conditions, the results show that glamour and neutral bidders obtain lower announcement returns in the hot market around merger and acquisition announcements and during long run post-announcement period relative to other periods of the market conditions. While glamour bidding firms obtain higher post-announcement returns in the cold market during long run post-announcement period relative to their neutral and value counterparts in the cold market, the evidence suggests that glamour bidding firms can have more ability to capture the cold market condition in creating value to their firms. On the contrary, as value bidding firms obtain higher announcement returns around merger and acquisition announcements in the cold market, value bidding firms obtain lower post-announcement returns during long run post-announcement period due to the presence of adverse effects.

Overall, this study reveals the performance of glamour versus value firms in M&As. In particular, the performance of glamour versus value firms can be influenced by the market condition in M&As. As a consequent, the empirical findings indicate that the market timing can be a determinant to influence the performance of glamour versus value firms in M&As. Hence, the study sheds lights on the importance of the market timing on the performance of glamour versus value firms in M&As.

References

Alexandridis G, Antoniou A, Zhao H (2008) Belief asymmetry and gains from acquisitions. J Multinat Financ Manage 18:443–460

Andre P, Kooli M, L'Her JF (2004) The long run performance of mergers and acquisitions: evidence from the Canadian stock market. Financ Manage 33:27–43

Andriosopoulos D, Yang S, Li WA (2015) The market valuation of M&As announcement in the United Kingdom. Int Rev Financ Anal 50:547–561

Antoniou A, Guo J, Petmezas D (2008) Merger momentum and market valuations: the UK evidence. Appl Financ Econ 18:1411–1423

Barber BM, Lyon JD (1997) Detecting long-run abnormal stock returns: the empirical power and specification of test statistics. J Financ Econ 43:341–372

Bauman WS, Conover CM, Miller RE (2001) The performance of growth stocks and value stocks in the Pacific Basin. Rev Pac Basin Financ Mark Polic 4:95–108

Bradley M, Desai A, Kim EH (1983) The rationale behind inter-firm tender offers. J Financ Econ 11:183–206

Bradley M, Desai A, Kim EH (1988) Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. J Financ Econ 21:3–40

Brown SJ, Warner JB (1985) Using daily stock returns: the case of event studies. J Financ Econ 14:3–31

Cai J, Song MH, Walkling RA (2011) Anticipation, acquisitions, and bidder returns: industry shocks and the transfer of information across Rivals. Rev Financ Stud 24:2242–2285

Chan LKC, Jegadeesh N, Lakonishok J (1995) Evaluating the performance of value versus glamour stocks: the impact of selection bias. J Financ Econ 38:269–296

Chiang G (2016) Exploring the transitional behavior among value and growth stocks. Rev Quant Financ Acc 47:543–563

Chidambaran NK, John K, Shangguan Z, Vasudevan G (2010) Hot and cold merger market. Rev Quant Financ Acc 34:327–349

Conn RL, Cosh A, Guest PM, Hughes A (2005) The impact on UK acquirers of domestic, cross-border, public and private acquisitions. J Bus Financ Acc 32:815–870

Croci E, Petmezas D, Vagenas-Nanos E (2010) Managerial overconfidence in high and low valuation markets and gains to acquisitions. Int Rev Financ Anal 19:368–378

Daniel K, Titman S (1997) Evidence on the characteristics of cross-sectional variation in stock returns. J Financ 52:1–33

Draper P, Paudyal K (1999) Corporate takeovers: method of payment, returns and trading activity. J Bus Financ Acc 26:521–558

Dullard S, Hawtrey K (2012) Disciplinary corporate takeovers: evidence for Australia. Rev Pac Basin Financ Mark Polic 15:1–22

Eckbo BE, Thorburn KS (2000) Gaines to bidder firms revisited: domestic and foreign acquisitions in Canada. J Financ Quant anal 35:1–25

Fama EF, French KR (1992) The cross section of expected stock returns. J Financ 47:427–465

Fama EF, French KR (1993) Common risk factors in the returns on stocks and bonds. J Financ Econ 33:131–155

Fama EF, French KR (2012) Size, value, and momentum in international stock returns. J Financ Econ 105:457–472

Goergen M, Renneboog L (2004) Shareholder wealth effects of European domestic and cross-border takeover bids. Eur Financ Manage 10:9–45

Hadlock C, Ryngaert M, Thomas S (2001) Corporate structure and equity offerings: are there benefits to diversification? J Bus 74:613–635

Harris RS, Ravenscraft D (1991) The role of acquisitions in foreign direct investment: evidence from the U.S. stock market. J Financ 46:825–844

Harrison JS, Hart M, Oler DK (2014) Leverage and acquisition performance. Rev Quant Financ Acc 43:571–603

Heckman JJ (1979) Sample selection bias as a specification error. Econometrica 47:153–161

Hunter WC, Jagtiani J (2003) An analysis of adviser choice, fees, and effort in mergers and acquisitions. Rev Financ Econ 12:65–81

Jarrell GA, Bradley M (1980) The economic effects of state federal regulations of cash tender offers. J Law Econ 23:371–407

Jensen MC, Ruback R (1983) The market for corporate control: the scientific evidence. J Financ Econ 11:5–50

Kohers N, Kohers T (2007) Takeovers of technology firms: expectations versus reality. Financ Manage 30:5–30

Kohers N, Kohers G, Kohers T (2007) Glamour, value, and the form of takeover. J Econ Bus 59:74–87

Kothari SP, Warner JB (1997) Measuring long-horizon security price performance. J Financ Econ 43:301–339

Lakonishok J, Shleifer A, Vishny RW (1994) Contrarian investment extrapolation and risk. J Financ 49:1541–1578

Lang LHP, Stulz R (1994) Tobin's Q, corporate diversification and firm performance. J Polit Econ 102:1248–1280

Lang LH, Stulz R, Walkling RA (1989) Managerial performance, Tobin's Q, and the gains from successful tender offer. J Financ Econ 24:137–154

Lowinski F, Schiereck D, Thomas TW (2004) The effect of cross-border acquisitions on shareholder wealth—evidence from Switzerland. Rev Quant Financ Acc 22:315–330

Lyon JD, Barber BM, Tsai CL (1999) Improved methods for tests of long-run abnormal stock returns. J Financ 56:165–201

Megginson WL, Morgan A, Nail L (2004) The determinants of positive long-term performance in strategic mergers: corporate focus and cash. J Bank Financ 28:523–552

Moeller SB, Schlingemann FP, Stulz RM (2004) Firm size and the gains from acquisitions. J Financ Econ 73:201–228

Morck R, Shleifer A, Vishny RW (1990) Do managerial objectives drive bad acquisitions? J Financ 45:31–48

Petmezas D (2009) What drives acquisitions? Market valuations and bidder performance. J Multinat Financ Manage 19:54–74

Rau PR, Vermealen T (1998) Glamour, value and the post-acquisition performance. J Financ Econ 49:223–253

Roll R (1986) The hubris hypothesis of corporate takeovers. J Bus 59:197–216

Rosen RJ (2006) Merger momentum and investor sentiment: the stock market reaction to merger announcements. J Bus 79:987–1017

Schwert GW (2000) Hostility in takeovers: in the eyes of the beholder? J Financ 55:2599–2640

Servaes H (1991) Tobin's q and gains from takeovers. J Financ 46:409–419

Servaes H, Zenner M (1996) The role of investment banks in acquisitions. Rev Financ Stud 9:787–815

Shleifer A, Vishny RW (2003) Stock market driven acquisitions. J Financ Econ 70:295–311

Sudarsanam S, Mahate AA (2003) Glamour acquirers, method of payment and post-acquisition performance: the UK evidence. J Bus Financ Acc 30:299–341

Sudarsanam S, Holl P, Salami A (1996) Shareholder wealth gains in mergers: effect of synergy and ownership structure. J Bus Financ Acc 23:673–698

Tebourbi I (2012) Timing of mergers and acquisitions: Evidence from the Canadian stock market. Int J Econ Financ 4:87–107

Travlos NC (1987) Corporate takeover bids, method of payment and bidding firms' stock returns. J Financ 42:943–964

Walker M (2000) Corporate takeovers, strategic objectives and acquiring firm shareholder wealth. Financ Manage 20:53–66

White H (1980) A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. Econometrica 48:817–838