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How Would the Date of 52-week High/low of a Bidder Affect M&A?

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Abstract

This thesis consists of three empirical studies. First, it discusses how the acquirers' date of 52-week high/low affects the completeness and the performance of the acquirers in M&A. Second, it compares the conflicting market timing effect and signalling effect in M&A and discusses which is the domination power in the deals. Finally, it examines how the choice of financial advisors affects bidders in M&A under the influence of payment methods and the psychological reference points at or near the dates of 52-week high and low.

Based on the US M&As undertaken in the period between 1/1/1985 - 03/31/2015, the thesis finds that 1) an M&A announcement closer to the date of the 52-week peak will positively influence the completion of the transaction but negatively affect the cumulative abnormal returns (CARs) and buy-and-hold abnormal returns (BHARs), while an M&A announcement closer to the date of the 52-week low will be significantly associated with higher 36-month and 60-month BHARs but lower deal completion given stock exchange as the payment method. 2) Anti-signallers (bidders that announce pure cash deals close to the date of the 52-week low) have the highest short-term return, while timers (bidders that announce pure stock deals close to the date of the 52-week high) perform the worst in terms of CARs after the announcement. In the long term, reversals exist in all categories of bidders. The anti-signallers have the lowest reversal in the long term, while the timers have the highest long-term reversal. 3) When payment methods and the announcement timing are controlled, neither the top- nor the median-tier financial advisors bring significant gains whatsoever; the low-tier advisors even incur remarkable loss to the acquirers. The in-house deal announcements are recognized by the market with significantly positive cumulative abnormal returns in the short term;

however, they are unlikely to be completed due to the lack of experience in M&A. Comparatively speaking, the median-tier advisors are the most cost effective in terms of the deal completion and consequent performances.

This thesis contributes to the existing literature 1) by establishing a bidder reference timing point at the date of the 52-week high/low, when the announcement significantly impacts the M&A. 2) In addition, the contradictive recommendation for payment methods from market timing theory and signalling theory are reconciled and complemented with more details. 3) Finally, it empirically proves that the influence from the reference timing point of the dates of the 52-week high/low is even more decisive than that of the financial advisors.

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Chapter 1: Introduction

1.1 The importance of this research

The research examines whether the bidder 52-week high/low affects M&A and discusses how other mostly straightforward elements, such as payment methods and the choice of financial advisor, impact the deals. Clarifying the answers would help businesses wisely invest in M&A.

The 52-week high is the highest price at which a stock has been traded during the previous year. It is viewed as an important anchor in determining the shares' current value and predicting future price momentum. Empirical studies have proved that the momentum driven by the 52-week high can bring significant median-term profits without reversals in the long term. Researchers attribute this finding to an anchoring and adjustment mechanism (Tversky and Kahneman,1974) whereby subjects are likely to use an easily available reference point or anchor (which may be arbitrary) as a starting point and adjust away from the anchor in forming their estimates.

As a proper reference point in anchoring bidder performance in M&A, this price is expected to comprehensively cover the bidder's profitability, liquidity, leverage, effectiveness and market performance.

Returns, as profitability ratios representing the ability to generate profits from sales, assets and shareholder investments, are indeed the most important reference metrics in M&A. However, a firm's liquidity ratios, leverage ratios, activity ratios and market performance ratios, which reflect its ability to meet short-term financial commitments, the extent to which debt funds are used in the business, the effectiveness of resource usage and how an investment is performing in financial markets, respectively, are also expected to be considered as referential benchmarks.

In comparison, in an assumed effective market, market players' stock prices reflect both past and current public information and even hidden "insider" information, which considers profitability, liquidity, leverage, effectiveness and market performance. Therefore, in this thesis, rather than the returns, the 52-week high/low prices are employed as important and better reference points affecting M&A.

In the sector of M&A, although Baker, Pan and Wurgler (2009) have proven that the target's 52-week high acts as an initial anchor in M&A negotiations in the context of the US market, influences the offer prices and positively affects the probability of deal success, there are very few studies taking the 52-week high as a timing anchor in studying the performance of acquirers, which is a very important research gap to be bridged. In addition, the anchoring and momentum effects of the 52-week low have not been well discussed. From the bidder perspective, further documenting both the 52-week high and the 52-week low psychological anchors in completing M&A would well complement the reference point theory from the target perspective, initiated by Baker, Pan and Wurgler (2009) .

In addition, the current market timing theory and the empirical signalling effects seem to be contradictive in justifying the payment methods in M&A. Specifically, given that bid managers are rational and the share prices might fluctuate around the intrinsic value, market timing theory suggests that the buyer take advantage of the peak-value shares as payment method, while signalling effects from empirical studies indicate that the market players are able to receive the negative signal of timing the market at a high price by offering stock exchange deals and thus favouring the cash payment. The theoretical contradiction provides another research gap to reconcile market timing theory and the empirical signalling effects in the context of bidder announcements near the 52-week high/low, clarify the justifications of the payment methods at or near the 52-week high/low reference points and rank the effectiveness of market timing and

signalling at different levels of proximity to the 52-week high/low.

Third, in addition to the 52-week high/low reference points and payment methods, investment banks (financial advisors), with the reputation of being experts in capital market transactions, are widely recognized as a lubricant and one of the most influential factors in M&A and theoretically should act in the best interest of their clients (Chemmanur and Fulghieri (1994)). As the 52-week high/low reference points and payment methods have been shown to have a significant influence on M&A, it is important to clarify 1) whether different tiers of advisors have a certain co-relation in M&A announcements near the 52-week reference points, 2) whether different tiers of advisors have more significant impacts on the deals than the 52-week reference points and payment methods have, and 3) whether acquirers waste money in hiring investment banks when they announce M&A near the 52-week reference points.

This research sheds light on the most significant variables affecting M&A, including bidder reference points, payment methods and financial advisors, in an effort to help management simplify investment decisions in the capital market.

1.2 Summary: Key findings and contributions

The first part of the study finds that the timing of M&A announcement near acquirers' 52-week high stock price will positively affect the deal completion and lead to a superior short-term return measured by cumulative abnormal returns (CARs). In contrast, the timing of M&A announcements far from acquirers' 52-week high stock price yields significant 3-5-year long-term buy-and-hold abnormal returns (BHARs) for the bidders.

However, due to the endogeneity of "announcement nearness to the 52-week high/low price" to the bidder performance, this study uses "announcement nearness to the dates

of the 52-week high/low" as an instrumental variable to measure the deal timing and documents that the nearness of an M&A announcement to the date of the 52-week high will positively influence the completion of the transaction but negatively affect both the CARs (contradictive to the result when nearness is measured by stock price) and BHARs. On the other hand, although less influential in short-term performance and deal completion, the closer the announcement of M&A is to the date of the 52-week low remains significantly with higher 36-month and 60-month BHARs but lower completion given stock exchange as payment method.

In other words, acquisition near the dates of the 52-week high/low affects various aspects of the M&A. Therefore, the dates of the 52-week high and low as anchor reference points could be established, affecting the deal completeness and M&A performance and complementing the reference point theory from the bidder perspective. In addition, one other element worth mentioning is the payment method, which is found to be the most influential variable in all regressions of M&A in this study.

Following the newly established 52-week reference point theory for bidders and considering the most effective payment method, the second part of the study redefines stock exchange bidders with their announcement close to the date of the 52-week high as market timers, stock exchange bidders with their announcement close to the date of the 52-week low as anti-timers, cash bidders with their announcement close to the date of the 52-week high as market signallers and cash bidders with their announcement date close to the 52-week low as anti-signallers.

This part of the research then further studies the performances of market timer, signaller, anti-timer and anti-signaller and illustrates that market timers do not benefit from taking advantage of their high-valued equity as payment method in the short term, which is inconsistent with the market timing theory. On the other hand, market signallers perform better in the short term by sending positive signals to inform the market that

they are not taking profit from the current price and are expecting higher value, which could be concluded and documented as an important signalling effect. In the long term, both market timers and signallers experience a serious reversal. Surprisingly, anti-signallers, as winners, reverse significantly less than all the other research objects in the long term.

The third part of the study discloses that acquirers with top-tier advisors are most inclined to announce the transaction near the date of the 52-week high, while in-house bidders announce the deals significantly closer to the date of the 52-week low. Both signallers and timers are more likely to be connected to the top-tier advisors than are anti-signallers and anti-timers, while anti-signallers and anti-timers are more lowkey in terms of employing financial advisors, conducting in-house transactions and hiring low-tier advisors. Controlling payment methods and the announcement timing, neither the top- nor the median-tier financial advisors bring significant gains whatsoever; the low-tier advisors even incur remarkably loss to the acquirers. The in-house deals are recognized by the market with significantly positive CARs in the short term; however, these deals are unlikely to be completed due to the lack of experience in M&A. Comparatively speaking, the median-tier advisors are the most cost effective in terms of the deal completion and subsequent performance. In addition, payment methods and announcement timing have more influence on the subsequent bidder performance than do financial advisors.

1.3 Theoretical Framework and Literature Review

In the first part of the study, based on the anchoring and adjustment mechanism (Tversky and Kahneman, 1974), whereby the subjects are likely to use an easily available reference point or anchor (which may be arbitrary) as a starting point and adjust away from the anchor in forming their estimates, George and Hwang (2010) conduct an empirical study on the 52-week market momentum effect. They indicate

that buying winners with a high ratio of the current price to the past 52-week high and selling losers (with a low ratio of the current price to the past 52-week high) generates significant median-term profits without return reversals in the long term. On the other hand, in the field of M&A, reference point theory initiated by Baker, Pan and Wurgler (2009) proposes the target's 52-week high as an initial anchor in M&A negotiations in the context of the US market. In this reference point theory, it is contended that the 52-week high stock price of the target proportionally influences the offer prices, positively affects the probability of deal success and provides additional insight into why merger activity is associated with high market valuations and thus comes in waves. The above-mentioned theories and the empirical studies indicate the possibility of the bidder 52-week high as a psychological reference point in M&A that impacts the deal, thus representing a research gap concerning whether the acquirers' 52-week high and low affect the completeness and performance of the acquirers in M&A.

The second part of the study is based on the contradiction of market timing theory and empirical signalling effects. Specifically, given that bid managers are rational and the share prices might fluctuate around the intrinsic value, market timing theory suggests the buyer to take advantage of the peak-valued shares as payment method, while signalling effects from empirical studies indicate that the market players can receive the negative signal of timing the market by offering stock exchange deals and thus favouring cash payment. This part of the study attempts to reconcile the contradiction in justifying the payment methods by studying the sub-groups of the sample with a relatively pure timing effect and signalling effect. Specifically, by comparing the performances of the sub-groups, the research can rank the effects and give pragmatic suggestions to bid managers in practice.

The third part of the study is based on the roles and mixed effect results of financial advisors in M&A. Specifically, much relevant empirical literature reports a negative or at best nonsignificant relationship between bidder financial advisor reputation and

bidder returns following M&A (see, for example, McLaughlin (1992), Servaes and Zenner (1996), Rau (2004), Hunter and Jagtiani (2004),and Ismail (2010)). In contrast, Golubov, Petmezas and Travlos (2012), along with other scholars (e.g., Bao and Edmans 2011; Sibilkov and McConnell 2014), argue that with their better reputation and ability to identify the most synergistic combinations for bidders, top-tier advisors deliver higher bidder returns than do their non-top-tier counterparts in public acquisitions; therefore, top-tier advisors charge premium fees in these transactions.

The contradiction concerning the performance of financial advisors requires additional controlling conditions to clarify the roles of the advisors. Therefore, the most practical part of the study concerns how the choice of financial advisor affects bidders in M&A, under the influence of payment methods and with the psychological reference points of the 52-week high and low.

1.4 Research Design

The purpose of this thesis is to investigate the effects of the bidder 52-week high/low reference point on M&A. The research is divided into three parts.

In the first part of the research, short- and long-term event studies were conducted to calculate US listed bidders' cumulative abnormal returns (CARs) and buy-and-hold abnormal returns (BHARs) as major dependent variables in the regression on the nearness of the announcement to the 52-week high/low. In addition, the premium and completeness of the M&A are regressed on the nearness of the announcement to the 52-week high/low to determine whether the announcement timing anchored by the 52-week reference points will affect different aspects of M&A. In the research, the endogeneity of using stock price to measure the nearness of the announcement to the 52-week high and low is discussed, and a better measurement of the nearness is proposed, namely, the number of days from the date of 52-week high/low to the date of

announcement divided by the maximum of 254 trading days in a financial year to measure the deal timing.

In the second part of the research, based on the payment methods and the bidder 52-week reference points, the samples are re-categorized as follows: stock exchange bidders with their announcement date close to the 52-week high are redefined as market timers, stock exchange bidders with their announcement date close to the 52-week low as anti-timers, cash bidders with their announcement date close to the 52-week high as market signallers and cash bidders with their announcement date close to the 52-week low as anti-signallers. The CARs and BHARs of the four categories of bidders are calculated and compared to discuss the effectiveness of the market timing and signalling effects from the transactions. In addition, the bidder performances are also regressed for each bidder category to further discuss whether different categories of bidders would affect the short- and long-term performances.

The third part of the study ranks financial advisors in different tiers. Based on the ranking, regressions are conducted to study whether different tiers of financial advisors would impact the short- and long-term performances of the bidders under the influence of payment methods and the psychological reference points of 52-week high and low.

1.5 Thesis Structure

There are five chapters in this thesis. The first chapter introduces the research background, a brief research framework, and the research design. In the second chapter, the thesis discusses how the acquirers' 52-week high and low prices/dates affect the completeness and the performance of the acquirers in M&A. The third chapter discusses the reconciliation and comparison of the effects from market timing theory and signalling theory in M&A. The fourth chapter focuses on how the choice of financial advisor affects bidders in M&A under the influence of payment methods and the

psychological reference points of 52-week high and low. The fifth chapter provides a conclusion and a discussion of potential future studies.

1.6 Introduction to Sample Data Set

This thesis consists of three related empirical studies that use the same fundamental data set, which is described as follows.

1.6.1 Data Set of Chapter 2

To determine whether the acquirers' 52-week high and low affect the completeness and performance of the acquirers in M&A, chapter 2, as the first part of the research, first collects the sample that consists of the completed and uncompleted US M&A announced in the period between 1/1/1985 - 3/31/2015. The announcements and relevant financial indices were collected from Thomson One Banker, while stock prices were collected from Wharton Research Data Services (WRDS). The samples meet the following criteria:

1. Both the acquirers and the target firms are US listed firms due to the previously mentioned requirement for an overall efficient market.

2. The bidders aim to acquire at least 50% of the shares of the target firms to ensure that the transaction has a significant influence on the stock market.

3. The deal values are at least $1 million to ensure the significance of the acquisitions.

4. The financing of the acquisition is either 100% in stock or 100% in cash to simplify the comparison of benefits between the two methods for completed deals, while for uncompleted deals, as they have not been finished, all of the announced deal financing methods, such as pure cash, pure stock exchange and combinations are included in the research sample.

5. When an acquirer has more than one deal within 5 years, only the most recent deal remains in the sample.

6. Acquirers without continuous stock price records around the announcement period are eliminated.

Eventually, there are 662 samples of completed cash acquisitions and 573 completed samples of stock exchange deals meeting the above criteria. In the meantime, 1131 uncompleted deals with all different financing methods are included in the sample. CARs, BHARs and the nearness of the M&A announcement to the 52-week high/low (measured by price closeness and day distance) as well as other variables of the bidders are calculated and regressed to determine whether the acquirers' 52-week high and low affect the completeness and performance of the acquirers in M&A.

1.6.2 Data Set of Chapter 3

Based on the same data set from chapter 2, chapter 3 re-categorizes the samples into market timers, anti-timers, market signallers and anti-signallers. CARs and BHARs of different categorizes of samples are calculated and compared. Regressions of the performance are also conducted to determine whether classification in different categorizes of the sample would systematically affect the bidder performances.

1.6.3 Data Set of Chapter 4

In addition to the same data set collected from chapter 3, chapter 4 collects information on the relevant bidders' use of financial advisors. According to the value of the deals for which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database, the top 8 investment banks are defined as top-tier advisors, and the top 9-25 are median-tier advisors, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. If more than one financial advisor is involved in a deal, the higher ranked advisor is taken into

the analysis of how the choice of financial advisor affects bidders in M&A under the influence of payment methods and the psychological reference points of 52-week high and low.

Chapter 2: How would the acquirers' 52-week high and low affect the completeness and the performance of the acquirers in M&A?

2.1 Abstract

In comparison with the reference point theory initiated by Baker, Pan and Wurgler (2009), which suggests that the 52-week high of the target stock price has an important effect on the offer price, deal completion, and deal performance in M&A, this chapter examines the anchoring and momentum impact of the acquirers' 52-week high and low on the offer premium, deal completeness and the performance of the acquirers in M&A. The event study conducted in this chapter documents that the nearness of an M&A announcement to the acquirers' the 52-week high price will positively affect deal completion and lead to a superior short-term return measured by cumulative abnormal return (CAR). In contrast, nearness of the M&A announcement to the acquirers' 52-week low stock price yields significant long-term benefits for the bidders (measured by buy-and-hold abnormal return (BHARs)).

However, due to the endogeneity of using the variable "announcement nearness to the price of the 52-week high/low" in the regression of "bidder performances", this study instead uses "announcement nearness to the date of 52-week high/low" as an instrumental variable and documents that the nearness of an M&A announcement to the date of the 52-week high will positively influence the completion of the transaction but negatively affect the CAR (contradictive to the result when nearness is measured by stock price) and BHAR. On the other hand, although less influential in short-term performance and deal completion, nearness of the M&A announcement to the date of 52-week low is still significantly associated with higher 36-month and 60-month BHARs and lower deal completion given stock exchange as payment method.

In other words, the dates of acquirers' 52-week high/low affect various aspects of the M&A. Therefore, both of them could be established as anchor reference points,

whereby the deal completeness and M&A performance are affected and the reference point theory is complemented from the bidder perspective.

In addition, another element worth mentioning is the payment method, which is found to be the most influential variable in all regressions of M&A in this study.

2.2 Introduction

The 52-week high/low price is the highest/lowest price at which a stock has been traded during the previous year. These prices are usually viewed as important anchors in determining shares' current value and predicting future price momentum. As stock price fluctuates within its 52-week price range, managers and investors may become sensitive as the price approaches either the high or the low.

George and Hwang (2004) propose an investing strategy by ranking stocks based on the ratio of the current price to the past 52-week high at the end of each month. They then construct a portfolio from purchasing the top 30 percentile (winners) and selling the bottom 30 percentile (losers) stocks and hold these positions for a medium term of 6 or 12 months. They find that this trading strategy of buying winners and selling losers generates significant median-term profits without return reversals in the long term. They attribute this finding to an anchoring and adjustment mechanism (Tversky and Kahneman,1974) whereby the subjects are likely to use an easily available reference point or anchor (which may be arbitrary) as a starting point and adjust away from the anchor in forming their estimates.

In the sector of M&A, however, very few studies take the 52-week high/low prices as timing anchors in studying the performance of the acquirers, although the target's 52-week high has been proven by Baker, Pan and Wurgler (2009) as an initial anchor in M&A negotiations in the context of the US market. In this reference point theory, it is contended that the 52-week high stock price of the target proportionally influences the offer prices, positively affects the probability of deal success and provides additional

insight into why merger activity is associated with high market valuations and thus comes in waves.

By comparison, from the bidder perspective, the market timing theory suggests that bidders take advantage of their peak-valued shares and realize profit by conducting M&A (Shleifer and Vishny (2003)). Consistently, many empirical studies have proven that bidders' market value influences their short- and long-term performance after transactions. However, could we further document the bidders' 52-week high and 52-week low as psychological anchors in completing M&A and extend their performance momentum as in the reference point theory mentioned above?

This paper examines effect of the nearness of the deal announcements to acquirers' 52-week high and low (measured by price and date) on the different aspects of the acquirers, such as premium, completeness and performance (CARs and BHARs), in M&A.

Contrary to expectations, the findings show that M&A announcements at or near the 52-week high or low prices do not significantly affect the premium of the deal, which indicates that the bidders near the 52-week high/low are still rational in making payments to the targets.

In terms of deal completion, when the payment method is purely stock exchange, the higher premium comes with the higher probability of the deal completion, demonstrating that target managers are also optimistic about the stock momentum at the bidder 52-week high price. This finding is also consistent with the reference point theory developed by Baker, Pan and Wurgler (2009).

In addition, the nearness of the announcement of M&A to the 52-week peak price leads to a higher probability of deal completion and higher CAR. In terms of the long-term performances, in contrast, the nearness of the announcement of M&A to the 52-week

peak price is associated with lower 36-month and 60-month BHARs.

However, due to the endogeneity of the regressions, the proximity of the announcement to the price of the 52-week high/low is instrumented by the proximity of the announcement to the date of the 52-week high/low. With the instrumental variable in the regression, the proximity of the announcement of M&A to the date of the 52-week peak still leads to a higher probability of deal completion but also leads to lower CAR. On the other hand, in terms of the long-term performance measured by BHARs, the nearness of the announcement of M&A to the date of the 52-week high consistently leads to significantly lower 12-month, 36-month and 60-month BHARs, while the nearness of the announcement of M&A to the date of the 52-week low is significantly associated with higher 36-month and 60-month BHARs.

In conclusion, this chapter of the study finds that the nearness of an M&A announcement to the date of the 52-week high will positively influence the completion of the transaction but negatively affect the CAR and BHAR, while the nearness of an M&A announcement to the date of the 52-week low will be significantly associated with higher 36-month and 60-month BHARs with both payment methods and lower deal completion given stock exchange as payment method.

This study contributes to the literature in the following ways.

The study discloses a contradiction in CARs derived when we measure the nearness of the announcement to the price and date of the 52-week peak/low. Specifically, if a bidder announces the transaction immediately after its price reaches the 52-week high (announcement closer to the date of the 52-week high), the CAR is significantly lower as that associated with an announcement closer to the price of the 52-week high. This contradiction illustrates that when bidders announce the deal nearer to the 52-week peak after a period of fluctuation instead of announcing the deal immediately, the transaction

will yield a better CAR as the market reaffirms that the bidders are able to lift the share price close to the peak or even higher.

Because the proximity of the bidder's date to the 52-week high/low (endogeneity excluded) has a significant influence on the short-/long-term market reaction as well as on the possibility of deal completion, the reference point theory could be extended to the acquirer perspective.

The negative bidder performance in terms of CAR and BHAR derived from announcing the deal close to the date of the 52-week high indicates that the efficient US market can catch the negative signal and knock the bottom out of the timers' attempt to take advantage of the one-year high.

2.3 Literature Review

Jegadeesh and Titman (1993) document the possibility of making abnormal profit in the stock market by studying past stock prices. They consider medium-term periods of 3-12 months for stock returns and state that a significant abnormal profit can be made by buying (short-selling) best (worst) performing stocks. Their strategy is popularly known as momentum strategy. A number of extensions of momentum strategy have been reported subsequently, most notably the 52-week high momentum returns, claiming superior returns and explanatory power in practice.

George and Hwang (2004) document how a 52-week high momentum return generates a superior return when the stock selection is made based on the proximity to the 52-week high price rather than the traditional total return approach used in pioneering research by Jegadeesh and Titman (1993). George and Hwang (2004) show that the return associated with the 52-week high strategy is approximately twice as large as that associated with conventional momentum return (Jegadeesh and Titman,1993) and

industrial momentum return (Moskowitz and Grinblatt,1999). George and Hwang (2004) propose that the 52-week high has superior predictive power, resulting in a price continuation. Therefore, a 52-week high price can explain a large portion of the profits from momentum investing. In practice, Marshall and Cahan (2005) contribute further evidence by presenting an out-of-sample test for the 52-week high strategy, using Australian Stock Exchange (ASX) data to find high profitability for the strategy. Du (2008) tests a 52-week momentum strategy on international stock indices and documents a positive and statistically significant 52-week momentum return even after adjusting for risk and transaction cost.

The foundations of studies employing the 52-week high price as an anchor are rooted in the anchoring and adjustment mechanism of Tversky and Kahneman (1974). In complex and highly uncertain decision-making situations, the subjects are likely to use an easily available reference point or anchor (which may be arbitrary) as a starting point and adjust away from the anchor in forming their estimates. Tversky and Kahneman (1974) report that when subjects in two groups were presented with different arbitrary initial numbers and subsequently asked to estimate the fraction of African nations represented in the United Nations, the estimate was significantly higher for the group presented with a higher initial number. More recently, in experiments involving university students as well as financial market professionals, Kaustia et al. (2008) document evidence of a significant anchoring effect in their estimates of long-term stock returns. Note that the role of reference points in decision-making is also highlighted in Tversky and Kahneman's (1979) prospect theory, which postulates utility derivation from gains and losses relative to a reference point. The prospect theory preferences have attracted much attention in the literature, including their potential role in generating disposition effects (Kliger and Kudryavtsev, 2008) and stock return momentum (Grinblatt and Han,2005). While it is reasonable to assume that the saliency of the 52-week high price makes it a suitable anchor in various situations, the role of the timing of the 52-week high price in investors' decision-making also warrants

discussion. In an earlier and highly cited study, Murdock (1962) reports that when subjects were presented with a list of words in a free recall experiment where the order of words was irrelevant, the subjects nonetheless displayed greater tendency of recalling words at the end of the list. A plethora of subsequent work presented extensions and refinements of this basic finding, with evidence of the recency effect being observed in diverse settings, including performance appraisals (Mohrman et al.,1989), auditing of financial statements (Tubbs et al.,1990), and student course evaluations (Dickey and Pearson,2005). In finance literature, the evidence of momentum in stock returns as well as the performance chasing behaviour in mutual funds (Gruber, 1996) is also consistent with investors' tendency to put more weight on recent performance.

Although the 52-week high has been documented as an anchor in an anchoring and adjustment mechanism with the momentum in boosting further growth, in the sector of M&A, very few studies discuss the bidder's 52-week high, with an anchor's momentum effect on the announcement of a deal, although the target's 52-week high has been proven by Baker, Pan and Wurgler (2009) as an initial anchor in M&A negotiations in the context of the US market.

Specifically, according to the above-mentioned reference point theory from the target perspective, with the 52-week target high as the reference stock price, Baker, Pan and Wurgler (2009) propose that the reference point can impact acquisition offer prices, deal success, market reaction to the deal, and even merger waves. For the offer price, the 52-week target high plays an anchor role in the bidding price. Specifically, a 10% increase in the 52-week high is associated with as much as a 3% increase in the offer premium. In terms of deal success, Baker, Pan and Wurgler (2009) document that given that the bidder makes an offer price above the target's 52-week high, the probability of deal success is significantly and discontinuously increased by 3% to 4%. With regard to the market reaction, because bidders' shareholders are inclined to view bids driven

by the target's 52-week high as overpaying, the market reacts naturally and negatively to the component of the offer price driven by the target's 52-week high. Specifically, a 10% increase in the component of the offer premium that is explained by the 52-week high will lead to a 2% to 3% negative market reaction. The bidder announcement effect is 2% to 3% worse for each 10% increase in the component of offer premium that is explained by the 52-week high. The fourth dimension of merger activity influenced by the reference point is merger waves, which occur when high recent returns on the stock market and on likely targets make it easier for bidders to offer the 52-week high.

From the target perspective, the 52-week high has been proven by Baker, Pan and Wurgler (2009) as an initial anchor in M&A negotiations in the context of the US market. In comparison, from the bidder angle, this research is the first of its kind to study the 52-week high/low prices as timing anchors in influencing the completion of the deal and the performance of the acquirers. Combining the momentum effect of the 52-week high as well as the reference anchoring and adjusting mechanism, could we further document the bidders' 52-week high and 52-week low as psychological anchors in completing M&A and extending their performance momentum, as in the reference point theory mentioned above? All of the reviewed theories and empirical studies have provided context and gaps for this research to fill.

2.4 Hypotheses Development

Complementing the reference point from the target perspective, to clarify whether a higher bidder price at or close to the 52-week high also leads to a higher offer premium, a higher possibility of deal success and better bidder performance according to the market timing and momentum theories reviewed above, the following hypotheses are developed and tested in this research.

H1: Because bidders at or near the 52-week high are inclined to take advantage of their

strong financial position or high stock value to finance, announcement of M&A from these bidders is related to the highest premium offered to the targets. In contrast, announcement of M&A near the 52-week low comes with the lowest offer premium;

H2: A higher premium is more likely to meet the target management expectation, thus leading to a higher possibility of deal completion, while a naturally lower premium causes more failures in M&A transactions;

H3: Based on H1 and H2, announcement of M&A at or near the 52-week peak is associated with the highest possibility of deal completion. Announcement of M&A near the 52-week low comes with the lowest possibility of deal completion;

H4: Due to the market timing and the 52-week high momentum effects, announcement of M&A at or near the 52-week peak is supposed to be associated with higher bidder CAR and BHAR; announcement of M&A near the 52-week low should come with the lowest bidder CAR and BHAR.

2.5 Research Methodology

2.5.1 Samples

To determine whether the acquirers' 52-week high and low affect the completeness and performance of the acquirers in M&A, chapter 2, as the first part of the research, first collects the sample that consists of the completed and uncompleted US takeovers announced in the period from 1/1/1985 - 3/31/2015. The announcements and relevant financial indices were collected by Thomson One Banker, while stock prices were collected from WRDS. The samples meet the following criteria:

● Both the acquirers and the target firms are US listed firms due to the previously

mentioned requirement for an overall efficient market.

- The bidders aim to acquire at least 50% of the shares of the target firms to ensure that the transaction has a significant influence on the stock market.

- The deal values are at least $1 million to ensure the significance of the acquisitions.

- The financing of the acquisition is either 100% in stock or 100% in cash to simplify the comparison of benefits between the two methods for completed deals, while for uncompleted deals, as they have not been finished, all of the announced deal financing methods, such as pure cash, pure stock exchange and combinations, are included in the research sample.

- When an acquirer has more than one deal within 5 years, only the most recent deal remains in the sample.

- Acquirers without continuous stock price records around the announcement period are eliminated.

Eventually, 662 samples of completed cash acquisitions and 573 samples of stock exchange deals are found to meet the above criteria. In the meantime, 1131 uncompleted deals with all different financing sources are included in the sample. CARs, BHARs and the nearness of the M&A announcement to the 52-week high/low as well as other variables of all these bidders (measured by price closeness and day distance) are calculated and regressed to determine whether the acquirers' 52-week high and low affect the completeness and the performance of the acquirers in M&A.

2.5.2 Research Method and Variables

The study aimed to determine whether bidders' 52-week high/low affects their deal completeness and performance in M&A. It is divided into three steps. The first step is an event study conducted to calculate the abnormal returns of the collected samples. The second step is the definition and calculation of the nearness of the announcement to the bidders' 52-week high/low. The third step is a regression analysis on the merger

completion and abnormal returns. A detailed description of my method is provided below.

The first step is to conduct an event study, which is a statistical method used to assess the impact of an event on the value of a firm. Specifically, the announcement of M&A closer to the 52-week high/low is analysed to see whether investors believe the deal will create or destroy value. The basic idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole. The CAR is calculated to assess the short-term effect from the event, while the BHAR is used to measure the long-term influence of the event.

Short-term Event Study Methodology:

To evaluate the impact of M&A announcements near or at the 52-week high or low, abnormal returns can be calculated. An abnormal return is the difference between actual earnings and the normal return during the event window and is calculated as follows:
$AR_{it} = A_{it} - R_{it}$

where A_{it} is the actual earnings of bidder i on day t, R_{it} is the normal return of bidder i on day t (derived from the capital asset pricing model - CAPM), and AR_{it} is an abnormal return of the same bidder on the same day.

According to the CAPM along with a 30-day estimated window, $R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$, where R_{mt} is the monthly return of the market index of the S&P 500 during the same period.

To calculate the acquiring firms' short-term performance, Stata 12 is employed for calculation of the abnormal returns using the market model as follows:

The CAR for the 5-day window of (-2,+2) around the announcement date is calculated according to the following equation: $CARi(t_1, t_2) = \sum_{t_1}^{t_2} AR_{it}$

where CARi(t1, t2) is the CAR for the 5-day window of (-2,+2) around the announcement date with cross sections of the bidder i.

Long-term Event Study Methodology:

The BHAR approach advocated by Barber and Lyon (1997) is employed to examine the long-term abnormal stock returns in the study.

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

where R_{it} is the monthly return for company i and R_{mt} is the monthly return of the market index of S&P 500.

The second step is to define and calculate the nearness of the announcement to the bidders' 52-week high/low. The nearness of the announcement price to the price of 52-week high is defined as price nearness to high (PNH), calculated according to the following formula:

PNH=(Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low)

A higher PNH indicates that the bidder announcement price is further from the 52-week high, while a lower PNH means that the bidder announcement price is closer to the 52-week high.

The nearness of the announcement date to the date of the 52-week high is defined as date nearness to high (DNH), calculated as the following formula:

DNH=Number of Workdays Since 52-week High to Date of Announcement/254

where 254 is the maximum total number of workdays in the US. A higher DNH indicates that the bidder announcement is further from the 52-week high date, while a lower DNH indicates that the bidder announcement is closer to the 52-week high date.

On the other hand, the nearness of the announcement price to the price of the 52-week low is defined as price nearness to low (PNL), calculated as the following formula:

PNL=(Price at Announcement - Price of 52-week Low)/(Price of 52-week High - Price of 52-week Low)

A higher PNL indicates that the bidder announcement price is further from the 52-week low, while a lower PNL means that the bidder announcement price is closer to the 52-week low.

The nearness of the announcement date to the date of the 52-week low is defined as date nearness to low (DNL), calculated as the following formula:

DNL=Number of Workdays Since 52-week Low to Date of Announcement/254

where 254 is the maximum total number of workdays in the US. A higher DNL indicates that the bidder announcement is further from the date of the 52-week low, while a lower DNL means that the bidder announcement is closer to the date of the 52-week low.

The third step is to conduct various regression analyses on the premium, completion and abnormal returns. Ordinary least square regressions are conducted to discuss the relationship among the deal completion, bidder performances, transaction premium, acquirer announcements near or at the 52-week high and low, and other control variables. The formulas are illustrated as follows:

Premium=a+b(PNH)+c(controls)+ ε

Premium=a+b(DNH)+c(controls)+ ε

Premium=a+b(DNL)+c(controls)+ ε

Performance= a+b(PNH)+c(controls)+ ε

Performance= a+b(DNH)+c(controls)+ ε

Performance= a+b(DNL)+c(controls)+ ε

Probit regressions are conducted to discuss the relationship between the completeness

of the transactions and the acquirer announcement timing. The formula is illustrated as follows:

Completeness= a+b(PNH)+c(controls)+ ε

Completeness= a+b(DNH)+c(controls)+ ε

Completeness= a+b(DNL)+c(controls)+ ε

A number of most straightforward factors in M&A are set to control variables such as deal attitudes, payment methods, and funding resources.

2.5.3 Rigorousness and Robustness

2.5.3.1 Two-stage Least Squares

Two-stage least squares are conducted when the dependent variable's error terms are correlated with the independent variables. This is to eliminate regression endogeneity to ensure the rigorousness and robustness of the study.

To be a valid instrumental variable, the variable is expected to be correlated with the endogenous independent variable. If this correlation is strong, then the instrument is said to have a strong first stage. Meanwhile, the instrument should not be correlated with the error term in the explanatory equation.

In this chapter specifically, the instrumental variable DNH is correlated with the explanatory variable PNH as fewer days from the 52-week high naturally lead to a closer price to the 52-week high due to less fluctuation opportunities in the shorter period. Meanwhile, no direct correlation exists between the instrumental variable DNH and the response variable bidder performance since the number of days away from the peak has no direct effect on the bidder's M&A performance. DNH can lead to better or worse bidder M&A performance, but it is only associated with bidder M&A performance through its association with PNH.

On the other hand, the other instrumental variable, DNL, is assumed to be the opposite of DNH and therefore negatively correlated with the explanatory variable PNH as the number of days closer to the 52-week low naturally leads to more distance from the price of the 52-week high. Meanwhile, no direct correlation exists between DNL and bidder M&A performance. DNL can lead to better or worse bidder M&A performance, but it is only associated with bidder M&A performance through its association with PNH or PNL (disregarded for research simplicity).

First-stage verification of the validity of the instrumental variables in the chapter:

If the instrumental variable is completely unrelated to the endogenous explanatory variable, then the instrumental variable cannot be used. If it is only weakly related to the explanatory variable, then this instrumental variable is defined as a "weak instrument". In the study, the correlations among the instrumental variables, DNH together with DNL and the response variables are tested. The results show that the instrumental variables are not weak. The first-stage regression summary statistics with DNH and DNL as instrumental variables for PNH are shown in the following table:

Explanatory Variable/ Instrumental Variable	R-sq.	Adjusted R-sq.	Partial R-sq.	F(1,1517)	Prob > F (Ho: Instruments are weak)
PNH instrumented by DNH	0.3934	0.3906	0.3863	954.808	0.0000
PNH instrumented by DNL	0.4093	0.4066	0.4024	1021.29	0.0000

In cases of overidentification (the number of instrumental variables > the number of endogenous variables), a Sargan test can be performed to test the null hypothesis that all instrumental variables are exogenous. If the null hypothesis is rejected, then at least one variable is considered not exogenous, that is, relevant to the disturbance term.

The tests of overidentifying restrictions are listed as follows:

Sargan (score) chi2(1) =0.01823 (p = 0.8926)

Basmann chi2(1) =0.018122 (p = 0.8929)

The results again confirm that both DNH and DNL are exogenous and valid instrumental variables.

The correlation between bidder performance and the price nearness of the announcement price to the price of the 52-week high/low (PNH/PNL) does not guarantee that the nearness (PNH/PNL) causes good/bad performance because other variables may affect both performance and announcement timing (PNH/PNL). The nearness of the announcement date to the date of the 52-week high/low, defined as DNH/DNL, is a reasonable choice for an instrument because it is assumed that the days ratio can be correlated with the performances only through its effect on the price itself. If the days ratio and performance are correlated, this may be viewed as evidence that the date of the 52-week high/low causes changes in bidder performance.

In this study, the Durbin-Wu-Hausman test (also called the Hausman specification test) is used to evaluate the consistency of PNH when compared to the instrumental variables of DNH and DNL. This helps evaluate whether the instrumental variables are systematically better in the regression on CAR.

2.5.3.2 Ordinary Least Squares Regression and Quantile Regression

Ordinary least squares (OLS) regression estimates the relationship by minimizing the sum of the squares for the difference between the observed and predicted values of the dependent variable, which is configured as a straight line. In this chapter, OLS regressions are conducted to discuss the relationships among bidder performances, deal completion, transactions premiums, acquirer announcements near or at the 52-week

high and low price points, and other control variables. The mean provides an incomplete picture of the OLS. In comparison, quantile regression may be viewed as a natural extension of the classical least squares estimation on conditional mean models to estimations of various models for conditional quantile functions.

For the purpose of rigorousness and robustness of the OLS, quantile regression offers a mechanism for estimating models for the conditional median function and the full range of other conditional quantile functions. It is a robust regression tool with critical advantages over OLS, including robustness to outliers, no normal distribution assumption, and quantification of relationships across the complete distribution of the dependent variable.

Quantile regression has a more robust capability to describe the relationship at different points in the conditional distribution of the dependent variable. Because the announcement of M&A at various time points might affect the bidder returns differently in this study, quantile regressions with CARs and BHARs as the dependent variables and announcement timing along with others as independent variables are conducted to confirm the event studies of the intensity of the effect of the 52-week nearness on abnormal returns.

Specifically, the quantile regression estimates the acquirer's median (-2,+2) day CAR surrounding the announcement as well as the median BHARs for 12 and 36 months post-acquisition announcement controlling for a series of acquirer characteristics.

2.5.4 Statistical Methods

This thesis uses Stata 12, Special Edition, to perform all statistical analyses. Major data processes, such as the calculation of the CAR, BHARs and regressions, are programmed in Stata's script language. The Stata program and the thesis raw data are

available for verification.

2.6 Empirical Results

Taken from Thomson One Banker according to the criteria depicted in the section on the sample in 2.5.1, Table 2.1 presents the total number of completed and uncompleted deals from January 1, 1985, to March 31, 2015. Among the transactions, 1235 deals were completed, wile 1126 failed; of these, 1168 and 806 were pure cash deals and stock exchange deals, respectively, while 387 deals were combinations. A total of 1693 deals were conducted with a friendly attitude, while 96 were hostile transactions.

(Table 2.1)

Table 2.2 presents the summary statistics of the sample number, mean, standard deviation, minimum and maximum for the objective variables, outcome variables and control variables. According to the mean of the performances demonstrated, the CARs and BHARs declined steadily over time, indicating an overall bidder performance deterioration in M&A, which is consistent with the justification of investor sentiment by Rosen (2006). In particular, as investors tend to be more optimistic than realistic, the short-term lift of confidence in the market would be reversed when the real picture is revealed over time in the long term. In addition, Bouwman, Fuller and Nain (2009) document reasons for long-term reversal, such as over-payment, market timing and managerial herding.

(Table 2.2)

Table 2.3 illustrates that bids announced at closer prices or closer days to the acquirers' 52-week high do not indicate a significantly higher premium offered to targets, which leads to rejection of H1 (offer premium is positively influenced by the timing of the

deal announcement). In other words, the timing of the deals does not affect the bid managers' rational judgement in terms of the payment. Likewise, the payment methods do not affect the premium, either. On the other hand, the attitude towards the transaction is a significant factor affecting the premium, which indicates that the friendly attitude itself could be part of the cost of the deal. According to Morck, Shleifer and Vishny (1990), friendly targets are more likely to have higher management ownership than the average firm; therefore, it is natural to derive that concentrated management requires a higher premium. In addition, an internal source of funding predictably leads to a higher premium offered to the targets, as less is required from the shareholders in the approval process than there would be in the case of an external source of funding. According to the regressions, Adv_rank positively affects the premium, indicating that the higher-tier advisors tend to pay higher premiums to the targets to pursue the completeness of the deals, although the effect is nonsignificant. This phenomenon suggests potential agency issues with advisors, which will be further discussed in the following chapters of the study.

(Table 2.3)

Table 2.4 proves that for cash bidders, a higher premium does not guarantee the completion of the acquisition according to the regression. In contrast, for stock bidders, the higher premium leads to a significantly higher probability of deal completion. This result partly acknowledges H2 (the positive connection between higher premium and deal completion).

Second, the closer the announcement is to the bidders' 52-week high price and date indicates a significantly higher probability of the deal completions, while not surprisingly, the bids announced on days closer to acquirers' 52-week low either have nothing to do with deal completion for cash deals or are significantly associated with deal failure for the stock exchange deals. This positive connection between the peak

announcement and the deal completion is obviously not built through premium as indicated in H3. Instead, the reason could be the general optimistic expectation of deal completion from the peak announcement.

In addition, friendly transactions are more likely to be completed, again due to the higher concentrated target management ownership. Diversified deals are more likely to be completed with cash payments and friendly attitudes, while undiversified transactions tend to be finished through stock exchange. Internal funding, as the first option in financing followed by debt and raising equity documented by Myers and Majluf (1984) in pecking order theory, positively affects deal completeness due to its accessibility and information asymmetry. Consistent with the estimation in table 2.3, table 2.4 shows that Adv_rank significantly affects the completeness of the transactions; specifically, higher-rank advisors are more capable of completing the deals, which demonstrates that their experience and skillsets are required in M&A. The situation also signifies a possible agency issue in that the advisors care more about the deal completion than about the potential synergies in M&A.

(Table 2.4)

Table 2.5 discloses that friendly deals have a significantly negative influence on 5-day CARs, which reflects that the market worries about the over-transference of value from the bidders to the targets in friendly negotiation. The cash (stock) payment method positively (negatively) affects the bidders' short-term performance after the acquisition announcements, which is consistent with Rhodes-Kropf and Viswanathan (2004). Specifically, given that cash bids are not affected by miss-valuation, while stock offers trigger estimation errors, there will be more stock offers when the market is overvalued. In terms of internal funding, when all of the listed variables are controlled, internal funding has a significantly positive influence on the 5-day CARs due to its accessibility, information asymmetry and lower agency costs. In addition, diversified deals through

stock exchange are more likely to be accepted by the market in the 5-day window.

In terms of the timing effect, being PNH (announcement closer to the price of acquirers' 52-week high) is associated with better 5-day window CAR performance. However, paradoxically, being DNH (announcement closer to the date of acquirers' 52-week high) leads to lower CARs, while DNL (announcement closer to the date of acquirers' 52-week low) is associated with higher CARs. The contradictive results indicate that bidders with highly fluctuating stock price might obtain better speculative gains when they announce the acquisition closer to high stock prices after a certain number of trading days of rebounds. In addition, the discrepant results might indicate an endogeneity problem between the timing variables and the independent variable of the 5-day CAR. Adv_rank negatively affects the bidder CAR, although the effect is not significant, which indicates that the market does not approve the short-term performance due to the concern of a potential conflict of interest, agency problems and even collusion with speculative targets in M&A. Further study will be carried out in chapter 4.

(Table 2.5)

Table 2.6 again suggests that the cash (stock) payment method significantly (negatively) affects the 12-month bidder performance after the acquisition announcements, as stock exchange deals are more likely to over-pay the targets due to market miss-valuation. In terms of the timing effect, being either PNH or not (announcement closer to the price of acquirers' 52-week high or not) is not significantly associated with 12-month BHARs. In contrast, being DNH (announcement closer to the date of acquirers' 52-week high) leads to lower 12-month BHARs. Being DNL (announcement closer to the date of acquirers' 52-week low) leads to higher 12-month BHARs (the association is not significant).

Comparing to table 2.5, the results in table 2.6 show that being PNH has the opposite effect of achieving CAR and the 12-month BHAR, indicating that an announcement close to the 52-week high price has a significant short-term stimulating effect on bidder performance, but this effect is subject to gradual reversal over a long period. In terms of justification of the above situation, a bidder announcing a deal when its share price hits the 52-week high price or bounces back to the previous peak may indicate investor optimism or double-confirmed market recognition, thus leading to a better short-term cumulative abnormal return. As investors tend to be over-confident in such cases, the short-term CAR is more likely to be reversed due to reasons such as over-payment, market timing repulsion and managerial herding.

In comparison, being DNH results in consistent negative short- and long-term performances. When a bidder announces a deal on the specific day with a new 52-week high, the market may worry about issues such as managerial hubris, over-payment and market timing repulsion, thus leading to the negative CAR and its continuous momentum in the 12-month BHAR. On the other hand, being DNL is also consistent in terms of a positive CAR (although not significant) and a significant 12-month BHAR, indicating a lasting reference point effect, which is derived at the 52-week low.

Controlling certain variables, the negative short-term influence of Adv_rank on bidder performance becomes mixed in a longer period. Although the effect is not significant, it demonstrates that the advisors with better experience and skillsets are able to help the bidders achieve better 12-month BHARs.

(Table 2.6)

Table 2.7 indicates that announcement closer to both the price and date of the bidders' 52-week high is associated with lower 36-month BHARs. This result is different from the contradictive effects of the 52-week high on the CAR when announcement timing

is measured by closing to peak price or peak date. The results from the variable "DNH" (announcement closer to the date of acquirers' 52-week high) have been consistent with previous regressions, which demonstrates the reliability of this instrumental variable for the regressions. In addition, the bids announced on days closer to the acquirers' date of the 52-week low (DNL) is associated with higher 36-month BHAR, indicating the date of the 52-week low as another stable reference point at or near which bidders' long-term performance excels.

In addition, the cash (stock) payment method significantly (negatively) affects the 36-month bidder performance after the acquisition announcement, consistent with its influence on CAR and the 12-month bidder performance. On the other hand, internal financing incurs negative 36-month BHARs, which is different from its effects on deal completion and CAR, indicating that the convenience from the prioritized financing method might incur bidder long-term loss due to the information asymmetry.

In addition, higher premium paid and deal completeness bring better 36-month BHARs. Over a longer period of 36 months, a higher advisor rank leads to positive and stable bidder performances in all regressions, although the effects are still not significant. This still demonstrates the long-term synergy orientation of better advisors.

(Table 2.7)

Table 2.8 again indicates that announcement closer to both the price and date of the bidders' 52-week high is associated with lower 60-month BHARs, while announcement closer to the date of acquirers' 52-week low is associated with higher 60-month BHAR. These results are consistent with Table 2.7 and again indicate that the dates of 52-week high (low) are effective reference points at or near which the bidders' long-term performance underperforms (outpaces) that at other times. In addition, the cash (stock) payment method significantly (negatively) affects the 60-month bidder performance

after the acquisition announcement, which is consistent with the 12/36-month bidder performance. In addition, the results from the variable "DNH/DNL" (announcement closer to the date of acquirers' 52-week high/low) have been consistent in all regressions, again demonstrating the reliability of the variables for the regressions. In a longer period of 60 months, higher advisor rank maintains a consistently positive yet nonsignificant influence on the bidder performance in M&A, indicating that better advisors could indeed stabilize long-term synergies in the deal, but their contribution might not be as important as advertised in the business.

(Table 2.8)

The Hausman test for the two-stage least squares regressions document that DNH/DNL (announcement closer to the date of acquirers' 52-week high/low) are valid instrumental variables for PNH (announcement closer to the price of acquirers' 52-week high), as indicated in Table 2.9 and Table 2.10.

(Table 2.9)

(Table 2.10)

Table 2.11 clearly shows that the median of the original timing variable PNH (announcement closer to the price of acquirers' 52-week high) does not significantly influence the CAR. In contrast, the median DNH (announcement closer to the date of acquirers' 52-week high) leads to lower CAR, while the median DNL (announcement closer to the date of acquirers' 52-week low) is associated with higher CAR, which is consistent with the ordinary regression and proves the validity of the instrumental variable. Consistent with table 2.5, Adv_rank negatively affects the bidder CAR, although the effect is not significant. This indicates that the market does not approve of the short-term performance due to potential conflicts of interest leading to inefficient deal completion, agency problems and even collusion with speculative targets.

(Table 2.11)

Table 2.12 illustrates the quantile regression of median bidder long-term performance on the instrumental variables. The results are basically consistent with the original regression results, but they highlight that 36- and 60-month long-term bidder performances measured by BHARs are significantly influenced by the timing of announcement near the date of the 52-week high, indicating again that announcements closer to the date of the 52-week high lead to lower long-term BHARs. In line with the results from OLS, higher advisor rank remains consistently positive but nonsignificant in the long terms of 36 and 60 months, indicating that higher-ranked advisors perform better in M&A, but their importance might be exaggerated.

(Table 2.12)

2.7 Conclusion and Discussion

In terms of the correlation of the announcement timing and offer premium, the first hypothesis, H1 (offer premium is positively influenced by the timing of the deal announcement) is rejected. Due to the assumption of rational bidder management, while the announcement of M&A near the 52-week peak is not significantly associated with the highest offer premium, the announcement of M&A near the 52-week low does not come with the lowest offer premium, either.

H2 (higher premium leads to higher possibility of deal completion) is rejected for cash bidders. A higher premium does not guarantee the completion of cash acquisition according to the regression. However, for stock deals, a higher premium leads to a significantly higher probability of deal completion due to the sellers' continuous expectation of potential capital gain.

In terms of H3 (correlation between the announcement timing and the deal completion), announcement closer to both the price and date of the 52-week high indicates a significantly higher probability of deal completion, while reasonably, the bids announced closer to the date of the 52-week low either have nothing to do with deal completion controlling cash deals or are significantly associated with deal failure for the stock deals. Although the hypothesis is accepted, the positive relation between peak announcement and deal completion is not built through premium, as assumed; instead, the connection is probably due to an optimistic expectation of deal completion from the peak announcement.

As for H4 (peak announcement leads to superior performance due to momentum), the conclusion needs to be drawn given different conditions. Specifically, the announcement of M&A with a bidder stock price near the 52-week peak price is associated with a higher bidder CAR (with an endogeneity problem). When the instrumental variable is used to measure the deal timing, an announcement date further from the peak date (announcement date closer to the 52-week low) results in higher CARs and BHARs. The results indicate that peak announcing bidders with fluctuating stock prices seem to have better speculative opportunities in the short term, although their short-term performance will be reversed in the long term.

According to the existing reference point theory, the 52-week high stock price of the target proportionally influences the offer price and positively affects the probability of deal success. In comparison, this study seems to provide another perspective to complement the reference theory, whereby bidder timing at announcement plays an important role in affecting the completeness and performance of the M&A transaction. Therefore, we could further document the date of the bidder 52-week high and 52-week low as psychological anchors in completing M&A.

The study discloses that the bidder announcement near the date of the 52-week high or low affects the deal completion, bidder CARs and BHARs. In addition, from the regression, the payment methods, namely, the pure cash and stock payment, also significantly affect the bidder performance in different ways. In other words, payment method also plays an important role in M&A. Therefore, the study of the next chapter, contributes by combining the bidder reference point effects and the payment method effects on acquisition and determining the best payment method at the best transaction timing.

Table 2.1 Samples

	Completed Deals		Form of Payments			Attitude	
	Yes	No	Cash	Stock	Other	Friendly	Hostile
1985	25	25	23	14	13	38	3
1986	28	27	25	14	16	40	8
1987	18	39	25	13	19	28	9
1988	29	55	44	12	28	50	8
1989	27	54	27	31	23	58	4
1990	24	30	21	17	16	41	0
1991	4	36	7	13	20	25	1
1992	20	21	7	20	14	32	1
1993	23	36	20	21	18	45	3
1994	42	41	25	42	16	68	7
1995	54	44	32	49	17	85	5
1996	57	63	51	48	21	82	10
1997	84	48	53	66	13	108	7
1998	89	44	52	68	13	110	5
1999	87	58	68	62	15	114	6
2000	80	123	117	65	21	108	3
2001	54	44	48	37	13	71	1
2002	27	18	27	10	8	33	0
2003	32	20	28	21	3	36	2
2004	35	18	33	12	8	41	2
2005	39	23	37	18	7	46	1
2006	48	19	43	18	6	58	2
2007	43	26	44	16	9	60	0
2008	34	34	39	22	7	45	2
2009	30	23	27	17	9	36	1
2010	35	25	43	12	5	46	2
2011	25	22	31	12	4	30	2
2012	42	34	58	14	4	47	0
2013	36	31	51	11	5	39	0
2014	58	39	55	30	12	65	1
2015	6	6	7	1	4	8	0
Total	1235	1126	1168	806	387	1693	96

Table 2.2 Summary statistics.

Table 2.2 Summary statistics. In Panel A, the variable "Premium" indicates the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100. The variable "PNH", standing for "price nearness to high", indicates the nearness of the announcement price to the price of the 52-week high and is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high, as an instrumental variable to "PNH", is calculated as a percentage of "Number of workdays since 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable to "PNH", is calculated as a percentage of the "Number of workdays since 52-week low to date of announcement/254". Panel B shows the other variables: whether the deals were recorded as completed by Thomson; the 5-day CAR from CRSP centred on the announcement date from Thomson and the long-term BHARs for 12, 36 and 60 months. Panel C shows the control variables, including the form of payment (cash, stock) and a dummy variable for deal attitude, which takes the value of 1 if friendly and 0 if hostile. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. A dummy variable for Int_fund deals takes the value of 1 when the acquiring company financed the transaction in some portion with its own internal resources and 0 otherwise. Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved.

Panel A: Objective Variables	N	Mean	SD	Min	Max
Premium	1669	44.53154	166.7919	-95.76	6445.45
PNH	2177	0.4998193	0.3324815	0	1
DNH	2181	0.4503587	0.3534718	0	1
DNL	2181	0.5312072	0.3517186	0	1

Panel B: Outcome Variables	N	Mean	SD	Min	Max
Completed	2366	0.521978	0.4996223	0	1
CAR (-2,+2)	2139	-0.0019114	0.1253743	-1.126695	1.436994
BHAR12	1882	-0.2070893	0.4561351	-2.110995	2.849774
BHAR36	1383	-0.5194106	0.7491756	-3.203724	8.311247
BHAR60	1036	-0.6763112	1.048995	-3.976755	19.93834

Panel C: Control Variables	N	Mean	SD	Min	Max
Cash	2361	0.4947056	0.5000779	0	1
Stock	2361	0.3413808	0.4742734	0	1
Friendly	2361	0.717069	0.4505186	0	1

Diversifying	2366	0.7020287	0.4574635	0	1
Int_fund	2361	0.1126641	0.3162488	0	1
Adv_rank	2366	0.9277261	1.172381	0	3

Table 2.3 Results of regressions for the offer premium on the timing of the deals as well as its instrumental variables.

The dependent variable "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100. The vector of explanatory variables includes the following direct variables and the most influential variables with M&A: a dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise; the dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly, and 0 otherwise; the dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile, and 0 otherwise; the dummy variable ""Cash_only" takes the value of 1 when the bidder use only cash to complete the deal, and 0 otherwise; the dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise; the dummy variable "Int_fund" takes the value of 1 when the acquiring company financed the transaction in some portion with its own internal resources, and 0 otherwise; the core explanatory variable "PNH", standing for "price nearness to high" and indicating the nearness of the announcement price to the price of the 52-week high, is calculated as the a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high, as an instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) Premium	(2) Premium	(3) Premium	(4) Premium	(5) Premium	(6) Premium
Diversifying	-1.2693	-1.1509	-0.7284	-5.6317	-5.5040	-5.0672
	(9.6515)	(9.6506)	(9.6484)	(9.4611)	(9.4603)	(9.4581)
Friendly	23.8898*	23.8437*	23.8323*			
	(10.9005)	(10.9006)	(10.9264)			
Cash_only	1.0193	1.3455	1.1378			
	(9.4698)	(9.4679)	(9.4753)			
Int_fund	40.2977**	40.7558**	41.0563**	39.3606**	39.6666**	39.9910**
	(13.4024)	(13.3972)	(13.4013)	(13.2545)	(13.2520)	(13.2553)
PNH	-21.8183			-22.1769		
	(13.1894)			(13.2134)		
Adv_rank	2.6499	2.6924	2.9302	4.5157	4.5629	4.7756
	(3.7116)	(3.7132)	(3.7107)	(3.6392)	(3.6407)	(3.6402)
DNH		-15.2718			-15.8538	

		(12.3019)			(12.3215)	
DNL			4.7061			6.3575
			(12.3541)			(12.3503)
Hostile				2.3693	2.2633	2.3581
				(20.8110)	(20.8131)	(20.8240)
Stock_only				0.2315	-0.5118	-0.1457
				(9.5454)	(9.5398)	(9.5428)
Constant	28.4487	23.9949	14.1019	48.1464***	44.2018***	32.9183**
	(16.0278)	(15.5432)	(15.3164)	(12.2014)	(11.6997)	(11.7905)
Observations	1,559	1,560	1,560	1,559	1,560	1,560
R-squared	0.0136	0.0128	0.0119	0.0104	0.0097	0.0088

Table 2.4 Results of probit regressions for the completion of M&A on the premium of the deal.

The dependent variable "Completed" is equal to 1 if a deal is completed and 0 otherwise. The vector of explanatory variables includes the following direct variables and the most influential variables with M&A: "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise; the dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly, and 0 otherwise; the dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile, and 0 otherwise; the dummy variable ""Cash_only" takes the value of 1 when the bidder uses only cash to complete the deal, and 0 otherwise; the dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise; the dummy variable "Int_fund" takes the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources, and 0 otherwise; the core explanatory variable "PNH", standing for "price nearness to high" and indicating the nearness of the announcement price to the price of the 52-week high, is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high, as an instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. The original regression coefficients are listed above the parentheses in the table. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) Completed	(2) Completed	(3) Completed	(4) Completed	(5) Completed	(6) Completed
Premium	-0.0001	-0.0001	-0.0001	0.0017**	0.0017**	0.0017**
	(0.0003)	(0.0003)	(0.0003)	(0.0006)	(0.0006)	(0.0006)
Diversifying	0.1893*	0.1924*	0.2011*	-0.2009**	-0.2001**	-0.1911*
	(0.0849)	(0.0849)	(0.0846)	(0.0764)	(0.0764)	(0.0763)
Friendly	2.2563***	2.2617***	2.2454***			
	(0.1125)	(0.1128)	(0.1124)			
Cash_only	0.7793***	0.7864***	0.7753***			
	(0.0891)	(0.0893)	(0.0890)			
Int_fund	0.3904**	0.3946**	0.3967**	0.7332***	0.7323***	0.7360***
	(0.1344)	(0.1343)	(0.1340)	(0.1124)	(0.1123)	(0.1122)
PNH	-0.3357**			-0.3288**		
	(0.1166)			(0.1056)		

Adv_rank	0.1593***	0.1552***	0.1591***	0.2489***	0.2473***	0.2471***
	(0.0331)	(0.0331)	(0.0330)	(0.0297)	(0.0297)	(0.0296)
DNH		-0.3570**			-0.3128**	
		(0.1081)			(0.0982)	
DNL			0.1358			0.2953**
			(0.1087)			(0.0982)
Hostile				-1.9169***	-1.9265***	-1.9191***
				(0.2342)	(0.2356)	(0.2342)
Stock_only				0.6098***	0.6014***	0.6099***
				(0.0754)	(0.0753)	(0.0753)
Constant	-2.0040***	-2.0167***	-2.2477***	0.0184	-0.0010	-0.3132**
	(0.1575)	(0.1533)	(0.1534)	(0.1004)	(0.0964)	(0.0973)
Observations	1,559	1,560	1,560	1,559	1,560	1,560

Table 2.5 Results of regression for cumulative abnormal return on the timing of the deals.
The dependent variable CAR is the 5-day cumulative abnormal return from CRSP centred on the announcement date from Thomson. The vector of the explanatory variables includes the following direct variables and the most influential variables with M&A: "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100; the dummy variable "Completed" is equal to 1 if a deal is completed, and 0 otherwise. The dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target and 0 otherwise. The dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly and 0 otherwise. The dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile and 0 otherwise. The dummy variable "Cash_only" takes the value of 1 when the bidder uses only cash to complete the deal, and 0 otherwise. The dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise. The dummy variable "Int_fund" takes the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources, and 0 otherwise. The core explanatory variable "PNH", standing for "price nearness to high" and indicating the nearness of the announcement price to the price of the 52-week high, is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high, as an instrumental variable to "PNH", is calculated as a percentage of "Number of workdays since 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable to "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR	CAR	CAR	CAR	CAR	CAR
Premium	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Completed	0.0092	0.0122	0.0114	0.0072	0.0098	0.0101
	(0.0082)	(0.0082)	(0.0082)	(0.0072)	(0.0072)	(0.0072)
Diversifying	0.0103	0.0116	0.0113	0.0152*	0.0167*	0.0163*
	(0.0071)	(0.0071)	(0.0071)	(0.0070)	(0.0070)	(0.0070)
Friendly	-0.0261**	-0.0277**	-0.0262**			
	(0.0097)	(0.0097)	(0.0097)			
Cash_only	0.0362***	0.0356***	0.0363***			
	(0.0071)	(0.0071)	(0.0071)			
Int_fund	0.0273**	0.0282**	0.0284**	0.0302**	0.0307**	0.0307**
	(0.0099)	(0.0099)	(0.0099)	(0.0100)	(0.0100)	(0.0100)

PNH	-0.0266**			-0.0255**		
	(0.0097)			(0.0097)		
Adv_rank	-0.0030	-0.0025	-0.0026	-0.0047	-0.0042	-0.0042
	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0027)
DNH		0.0190*			0.0187*	
		(0.0090)			(0.0091)	
DNL			-0.0208*			-0.0229*
			(0.0091)			(0.0091)
Hostile				-0.0133	-0.0113	-0.0109
				(0.0156)	(0.0156)	(0.0156)
Stock_only				-0.0412***	-0.0419***	-0.0425***
				(0.0072)	(0.0072)	(0.0072)
Constant	-0.0062	-0.0303**	-0.0113	0.0076	-0.0169	0.0042
	(0.0117)	(0.0113)	(0.0112)	(0.0097)	(0.0094)	(0.0091)
Observations	1,525	1,525	1,525	1,525	1,525	1,525
R-squared	0.0569	0.0549	0.0555	0.0488	0.0471	0.0484

Table 2.6 Results of regression for 12-month buy-and-hold abnormal return on the timing of the deal.

The dependent variable BHAR12 is the 12-month buy-and-hold abnormal return from CRSP. The vector of explanatory variables includes the following direct variables and the most influential variables with M&A: "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100; the dummy variable "Completed" is equal to 1 if a deal is completed and 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target and 0 otherwise; the dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly and 0 otherwise; the dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile and 0 otherwise; the dummy variable "Cash_only" takes the value of 1 when the bidder uses only cash to complete the deal and 0 otherwise; the dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise; the dummy variable "Int_fund" takes the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources, and 0 otherwise; the core explanatory variable "PNH", standing for "price nearness to high" indicates the nearness of the announcement price to the price of the 52-week high, is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high and an instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) BHAR12	(2) BHAR12	(3) BHAR12	(4) BHAR12	(5) BHAR12	(6) BHAR12
Premium	-0.0003	-0.0003	-0.0003	-0.0004	-0.0004	-0.0004
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Completed	0.0325	0.0371	0.0287	0.0566*	0.0592*	0.0539
	(0.0324)	(0.0324)	(0.0324)	(0.0281)	(0.0281)	(0.0281)
Diversifying	0.0106	0.0113	0.0086	0.0178	0.0188	0.0153
	(0.0274)	(0.0273)	(0.0274)	(0.0269)	(0.0269)	(0.0269)
Friendly	-0.0323	-0.0353	-0.0297			
	(0.0391)	(0.0390)	(0.0392)			
Cash_only	0.1510***	0.1483***	0.1524***			
	(0.0276)	(0.0275)	(0.0276)			
Int_fund	-0.0366	-0.0356	-0.0379	-0.0293	-0.0283	-0.0302

	(0.0384)	(0.0383)	(0.0384)	(0.0385)	(0.0384)	(0.0385)
PNH	0.0639			0.0684		
	(0.0380)			(0.0380)		
Adv_rank	0.0026	0.0038	0.0028	-0.0008	0.0004	-0.0005
	(0.0107)	(0.0106)	(0.0107)	(0.0106)	(0.0106)	(0.0106)
DNH		0.1075**			0.1078**	
		(0.0352)			(0.0353)	
DNL			-0.0263			-0.0310
			(0.0353)			(0.0354)
Hostile				-0.0636	-0.0604	-0.0648
				(0.0595)	(0.0594)	(0.0596)
Stock_only				-0.1592***	-0.1564***	-0.1592***
				(0.0278)	(0.0277)	(0.0278)
Constant	-0.3061***	-0.3236***	-0.2586***	-0.2057***	-0.2248***	-0.1512***
	(0.0467)	(0.0450)	(0.0447)	(0.0391)	(0.0376)	(0.0370)
Observations	1,345	1,346	1,346	1,345	1,346	1,346
R-squared	0.0321	0.0369	0.0306	0.0296	0.0342	0.0280

Table 2.7 Results of regression for 36-month buy-and-hold abnormal return on the timing of the deal.

The dependent variable BHAR36 is the 36-month buy-and-hold abnormal return from CRSP. The vector of the explanatory variables includes the following direct variables and the most influential variables with M&A: "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100; the dummy variable "Completed" is equal to 1 if a deal is completed and 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise; the dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly, and 0 otherwise; the dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile, and 0 otherwise; the dummy variable "Cash_only" takes the value of 1 when the bidder use only cash to complete the deal, and 0 otherwise; the dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise; the dummy variable "Int_fund" takes the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources, and 0 otherwise; the core explanatory variable "PNH", standing for "price nearness to high" and indicating the nearness of the announcement price to the price of the 52-week high, is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high and an instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52 weeks high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) BHAR36	(2) BHAR36	(3) BHAR36	(4) BHAR36	(5) BHAR36	(6) BHAR36
Premium	0.0011*	0.0011*	0.0011*	0.0010*	0.0010*	0.0010*
	(0.0004)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Completed	0.1077	0.1136	0.0869	0.1108*	0.1104*	0.1007
	(0.0593)	(0.0592)	(0.0593)	(0.0521)	(0.0519)	(0.0522)
Diversifying	0.0751	0.0734	0.0743	0.0993*	0.0985*	0.0955
	(0.0495)	(0.0493)	(0.0497)	(0.0487)	(0.0486)	(0.0489)
Friendly	-0.1334	-0.1407*	-0.1099			
	(0.0700)	(0.0699)	(0.0703)			
Cash_only	0.2270***	0.2211***	0.2388***			
	(0.0501)	(0.0500)	(0.0502)			
Int_fund	-0.1707*	-0.1747*	-0.1817*	-0.1522*	-0.1545*	-0.1611*

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.0710)	(0.0707)	(0.0712)	(0.0715)	(0.0713)	(0.0717)
PNH	0.2878***			0.2922***		
	(0.0698)			(0.0700)		
Adv_rank	0.0318	0.0345	0.0328	0.0253	0.0277	0.0267
	(0.0192)	(0.0192)	(0.0193)	(0.0193)	(0.0193)	(0.0194)
DNH		0.3058***			0.3017***	
		(0.0647)			(0.0649)	
DNL			-0.1833**			-0.1900**
			(0.0641)			(0.0643)
Hostile				-0.0668	-0.0668	-0.0784
				(0.1010)	(0.1007)	(0.1013)
Stock_only				-0.2449***	-0.2364***	-0.2471***
				(0.0509)	(0.0508)	(0.0511)
Constant	-0.8449***	-0.8297***	-0.6049***	-0.7454***	-0.7345***	-0.4797***
	(0.0841)	(0.0807)	(0.0813)	(0.0728)	(0.0692)	(0.0674)
Observations	1,009	1,009	1,009	1,009	1,009	1,009
R-squared	0.0565	0.0614	0.0483	0.0492	0.0531	0.0410

Table 2.8 Results of regression for 60-month buy-and-hold abnormal return on the timing of the deals.

The dependent variable BHAR60 is the 60-month buy-and-hold abnormal return from CRSP. The vector of the explanatory variables includes the following direct variables and the most influential variables with M&A: "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100; the dummy variable "Completed" is equal to 1 if a deal is completed, and 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target and 0 otherwise; the dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly, and 0 otherwise; the dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile, and 0 otherwise; the dummy variable "Cash_only" takes the value of 1 when the bidder uses only cash to complete the deal, and 0 otherwise; the dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise; the dummy variable "Int_fund" takes the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources, and 0 otherwise; the core explanatory variable "PNH", standing for "price nearness to high" and indicating the nearness of the announcement price to the price of the 52-week high, is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high and an instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52 weeks high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) BHAR60	(2) BHAR60	(3) BHAR60	(4) BHAR60	(5) BHAR60	(6) BHAR60
Premium	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011
	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
Completed	0.1484	0.1554	0.1190	0.1497	0.1507	0.1352
	(0.0996)	(0.0996)	(0.0998)	(0.0874)	(0.0873)	(0.0877)
Diversifying	0.0597	0.0499	0.0554	0.0825	0.0737	0.0744
	(0.0845)	(0.0843)	(0.0848)	(0.0823)	(0.0821)	(0.0826)
Friendly	-0.0508	-0.0566	-0.0194			
	(0.1174)	(0.1173)	(0.1178)			
Cash_only	0.2132*	0.2048*	0.2345**			
	(0.0853)	(0.0853)	(0.0854)			
Int_fund	-0.2041	-0.2086	-0.2268	-0.1685	-0.1710	-0.1864

	(0.1219)	(0.1216)	(0.1222)	(0.1229)	(0.1226)	(0.1233)
PNH	0.3997**			0.3927**		
	(0.1182)			(0.1183)		
Adv_rank	0.0315	0.0338	0.0327	0.0318	0.0340	0.0336
	(0.0324)	(0.0324)	(0.0326)	(0.0325)	(0.0325)	(0.0327)
DNH		0.4101***			0.4015***	
		(0.1110)			(0.1110)	
DNL			-0.2213*			-0.2104
			(0.1088)			(0.1091)
Hostile				-0.2579	-0.2570	-0.2824
				(0.1676)	(0.1673)	(0.1682)
Stock_only				-0.1973*	-0.1858*	-0.2061*
				(0.0863)	(0.0864)	(0.0867)
Constant	-1.0988***	-1.0655***	-0.7809***	-0.9566***	-0.9331***	-0.6166***
	(0.1411)	(0.1353)	(0.1382)	(0.1212)	(0.1144)	(0.1128)
Observations	778	778	778	778	778	778
R-squared	0.0334	0.0362	0.0243	0.0327	0.0353	0.0236

Table 2.9 Results of the Hausman test for the two-stage least squares regression to show whether "DNH" is a valid instrument of "PNH" to regress the cumulative abnormal return.

Hausman test

	Coefficients			
	Coefficients of IV regression with CAR as the dependent variable (A)	Coefficients of OLS regression with CAR as the dependent variable (B)	(A-B)	sqrt(diag(V_A-V_B)
	A	B	Difference	S.E.
PNH (Instrumented by DNH in A)	0. 0328189	-0. 026637	0. 0594559	0. 0124127
Premium	0. 0000226	0. 0000178	4.78e-06	2.71e-06
Completed	0. 0127654	0. 0091536	0. 0036117	0. 0013501
Diversifying	0. 0119118	0. 0103421	0. 0015697	0. 0010247
Friendly	-0. 0280211	-0. 0260636	-0. 0019575	0. 0013888
Cash_only	0. 0359271	0. 0362357	-0. 0003085	0. 0009776
Int_fund	0. 0289792	0. 0272583	0. 0017209	0. 0014047
Adv_rank	-0.0024658	-0.0030476	0.0005818	0.0003947

A = consistent under Ho and Ha; obtained from IV regression

B = inconsistent under Ha, efficient under Ho; obtained from regression

Test: Ho: the difference in coefficients is not systematic

$chi2(7) = (A-B)'[(V\_A-V\_B)^{\wedge}(-1)](A-B)$

= 22.94

Prob>chi2 = 0.0034***

*** $p<0.001$, ** $p<0.01$, * $p<0.05$

Table 2.10 Results of the Hausman test for the two-stage least squares regression of the cumulative abnormal return on another possible instrument, "DNL".

Hausman test				
	Coefficients			
	Coefficients of IV regression with CAR as the dependent variable (A)	Coefficients of OLS regression with CAR as the dependent variable (B)	(A-B)	sqrt(diag(V_A-V_B))
	A	B	Difference	S.E.
PNH (Instrumented by DNL in A)	0.0351714	-0.026637	0.0618084	0.0120211
Premium	0.0000228	0.0000178	4.97e-06	2.82e-06
Completed	0.0129083	0.0091536	0.0037546	0.0013858
Diversifying	0.0119739	0.0103421	0.0016318	0.0010692
Friendly	-0.0280985	-0.0260636	-0.002035	0.0014509
Cash_only	0.0359149	0.0362357	-0.0003207	0.0010278
Int_fund	0.0290473	0.0272583	0.001789	0.00147
Adv_rank	-0.0024428	-0.0030476	0.0006048	0.0004121

A = consistent under Ho and Ha; obtained from IV regression

B = inconsistent under Ha, efficient under Ho; obtained from regression

Test: Ho: the difference in coefficients is not systematic

$chi2(7) = (A-B)'[(V\_A-V\_B)^{(-1)}](A-B)$

$= 26.44$

$Prob>chi2 = 0.0009***$

*** $p<0.001$, ** $p<0.01$, * $p<0.05$

Table 2.11 Results of the quantile regression for the median bidder short-term performance on the timing of the deal measured by the valid variable "DNH" and "DNL" without endogeneity problems.

The dependent variable CAR is the 5-day cumulative abnormal return from CRSP centred on the announcement date from Thomson. The vector of the explanatory variables includes the following direct variables and the most influential variables with M&A: "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100; the dummy variable "Completed" is equal to 1 if a deal is completed, and 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise; the dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly, and 0 otherwise; the dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile, and 0 otherwise; the dummy variable "Cash_only" takes the value of 1 when the bidder uses only cash to complete the deal, and 0 otherwise; the dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise; the dummy variable "Int_fund" takes the value of 1 when the acquiring company finance the transaction in some portion with its own internal resources, and 0 otherwise; the core explanatory variable "PNH", standing for "price nearness to high" and indicating the nearness of the announcement price to the price of the 52-week high, is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high, as an instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) CAR	(2) CAR	(3) CAR	(4) CAR	(5) CAR	(6) CAR
Premium	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Completed	0.0034	0.0035	0.0045	0.0003	0.0011	0.0022
	(0.0050)	(0.0046)	(0.0041)	(0.0046)	(0.0048)	(0.0046)
Diversifying	0.0032	0.0030	0.0030	0.0059	0.0061	0.0049
	(0.0043)	(0.0040)	(0.0036)	(0.0045)	(0.0046)	(0.0045)
Friendly	-0.0152**	-0.0122*	-0.0129**			
	(0.0059)	(0.0055)	(0.0049)			
Cash_only	0.0232***	0.0234***	0.0242***			
	(0.0043)	(0.0040)	(0.0036)			

Int_fund	0.0134*	0.0162**	0.0149**	0.0177**	0.0148*	0.0168**
	(0.0060)	(0.0056)	(0.0050)	(0.0064)	(0.0066)	(0.0064)
PNH	-0.0059			-0.0092		
	(0.0059)			(0.0062)		
Adv_rank	-0.0019	-0.0019	-0.0019	-0.0023	-0.0024	-0.0034
	(0.0017)	(0.0016)	(0.0014)	(0.0018)	(0.0018)	(0.0018)
DNH		0.0135**			0.0139*	
		(0.0051)			(0.0060)	
DNL			-0.0110*			-0.0133*
			(0.0046)			(0.0058)
Hostile				-0.0135	-0.0155	-0.0136
				(0.0099)	(0.0103)	(0.0100)
Stock_only				-0.0279***	-0.0288***	-0.0299***
				(0.0046)	(0.0048)	(0.0046)
Constant	-0.0082	-0.0203**	-0.0086	0.0050	-0.0055	0.0103
	(0.0071)	(0.0065)	(0.0057)	(0.0062)	(0.0062)	(0.0058)
Observations	1,525	1,525	1,525	1,525	1,525	1,525

Table 2.12 Results of the quantile regression for median bidder long-term performance on the timing of the deal measured by the valid variable "PNH" without the endogeneity problem.

The dependent variable BHAR36/60 is the buy-and-hold abnormal return 36/60 months from CRSP. The vector of the explanatory variables includes the following direct variables and the most influential variables with M&A: "Premium" is the premium of the offer price to the target closing stock price 4 weeks prior to the original announcement date, expressed as a percentage ((Price per common share - Target stock price prior to announcement date)/Target stock price prior to announcement date)*100; a dummy variable "Completed" is equal to 1 if a deal is completed, and 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target and 0 otherwise. The dummy variable "Friendly" takes the value of 1 when the bidder attitude is friendly and 0 otherwise. The dummy variable "Hostile" takes the value of 1 when the bidder attitude is hostile and 0 otherwise. The dummy variable "Cash_only" takes the value of 1 when the bidder uses only cash to complete the deal, and 0 otherwise. The dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise. The dummy variable "Int_fund" takes the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources, and 0 otherwise. The core explanatory variable "PNH", standing for "price nearness to high" and indicating the nearness of the announcement price to the price of the 52-week high, is calculated as a percentage (Price of 52-week High - Price at Announcement)/(Price of 52-week High - Price of 52-week low). DNH, the nearness of the announcement date to the date of the 52-week high and an instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since the 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low and another instrumental variable for "PNH", is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	(1)	(2)	(3)	(4)	(5)	(6)
	BHAR36	BHAR36	BHAR36	BHAR36	BHAR36	BHAR36
Premium	0.0007	0.0006	0.0005	0.0006	0.0002	0.0004
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Completed	0.0798	0.0872	0.0654	0.0867	0.0876*	0.0766
	(0.0490)	(0.0489)	(0.0467)	(0.0443)	(0.0426)	(0.0427)
Diversifying	-0.0035	-0.0080	-0.0101	0.0315	0.0443	0.0169
	(0.0407)	(0.0407)	(0.0390)	(0.0414)	(0.0397)	(0.0398)
Friendly	-0.1122	-0.1220*	-0.1043			
	(0.0575)	(0.0575)	(0.0551)			
Cash_only	0.2665***	0.2605***	0.2466***			
	(0.0413)	(0.0412)	(0.0395)			

	(1)	(2)	(3)	(4)	(5)	(6)
Int_fund	-0.1966**	-0.1921**	-0.1712**	-0.1663**	-0.1530**	-0.1706**
	(0.0584)	(0.0581)	(0.0559)	(0.0606)	(0.0585)	(0.0585)
PNH	0.1399*			0.1294*		
	(0.0576)			(0.0597)		
Adv_rank	0.0299	0.0307	0.0282	0.0228	0.0163	0.0188
	(0.0158)	(0.0158)	(0.0151)	(0.0165)	(0.0158)	(0.0159)
DNH		0.1780**			0.1966***	
		(0.0533)			(0.0531)	
DNL			-0.0947			-0.0878
			(0.0503)			(0.0526)
Hostile				-0.1498	-0.1870*	-0.1474*
				(0.0857)	(0.0822)	(0.0825)
Stock_only				-0.2617***	-0.2328***	-0.2608***
				(0.0434)	(0.0416)	(0.0417)
Constant	-0.7370***	-0.7251***	-0.5993***	-0.5947***	-0.5970***	-0.4550***
	(0.0690)	(0.0664)	(0.0638)	(0.0620)	(0.0565)	(0.0551)
Observations	1,009	1,009	1,009	1,009	1,009	1,009

Panel B	(1)	(2)	(3)	(4)	(5)	(6)
	BHAR60	BHAR60	BHAR60	BHAR60	BHAR60	BHAR60
Premium	0.0000	0.0002	0.0001	-0.0003	0.0001	-0.0000
	(0.0005)	(0.0005)	(0.0007)	(0.0005)	(0.0005)	(0.0007)
Completed	0.0978	0.1144	0.0284	0.1073	0.1302*	0.0631
	(0.0689)	(0.0636)	(0.0848)	(0.0631)	(0.0606)	(0.0749)
Diversifying	-0.0002	0.0096	-0.0098	-0.0003	0.0071	-0.0152
	(0.0587)	(0.0540)	(0.0724)	(0.0594)	(0.0569)	(0.0707)
Friendly	-0.0310	-0.0770	-0.0153			
	(0.0812)	(0.0751)	(0.1000)			
Cash_only	0.2130***	0.2106***	0.2343**			
	(0.0594)	(0.0546)	(0.0728)			
Int_fund	-0.0372	-0.0632	-0.0997	-0.0031	-0.0301	-0.0844
	(0.0847)	(0.0778)	(0.1039)	(0.0882)	(0.0849)	(0.1054)
PNH	0.2061*			0.2015*		
	(0.0822)			(0.0853)		
Adv_rank	0.0265	0.0411*	0.0344	0.0236	0.0203	0.0340
	(0.0225)	(0.0207)	(0.0278)	(0.0234)	(0.0225)	(0.0279)
DNH		0.2570***			0.2447**	
		(0.0710)			(0.0769)	
DNL			-0.0222			-0.0120
			(0.0927)			(0.0932)
Hostile				-0.1691	-0.2597*	-0.2004

				(0.1202)	(0.1154)	(0.1432)
Stock_only				-0.2064**	-0.2256***	-0.2609***
				(0.0624)	(0.0600)	(0.0742)
Constant	-0.9591***	-0.9754***	-0.8348***	-0.7772***	-0.7890***	-0.6282***
	(0.0983)	(0.0867)	(0.1179)	(0.0875)	(0.0796)	(0.0963)
Observations	778	778	778	778	778	778

Chapter 3: Comparison of the Contradictive Effects from the Market Timing Theory and Signalling Theory in M&A

3.1 Abstract

Market timing theory argues that high-valued bidders should take advantage of their share prices to acquire, while the signalling theory suggests that cash payment is good in that the stock exchange in M&A is actually a negative signal showing the market that the bidder is overvalued. This chapter compares and clarifies the dominant effect in M&A when the bidders announce M&A at or near the 52-week high or low.

This chapter first categorizes the research objects. Because pure stock exchange is considered a fundamental tool to time the market, while announcement nearness to the date of the 52-week high is used to measure the timing intensity, such equity-financed bidders with their announcement date close to the 52-week high are defined as market timers. In comparison, as cash payment could be taken as a basic signal sent from the buyer showing their optimism of the future value and ability to supply cash financing, such cash bidders with their announcement date close to the 52-week high are defined as market signallers. Similarly, equity-financed bidders with their announcement date close to the 52-week low are defined as anti-timers; cash bidders with their announcement date close to the 52-week low are established as anti-signallers.

The study then further discusses the performance of the market timer, signaller, anti-timer and anti-signaller and illustrates that market timers benefit from taking advantage of their high-valued equity as payment method in neither the short nor the long term, which is inconsistent with the market timing theory. Similarly, market signallers do not gain significantly in either the short or the long term, although positive signals are sent that they are not taking profit from the current price and are expecting higher value. In the long term, both market timers and signallers experience a serious reversal. In comparison, anti-signallers, as winners, reverse significantly less than all the other

research objects.

3.2 Introduction

Chapter 2 has analysed the anchoring and momentum impact of the acquirers' M&A announcement at or near the 52-week high and low on the offer premium, deal completeness and the performance of the acquirers. It has pointed out that announcement fewer days away from the 52-week high date (the bids announced nearer to the acquirers' 52-week high date) leads to a higher probability of deal completion but lower cumulative abnormal returns (CARs), while announcement closer to acquirers' 52-week low date is associated with higher CARs for all bidders but a lower probability of deal completion for stock exchange deals or no significant effect when cash payment is used. In terms of long-term performance, the bids announced closer to the acquirers' 52-week high date are associated with lower 12-, 36- and 60-month buy-and-hold abnormal returns, while announcement closer to the acquirers' 52-week low date is associated with higher buy-and-hold abnormal returns (BHARs) for 36 and 60 months. In conclusion, the 52-week high and low dates could be taken as effective reference points in completing the deal and affecting both the 5-day short-term CAR and the 3-5 year long-term BHARs.

In addition, in chapter 2, the payment method, namely, pure cash and stock payments, has been found to affect the bidder performance significantly and differently in all regressions. According to the current market timing theory, given that bid managers are rational and the share prices might fluctuate around the intrinsic value, the theory suggests the buyer to take advantage of the overvalued shares as a payment method. On the other hand, signalling effects from empirical studies indicate that the market players can receive the negative signal of timing the market by offering stock exchange deals and thus favouring cash payment.

The theoretical contradiction provides a research gap to reconcile market timing theory and the empirical signalling effects. This chapter clarifies the justifications of the payment methods at or near different reference points and ranks the effectiveness of market timing and signalling at different levels of proximity to the 52-week high or low.

In addition, as most current signalling theories are read from the target point of view, target signals being studied, this chapter contributes to the study of the signals sent from the bidder. In addition, the intensities of the market timing effect and the signalling effect on maximizing shareholder interest in both the short and long terms are yet to be compared.

Answering these questions will help investors use the correct investment theories and help acquirers correctly predict the market reaction to their acquisition plan.

To sort out the problems just outlined, for the first time, this research uses the payment method and the proximity of the takeover announcement to the 52-week high/low date (no endogeneity, as discussed in chapter 2), the two most significant elements affecting bidder performance, to define market timers, signallers, anti-timers and anti-signallers, which have not been considered in previous studies. Compared to the extant studies on market timing theory, in which book-to-market ratio and price earnings ratio are most commonly used to measure acquirers' valuation, the 52-week high and low are more straightforward and widely taken as important psychological investment reference points.

Specifically, if the bidder announces stock exchange acquisition near the 52-week high date, the bidder in this chapter is categorized as a market timer, who takes advantage of the 52-week peak value. If the bidder announces cash acquisition near the 52-week high date, the bidder is classified as a market signaller, as it sends purely optimistic signals

showing the expectation of a better future performance by ruling out the advantage from the market timing effect. In contrast to the market timer, if the bidder announces stock exchange acquisition near the 52-week low date, the bidder is categorized as anti-timer. If the bidder announces pure cash acquisition near the 52-week low date, the bidder is classified as an anti-signaller.

By analysing the performance of market timers and signallers, for the first time, we could determine the dominant power from the contradicting market timing and signalling effects. On the other hand, by comparing the performances of the different types of market players, we could rank the intensity or the efficiency of the market timing and the market-signalling effects.

The short- and long-term performance for market signallers, anti-signallers, market timers and anti-timers is investigated in this study. The 5-day event window of CARs for the short term as well as the 12-month, 36-month and 60-month BHARs for the long term are calculated and compared as the benefits of different categories of bidders.

The findings suggest that anti-signallers, as winners, have the highest short-term return, while timers perform the worst according to CARs after the announcement. In the long term, reversals exist in all categories of bidders. The anti-signallers experience the lowest reversal in the long term, and the timers have the highest reversal.

The reversal phenomenon is consistent with Rosen (2006), who employs investor sentiment to explain the long-term reversal. In particular, when investors are more optimistic than realistic, the short-term lift of the confidence in the market would be reversed when the real picture is revealed over time in the long term. Antoniou, Guo and Petmezas (2008) also found that short-term returns stimulated from the hot market would be significantly reversed in the long term.

This chapter contributes to the literature in the following ways.

The definition of market timers in the current literature ignores payment methods, which results in a contradiction of market timing theory and empirical signalling effects. This chapter creatively re-defines the market timer and signaller, providing an opportunity to reconcile the contradiction.

Signalling theory in the current literature is applied mainly in analysing the benefits of signals conveyed by target firms; this chapter analyses and compares the efficiency implications of acquirers' signals in the M&A market.

Market timers, signallers and anti-timers/signallers perform differently in the short and long terms after the announcement and acquisition, offering guidance to stakeholders in M&A.

The contradictive recommendations for payment methods from market timing theory and signalling theory are reconciled and complemented with more details. Generally, cash transactions outperform stock-financed deals in all categories:

a. Anti-signallers have higher CARs than signallers, anti-timers and timers;

b. Anti-timers have higher CARs than timers;

c. Anti-signallers experience the least reversal, while timers experience greatest reversal in terms of BHARs in the long term.

As anti-signallers and anti-timers are found to be the least losers in M&A, the influence of proximity to the 52-week low date announcement could be reaffirmed as another "reference point" on top of proximity to the 52-week high date discovered in chapter two. This "reference point" is also in contrast to that from the perspective of the target, which answers how listed targets' 52-week high price affects the purchase price. In conclusion, the new reference points, including the 52-week high date and the 52-week

low date, from the perspective of the acquiring firms, would supplement the target reference point theory.

3.3 Literature Review

3.3.1 The Efficient Market Hypothesis

The efficient market hypothesis (EMH) is a theory in financial economics that argues that all available information in the financial market will exert full influence on assets. In other words, it is impossible to outstrip the market consistently on a risk-adjusted basis because market prices should change only with new information on discount rates.

Eugene (1965) argued that there is no such thing as unfair value of stocks, as investors are never able to either purchase undervalued stocks or sell stocks at inflated prices. As a result, investors have no opportunities to outperform the overall market through expert stock selection or market timing. Consistently, Eugene's later studies disclose that even if fund managers had no skill, there still would be a very similar distribution of abnormal returns in US mutual funds.

The EMH has three different forms: the "weak", "semi-strong", and "strong" forms. The weak form of the EMH claims that prices on traded assets reflect all past publicly available information. The semi-strong form of the EMH claims that prices reflect both past publicly available information and new public information. The strong form of the EMH claims that prices on traded assets reflect both the past and current public information along with even hidden "insider" information.

In this chapter, the EMF provides a theoretical basis and justification for the momentum of the 52-week high or low of the bidders. Signalling theory is also based on the EMF and indicates that the market would automatically absorb new signals sent from the

market players and reflect the information to their share prices.

In contrast to the EMF, several serious financial crises in history along with behavioural finance led to renewed scrutiny and criticism of the EMH. Behavioural economists attribute imperfections in financial markets to a combination of cognitive biases, such as overconfidence, overreaction, representative bias, information bias, and various other predictable human errors in reasoning and information processing (Tversky and Kahneman (1974), Bondt and Thaler (1985), Slovic and Weber (2002)).

3.3.2 Hubris Hypothesis

Modern economics and market theories heavily rely on the hypothesis of human rationality. However, psychologists' findings have endorsed human beings' unrealistic positive views of the self, illusion of control and unrealistic optimism.

Current psychology literature has shown that human beings are inclined to be confident that they are better than others and that they have unrealistic positive beliefs about themselves and more optimistic elements than average. They overestimate their features and attribute more positive than negative descriptions to themselves (Greenwald (1980), Taylor and Brown (1988), Svenson (1981)). In addition, people attach more importance to things at which they are good at than to those at which they lack expertise (Harackiewicz, Sansone and Manderlink (1985), Lewicki (1984), Rosenberg (1979)).

Empirical experiments, in which mutual ratings are carried out and compared, document that self-ratings were significantly more positive than an observer's assessment (Taylor and Brown (1988)).

In the context of finance, based on psychological evidence, DeBondt and Thaler (1985) document that psychological elements could help to better explain individuals'

behaviour. As one of the most common human bias and most important value destructive effects, overconfidence has been modelled to help explain a number of financial anomalies. M&A is a particular type of corporate decision related to overconfidence, as proposed by psychologists.

An early work on the phenomenon of overconfidence in M&A by Roll (1986) proposes the hubris hypothesis of corporate takeover as a possible explanation for the takeover phenomenon of mergers and tender offers. He contends that bidding firms infected by hubris simply pay too much for their targets. The strong, efficient markets are proposed as the assumption for his hubris hypothesis. According to the assumption, asset prices account for all information about individual firms, which means that product and labour markets are believed to be efficient in the sense that (a) industrial reorganization can bring no more gains in aggregate output and (b) management talent is employed in its best alternative use. He concludes that under the assumption of the strong, efficient capital market, if any valuation of the equity for the target is higher than the market price, it is inclined to be a bidder mistake.

Roll believed that the hubris decision makers failed to take lessons from previous mistakes and are overconfident about their variation of the equity for the target. Therefore, if there are no gains in takeovers, hubris is necessary to explain why managers do not abandon these bids.

As evidence of the hubris hypothesis, Rau and Vermaelen (1998) document that in assessing a potential acquisition decision from the full sample of 3169 mergers and 348 tender offers in the US between January 1980 and December 1991, the market, the management itself, the board of directors and large shareholders are inclined to overestimate the historical performance of the bidder management and subsequently be overconfident about the transaction. In other words, glamour firm bidders with lower book-to-market ratios overestimate their own abilities and their managerial skills,

resulting in the over-payment of targets. Consistent with the US case, Sudarsanam and Mahate (2003) provide the same evidence for the UK market, showing that value firms (high book-to-market ratios) outperform glamour firms.

In a study with worldwide objects, by investigating Forbes 500 CEOs, Malmendier and Tate (2005) also document that corporate investments could be distorted by managerial overconfidence. Overconfident managers overestimate the returns to their investment projects especially when they have abundant internal funds and particularly in equity-dependent firms.

From the perspective of multiple bids, Billett and Qian (2008) contend that first-order acquisitions' abnormal returns outperform those of the higher order deals since the past successful performance on the part of the firm leads to the creation of overconfident managers.

There are three major types of measures for overconfidence, namely, stock option proxy, business press proxy and multiple acquisitions.

Malmendier and Tate (2005) constructed three stock option proxies of overconfidence, including whenever the CEO holds his options beyond a theoretically calibrated benchmark for exercise, holds his options even until the last year before expiration, and habitually buys stock of his company during the first five sample years. In other words, CEOs are classified as overconfident if they persistently fail to reduce their personal exposure to company-specific risk.

As for business press proxy, Malmendier and Tate (2008) propose to take advantage of the comments from articles to determine whether managers are overconfident.

In addition, since overconfident managers are inclined to underestimate the risks and

overestimate the synergies from takeovers, Doukas and Petmezas (2010) document that overconfident managers are more likely to acquire targets quickly and frequently.

The irrational assumption of managers from the hubris theory provides justification for the players to think that they can time or signal the market.

The hubris hypothesis is based on strong market efficiency in terms of the capital, product and labour markets. However, concerning criticism of the theory, as Roll mentioned himself, a frequent objection is that if some market participants make systematic mistakes, the assumption of the hubris theory does not seem tenable. Actually, modern theories of economics and management have proven that markets have frictions and failures, such as information asymmetry and transaction costs. In other words, the assumptions of the hubris hypothesis, "markets are efficient while managers are affected by hubris", is not always correct. The reality is that share value could be overestimated by the markets, while managers with asymmetric inside information may not be affected by hubris.

As documented above, share value could be overestimated by the markets, and bid managers providing the market with asymmetric inside information may not experience hubris. In other words, we are not sure whether these managers are truly overconfident. What if they made the right decision? Does that mean they are properly confident instead of overconfident? In the existing literature, there is no investigation on rational confidence in M&A whatsoever. In this study, the assumption of rational managerial confidence could help determine the motivation of M&A. Under this new assumption, rational managers of the acquirers would use shares to acquire targets if their share prices were high or announce cash payment as a signal to clarify the market misperception, providing justification for market timing theory and signalling theory, respectively.

3.3.3 Overreaction Theory

Overreaction is caused by systematic psychological cognitive bias when investment decisions are made in uncertain conditions. Investors tend to pay excessive attention to the current information and ignore the previous information when they face a sudden or unexpected event, causing the share price to overshoot or undershoot. After the investors absorb the actual meaning of the events, the stock price will reverse, eventually returning to the intrinsic value.

DeBondt and Thaler (1985) found that investors would be more pessimistic about losing stocks and become more optimistic about profitable stocks. They show overreaction to both good and bad news. When a bull market is coming, the share price will continue to rise to what is considered an unacceptable level far beyond the investment value of the listed company. When a bear market is coming, the share price will continue to fall to a level investors cannot accept. The reasons include herd mentality, human emotion-driven irrationality and the resulting cognitive bias. As the market continues to rise, investors tend to become more optimistic. Because the actual operation has generated profits, such successful investment behaviour will enhance the mood of optimism and cause selective cognitive bias in information processing; that is, investors will be over sensitive to good news and insensitive to bad news. This emotional and cognitive state will strengthen the buying behaviour and form a reinforcing effect. When the market falls continuously, the opposite is true. Investors then become more pessimistic. Because the actual operation has resulted in a loss, such a failed investment operation will strengthen pessimism and cause selective cognitive bias; that is, investors will be over sensitive to bad news and insensitive to good news. Therefore, the market also forms a so-called overreaction.

In the book of Irrational Exuberance, Robert Shiller (2005) considered that human irrational factors play a major role in overreaction. Historical lessons are not enough to

make people rational. Irrationality is the deep-rooted limitation of human beings. Professor Shiller once found in a study that when the Japanese stock market reached the top, only 14% of investors thought the stock market would plummet. However, when the stock market crashed, 32% of the investors thought the stock market would fall. Investors usually place too much consideration on recent experience and derive the latest trend from it, with little consideration for their deviations from the long-term average. In other words, the market is always overreactive.

The overreaction theory provides justification of long-term reversal after certain events that affect the share price in the short term.

3.3.4 Regret Theory

Simultaneously developed by Loomes and Sugden (1982), Bell (1982), regret theory models choice under uncertainty, considering the effect of anticipated regret in decision-making. The human emotional response of regret is often experienced. The theory of regret aversion or anticipated regret proposes that when facing a decision, individuals might anticipate regret and thus incorporate in their choice their desire to eliminate or reduce this possibility. Regret is a negative emotion with a powerful social and reputational component and is central to the way humans learn from experience and to the human psychology of risk aversion. People are prone to mistakes in investment judgement and decision-making. They often feel very sad when this misoperation occurs. Therefore, in the process of investment, investors often show indecision to avoid regret. When deciding whether to sell a stock, investors are often influenced by the cost of buying at a higher or lower level than the current price. Because they are afraid of regret, they try their best to avoid it.

In the investment process, pursuing pride is another motivation in addition to avoiding regret. Fear of regret and pursuit of pride result in short-term holding of profit-making

stocks and long-term holding of losing stock, which is called a selling effect.

Assume that an investor holds two stocks. Stock A gains 20%, and stock B loses 20%; in the meantime, there is a new investment opportunity, and investors have to sell a stock for the investment. In this case, most investors tend to sell stock A rather than stock B because selling stock B will lead to regret in the previous buying decision, and selling stock A will give investors a sense of pride in making the right investment.

Regret theory has a strong normative meaning. It violates the axiom of expected utility, which assumes that investment actions are strictly rational. Along with the hubris theory, the regret theory again suggests that market participants might not be as rational as assumed by the axiom of utility theory.

3.3.5 Payment Methods

The method of payment used in M&A is the most significant element explaining acquirer abnormal returns around the announcement of a takeover. The methods of payment that can be used to finance a takeover include cash, stock or a combination of the two. Different justifications are provided to explain the market reaction around the announcement of an acquisition. Information asymmetries between managers and investors, managerial ownership of the acquirer and the target firm and taxation considerations are the main explanations for the effect of the various methods of payments on bidder gains. Some studies include the method of payment as a determinant factor. In addition, target firm listing status has an important role impact on transactions.

Carleton et al. (1983) give very good reasons for acquirers to use cash over stock exchange in M&A. First, mergers financed with cash are tax deductible, which is worth consideration in the decision of the method of payment. Market imperfections and

agency considerations urge managers to use cash to reduce uncertainties. In the case of hostile deals, cash can be more attractive to the target firm's management.

Myers and Majluf (1984) construct a model suggesting that in cases of high information asymmetry, firms are advised to use debt to finance their investment decisions rather than issuing equity and conclude that the firm is always better off issuing low-risk debt to finance its investments.

Based on Myers and Majluf's (1984) model, Travlos (1987) reported that mergers are usually common stock exchange offers, while tender offers are usually cash offers. His findings suggest that bidding firms suffer significant losses (-2.09%) when the exchange takes place using common stocks (merger), while they experience neutral abnormal returns (0.31%) when they offer cash (tender offer). He attributes the discrepancy to the information asymmetry hypothesis, different tax implications and the co-insurance effect of the combination of the two firms after the acquisition.

Furthermore, Amihud, Lev and Travlos (1990) argue that in addition to corporate control and tax implications, managerial ownership affects the choice of M&A financing. Specifically, the higher the managerial ownership fraction of the acquiring firm, the greater the probability of the acquisition being financed using cash rather than equity.

Consistently, Blackburn, Dark and Hanson (1997) also report that the way the company is controlled has an impact on the gain or loss from M&A. Specifically, due to agency costs, manager-controlled companies suffer significant losses when they make mixed offers, while in the same case, owner-controlled companies enjoy significant profits.

From the perspective of receiving payment, Fishman (1989) constructs a model and reports that cash offers serve as a deterrent to equity offer competition, and the targeted

company is more likely to reject a stock offer than a cash one.

Based on an investigation of European bidders, both public and private, for the period 1997-2000, Faccio and Masulis (2005) study the factors and determinants of payment choices between cash, equity or a combination of the two in M&A and report that bidder corporate control threats discourage stock financing, while bidder financial constraints encourage stock financing. Other reasons, such as excess liquidity and too many tangible assets as well as little unused debt capacity, also make stock more attractive than cash. When the target can be easily influenced by the bidder, stock is again preferred over cash. On the other hand, cash offers are preferable to the target when there are regulatory costs of stock offers and a bidder has special access to bank borrowing. In addition, cash is preferred when the bidder believes that its stock is undervalued. From the sellers' perspective, stock offers do not involve tax payments, while cash financing enables the targets to minimize the risk faced, provides them with liquidity benefits and helps them avoid becoming a minority shareholder in a bidder with concentrated ownership. In addition, other factors, such as prior stock price run-up and the market to book value of a bidder's assets, can also influence the bidder's choice of payment method.

Martin (1996) also examines the trade-off of a company's choice between cash and stock offers. His findings show that cash tender offers are usually completed faster than mergers, as according to Fishman's proposition (1989), bidders tend to choose cash to avoid competition. In contrast, Martin (1996) argues that bidders with high growth opportunities are more likely to choose equity as a means of financing a takeover because managers are more flexible with stock offers, which better serve their own long-term investment plans.

In terms of performance, the majority of empirical evidence has documented short-term negative abnormal returns for equity acquisitions. Based on the US samples engaged in

successful takeovers in the period 1972 to 1981, pure stock exchange bidding firms are documented by Travlos (1987) with significant losses at the announcement of the takeover proposal, while cash financing bidding firms show that their stockholders earn "normal" rates of return in the announcement period.

Consistently, there is bountiful evidence supporting that cash acquisitions outperform stock acquisitions. Based on 161 successful cash offers, Bradley (1980) documents an average 9% increase in the market value for the bidding firms on their own shares. Consistently, in a sample of 199 acquisitions with 64 cash transactions and 118 securities exchanges between 1970 and 1978, Wansley et al. (1983) show significant positive CARs of 6.17% for the bidding firms using cash payment. With a sample of 167 acquiring firms, Travlos (1987) documents significant loss on pure stock exchanges and normal rate of returns on cash offers for acquirers. By comparing the short- and long-term performance of US bidders, Mitchell and Stafford (2000) report significant losses for the overall sample (with both stock and cash deals) in the three-year period after the acquisition. Stock acquisitions are found to significantly underperform cash deals.

From a long-term perspective, the evidence about equity M&A performance is mixed. Using 947 US acquisitions during the period 1970-1989, Loughran and Vijh (1997) find a significantly negative excess return of -25% from complete stock mergers, whereas completed cash tender offers earn positive and significant excess returns of 61.7%. In addition, it is contended that the significant gain from acquisitions announced during high valuation periods reverses over time. (e.g., Bouwman, Fuller and Nain (2009); Rosen (2006)). Inconsistent with the long-term benefit of reversal, Savor and Lu (2009) find evidence that overvalued firms create value for long-term shareholders by using their equity as currency when the deal is completed. Consistent with Savor and Lu (2009), E. Vagenas-Nanos (2012) documents that market timers who take advantage of equity financing for the acquisition outperform those who do not time the market in

both the short and the long term.

In conclusion, different payment methods have different influences on M&A. Moreover, when payment methods are considered in the context of market timing theory and signalling theory from the acquirers' perspective, it seems contradictive to suggest proper payments, as overvalued acquirers are supposed to use stock exchange to conduct the deals, while others argue that timing the market would reveal the overvaluation of the bidder shares, thus leading to a reduction of the bidder value. The contradiction concerning the choice of payment method in the context of market timing theory and signalling theory represents a research gap.

3.3.6 Market Timing Theory

Equity market timing proposed by Baker and Wurgler (2002) following Stein (1996) plays very important roles in corporate financing decisions. Baker and Wurgler (2002) propose that capital structure is a cumulative outcome of past attempts to time the equity market and try to apply the theory to answer the question. The market timing (or windows of opportunity) theory argues that companies tend to finance from external equity when the cost of equity is low and prefer cash or debt otherwise. According to market timing theory, bid managers sometimes perceive their share price as mispriced by the market. When firms need to finance a particular project, they take advantage of overvalued equity and use internal funds or issue debt when they perceive that the cost of equity is high. How do they judge the valuation of bidder equity? On the one hand, due to information asymmetry, buyer managers may know themselves or the industry better. On the other hand, they may follow certain psychological or market patterns. For example, as suggested in chapter one, the 52-week high and low could be taken as useful reference points in measuring the buyer values.

Market timing theory provides important justifications as well as specific tactics to

conduct M&A. Shleifer and Vishny (2003) present a model in which transactions are driven by the stock market valuations of the merging firms. In other words, corporate policies, such as debt and equity issuance, share repurchases, dividends and investments, are taken as responses to market mispricing. They propose that overvalued bidders take advantage of their overvalued equity to acquire less overvalued targets. However, opponents of the theory argue that the target along with the efficient market can detect the timer's trick and thus give a negative feedback to the buyers.

To explain why target managers are willing to take the overvalued shares, Rhodes-Kropf and Viswanathan (2004) assume that even rational target managers also make mistakes, especially in an overall overvalued market. In particular, the complexity of the components of the miss-valuation, including market-wide and firm-specific effects, makes the target managers overestimate their firm-specific overvaluation when the market is overvalued. Therefore, target managers are more willing to make deals in an overheated market environment.

Based on the miss-valuation hypothesis, which holds that market inefficiency has important effects on takeover activity, and the Q theory, which contends that takeovers of bad targets by good bidders tend to improve efficiency more than takeovers of good targets by bad bidders, Dong et. (2006) find significant evidence that highly valued bidders are more likely to use stock and less likely to use cash as a consideration, are willing to pay more relative to the target market price and earn lower announcement period returns.

Consistently, Ang and Cheng (2006) provide evidence that overvalued firms are more likely to use equity in the acquisition process as the medium of payment. Ang and Cheng (2006) also document that a more overvalued bidder is positively associated with a higher probability of success for a takeover offer. Bouwman, Fuller and Nain (2009) demonstrate that acquisitions announced during hot market periods yield

significantly higher abnormal returns than those announced during depressed periods, although followed by a reversal. Rosen (2006) obtains a similar conclusion. Takeovers announced during high valuation merger periods outperform those announced during "cold" merger periods. Reversal is also observed in the long term. Managerial herding and investor sentiment are the driving forces for the long-term reversal documented by Bouwman, Fuller and Nain (2009) and Rosen (2006), respectively.

E. Vagenas-Nanos (2012) investigates both short- and long-term abnormal returns for the market timer and non-market timer and documents that acquirers who time the market and employ equity as a means of financing the acquisition perform better than those who do not. Vagenas-Nano provides direct evidence to support the market timing theory, suggesting that it is worthwhile for managers to time the market and undertake acquisitions.

In addition, market timing theory has been tested with evidence from the G-7 countries (Mahajan and Tartaroglu 2008), Dutch firms (Bie and Haan 2007), and further evidence from US firms (Elliott, et al.;2007). The finding shows consistent and positive short-term market timing effects. However, the long-term persistence differs considerably.

Market timing theory claims that the overvalued bidders should take advantage of the value as the medium to acquire. This suggestion has been criticized, as the market might be able to catch the signal of bidders being overvalued. This contradiction between the two theories provides a research gap to be filled.

3.3.7 Signalling theory

In the context of M&A, research on the effectiveness of signals to reduce adverse uncertainty has been increasing. Evidence has indicated that a higher acquisition price does not guarantee the seller's acceptance of an offer (e.g., Graebner and Eisenhardt,

2004) because a target firm may prefer a more credible and trustworthy buyer, just as an acquirer may want to choose targets with less valuation uncertainty (e.g., Graebner and Eisenhardt, 2004; Graebner, 2009). This is particularly true when stock is used as payment in the deals due to the impact of information asymmetry on the value of the acquirer's resources and prospects.

Signals can reduce the acquirers' costs of searching for targets and assessing their value (e.g., Pollock and Gulati, 2007; Ragozzino and Reuer,2007) since targets with signals are more salient with less valuation uncertainty in the market. In addition, clear signals can increase target gains by reducing premium discounts that would arise from asymmetric information between buyers and sellers (e.g., Reuer, Tong, and Wu, 2012). Thus, the presence of clear signals promotes the success of worthwhile acquisitions in the M&A market, even when information asymmetries exist.

In addition, targets' signals can help acquirers distinguish high-quality targets from lower-quality ones, while it remains unknown whether signals conveyed by acquirers can have similar effects in facilitating M&A transactions. Similarly, targets' signals on their resources and prospects clearly illustrate the potential synergies, while signals from an acquirer might be able to both directly and indirectly help facilitate M&A deals.

The current literature reviews on the signalling effect are mainly interpreted from the target perspectives. From the buyer perspective, external investors must be convinced to finance M&A transactions. Acquirers with signals are more likely to access the financing for acquisitions on good terms, particularly when information asymmetries exist between the acquirer and its external investors in capital markets. Thus, acquirers' signals may directly or indirectly help them engage in M&A deals. However, only a few studies have indirectly shed light on the effectiveness and efficiency of the signals delivered by the acquirers.

For example, the asymmetric information model developed by Myers and Majluf (1984) suggests that the method of payment may reflect bidders' operational performance. Consistently, Tavlos (1987) contends that management will take advantage of the most beneficial payment method to signal the bidders' intrinsic value. According to the theory, stock acquisitions are usually believed to occur when management takes advantage of the overvalued stock price, and the market is supposed to act negatively to the deals. On the other hand, cash financing occurs when the acquiring company has a favourable valuation for its future stock performance, thus representing a positive sign.

In conclusion, signalling theory in the current literature is mainly applied in analysing the benefits of signals conveyed by target firms, yet little is known about the consistent efficiency implications of acquirers' signals. This research analyses and compares the effectiveness and intensity of the bidders' signals in the M&A market.

3.3.8 Research Gap – The Contradiction of Payment Methods Derived from Market Timing Theory and the Signalling Effect

Inspired by the target 52-week reference point theory initiated by Baker, Pan and Wurgler (2009), the second chapter discusses the impact of the dates of the bidder 52-week high and low prices on M&A. The conclusion is that the dates have a significant impact on the completion and performances of the M&A, but conflicts exist in the internal logic of the impact, namely, the conflicting market timing and signalling theories behind these effects. Then, the third chapter mainly provides insight into the conflict behind these effects and the significance of the impact.

Specifically, given that share prices fluctuate around the intrinsic value, market timing theory suggests that rational managers' of bidders take advantage of the over-valued shares as a payment method to acquire fewer over-valued targets, while empirical studies reveal that market participants treat stock-exchange deals as a negative signal

of bidder over-valuation and thus promote cash payment. In existing literature, this empirical anti-stock exchange proposal (the signalling effect) has not been systematically discussed and analysed, providing chapter 3 with an opportunity to propose and enrich a signalling theory compared to market timing theory.

Additionally, in chapter 3, based on the payment methods of stock exchanges and cash in M&A, bidders are categorized as market timers and signallers, respectively. Meanwhile, the timing of deal announcements (close to the 52-week high/low) is used to reflect the intensities of the market timing effect and signalling effect. By comparing the performances of market timers and signallers with different intensities, the chapter ranks the effects and provides pragmatic suggestions to bidder managers in practice. Through the discussion and comparison of these theoretical effects, the third chapter not only provides a very different angle to explain bidder CAR and BHAR from chapter 2 but also proposes signalling effects, reconciles the conflicting timing theory and signalling effects, and provides suggestions regarding appropriate timing and payment methods.

In conclusion, chapter 2 clarifies the timing, namely, "when" to acquire, and its influence on M&A, while chapter 3 considers "how" in terms of payment methods and systematically analyses the combined influence of "when" and "how" in a deal. In chapter 4, the most important participants in M&A – financial advisors as "who", are more specifically discussed in terms of their effects on deals. In short, the three empirical chapters represent progressive and integrated research on "when", "how" and "who" to conduct M&A and their impacts on a deal.

As current signalling theories mainly concern the target signal efficiency on the performances of M&A, signals delivered by the acquirers should also be detected and studied.

Payment methods have been shown to significantly influence M&A differently. In line with market timing theory, overvalued acquirers are suggested to use stock exchange to conduct the deals, while opponents claim that the market takes stock exchange at high value as a bad signal of acquirers being overvalued, thus leading to a reduction of the bidder value. Therefore, the market timing theory and the negative signalling effects from the acquirers' perspective are in conflict, proving a research gap for us to complement the signalling theory from the buyer perspective and reconcile the contradiction between the two sides.

To reconcile the contradiction, we could divide the research subjects into market timers and signallers according to the payment methods and take the announcement proximity to the 52-week high or low as measures of the intensity of the timers and signallers. With the comparison, we can reconcile the contradiction and determine the most appropriate payment methods for different acquirers at different values.

As market signallers, anti-signallers, market timers and anti-timers are newly defined, short- and long-term performance for market players has never been investigated. This study will calculate the 5-day event window of CARs as short-term performance and 12 months, 36 months and 60 months of BHARs as the long-term performance. In the meantime, the performances are also compared to rank different categories of bidders.

3.4 Hypotheses Development

Different categories of bidders are influenced by different effects from market timing and signalling theories. Based on logic and current literature, the following hypotheses on bidder performances are developed:

H1: Taking advantage of superior equity valuation, psychologically momentum and asymmetry information, as market timers, stock-financed bidders announcing the deals near the 52-week peak date are expected to achieve positive performance in the short

term (timing effect). In the long term, the synergies created from the deal might not be as good as expected; therefore, the value of the timer shares is expected to gradually reverse.

H2: When deal announcement is at or near the 52-week high date in an efficient market, if a bidder deliberately refuses to take advantage of its superior equity value, it sends a clear positive signal of its confidence in future performance in the short-term window, which will bring positive feedback from the market (signalling effect). Meanwhile, in the long term, once the signaller performance does not reach the market's optimistic expectation, the bidders' BHAR would be reversed.

H3: In the comparison between the market timers and market signallers, the market timers' timing effects are hedged by the negative market perception that the bidder is taking advantage of overvaluation. On the other hand, the signaller's positive signal itself is based on giving up a relatively weaker potential positive timing effect. Therefore, signallers are expected to outperform timers in the short term. In the long term, as the signallers' high bidder share prices would not be considered as overvalued as the prices of the timers, the performance of these bidders is expected to reverse less than that of stock-financed M&A bidders announced near the 52-week peak (signalling effect outstrips timing effect).

H4: Since anti-timers (acquiring by shares near the 52-week low) have no value advantage, no favourable momentum and are not admired by the market in the most recent year, the poorest short-term performance would be expected given their momentum. In the long term, since the market does not have overestimated expectations for performance, the anti-timers' performance would experience a lower reversal than market timers' performance.

H5: When anti-signallers announce acquisition by cash at or near the 52-week low,

although the announcement might arouse expectation for bidders' future synergies, the 52-week low might still exert a negative influence on the bidder due to the low momentum. Therefore, they are expected to have poorer short-term performance than the highly approved market signallers with the 52-week high momentum. In the long term, because there is no reversal due to overvaluation or high profile signals with superior expectation, the anti-signallers should experience the lowest reversals.

3.5 Research Methodology

3.5.1 Samples

The sample consists of US takeovers in the period between 1/1/1985 and 03/31/2015. The announcements and relevant financial indices were collected by Thomson One Banker, while stock prices were collected from WRDS. For a deal to be included in the sample, it needs to meet the following criteria:

Both the acquirers and the target firms are US listed firms due to the previously mentioned requirement for an overall efficient market;

The bidders acquire at least 50% of the shares of the target firms to ensure that the transaction has a significant influence on the stock market;

The deal values are at least $1 million to ensure the significance of the acquisitions;

The financing of the acquisition is either 100% in stock or 100% in cash to simplify the comparison of benefits between the two methods for completed deals, while for uncompleted deals, as they have not been finished, all of the announced deal financing methods, such as pure cash, pure stock exchange and combinations, are included in the research sample；

When an acquirer has more than one deal within 5 years, only the most recent deal remains in the sample；

Acquirers without continuous stock price records around the announcement period are eliminated;

In total, 1168 samples of cash acquisitions and 806 samples of stock exchange deals meet the above criteria.

3.5.2 Research Method and Variables

To identify market signals and anti-signallers, the following procedures are adopted:

a. Determine the announcement date of the M&A;

b. Identify the date of the historical high and low during the previous year (52 weeks) from the announcement date;

c. Calculate how many trading days the announcement is from the previous 52-week high and low;

d. Since there are approximately 254 trading days in a year, calculate the number of days the announcement is from the previous 52-week high and low as a percentage of the average of 254 trading days to measure the distance;

e. For cash bidders, if the result from step d is below a specific percentage, the deal is classified as market signaller (anti-signaller) deal. The following specific formulas are used to classify market signallers and anti-signallers.

If $DNH = \dfrac{Days\_of\_announcement\_from\_52w\_high}{254} < \alpha\%$, then the cash bidder is classified as a market signaller.

If $DNL = \dfrac{Days\_of\_announcement\_from\_52w\_low}{254} < \alpha\%$, then the acquirer is classified as an anti-signaller.

f. Similar formulas are used to classify market timer and anti-timer for stock exchange acquisitions, as follows:

If $DNH = \dfrac{Days\_of\_announcement\_from\_52w\_high}{254} < \alpha\%$, then the stock bidder is classified as a market timer.

If $DNL = \dfrac{Days\_of\_announcement\_from\_52w\_low}{254} < \alpha\%$, then the stock acquirer is classified as an anti-timer.

To obtain enough samples and be consistent with the 5% significance level, α is also determined to be 5%. In addition, as a rigorous and robust complement, 20% is a meaningful measurement due to the 80/20 rule.

When hypothesis testing is conducted, the null hypothesis is usually assumed to be true, and the probability of a difference is computed, which is compared to the significance level. If the probability is less than or equal to the significance level, then the null hypothesis is rejected, and the outcome is said to be statistically significant. Traditionally, experimenters have used the 0.1 level, 0.05 level, 0.01 level, although the choice of levels is largely subjective. On the other hand, two kinds of errors can be made in significance testing: type (1), a true null hypothesis can be incorrectly rejected, and type (2), a false null hypothesis can fail to be rejected. Choosing the 0.1 level will increase the risk of making a type 2 error, while choosing the 0.01 level will lead to a higher risk of a type 1 error. The significance level of 0.05 is a reasonable level to balance the risk of both type 1 and type 2 errors.

In this study, for consistency with E. Vagenas-Nanos (2012), the first scholar who proposed a clear definition of a market timer when a bidder announces a deal at 5%/15% close to the 52-week high, this chapter categorizes the market timer and signaller at the 5%/20% level close to the bidder 52-week high. As the 5% significance level is reasonable to balance the risk of both type 1 and type 2 errors, it can allow maintenance of a sufficient number of sample cases in the research.

Short-term Event Study Methodology:

To evaluate the impact of M&A announcements near or at the 52-week high or low, abnormal returns can be calculated. An abnormal return is the difference between actual earnings and the normal return during the event window and is calculated as follows:

ARit = Ait – Rit

where Ait is the actual earnings of bidder i on day t, Rit is the normal return of bidder i on day t (derived from the capital asset pricing model - CAPM), and ARit is an abnormal return of the same bidder on the same day.

According to the CAPM along with a 30-day estimated window, Rit = αi + βi Rmt + εit, where Rmt is the monthly return of the market index of the S&P 500 during the same period.

To calculate the acquiring firms' short-term performance, Stata 12 is employed for calculation of the abnormal returns using the market model as follows:

The CAR for the 5-day window of (-2,+2) around the announcement date is calculated according to the following equation: $CARi(t_1, t_2) = \sum_{t_1}^{t_2} AR_{it}$

where CARi(t1, t2) is the CAR for the 5-day window of (-2,+2) around the announcement date with cross sections of the bidder i.

Long-term Event Study Methodology:

The 12-month BHAR approach advocated by Barber and Lyon (1997) is employed to examine the long-term abnormal stock returns in the study. The BHAR is computed as:

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

where Rit is the monthly return for company i and Rmt is the monthly return of the market index of S&P 500. According to Lyon, Barber and Tsai (1999), the skewness-adjusted bootstrap t-statistics procedure is employed to compute the statistical significance of the abnormal returns.

Wilcoxon Rank-sum Test:

Wilcoxon rank-sum test, which is also known as the Mann-Whitney two-sample statistic (Wilcoxon 1945; Mann and Whitney 1947), is used in this chapter to compare the short- and long-term performances of the market timers, signallers, anti-timers and anti-signallers in groups. The test is a method corresponding to the t-test of independent samples. When normal distribution, homogeneity of variance and other aspects cannot meet the requirements of the t-test, the rank-sum test can be used. The assumption is that if the two samples are different, their central position will be different.

Multivariate Analysis:

Ordinary least square regressions are conducted to discuss the relationship among the bidder performances, signaller, anti-signallers, timers, anti-timer and other control variables. The formulas are illustrated as follows:

Performance= a+b(Signaller)+c(controls)+ ε

Performance= a+b(Anti-signaller)+c(controls)+ ε

Performance= a+b(Timer)+c(controls)+ ε

Performance= a+b(Anti-timer)+c(controls)+ ε

A number of factors, such as acquirers' book-to-market ratio, relative size, acquirer size, and industry diversification, have been documented to affect the performance of acquiring firms. (Rau and Vermaelen1998, Fuller at al., 2002, Asquith at al., 1983, Moeller et al., 2004, Doukas and Kan, 2004). To compare the effect of the newly considered stock price level at announcement and other documented acquirer characteristics on CARs and BHARs, multivariate regression analyses are conducted to regress announcement abnormal returns (CARs) and BHARs against the explanatory variables that have been proven to affect bidder performance. In all of the regressions, the vector of the explanatory variables includes signallers with a attributed the value of 1, which announce pure cash acquisition with 5% (20%) away from the date of the 52-week high, 0 otherwise. Market timers, which announce pure stock acquisition with 5%

(20%) away from the date of the 52-week high, are attributed the value of 1, 0 otherwise. Anti-signallers, which announce pure cash acquisition with 5% (20%) away from the date of the 52-week low, are attributed the value of 1, 0 otherwise. Anti-timers, which announce pure stock acquisition with 5% (20%) away from the date of the 52-week low, are attributed the value of 1, 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target's, and 0 otherwise. The size of acquirers is measured by the log of the market value a month before the deal's announcement. Bidder's book-to-market is measured by the bidder's net book value of assets divided by its market value a month before the announcement of the deal; a deal's relative size is the ratio between the deal value and the market value of the bidder firm.

Rigorousness and Robustness – Two-stage Least Squares Regressions

As determined in chapter 2, the explanatory variable PNH is an endogenous variable to bidder performances in M&A, while in chapter 3, as the definitions of signallers and timers are derived from a combination of announcement timing and payment methods; therefore, signallers and timers may also have an endogenous problem if the timing is measured by PNH/PNL. Naturally, in this chapter, instead of PNH/PNL, signallers and timers should be constructed by PNH's valid instrumental variables DNH and DNL as they have been confirmed to be valid instrumental variables to the endogenous variable of PNH. Specifically, while a signaller (p) is defined as a cash bidder with PNH less than 5% or 20%, the signaller, defined as a cash bidder with DNH less than 5% or 20%, should be the signaller (p)'s instrumental variable. While a timer (p) is defined as a stock bidder with PNH less than 5% or 20%, the timer, defined as a stock bidder with DNH less than 5% or 20%, should be the timer (p)'s instrumental variable.

In this chapter, Two-stage Least Squares regressions and Hausman tests are conducted to discuss the potential endogeneity of the key variables of the signaller (p) and timer

(p). Surprisingly, the results in the following table from the Hausman test for the two-stage least squares regression show that basically no endogenous issues exist with the regression using signaller (p)/timer (p), reflecting no systematic difference in hiring a signaller (p)/timer (p) or using their instrumental variables signaller/timer in the regressions. The phenomenon indicates that the combination of payment methods and announcement timing is another useful tool to relieve the endogenous influence of bidder timing on performance. For the purpose of consistency and simplicity, chapter 3 still uses DHN/DNL to construct the variables of signaller/timer in the analysis.

Hausman test to show whether "signaller" is a valid instrument of "signaller (p)" at the level of 5% to regress bidder performances. (H0: the difference in coefficients is not systematic)				
	CAR	BHAR12	BHAR36	BHAR60
Prob>chi2	0.9999	1.0000	1.0000	0.993
Hausman test to show whether "signaller" is a valid instrument of "signaller (p)" at the level of 20% to regress bidder performances. (H0: the difference in coefficients is not systematic)				
	CAR	BHAR12	BHAR36	BHAR60
Prob>chi2	1.0000	1.0000	1.0000	1.0000

Hausman test to show whether "timer" is a valid instrument of "timer (p)" at the level of 5% to regress bidder performances. (H0: the difference in coefficients is not systematic)				
	CAR	BHAR12	BHAR36	BHAR60
Prob>chi2	0.1346	0.9998	0.9999	1.0000
Hausman test to show whether "timer" is a valid instrument of "timer (p)" at the level of 20% to regress bidder performances. (H0: the difference in coefficients is not systematic)				
	CAR	BHAR12	BHAR36	BHAR60
Prob>chi2	0.9956	1.0000	1.0000	1.0000

3.6 Empirical Results

Table 3.1 presents the time series distribution of takeovers by market signallers and anti-signallers. The summary statistics provide information on the acquisitions from January 1985 to March 2015. Signallers are classified as follows: among the 1168 cash

deals (both completed and failed), if the days of the announcement date away from the 52-week peak (low) as a percentage of 254, the average number of trading days in one year, is below a specific percentage (5% and 20% in this research), this deal is classified as a market signaller (anti-signaller) deal. The following formulas are used to classify market signallers and anti-signallers.

If DNH (Number of Workdays From 52-week High to Date of Announcement/254) <α, then the cash deal acquirer is classified as a market signaller.

If DNL (Number of Workdays From 52-week Low to Date of Announcement/254) < α, then the cash deal acquirer is classified as an anti-signaller. There are 208, 141, 363, and 288 total market signallers (α at 5%), market signallers (α at 20%), anti-signallers (α at 5%) and anti-signallers (α at 20%), respectively.

(Table 3.1)

Table 3.2 presents the time series distribution of takeovers by market timers and anti-timers each year. The summary statistics provide acquisitions from January 1985 to March 2015. Market timers are classified as follows: among the 806 equity-financed deals (both completed and failed), if the days of the announcement date away from the 52-week peak (low) as a percentage of 254, the average number of trading days in one year, is below a specific percentage (α at 5% and 20% in this research), this deal is classified as market timer (anti-timer) deal. The following formulas are used to classify market timers and anti-timers.

If DNH (Number of Workdays From 52-week High to Date of Announcement/254) < α, then the equity-financed acquirer is classified as a market timer.

If DNL (Number of Workdays From 52-week Low to Date of Announcement/254) < α, then the equity-financed acquirer is classified as an anti-timer. There are 142, 93, 276, and 198 market timer (α at 5%), market timer (α at 20%), anti-timer (α at 5%) and anti-timer (α at 20%) deals, respectively.

(Table 3.2)

Table 3.3 summarizes CARs (-2,+2) and BHARs for 12, 36 and 60 months post-acquisition announcement for the overall completed and failed samples.

As the normal distribution and homogeneity of variance for the CARs and BHARs cannot meet the requirements of the t-test, Wilcoxon rank-sum tests are conducted in this chapter to determine whether the cash bidders and stock exchange bidders have significant differences in terms of CARs and BHARs.

The results document that cash-financed deals perform significantly better than equity-financed transactions in the short term measured by CAR and in the long term measured by 12-month, 36-month and 60-month BHARs. The results are consistent with those of Bradley (1980), Travlos (1987), Wansley et. (1987), Loughran and Vijh (1997), and Mitchell and Stafford (2000): cash deals outperform stock exchange deals. The results indicate the market preference of cash payment and thus document a negative signalling effect from the stock exchange deal and an optimistic signal from the cash payment.

Overtime, all acquirers' gains would reverse or deteriorate. The reasons for the long-term reversals could include the gradual process of digesting the negative signal and unrealized superior expectation, according to the concepts of managerial herding and investor sentiment from Bouwman, Fuller and Nain (2009) and Rosen (2006), respectively.

(Table 3.3)

Table 3.4 presents and compares short-term abnormal returns (CARs; -2,+2) for market timers, anti-timers, signallers, and anti-signallers.

The results disclose a negative mean of CARs for market timers, denying the market timing effect proposed in H1 (stock-financed bidders announcing the deals near the 52-week peak date are expected to achieve positive performance due to superior equity price and run-up momentum in the short term) and indicating that the efficient US market does not seem to approve of bidders' attempt to take advantage of the equity with announcement timing near the 52-week high date. For this reason, in an efficient market, Eugene (1965) argued that there is no such thing as unfair value for stocks because investors are never able to purchase undervalued stocks or sell stocks at inflated prices. As a result, investors have no opportunity to outperform the overall market through expert stock selection or market timing.

In comparison, the results show a positive mean of CARs for market signallers, which is consistent with H2 (when M&A announcement is near the date of the 52-week high in an efficient market, if a bidder deliberately refuses to take advantage of its high share value, it clearly sends a positive signal of its confidence in the future performance in a short-term window, which will bring positive feedback from the market.

According to panel B, market signallers outperform timers in terms of CAR, which supports H3 (signallers are expected to perform better than timers in the short term because the market timers' timing effects are hedged by the negative market perception that they are taking advantage of overvaluation, while the signaller's positive signal itself is based on giving up a relatively weaker potential positive timing effect).

Anti-signallers perform the best in terms of CAR, even significantly better than signallers. This conclusion is inconsistent with H5, in which anti-signallers are expected to have lower short-term performance than the highly approved market signallers with 52-week high momentum. This could be because when the cash bidder share prices are close to the 52-week low, the expectation of resilience is greater than the 52-week high lifting momentum. This justification could also be used to explain that anti-timers

perform significantly better than timers in terms of CAR (also rejecting H4: since anti-timers have no value advantage and were not admired by the market in the most recent year, with the unfavourable momentum, the poorest short-term performance would be expected).

(Table 3.4)

Table 3.5 unfolds 12-month BHARs for market signallers, anti-signallers, market timers and anti-timers.

All categories of the samples have negative and reversed 12-month BHARs after the announcement of the transactions, which is consistent with H1 for timers (in the long term, after the overvaluation is perceived by the market, the value of the timer shares are expected to be gradually reversed) and H2 (once the signaller performance does not reach the market's superior expectation, the bidders' BHARs would be reversed).

The performance of signallers reverses significantly less (perform better) than that of timers in the 12-month period. As predicted in H3, signallers' high bidder share prices are not taken as overvalued as timers', and the performance of these bidders is expected to reverse less than that of stock-financed M&A announced near the 52-week peak in a longer term.

Anti-signallers reverse the least, while market timers perform the worst measured by the 12-month BHAR; this conclusion is consistent with H5 (in the long term, because there is no reversal from overvaluation or from high profile signals with superior expectation, the anti-signallers should experience the lowest reversal). Anti-timers reverse less than timers, although the difference is not significant, consistent with H4, which proposes that in the long term, since the market does not have overestimated expectations for the performance, anti-timers would experience lower reversal than

market timers would.

In table 3.5, the results show that although signallers' 12-month BHARs reversed from the positive CARs (table 3.4), they consistently achieve either better CARs or less deteriorated 12-month BHARs than the timers, demonstrating their superior performances in both the short and long term.

In terms of the comparison between anti-signallers and anti-timers over time, both of their 12-month BHARs reverse significantly from positive CARs. Meanwhile, similar to signallers and timers, anti-signallers also have either better CARs or less deteriorated 12-month BHARs than anti-timers.

(Table 3.5)

Table 3.6 shows and compares 36-month BHARs for market signallers, anti-signallers, market timers and anti-timers. Consistent with the 12-month BHARs, the effects are even more obvious, as all categories of the samples again have negative and reversed 36-month BHARs after the announcement of the transaction. General timers (α at the 20% level) perform significantly worse than general signallers (α at the 20% level), while general anti-signallers (α at the 20% level) lose less than anti-timers measured by 36-month BHAR. All anti-signallers are better off than signallers, while all anti-timers are better off than timers in terms of 36-month BHARs. All of the hypotheses from H1 to H5 involving reversals in the long term are empirically proven correct according to this table. To summarize,

A. All signallers, timers, anti-signallers, and anti-timers experience reversal in terms of 36-month BHARs.

B. Ranked in terms of decreasing performance measured by the 36-month BHARs,

anti-signallers outperform anti-timers, followed by signallers and timers.

(Table 3.6)

Table 3.7 presents the results of the market-signalling effect on the acquirers' short- and long-term performance. The table depicts regression estimates of the acquirer's (-2,+2) day CAR surrounding the announcement as well as regression estimates of BHARs for 12 and 36 months post-acquisition announcement, controlling for market-signalling effects and other deal and acquirer characteristics. Being a market signaller (α at both 5% and 20% levels) positively affects an acquirer's CAR (short-term performance) and 12-month BHAR, while it is negatively associated with the 36-month BHAR; however, the influences are not significant. Controlling the other major variables and categorizing the bidders as signallers, Adv_rank does not seem to significantly affect the bidder performances, leaving further room for discussion about whether investors are wasting money by hiring top-tier advisors.

(Table 3.7)

Table 3.8 presents the results of the market timing effect on acquirers' short- and long-term performance. The table depicts regression estimates of the acquirers' (-2,+2) day CAR surrounding the announcement as well as regression estimates of BHARs for 12 and 36 months post-acquisition announcement, controlling for market timing effects and other deal and acquirer characteristics. Being a market timer (α at the 5% level) negatively and significantly affects an acquirer's 12-month BHAR, while being a market timer (α at the 20% level) negatively and significantly affects an acquirer's CAR, 12-month BHAR, and 36-month BHAR, which again proves that the market is fully aware that the bid managers are taking advantage of their peak stock price in the transactions. Because signallers from Table 3.7 do not obviously affect bidder performance, market timers are expected to perform significantly worse than signallers

at all times. This result is in line with the results obtained from Tables 3.4, 3.5 and 3.6 as well as with hypothesis H3 concerning the performance comparison between market signallers and timers. Consistent with table 3.7, Adv_rank has a mixed and nonsignificant effect on all levels of bidder performances given that bidders are timers and other variables are controlled, indicating an over-estimation of the advisors' contribution in M&A.

(Table 3.8)

Table 3.9 presents the results of the anti-signalling effect on acquirers' short- and long-term performance. It depicts regression estimates of the acquirers' (-2,+2) day CAR surrounding the announcement as well as regression estimates of BHARs for 12 and 36 months post-acquisition announcement, controlling for anti-signalling effects and other deal and acquirer characteristics. Anti-signallers (α at the 5% level) have significantly positive long-term 36-mont BHAR, while anti-signallers (α at the 20% level) generally have significantly positive CAR and long-term 36-month BHAR. However, in the medium term measured by 12-month BHAR, being an anti-signaller does not significantly affect performance. This result is consistent with Tables 3.4, 3.5 and 3.6, in which the anti-signallers experience negative long-term results, but their performance is much better than that of signallers, anti-timers and timers, indicating that anti-signallers reverse the least in the long term. Therefore, as mentioned earlier, when the bidder's price is at or close to the 52-week low and announced as a cash deal, the expected resilience at the important psychological reference point is higher than the 52-week high lifting momentum in the short term, while in the long term, anti-signallers do not have much room to experience deteriorating performance, as the price was at the 52-week low before announcement, and naturally, such bidders would experience lower reversal than market signallers. Controlling the other major variables and categorizing the bidders as anti-signallers, Adv_rank has a positive but nonsignificant effect on the bidder performances, demonstrating mild synergies created by better advisors when the

cash bidder price is close to the 52-week low.

(Table 3.9)

Table 3.10 presents the results of the anti-timing effect on acquirers' short- and long-term performance. It depicts regression estimates of the acquirers' (-2,+2) day CAR surrounding the announcement as well as regression estimates of BHARs for 12 and 36 months post-acquisition announcement, controlling for anti-timing effects and other deal and acquirer characteristics. Being an anti-timer (α at the 5% level) is associated with positive performance as measured by CAR, 12-month and 36-month BHAR, especially the significant 36-month BHAR. This result is also consistent with the previous analysis, in which the anti-timers experience negative long-term results, but their performance is still better than that of the timers, indicating that anti-timers experience less reversal than timers in the long term, as the market does not have overestimated expectations for the performance; therefore, they would experience lower reversal than market timers. Controlling the other major variables and categorizing the bidders as anti-timers, in general, Adv_rank also has a nonsignificant positive effect on the bidder performances, demonstrating very weak synergies created by better advisors when the stock exchange bidder price is close to the 52-week low.

(Table 3.10)

3.7 Conclusion and Discussion

Market timing theory argues that high-valued bidders should use stock exchange to acquire in order to take advantage of their share prices, while the signalling theory suggests that stock exchange is actually a negative signal to the market expressing that the bidder is overvalued. This chapter seeks to determine which is the dominant effect in M&A when the bidder announces M&A at or near the 52-week high or low.

Specifically, this chapter uses payment method as a fundamental criterion to categorize market timers and signallers, while it uses the nearness of bidders' M&A announcement date to the 52-week high or low as an effective intensity measurement for the market timing and signalling effects in both the short and long terms. The market players are divided mainly into 4 categories: market timers, signallers, anti-timers and anti-signallers. Each player performs differently due to different intensive timing or signalling effects. Comparison of the performances of the four categories of market players clarifies the dominant power from market timing and signalling from the bidder perspective.

In the short term, being a market timer entails a significantly negative CAR, which is not consistent with the traditional market timing theory. The result shows that the market takes a bidder announcement date close to the peak as an immediate negative signal in the transaction. In the long term, market timers' performance experiences the most reversal; thus, the theory is not applicable.

For a signaller, announcing the cash deal at or near the 52-week high date entails a positive CAR, which is in line with signalling theory. In the long term, similar to the market timers, signallers' performance also reverses, but the reversal is significantly less than market timers.

Anti-timers and anti-signallers have better and more stable performance than timers and signallers, respectively. They also experience significantly less performance reversal than market timers and signallers.

Among the four categories of market players, anti-signallers have the best possible CAR and BHARs, while the timers have the worst CAR and BHARs.

In addition, under the influence of the proximity of the announcement to the 52-week

low, anti-signallers and anti-timers lose the least in M&A, and the "psychological reference point" established from the perspective of the acquiring firms can be reaffirmed.

This "reference point" is in contrast to that from the perspective of the target, which considers how listed targets' 52-week high price affects purchase price. From this point of view, the new reference point from the perspective of the acquiring firms would supplement the target reference point theory, traditional market timing theory and signalling theory.

Since the long-term gains of all acquirers have reversed, is it a vain effort to conduct M&A at all? What are the most important factors affecting long-term success? Identification of these factors would enhance the efficiency of M&A transactions.

Table 3.1 Sample tabulates of market signallers and anti-signallers.

The research objects include signallers, which announce pure cash acquisition a certain number of days away from the 52-week high as a percentage of 254 (5% and 20% in this research), the average number of trading days, and receive the value of 1, 0 otherwise. Anti-signallers, which announce pure cash acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise.

Year	Market-Signaler - 5%	Anti-Signaler - 5%	Market-Signaler - 20%	Anti-Signaler - 20%
1985	8	1	11	3
1986	6	4	12	6
1987	3	5	7	11
1988	3	1	4	7
1989	8	4	12	6
1990	2	7	3	11
1991	0	0	2	1
1992	2	1	3	1
1993	6	2	11	6
1994	3	5	3	10
1995	10	0	18	5
1996	11	4	18	12
1997	17	4	24	8
1998	9	10	18	20
1999	9	10	11	20
2000	7	31	11	58
2001	5	6	16	10
2002	1	2	9	5
2003	8	1	11	1
2004	5	3	12	8
2005	7	7	9	13
2006	8	3	14	5
2007	9	4	17	8
2008	1	11	5	15
2009	2	2	4	5
2010	7	2	11	5
2011	5	2	15	6
2012	6	3	16	5
2013	24	2	28	4
2014	16	4	28	13
2015	0	0	0	0
Total	208	141	363	288

Table 3.2 Sample tabulates of market timers and anti-timers.

The research objects include timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week high as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Anti-timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise.

Year	Market-Timer - 5%	Anti-Timer - 5%	Market-Timer - 20%	Anti-Timer - 20%
1985	3	2	5	4
1986	3	2	9	4
1987	0	4	1	5
1988	1	0	2	0
1989	8	4	15	7
1990	2	6	2	6
1991	4	1	8	1
1992	4	0	6	6
1993	5	1	9	2
1994	4	6	12	9
1995	14	5	22	10
1996	11	4	16	9
1997	16	3	33	9
1998	5	7	20	25
1999	10	11	16	19
2000	9	11	21	24
2001	2	7	6	16
2002	1	1	3	4
2003	1	3	8	4
2004	1	1	4	1
2005	4	2	5	2
2006	5	1	8	3
2007	3	4	7	5
2008	2	5	2	8
2009	1	0	2	7
2010	4	0	7	0
2011	3	0	4	1
2012	2	0	3	1
2013	4	0	6	1
2014	10	2	14	5
2015	0	0	0	0
Total	142	93	276	198

Table 3.3 Summary of cumulative abnormal returns (CARs; -2,+2) and buy-and-hold abnormal returns (BHARs) for 12, 36 and 60 months post-acquisition announcement for the overall completed and failed samples with different payment methods.

The variable CAR is the 5-day CAR from CRSP centred on the announcement date from Thomson. BHAR12/36/60 is the 12-month, 36-month and 60-month BHARs from CRSP. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	Cash CARs (-2,+2)	Stock CARs (-2,+2)	Cash BHARs 12 Months	Stock BHARs 12 Months	Cash BHARs 36 Months	Stock BHARs 36 Months	Cash BHARs 60 Months	Stock BHARs 60 Months
Mean	.0159619	-.0258591	-.1234283	-303903	-.3918087	-.6607655	-.5632729	-.7448956
Std. Dev.	.1016474	.1477947	.4243346	.4757357	.7018792	.7713196	.8184602	1.3613
N	1058	735	931	661	676	480	506	354
P-Value (Wilcox on rank-sum test diff=0)	0.0000***		0.0000***		0.0000***		0.0000***	

Table 3.4 Results of comparisons of short-term abnormal returns (CARs; -2,+2) for market signallers, anti-signallers, market timers and anti-timers.

The variable CAR is the 5-day CAR from CRSP centred on the announcement date from Thomson. The research objects include variable signallers, which announce pure cash acquisitions a certain number of days away from the 52-week peak as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Anti-signallers, which announce pure cash acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Anti-timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	Signaler - 5%	Timer - 5%	Anti-Signaler - 5%	Anti-Timer - 5%	Signaler - 20%	Timer - 20%	Anti-Signaler- 20%	Anti-Timer - 20%
	CARs (-2,+2)	CARs (-2,+2)	CARs (-2,+2)	CARs (-2,+2)	CARs (-2,+2)	CARs (-2,+2)	CARs (-2,+2)	CARs (-2,+2)
Mean	.0161594	-.029888	.0204752	.0133333	.0085464	-.0451911	.031444	.0011402
Std. Dev.	.0060522	.0118846	.0134357	.0267709	.0048386	.008006	.0079383	.014739
N	204	135	137	92	352	265	282	190

Panel B	Signaler - 5%	Timer - 5%	Anti-Signaler - 5%	Anti-Timer - 5%	Signaler - 20%	Timer - 20%	Anti-Signalr - 20%	Anti-Timer - 20%
P-Value (Wilcoxon rank-sum test H0: diff=0)	0.0011**		0.1703		0.0000***		0.0036**	

	Signaler - 5%	Anti-Signaler - 5%	Timer - 5%	Anti-Timer - 5%	Signaler - 20%	Anti-Signaler - 20%	Timer - 20%	Anti-Timer - 20%
P-Value (Wilcoxon rank-sum test	0.3176		0.1256		0.0001***		0.0005***	

Table 3.5 Results of comparisons of 12-month buy-and-hold abnormal returns (BHARs) for market signallers, anti-signallers, market timers and anti-timers.

The variable BHAR12 is the 12-month BHAR from CRSP. The research objects include variable signallers, which announce pure cash acquisitions a certain number of days away from the 52-week peak as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Anti-signallers, which announce pure cash acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Anti-timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	Signaler - 5%	Timer - 5%	Anti-Signaler - 5%	Anti-Timer - 5%	Signaler - 20%	Timer - 20%	Anti-Signaler - 20%	Anti-Timer - 20%
	BHAR12 (-2,+2)	BHAR12 (-2,+2)	BHAR12 (-2,+2)	BHAR12 (-2,+2)	BHAR12 (-2,+2)	BHAR12 (-2,+2)	BHAR12 (-2,+2)	BHAR12 (-2,+2)
Mean	-.2029025	-.327378	-.1096287	-.2736797	-.1673387	-.3356642	-.1110828	-.328386
Std. Dev.	.028602	.0421148	.0397514	.061229	.0238705	.0289491	.0286063	.0405847
N	174	121	124	79	308	242	245	165

Panel B	Signaler - 5%	Timer - 5%	Anti-Signaler -	Anti-Timer - 5%	Signaler - 20%	Timer - 20%	Anti-Signaler -	Anti-Timer - 20%
P-Value (Wilcoxon rank-sum test H0: diff=0)	0.0032**		0.0039**		0.0000***		0.0000***	

	Signaler - 5%	Anti-Signaler - 5%	Timer - 5%	Anti-Timer - 5%	Signaler - 20%	Anti-Signaler - 20%	Timer - 20%	Anti-Timer - 20%
P-Value (Wilcoxon rank-sum test H0: diff=0)	0.1222		0.6447		0.2340		0.5025	

Table 3.6 Results of comparisons of 36-month buy-and-hold abnormal returns (BHARs) for market signallers, anti-signallers, market timers and anti-timers.

The variable BHAR36 is the 36-month BHAR from CRSP. The research objects include variable signallers, which announce pure cash acquisitions a certain number of days away from the 52-week peak as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Anti-signallers, which announce pure cash acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Anti-timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

The variable	Signaler - 5%	Timer - 5%	Anti-Signaler	Anti-Timer - 5%	Signaler - 20%	Timer - 20%	Anti-Signaler-	Anti-Timer - 20%
	BHAR36 (-2,+2)	BHAR36 (-2,+2)	BHAR36 (-2,+2)	BHAR36 (-2,+2)	BHAR36 (-2,+2)	BHAR36 (-2,+2)	BHAR36 (-2,+2)	BHAR36 (-2,+2)
Mean	-.6643038	-.7602348	-.2785354	-.3020789	-.5317178	-.7703221	-.3010827	-.5141448
Std.Dev.	.0608024	.0645268	.0892114	.1853194	.0437707	.0427964	.0556015	.0984301
N	111	87	93	57	207	166	189	120

Panel B	Signaler - 5%	Timer - 5%	Anti-Signaler - 5%	Anti-Timer - 5%	Signaler - 20%	Timer - 20%	Anti-Signaler- 20%	Anti-Timer - 20%
(Wilcoxon rank-sum test H0: diff=0)	0.3404		0.3538		0.0001***		0.0006***	

	Signaler - 5%	Anti-Signaler - 5%	Timer - 5%	Anti-Timer - 5%	Signaler - 20%	Anti-Signaler- 20%	Timer - 20%	Anti-Timer - 20%
P-Value (Wilcoxon rank-sum test H0: diff=0)	0.0013**		0.0126*		0.0056**		0.0405*	

Table 3.7 Results of regressions for the market-signalling effect on the acquirers' short- and long-term performance.

The vector of the dependent variables includes CAR, the 5-day cumulative abnormal return from CRSP centred on the announcement date from Thomson, and BHAR12/36, the 12-month and 36-month BHARs from CRSP. The vector of explanatory variables includes signallers, which announce pure cash acquisitions a certain number of days away from the 52-week peak as a percentage of 254 (5% and 20% in this research), the average number of trading days, receive the value of 1, 0 otherwise. The dummy variable "Completed" is equal to 1 if the deal is completed, and 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. The size of acquirers is measured by the log of the market value one month before the deal's announcement. Acquirer book to market (AcqB2M) is measured by the bidder's net book value of assets divided by its market value a month before the announcement of the deal; a deal's relative size is the ratio between the deal value and the market value of the bidder firm. Friendly deals take the value of 1, while hostile deals take the value 0. Int_fund deals take the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources and 0 otherwise. Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR	BHAR12	BHAR36	CAR	BHAR12	BHAR36
Signaler-5%	0.0460	0.0247	-0.0698			
	(0.0243)	(0.0893)	(0.2074)			
Completed	0.0194	0.0651	0.1415	0.0193	0.0627	0.1437
	(0.0135)	(0.0509)	(0.1091)	(0.0136)	(0.0512)	(0.1097)
LogMV	-0.0120*	0.0045	-0.1084*	-0.0123*	0.0041	-0.1077*
	(0.0055)	(0.0213)	(0.0446)	(0.0055)	(0.0214)	(0.0447)
AcqB2M	0.0286	0.2620***	-0.0281	0.0287	0.2622***	-0.0288
	(0.0193)	(0.0694)	(0.1325)	(0.0193)	(0.0693)	(0.1325)
Relative_size	-0.0088*	-0.0092	-0.0489	-0.0090*	-0.0096	-0.0484*
	(0.0036)	(0.0136)	(0.0256)	(0.0036)	(0.0136)	(0.0257)
Diversifying	0.0154	0.0535	0.0822	0.0154	0.0537	0.0836
	(0.0124)	(0.0461)	(0.0960)	(0.0124)	(0.0461)	(0.0959)
Friendly	-0.0237	-0.0841	-0.4864**	-0.0251	-0.0823	-0.4847**
	(0.0227)	(0.0831)	(0.1714)	(0.0228)	(0.0831)	(0.1707)
Int_fund	0.0408	0.0376	0.0469	0.0426*	0.0340	0.0509
	(0.0214)	(0.0765)	(0.1635)	(0.0214)	(0.0767)	(0.1650)
Adv_rank	0.0054	-0.0014	0.0415	0.0053	-0.0018	0.0418
	(0.0059)	(0.0220)	(0.0467)	(0.0060)	(0.0220)	(0.0467)
Signaler-20%				0.0262	0.0348	-0.0544
				(0.0188)	(0.0683)	(0.1479)

Constant	0.0395	-0.2721*	0.3591	0.0423	-0.2714*	0.3535
	(0.0363)	(0.1380)	(0.2837)	(0.0363)	(0.1379)	(0.2833)
Observations	621	564	410	621	564	410
R-squared	0.0396	0.0337	0.0416	0.0370	0.0340	0.0416

Table 3.8 Results of regressions for the market timing effect on the acquirers' short- and long-term performance.

The vector of the dependent variables includes CAR, the 5-day CAR from CRSP centred on the announcement date from Thomson, and BHAR12/36, the 12-month and 36-month BHARs from CRSP. The vector of the explanatory variables includes timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week peak as a percentage of 254 (5% and 20% in this research), the average number of trading days, and receive the value of 1, 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. The size of acquirers is measured by the log of the market value one month before the deal's announcement. Acquirer book to market (AcqB2M) is measured by the bidder's net book value of assets divided by its market value a month before the announcement of the deal; a deal's relative size is the ratio between the deal value and the market value of the bidder firm. Friendly deals take the value of 1, while hostile deals take the value 0. Int_fund deals take the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources and 0 otherwise. Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) CAR	(2) BHAR12	(3) BHAR36	(4) CAR	(5) BHAR12	(6) BHAR36
Timer-5%	-0.0328	-0.1835*	-0.2046			
	(0.0208)	(0.0764)	(0.1702)			
Completed	0.0227	0.0758	0.1464	0.0253	0.0836	0.1621
	(0.0135)	(0.0506)	(0.1085)	(0.0135)	(0.0505)	(0.1084)
LogMV	-0.0118*	0.0039	-0.1088*	-0.0110*	0.0064	-0.1029*
	(0.0055)	(0.0212)	(0.0445)	(0.0055)	(0.0211)	(0.0444)
AcqB2M	0.0275	0.2544***	-0.0359	0.0252	0.2474***	-0.0434
	(0.0193)	(0.0691)	(0.1324)	(0.0192)	(0.0688)	(0.1320)
Relative_size	-0.0087*	-0.0088	-0.0494	-0.0086*	-0.0088	-0.0486
	(0.0036)	(0.0135)	(0.0256)	(0.0035)	(0.0134)	(0.0255)
Diversifying	0.0150	0.0518	0.0745	0.0160	0.0543	0.0731
	(0.0124)	(0.0459)	(0.0961)	(0.0124)	(0.0457)	(0.0955)
Friendly	-0.0268	-0.0797	-0.4753**	-0.0239	-0.0713	-0.4714**
	(0.0227)	(0.0823)	(0.1698)	(0.0225)	(0.0820)	(0.1692)
Int_fund	0.0432*	0.0229	0.0197	0.0379	0.0076	-0.0110
	(0.0213)	(0.0754)	(0.1623)	(0.0213)	(0.0754)	(0.1625)
Adv_rank	0.0057	-0.0011	0.0412	0.0053	-0.0024	0.0394
	(0.0060)	(0.0218)	(0.0465)	(0.0059)	(0.0217)	(0.0463)
Timer-20%				-0.0487**	-0.1897**	-0.2871*
				(0.0156)	(0.0575)	(0.1328)

Constant	0.0441	-0.2604*	0.3693	0.0411	-0.2697*	0.3525
	(0.0363)	(0.1373)	(0.2831)	(0.0361)	(0.1366)	(0.2817)
Observations	621	564	410	621	564	410
R-squared	0.0379	0.0435	0.0447	0.0491	0.0522	0.0524

Table 3.9 Results of regressions for the anti-signalling effect on acquirers' short- and long-term performance.

The vector of the dependent variables includes CAR, the 5-day CAR from CRSP centred on the announcement date from Thomson, and BHAR12/36, 12-month and 36-month BHARs from CRSP. The vector of the explanatory variables includes anti-signallers, which announce pure cash acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, and receive the value of 1, 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. The size of acquirers is measured by the log of the market value a month before the deal's announcement. Acquirer book to market (AcqB2M) is measured by the bidder's net book value of assets divided by its market value a month before the announcement of the deal; a deal's relative size is the ratio between the deal value and the market value of the bidder firm. Friendly deals take the value of 1, while hostile deals that the value of 0. Int_fund deals take the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources and 0 otherwise. Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) CAR	(2) BHAR12	(3) BHAR36	(4) CAR	(5) BHAR12	(6) BHAR36
Anti-signaler-5%	0.0368	0.1786	0.6910**			
	(0.0280)	(0.1055)	(0.2075)			
Completed	0.0205	0.0600	0.0988	0.0175	0.0541	0.0849
	(0.0135)	(0.0508)	(0.1076)	(0.0136)	(0.0510)	(0.1084)
LogMV	-0.0117*	0.0054	-0.1072*	-0.0124*	0.0037	-0.1128*
	(0.0055)	(0.0213)	(0.0440)	(0.0055)	(0.0213)	(0.0441)
AcqB2M	0.0288	0.2637***	-0.0235	0.0284	0.2628***	-0.0269
	(0.0193)	(0.0692)	(0.1308)	(0.0193)	(0.0691)	(0.1310)
Relative_size	-0.0088*	-0.0090	-0.0493	-0.0088*	-0.0091	-0.0491
	(0.0036)	(0.0135)	(0.0253)	(0.0035)	(0.0135)	(0.0253)
Diversifying	0.0143	0.0499	0.0660	0.0157	0.0544	0.0827
	(0.0125)	(0.0460)	(0.0948)	(0.0124)	(0.0460)	(0.0948)
Friendly	-0.0264	-0.0791	-0.4571**	-0.0247	-0.0765	-0.4594**
	(0.0227)	(0.0826)	(0.1679)	(0.0226)	(0.0826)	(0.1682)
Int_fund	0.0432*	0.0215	-0.0266	0.0416	0.0250	-0.0143
	(0.0214)	(0.0761)	(0.1608)	(0.0213)	(0.0756)	(0.1607)
Adv_rank	0.0060	0.0006	0.0498	0.0065	0.0009	0.0482
	(0.0060)	(0.0219)	(0.0460)	(0.0059)	(0.0219)	(0.0461)

Anti-signaler-20%				0.0475*	0.1433	0.4651**
				(0.0193)	(0.0742)	(0.1482)
Constant	0.0406	-0.2820*	0.3274	0.0406	-0.2800*	0.3436
	(0.0364)	(0.1377)	(0.2796)	(0.0362)	(0.1375)	(0.2799)
Observations	621	564	410	621	564	410
R-squared	0.0367	0.0385	0.0672	0.0434	0.0400	0.0643

Table 3.10 Results of regressions for the anti-timing effect on the acquirers' short- and long-term performance.

The vector of the dependent variables includes CAR, the 5-day CAR from CRSP centred on the announcement date from Thomson, and BHAR12/36, the 12-month and 36-month BHARs from CRSP. The vector of the explanatory variables includes anti-timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week low as a percentage of 254 (5% and 20% in this research), the average number of trading days, and receive the value of 1, 0 otherwise. A dummy variable for diversifying deals takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. The size of acquirers is measured by the log of the market value a month before the deal's announcement. Acquirer book to market (AcqB2M) is measured by the bidder's net book value of assets divided by its market value a month before the announcement of the deal; a deal's relative size is the ratio between the deal value and the market value of the bidder firm. Friendly deals take the value of 1, while hostile deals take the value 0. Int_fund deals take the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources and 0 otherwise. Adv_rank takes the value of 3 when the top-8 investment banks by transaction value during 1996 to 2009 (the reasons are provided in chapter 4) are assigned as top tier advisors, 2 when the top 9-25 median investments banks are assigned, 1 when the remainders as low tiers are employed, and 0 for in-house deals with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) CAR	(2) BHAR12	(3) BHAR36	(4) CAR	(5) BHAR12	(6) BHAR36
Anti-timer-5%	0.0180	0.0288	0.4607**			
	(0.0225)	(0.0856)	(0.1750)			
Completed	0.0211	0.0660	0.1305	0.0211	0.0689	0.1305
	(0.0135)	(0.0508)	(0.1075)	(0.0135)	(0.0507)	(0.1084)
LogMV	-0.0112*	0.0057	-0.0937*	-0.0112*	0.0021	-0.1037*
	(0.0056)	(0.0216)	(0.0446)	(0.0056)	(0.0214)	(0.0447)
AcqB2M	0.0280	0.2611***	-0.0300	0.0276	0.2685***	-0.0379
	(0.0194)	(0.0694)	(0.1314)	(0.0194)	(0.0694)	(0.1326)
Relative_size	-0.0085*	-0.0088	-0.0453	-0.0085*	-0.0102	-0.0472
	(0.0036)	(0.0136)	(0.0254)	(0.0036)	(0.0136)	(0.0256)
Diversifying	0.0152	0.0540	0.0974	0.0147	0.0545	0.0832
	(0.0125)	(0.0462)	(0.0952)	(0.0125)	(0.0461)	(0.0958)
Friendly	-0.0289	-0.0873	-0.4958**	-0.0296	-0.0804	-0.4875**
	(0.0227)	(0.0828)	(0.1688)	(0.0227)	(0.0827)	(0.1700)
Int_fund	0.0475*	0.0429	0.0700	0.0484*	0.0299	0.0621
	(0.0213)	(0.0756)	(0.1608)	(0.0214)	(0.0758)	(0.1628)
Adv_rank	0.0056	-0.0013	0.0396	0.0056	0.0007	0.0364
	(0.0060)	(0.0219)	(0.0462)	(0.0060)	(0.0219)	(0.0467)
Anti-timer-20%				0.0145	-0.0784	0.1508
				(0.0163)	(0.0622)	(0.1305)

Constant	0.0393	-0.2773*	0.2491	0.0396	-0.2550	0.3211
	(0.0367)	(0.1394)	(0.2837)	(0.0366)	(0.1383)	(0.2843)
Observations	621	564	410	621	564	410
R-squared	0.0349	0.0338	0.0576	0.0352	0.0363	0.0445

Chapter 4 How would the choice of financial advisors affect bidders in M&A under the influence of payment methods and the psychological reference points of the 52-week high and low?

4.1 Abstract

The second and third chapters analyse the two most influential effects, including the timing of announcements and the payment methods on deal completion and short- and long-term performances in M&A. This study analyses the influence of another important element, the choice and the effectiveness of financial advisors, on the M&A performance and considers whether financial advisors have certain preferences concerning payment method, market timing and signalling. Do financial advisors act in the best interest of the bidders' shareholders when payment method and timing of the announcement are controlled? Are financial advisors more decisive in achieving success than are the previously confirmed elements in M&A?

The results disclose that in-house acquirers would most likely use cash to complete M&A transactions, while low-tier advisors would most likely conduct stock exchange deals. Acquirers with top-tier advisors are most inclined to announce the transaction near the 52-week peak, while in-house bidders announce the deals significantly closer to the 52-week low than do top-tier advisors. Both signallers and timers are more likely to be connected to the top-tier advisors, while anti-signallers and anti-timers are more lowkey in terms of employing financial advisors, instead conducting in-house transactions and hiring low-tier advisors, respectively. Controlling payment method and announcement timing, neither the top nor the median-tier financial advisors bring significant gains whatsoever. The low-tier advisors even incur remarkable loss to the acquirers. The in-house deals are recognized by the market with significantly positive CARs in the short term; however, they are unlikely to be completed due to the lack of experience in M&A. Comparatively speaking, the median-tier advisors are the most

cost effective in terms of the deal completion and consequent performances. In addition, payment method and announcement timing have more influence on the later bidder performance than financial advisors have.

4.2 Introduction

From the second and third chapters, two of the most straightforward aspects of M&A, namely, the announcement of the deal timing and the payment method, have been proven to be significant elements affecting deal success and performance in different ways. Investment banks, with reputation as experts in capital market transactions, are widely recognized as a lubricant in M&A and theoretically should act in the best interest for their clients (Chemmanur and Fulghieri (1994)). Surprisingly, however, much of the relevant empirical literature reports a negative or at best nonsignificant relationship between bidder financial advisor reputation and bidder returns in M&A (see, for example, McLaughlin (1992), Servaes and Zenner (1996), Rau (2004), Hunter and Jagtiani (2004), and Ismail (2010)).

In contrast, Golubov, Petmezas and Travlos (2012), along with other scholars (e.g., Bao and Edmans 2011; Sibilkov and McConnell 2014), argue that with better reputation and stronger ability to identify more synergistic combinations for bidders, top-tier advisors deliver higher bidder returns than their non-top-tier counterparts in public acquisitions; therefore, top-tier advisors charge premium fees in these transactions.

The contradiction concerning advisor performance raises several interesting questions. Compared to the significant anti-timing and anti-signalling effects newly discovered in chapters 2 and 3, do different tiers of advisors have certain preferences in selecting payment method and timing the market? Are they also influential in M&A completion and performance? Do they more significantly affect the deals than the previously discovered effects do? Is it a waste of money for bidders to hire top-tier advisors or any

advisors at all?

The findings suggest that different tiers of advisors are connected to certain payment methods and timing status. Specifically, top-tier advisors and in-house bidders are more inclined to use cash payment for M&A, while low-tier advisors prefer stock exchange. Bidders with top-tier advisors announce M&A more often near the 52-week high, while in comparison, in-house bidders and bidders with low-tier advisors announce the deals closer to the 52-week low. All tiers of advisors seek deal completeness more than superior performance. In contrast, bidders conducting in-house deals are obviously less competent in completing the deals. In terms of performance measured by cumulative abnormal returns (CARs) and buy-and-hold abnormal returns (BHARs), top and median-tier advisors do not guarantee either short- or long-term performance, while low-tier advisors entail undesired results for the transactions. Because top-tier advisors cannot deliver significant short- or long-term abnormal returns to the bidders, they are obviously less influential than the payment method and the timing effect of the announcement in M&A.

This study contributes in the following ways:

The connection between the choices of financial advisors and payment method as well as market timing and signalling has never been studied. Based on the new definition of market timer and signaller, for the first time, this chapter discussed the effectiveness of different tiers of advisors.

Now that the bidders' 52-week high and low significantly influence the completion of the deal and the performance, the effects are even more decisive than the effect of financial advisors; therefore, again, we can reaffirm that the bidders' 52-week high and low are important psychological reference points in M&A.

4.3 Literature Review

4.3.1 The Influence of Payment Methods and Announcement Timing on Deal Completion and Performance

From the second and third chapters, both the proximity of bidders' M&A announcement date to the 52-week high or low and the payment method are effective benchmarks affecting the deal completion and the bidder performance in both the short and long terms.

For stock deals, a higher premium leads to a significantly higher probability of deal completion due to sellers' continuous expectation of potential capital gain.

In terms of correlation between the announcement timing and the deal completion, bids announced closer to the acquirer's 52-week high in terms of day or price have a significantly higher probability of deal completion, while the bids announced closer to the date of acquirer's 52-week low either do not affect deal completion for cash deals or are significantly associated with deal failure for stock deals.

Announcement of M&A with the bidder stock price near the 52-week peak price is associated with higher bidder CAR (with endogeneity problem). When the instrumental variable (proximity of the announcement date to the 52-week peak date) is used to measure the deal timing, an announcement date further from the peak date (announcement date closer to the 52-week low) results in higher CAR and higher BHARs. The contradictive results from different announcement timing variables indicate that bidders with fluctuating stock prices seem to have better speculative opportunities in the short term, although their short-term performance will be reversed in the long term.

In conclusion, bidder timing (measured by both variables of announcement closer to

the 52-week high/low price or the 52-week high/low date) has an important effect on the completeness and performance of the M&A transaction. Considering the announcement near the 52-week high/low date as a valid instrumental variable for the announcement near the 52-week high/low price, we could document the bidder's 52-week high/low dates as psychological anchors in completing M&A.

In chapter 3, the payment method is used as a classification criterion for market timers and signallers, while the nearness of bidders' M&A announcement to the 52-week high/low dates are taken as effective intensity measurements for the market timing and signalling effects in both the short and long terms.

In the short term, being a market timer entails an average negative CAR, which is not consistent with the traditional market timing theory. The result shows that the market takes the bidder announcement date close to the peak as a negative signal in the transaction. In the long term, market timers' performance reverses the most; thus, timing theory is not applicable in this research.

In terms of the signaller, announcing the cash deal at or near the 52-week high date entails a positive mean CAR, which is in line with signalling theory. In the long term, similarly to the market timers, signallers' performance also reverses, but the reversal is significantly less than that of market timers.

Anti-timers and anti-signallers have better and more stable performance than timers and signallers, respectively. At the same time, they also reverse significantly less than market timers and signallers.

Generally, anti-signallers rank first, while timers perform the worst in both the short and long terms as measured by CAR, 12-month BHAR and 36-month BHAR.

4.3.2 The Role of Investment Banks in M&A

In addition to the most influential payment method and announcement timing, investment banks as consultants also play a very important role in achieving better strategic synergies in M&A, according to the current literature. As financial advisors, investment banks can reduce the information asymmetry of both acquirers and targets and promote the financing of deals. Throughout the history of M&A and especially for large deals, investment banks have been involved in almost every successful M&A transaction. In fact, investment banks are important factors that guide the rapid development of M&A.

As an important part of modern economic activities, investment banks have knowledge, information, talent and technology advantages that allow them to understand the allocation of social resources, the macroeconomic situation and the international economic situation and therefore help enterprises solve problems in M&A. The investment bank plays an important role in M&A in areas such as enterprise system restriction, asset evaluation, asset transfer design and enterprise organization, as described below.

Investment banks can reduce the cost of information in M&A. There are two types of transaction models: direct contact and investment banks. Investment banks are commonly hired mainly because the invitation of investment banks can reduce the risk of M&A due to information asymmetry and reduce some unnecessary information collection costs. In many M&As, most enterprises are non-listed companies that have difficulty accessing information. Therefore, acquirers can achieve M&A through investment banks to save corporate capital. In addition, as the information between buyers and sellers is not equally distributed, investment banks as third-party agents can integrate information resources to provide reliable information for the two parties and promote the deals.

As a financial advisor, an investment bank can help enterprises manage their business funds and fully understand their own development strengths and weaknesses to choose the right means of achieving M&A, save costs, and complete the deal. The main role of the investment bank as an enterprise's financial advisor is reflected in the following aspects. 1. An investment bank predicts the probability of successful M&A. M&A relates to a wide range of behaviours with many complicated procedures, so the whole process of M&A needs to have certain supporting facilities; otherwise, there will be a high risk of failure. The participation of an investment bank can allow the prediction of the success or failure of M&A based on the understanding of the current situation and ensure the smooth progress of a deal. 2. An investment bank can rationally design the organizational structure after the deal. After M&A, the organizational structure must be re-designed because of the difficulty to combine new, unfamiliar management and different corporate culture. The intervention of investment banks can help enterprises rationally restructure enterprises, thereby reducing the contradiction between various businesses, personnel and corporate culture brought about by M&A.

Investment banks can help companies choose the proper means of financing. In M&A, some acquirers have difficulty obtaining enough money in a short time. At this point, investment banks can help them raise funds and solve financing problems.

Investment banks reduce M&A transaction costs. 1. An investment bank reduces the cost of searching for information before the deal. In M&A, the buyer and seller have unequal information. The buyer has a greater risk in the transaction because of the incomplete information obtained. At this time, the involvement of an investment bank can provide buyers with information support from the bank's own information resources to solve the problem of information asymmetry. 2. An investment bank promotes the specialization of the collection process. The buyers and sellers do not have the ability to identify information themselves. Therefore, the data collected are

unreliable. An investment bank can make use of its advantages in collecting information to provide professional information, such as manpower and material resources for buyers and sellers, thereby reducing unnecessary costs due to information unreliability.

There are friendly and hostile M&As in the market. In a hostile M&A, the target does not intend to be acquired by the acquirer. This type of malicious acquisition is not conducive to the benign development of the market and therefore requires the involvement of an investment bank. The intervention of the investment bank can provide strategies and plans to prevent the deal, thus protecting the will of target.

An investment bank can integrate enterprise resources after M&A. Effective integration is not only controlling the target. To realize the continuous development of both acquirer and target, attention must be paid to asset allocation, personnel adjustment, cultural integration, etc. With rich experience in long-term planning, investment banks can provide effective strategies and arrangements for enterprises after a deal to truly realize the functions of M&A.

4.3.3 Financial Advisor Fees

Fee Structure

The standard M&A advisor fee structure consists of a work fee and a success fee. As a competitive industry, financial advisor fee structure is very consistent between firms of similar quality. Some firms undertake engagements with no work fee, and others structure their fees entirely on an hourly basis with no success fee.

The Lehman Formula

Some M&A firms still use the Lehman formula to calculate the advisor fee. The formula

was originally designed for financing purposes, but it also came to be applied to M&A transactions.

The formula usually addresses deal amounts greater than one million dollars. Brokerage services and investment banks usually offer a set of tiered fees or set-rate trading prices.

The original version of the formula (called the Lehman scale) was as follows:

5% of the first $1 million is raised from investors (worth of transaction); 4% of the second $1 million is raised from investors (worth of transaction); 3% of the third $1 million is raised from investors (worth of transaction); 2% of the fourth $1 million is raised from investors (worth of transaction); 1% of everything above $4 million is raised from investors (worth of transaction).

Inflation has altered the Lehman formula. Currently, most large banks do not consider a $5 million deal as significant as it was when the formula was designed in the 1960s. Rather than indexing the formula for inflation, most investment services have altered the formula to pursue fee maximization.

M&A Advisor Work Fees, Retainers or Engagement Fees

Selling companies sometimes commit to a work fee at the beginning of the engagement. Some advisors send monthly invoices over the first four to twelve months, which is called a retainer, engagement fee or upfront fee and covers the M&A advisor's direct costs during the initial stages, as well as a fixed amount for the early work in preparation of the selling documents and due diligence materials.

Advisors charge lower work fees when their staff is not completely busy and the M&A market is not very active. Interestingly, "business brokers", namely, firms that work on

transactions valued under $5 million, usually do not charge a work fee.

The work fee is set fairly and reasonably by professionals to protect their investments and helps facilitate the transaction. It also acts as a test to determine whether the seller intends to actually sell the company.

M&A Advisor Success Fees

The success fee for selling a business is typically a proportion (usually up to 5%) of the final value.

Interestingly, the success fees of smaller transactions become more challenging to calculate because the amount of work required to sell a small business is not significantly less than the effort required for to sell a large business because the buyers for smaller targets tend to be less experienced in the legal and accounting aspects; therefore, smaller transactions often require significantly more time and effort from the M&A advisor.

Even the smaller boutique M&A advisors are reluctant to undertake a transaction worth less than $5 million. Even at a 10% success fee, a $5 million transaction will bring only a $500,000 success fee. Therefore, transactions below the $5 million threshold are often conducted by business brokers or individuals who have developed expertise in this area.

If a company is sold to a certain buyer or has narrowed down the acquirers to a few prospects, then the success fee should be lower than the fee for a fully marketed transaction. Based on the quality level, the success fees are typically categorized as gold, silver and bronze quality services. Bronze quality success fees amount to approximately half the value of a silver quality success fee, while a silver fee is less than a gold quality success fee.

4.3.4 Reputation of Financial Advisor

With the emergence of imperfect market theory, the reputation of financial advisors has become a research topic for economists. Game theory provides a variety of strategies for the study of reputation theory and is an explanatory analysis tool. Information asymmetry theory provides a theoretical premise for reputation theory, for only if information is asymmetric can the reputation of financial advisors and the relevant mechanism work. The theory of transaction cost also provides a theoretical basis for the study of reputation because the differences in transaction cost and efficiency lead to different reputations.

Roberts, Wilson, Kreps and Milgrom (1982) establish a reputation model and draw a very important conclusion: if every party holds its promise in a transaction, considering the long-term common interests, they will restrain their behaviour to win long-term cooperative benefits. This conclusion is built on the KMRW model, which has had great influence on reputation theory.

Booth and Smith (1986) point out that the reputation of the underwriter is an important asset of the underwriter itself and represents non-salvageable reputation capital. Reputation is the precondition allowing the underwriter as a third party to transmit internal information about the issuing enterprise to the investor. Reputation is also the basis on which security underwriters, as the intelligent certification intermediary, can alleviate the asymmetry of information in the securities market.

Chemmanur and Fulghieri (1994) designed a classical model to study the role of the underwriter's reputation. According to the model, the underwriter can establish its reputation through a long-term process. An investor can judge the stock status of the new listed company through the trust of the underwriter. The underwriter's reputation can act as an information intermediary.

Puri (1996) establishes a model about the role and influence of the securities underwriter's reputation and points out that a good securities underwriter's reputation will not be reduced because of its efforts to maintain its reputation. When evaluating the value of the securities issuing company, an underwriter with a better reputation will adopt more stringent evaluation criteria to ensure that it can assume the role of information producer. Reputable underwriters will be very concerned about the value of underwriting initial offerings and complete the deals. Therefore, the reputation of securities underwriters can be used as an important index to help investors judge the quality of issuing enterprises.

4.3.5 Measurement of Financial Advisor Reputation

Hayes (1972) believes that all financial advisors in the United States have a strict hierarchy, divided into senior advisors and lower-level advisors. As the name implies, senior advisors are highly reputable and have relatively higher profits. Low-level advisors are those with low reputations. Advisor rankings appear in newspaper advertisements. Therefore, to hold a good position in newspaper advertisements, advisors work hard to maintain their positions, giving up some of the proceeds or pursuing rent-seeking activities.

Miller and Johnson (1988) put forward the JM rules for the classification of financial advisors into four levels according to reputation, namely, the special class (bulge bracket), the main class (main bracket), the quasi-major class (sub-major bracket) and the other class. The special bulge bracket includes the advisors of leading class in the advising of high-quality securities; advisors in the main bracket have less market share but are still relatively better than the other advisors; advisors in the sub-major bracket also have important market competencies; and advisors in the last level have relatively poor reputations.

Carter and Manster (1990) set up the ranking system of the advisors' reputation according to the rank of each securities advisor in the newspaper advertisement, which is also called the CM ranking system. Dark, Carter and Singh (1998) further improve the ranking rules on the basis of the CM ranking system.

Megginson and Weiss (1991) propose to build a securities advisor reputation ranking system based on the market share of each securities advisor (MW ranking system). The ranking obtained by this method can clearly reveal the advantages and disadvantages of any two advisors and the size of the gap. This is better than the ordinal ranking used by the CM rules.

Carter and Manaster (1990) propose that the reputation of investment banks can attract issuing companies with high quality and low risk. By choosing an investment bank with good reputation, an issuing company sends a signal to the market about its own quality so that the reputation of the investment bank can play a role in endorsement (certification). From the perspective of information production, Chemmanur and Fulghieri (1994) emphasize that the reputation of an investment bank is built up by setting up a stricter mechanism to review the issuing company. Carter and Manaster (1990) argue that advisor reputation is the history of the information and is therefore exogenous. Chemmanur and Fulghieri (1994) establish the reputation of investment banks as endogenous variables. Investment banks have a reputation because they spend more on exploring real information about issuing companies, so on average, they can choose high-quality and low-risk issuing companies as customers.

Although there are still some points to be discussed, the CM rule and the MW rule are widely cited in the relevant research and are the dominant ranking methods worldwide.

4.3.6 Investment Banks Act Positively in Empirical Study

Chemmanur and Fulghieri (1994) suggest that as intermediaries in the financial markets, depending on their equity marketing history, investment banks with high reputation provide higher quality services and charge higher fees.

Bowers and Miller (1990) show that investment banks with enhanced reputation perform better than lower tier bankers in the marketplace, thus allowing superior bankers to charge higher fees. Consistently, Michel, Shaked, and Lee (1991) find that deals advised by bulge bracket investment banks outperform those advised by relatively less prestigious advisors in terms of bidder CARs.

With a different measure of the relative reputation of the merging parties' advisors in 390 US tender offers over the period 1981 to 1994, Kale, Kini, and Ryan (2003) contend that bidder gains, total synergy gains, and the share of total synergies accruing to the bidder increase with the bidder advisor's reputation.

At the individual bank level, Chang et al. (2008) study the choice of advisors in M&A and show that the choice of advisor for a given transaction relies on three elements, namely, prior relationships with the bank, the industry expertise of the advisor, and the relationship with the merging partner. In another bank-level study, Bao and Edmans (2011) document the significant bank-level fixed effects and further show that advisors in the bottom quintile are associated with disappointing acquirer performance for several years, while advisors in the top quintile maintain excellent acquirer performance.

Finally, Golubov, Petmezas and Travlos (2012) argue that with better reputation and the required skillsets, top-tier advisors deliver higher bidder returns than their non-top-tier counterparts in public acquisitions. This result is consistent with the premium price-premium quality equilibrium, whereby top-tier advisors charge premium fees in these

transactions.

4.3.7 Financial Advisor Act Negatively in Empirical Study

McLaughlin (1990) focuses on investment banker advisor fees from 195 tender offers between 1978 and 1985. Advisor fees of the investment bank for the bidder account for 0.56% of the deal value on average, while target firm advisor fees average 0.77% of acquisition value. Basically, most of the advisor fee is paid only if the deal is completed, and the fee is not dependent on whether the transaction creates value for the acquirer. Such a rule creates a potential conflict of interest between the advisor and the client.

McLaughlin (1992) finds that bidders hiring lower tier bankers may need to pay a greater amount in advisor fees for different fee contract types and have higher announcement period gains.

Servaes and Zenner (1996) argue that neither the general advisor nor the top-tier advisor affects the announcement abnormal returns in the largest US acquisition samples over the period 1981 to 1992. Only when bidders with less prior acquisition experience are involved in complex transactions are they more likely to use advisors.

Rau (2004) demonstrates that first-tier investment banks cannot guarantee higher bidder abnormal returns, apart from the tender offers sub-sample. In addition, he finds that the proportion of contingent fees in the contract is negatively correlated with the post-acquisition performance of the bidding firm. Consistently, Hunter and Jagtiani (2003) and Ismail (2010) also fail to provide evidence of a positive relationship between bidder advisor reputation and bidder returns.

In addition, the role of the other classifications of financial advisors has been discussed in the literature. For example, Allen et al. (2004) fail to find a connection between the

bidding firm returns and the use of the firm's own commercial bank as a merger advisor. Furthermore, Song et al. (2010) compare the role of "boutique" financial advisors to regular full-service investment banks. They find that completion rates are not affected by the use of boutique advisors for the acquiring firm. Boutique advisors do not charge higher fees, either. However, boutique advisors are more likely to be hired for smaller transactions. Controlling for advisor reputation, acquirers hiring boutique advisors in public acquisitions pay lower premiums.

From the perspective of corporate control, Bodnaruk, Massa, and Simonov (2009) disclose that as insiders in the market, investment banks affiliate with financial conglomerates to build up a stake in the target prior to the announcement and earn substantial profits. They also provide evidence that a larger size of this stake indicates a higher probability of larger announcement period losses for the bidding firm.

Overall, current studies provide mixed evidence on the relationship between advisor reputation and abnormal returns associated with M&A. This study attempts to clarify the contribution of advisors to payment methods and announcement timing control.

4.4 Hypotheses Development

Based on current literature and logic, the following hypotheses on the correlation between the choice of financial advisor and payment method, timing intensity and bidder performance are developed.

H1: As in-house bidders lack M&A experience, to complete the transaction, they are more likely to use cash as the payment method, which is much more straightforward and involves simpler processes. Low-tier advisors are expected to use more stock exchange or less cash payment than top-tier advisors, as they are usually hired by less financially capable bidders who have less access to cash funding.

H2: Acquirers with top-tier advisors are most likely to announce transactions near the 52-week peak than low-tier advisors and in-house bidders are because low-tier advisors and in-house bidders might be less sophisticated in taking advantage of the market timing and signalling effects. On the other hand, because in-house bidders do not have agency problems associated with hiring advisors and have less pressure to complete the deals, they are expected to announce the deals more in accordance with their natural tendency or further from the 52-week peak than bidders working with advisors.

H3: Because both signallers and timers (defined in chapter 3) announce the deals closer to the 52-week high, as assumed by H2, both types of bidders are expected to be connected to the employment of top-tier advisors.

H4: As both anti-signallers and anti-timers (defined in chapter 3) announce the deals closer to the 52-week low (opposite to H3), both are more likely to be in-house bidders or employ lowkey financial advisors.

H5: According to the premium price-premium quality equilibrium (Servaes and Zenner 1996), advisor fees should be positively correlated with advisor rank.

H6: Advisor rankings are expected to positively affect deal completion when announcement timing and payment method are controlled because higher tier advisors have more experience and better required skillsets.

H7: Advisor rankings should be associated with higher bidder CARs and BHARs when announcement timing and payment method are controlled, as better advisors have higher reputation exposure along with more experience and better required skillsets.

H8: Advisor fees positively affect the bidders' CARs, BHARs and deal completion when announcement timing and payment method are controlled, as advisor fees are

positively correlated with advisor rank.

4.5 Research Methodology

4.5.1 Samples

To determine whether the choice of financial advisor affects the completeness and performance of the acquirers in M&A, chapter 4, as the third part of the research, first collects the sample that consists of the completed and uncompleted US takeovers announced in the period between 1/1/1985 and 3/31/2015. The announcements and relevant financial indices were collected by Thomson One Banker, while stock prices were collected from WRDS. The samples meet the following criteria:

- Both the acquirers and the target firms are US listed firms due to the previously mentioned requirement for an overall efficient market.

- The bidders aim to acquire at least 50% of the shares of the target firms to ensure that the transaction has a significant influence on the stock market.

- The deal values amount to at least $1 million to ensure the significance of the acquisitions.

- The financing of the acquisition is either 100% in stock or 100% in cash to simplify the comparison of benefits between the two methods for completed deals, while for uncompleted deals, as they have not been finished, all of the announced deal financing, such as pure cash, pure stock exchange and combinations are included in the research sample.

- When an acquirer has more than one deal within 5 years, only the most recent deal remains in the sample.

- Acquirers without continuous stock price records around the announcement period are eliminated.

Eventually, 662 samples of completed cash acquisitions and 573 samples of completed stock exchange deals meet the above criteria, as in the first and second chapters of this

study. Since this chapter of the study considers M&A success and failure, 1131 uncompleted deals are also included in the sample.

4.5.2 Research Method and Variables

The Measurement of the Deal Timing:

To identify the proximity of announcement to the date of the 52-week high/low, the procedures presented below are adopted:

The nearness of the date of announcement to the date of the 52-week high is defined as date nearness to high (DNH), calculated as the following formula:

DNH=Number of Workdays From the 52-week High to the Date of Announcement/254 where 254 is the maximum total number of workdays in the US. A higher DNH indicates that the bidder announcement is further from the date of the 52-week high.

DNL=Number of Workdays From the 52-week Low to the Date of Announcement/254 where 254 is the maximum total number of workdays in the US. A higher DNL indicates that the bidder announcement is further from the date of the 52-week low.

Measure of Advisor Reputation:

The chapter presents the top 25 investment banks as top and median-tier financial advisors according to the value of the deals on which they advised for M&A transactions targeting US firms during the period from January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. This period covers the 2000 dot-com bubble and 2008 subprime mortgage crisis, when the landscape of the finance industry experienced significant changes. Transaction value is in US$ million. The number of deals advised by each advisor is also presented. Equity carve-outs, exchange offers and open market repurchases are excluded.

Top- 25 U.S. Financial Advisor Ranking by Transaction Value

The top-8 investment banks are assigned as top tier advisors, same as those in Fang (2005), indicating that this top-tier specification is stable across investment banking services. These banks also appear in the bulge bracket specifications of earlier M&A studies (Servaes and Zenner (1996) and Rau (2004)). Thus, there is a great deal of stability in the reputation of these advisors over time. In the case of multiple advisors, the deal is classified as advised by a top-tier advisor if at least one of the advisors belongs to the top-8 group; this approach is standard in the literature (see, for example, Servaes and Zenner (1996) and Rau (2000)). Median tier advisors are the top 9-25 investments banks while the remainders are low tiers. In-house deals are transactions with no financial advisor involved.

Rank	Financial Advisor	Transaction Value	Number of Deals
Top-tier			
1	Goldman Sachs	5,875,818	2,567
2	Merrill Lynch (now Bank of America Merrill Lynch)	4,505,156	3,224
3	Morgan Stanley	4,315,578	2,072
4	JP Morgan	4,111,013	2,831
5	Citi/Salomon Smith Barney	3,407,442	2,304
6	Credit Suisse First Boston	3,026,933	2,878
7	Lehman Brothers (now Barclays Capital)	2,374,155	1,444
8	Lazard	1,447,960	1,125
Median-Tier			
9	UBS	1,428,585	1,368
10	Deutsche Bank	1,185,674	1,139
11	Evercore Partners	746,074	175
12	Commerzbank	523,988	332
13	Houlihan Lokey	434,593	1,668
14	Sagent Advisors	429,722	367
15	Wells Fargo	397,746	582
16	Blackstone Group	353,597	203
17	Greenhill	301,084	146
18	Rothschild	229,334	289
19	Jefferies	214,554	1,189
20	BNP Paribas	177,777	53
21	RBS	176,675	324
22	Duff and Phelps	175,336	416
23	Centerview Partners	169,950	29
24	Keefe Bruyette&Woods	164,843	591
25	CIBC World Markets	160,040	468

Short-term Event Study Methodology:

To evaluate the impact of M&A announcements near or at the 52-week high or low, abnormal returns can be calculated. An abnormal return is the difference between actual earnings and the normal return during the event window and is calculated as follows:

ARit = Ait – Rit

where Ait is the actual earnings of bidder i on day t, Rit is the normal return of bidder i on day t (derived from the capital asset pricing model - CAPM), and ARit is an abnormal return of the same bidder on the same day.

According to the CAPM along with a 30-day estimated window, Rit = αi + βi Rmt + εit, where Rmt is the monthly return of the market index of the S&P 500 during the same period.

To calculate the acquiring firms' short-term performance, Stata 12 is employed for calculation of the abnormal returns using the market model as follows:

The CAR for the 5-day window of (-2,+2) around the announcement date is calculated according to the following equation: $CARi(t_1, t_2) = \sum_{t_1}^{t_2} AR_{it}$

where CARi(t1, t2) is the CAR for the 5-day window of (-2,+2) around the announcement date with cross sections of the bidder i.

The p-value provides a sense of the strength of the evidence against the null hypothesis, in which the mean CAR is equal to zero for a sample of n firms. The lower the p-value is, the stronger the evidence is that the mean CAR is statistically significantly either positive or negative.

Long-term Event Study Methodology:

The 12-month BHAR approach advocated by Barber and Lyon (1997) is employed to examine the long-term abnormal stock returns in the study. The BHAR is computed as:

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

where R_{it} is the monthly return for company i and R_{mt} is the monthly return of the market index of S&P 500. According to Lyon, Barber and Tsai (1999), the skewness adjusted bootstrap t-statistics procedure is employed to compute the statistical significance of the abnormal returns.

Wilcoxon Rank-sum Test and Multivariate Analysis:

A number of variables, such as deal diversifying status, payment method, attitude, financial resources, and announcement proximity to the date of 52-week peak/low, have been found to affect the completeness and performance of acquiring firms. To analyse the effects of different tiers of financial advisors on completeness and performance, Wilcoxon rank-sum tests (the model cannot meet the requirements of the t-test on normal distribution, homogeneity of variance, etc.) have been conducted, while multivariate regression analyses have been employed to regress completeness, announcement abnormal returns (CARs) and BHARs against different advisors when the other explanatory variables are controlled.

Ordinary least square regressions are conducted to discuss the relationship among the bidder completeness, performances, tiers of advisers and other control variables. The formulas are illustrated as follows:

Completeness= a+b(Tiers of adviser)+c(controls)+ ε

Performance= a+b(Tiers of adviser)+c(controls)+ ε

Discussion of the Potential Endogeneity of the Variable Diversification:

Current literature indicates that diversification can also be an endogenous variable in

regressions for bidder performances in M&A due to reciprocal causation.

Most early studies considered diversification to be an exogenous variable, and most results show that diversification can damage enterprise performance. Since 2000, some scholars began to study the relationship between diversification and enterprise performance from the perspective of endogeneity. However, no consistent conclusion is available regarding the relationship between diversification and enterprise performance from the endogenous perspective. Most literature shows that in addition to the characteristics of enterprises, macroeconomic conditions also affect diversification decisions.

For example, Campa and Kedial (2002) believe that after using the instrumental variable method and the Heckman sample selection model to control the endogenous influence, the impairment degree of diversification on enterprise performance continues to decline and even becomes a premium. Villalonga (2004) believes that diversification decision-making of enterprises is not random but influenced by factors such as enterprise characteristics and sample selection bias.

Campa and Kedial (2002) include PNDIV (the fraction of multi-segment firms in a given industry), MNUM (the number of M&A announcements in a given year) and MVOL (the annual deal value of an announced M&A in a given year), among others, as exogenous variables to determine diversification status.

The same variables PNDIV, MNUM and MVOL are used to examine the variable of diversification in this study. However, the results of the Hausman tests showed that none of the instruments are available in the regressions of bidder performance in this research.

P-value Results of the Hausman test for the Two-stage Least Squares regressions (control variables are consistent with the regressions in chapter 4) to show whether

Prob>chi2	CAR	BHAR12	BHAR36	BHAR60
the following variables are valid instruments of "Diversification" to regress bidder performances. (H0: the difference in coefficients is not systematic)				
PNDIV	0.9470	0.3451	0.1859	0.5008
MNUM	1.0000	0.9997	0.9998	0.9992
MVOL	0.6448	0.9921	0.9920	0.9983

Additionally, other possible instruments, such as the fraction of each firm's sales in the same given industry, used by Campa and Kedial (2002) and similar variables, such as the fraction of acquiror EBIT (operating income) in the same industry, have also been Hausman tested to instrument diversification in the regressions of bidder performances. However, neither of the instruments were able to pass the tests.

In other literature, the variable of the number of immediate family members and relatives of the CEO among the ordinary shareholders of the company were also selected as instrumental variables for diversification (Bae, Kwon and Lee, 2011). However, as such information is usually sensitive and often concealed or even falsified, this instrument is not employed in this study.

For the purpose of consistency with other chapters, chapter 4 only demonstrates the regressions with diversification as an independent variable.

4.6 Empirical Results

Table 4.1 presents the total number of completed and non-completed deals from January 1, 1985 to March 31, 2015. Among the transactions, 1168 and 806 were pure cash deals and stock exchange deals, respectively, while 387 deals were combinations. In 488 deals, top-tier financial advisors were hired, 82 and 567 bidders employed median and low-tier advisors, respectively, while 1224 transactions were carried out in house and involved no financial advisors.

(Table 4.1)

Table 4.2 presents the summary statistics of the samples, mean, standard deviation, minimum and maximum for the key objective variables and control variables. According to the mean of the performances, the CARs and BHARs declined steadily over time, indicating overall performance deterioration in M&A.

(Table 4.2)

Table 4.3 presents the Wilcoxon rank-sum tests of payment methods, controlling the employment of financial advisors of different levels. The table demonstrates that in-house acquirers are most likely to use cash to complete the transaction, followed by acquirers using top-tier advisors, median advisors and low-tier advisors because in-house bidders lack M&A know-how and experience, while cash deals are much more straightforward and involve simpler processes. Top-tier and low-tier advisors differ significantly in terms of making the payment by cash. Low-tier advisors use significantly less cash payment probably because they are usually hired by less financially capable bidders, who need to diversify their sources of funding. In regard to stock exchange deals, low-tier advisors are most likely to conduct such operations, followed by median, top-tier advisors and in-house bidders. In-house bidders are significantly not interested in pure stock exchange, while top-tier advisors also use significantly less stock exchange than low-tier advisors do. In-house bidders use less pure stock exchange, as cash simplifies transactions, while top-tier advisors use less pure stock in that they are able to access a variety of internal and external funding sources for the bidders.

(Table 4.3)

Table 4.4 presents the Wilcoxon rank-sum tests of announcement timing, controlling

the employment of financial advisors of different levels. The table demonstrates that acquirers with top-tier advisors are most likely to announce the transaction near the date of the 52-week peak, followed by median-tier advisors, low-tier advisors and in-house bidders. Top-tier and in-house bidders are significantly different in terms of timing the announcements, which provides clear evidence that the top-tier advisors actually time or signal the market in practice. In-house bidders again might lack experience in taking advantage of the market timing effects or be more long-term oriented and therefore avoid rushing into the deal completion. On the other hand, naturally, in-house bidders announce the deals significantly closer to the date of the 52-week low than do top-tier advisors, showing that they are more reserved and cautious according to panel B. This table more or less indicates that an agency problem of hiring a financial advisor of any level could occur.

(Table 4.4)

Table 4.5 presents the Wilcoxon rank-sum tests of being timer/signaller controlling the employment of financial advisors of different levels. The table shows that top- and median-tier advisors are more likely to be hired by signallers, while compared to top-tier advisors, low-tier advisors are significantly less welcomed by signallers. The table also demonstrates that in-house bidders are significantly least likely to be market timers. The conclusions indicate that both signallers and timers are more likely to be connected to the top-tier advisors, suggesting a higher expectation and thus heralding a potential future reversal in terms of long-term performance.

(Table 4.5)

Table 4.6 presents the Wilcoxon rank-sum tests of being anti-signaller/anti-timer controlling the employment of financial advisors of different levels. The table shows that in-house bidders are most likely to be anti-signallers. The table also demonstrates

that top- and median-tier advisors are less likely to be hired by anti-timers, while in comparison, low-tier advisors are significantly more welcomed by anti-timers. The conclusions indicate that both anti-signallers and anti-timers are more lowkey in terms of employing financial advisors, with either no advisor or a low-tier advisor, resulting in lower expectation and less long-term reversal in terms of bidder performance.

(Table 4.6)

Table 4.7 presents the Wilcoxon rank-sum tests of advisor fee controlling the employment of financial advisors of different levels. The table illustrates the results of the rank-sum tests of advisor fee among different tiers of financial advisors on their ranks. It proves that top-tier advisors do charge significantly higher fees, while the low-tier advisors charge the lowest fees.

(Table 4.7)

Table 4.8 demonstrates the correlation between advisor fees and short- and long-term returns. The table suggests that the advisor fees, as agency costs, are negatively related to both short- and long-term performance.

(Table 4.8)

Table 4.9 shows the probit regressions of the completed M&A on advisor rank as well as other variables. The results illustrate that given the same acquisition timing and payment method, all tiers of advisors seek to complete the deals (median-tier advisors are not significant), which is definitely in the best interest of the advisors in terms of the advisor fee. In contrast, in-house deals are negatively related to deal completion, which reflects the reality that certain bidders are simply incapable of completing the deals or that they prefer to give up unprofitable deals. In addition, consistent with

previous studies, announcement near the 52-week high date positively affects completeness, while announcement near the 52-week low date negatively affects completeness.

(Table 4.9)

Table 4.10 reveals the regression of CAR on advisor rankings, controlling for payment method, timing effects and other variables. The results disclose that no advisor achieves significant CARs, which unfortunately reveals the agency problem of employing an advisor to conduct acquisition. Not surprisingly, the low-tier advisors are significantly associated with poor short-term performance. Although in-house deals are less likely to be completed, their CARs are remarkably higher than zero, indicating that transactions with no financial advisor involved were better received by the market in the short term. Compared to the market timing and signalling effects discussed in chapter 3, advisor ranks are not significant in positively affecting deal performance. Cash payment was proven to lead to significantly higher CARs. While announcement near the 52-week peak date is associated with lower CAR, announcement near the 52-week low date is correlated with higher CAR.

(Table 4.10)

Table 4.11 presents the regression of 12-month BHARs on advisor rankings, controlling for payment method, timing effects and other variables. The results show that advisors have no significant influence on 12-month BHARs when comparing the payment method and timing effects. Consistent with table 4.6, cash payments have significantly higher CARs than stock exchange deals. Announcement near the 52-week peak date is associated with lower 12-month BHARs.

In table 4.11, the results show that hiring top-tier advisers can mildly reverse the

negative CAR (table 4.10) to achieve a positive 12-month BHAR, although the effect is not significant. This phenomenon indicates that although the market may react negatively to hiring top-tier advisers due to concerns about agency cost, in the long term, because of the stable synergies created by the advisers due to their extensive experience and established skill sets in business, top-tier advisers can bring back relatively stable BHARs.

Median-tier advisors have relatively stable performance in achieving positive short-term CARs and 12-month BHARs in the long run. In comparison, low-tier advisors have stable negative short- and long-term performance for bidders, giving bidders every reason to avoid them considering that they significantly pursue the completeness of deals regardless of whether the deals are profitable, as shown in table 4.9. In contrast to top-tier advisers, in-house deals yield significant positive short-term CARs but reversed 12-month BHARs, reflecting the lack of experience and skills in achieving long-term synergies in M&As.

(Table 4.11)

Table 4.12 presents the regression of 36-month BHARs on advisor rankings, controlling for payment method, timing effects and other variables. The results are basically consistent with those of the 12-month BHARs, as neither the top-tier nor the median-tier advisors achieve significant 36-month BHARs. Worse, low-tier advisors have significantly lower 36-month BHARs. Again, payment methods and timing effects have a significant influence on performance, while superior advisor ranking does not. Considering that advisors can help complete the transactions, it would be more cost effective to hire median-tier advisors to conduct the transactions. Because both the payment method and the deal announcement proximity to the 52-week high and low remarkably affect the deal completion and bidders' performance, the date of bidders' 52-week high and low again could be established as important reference points in M&A.

(Table 4.12)

4.7 Conclusion and Discussion

This empirical finding suggests that in-house acquirers and bidders hiring top-tier advisors are most likely to use cash to conduct M&A transactions, while low-tier advisors are more inclined to perform stock exchange deals. Acquirers with top-tier advisors frequently announce the transaction near the 52-week peak, while oppositely, in-house bidders announce the deals closer to the 52-week low than do top-tier advisors. Both signallers and timers are more willing to employ the top-tier advisors, while anti-signallers and anti-timers tend to be low profile in terms of financial advisors, carrying out in-house transactions and hiring low-tier advisors, respectively.

Top-tier advisors charge significantly more but do not guarantee better short-term or long-term performance, while low-tier advisors charge remarkably less, but accordingly, they provide acquirers with negative CARs and BHARs. Bidders who conduct in-house deals are more likely to give up the acquisitions due to the limited know-how and experience in the field. Since neither the top-tier nor the median-tier advisors signify better performance, taking advisor fees into consideration, median-tier advisors are more cost effective in M&A.

Compared to the effects of the employment of financial advisors of different tiers in M&A, both the payment method and the proximity of the deal timing to the 52-week high and low play significantly more important roles in the deal completion and bidders' performances. Therefore, the effects of the bidders' 52-week high and low reference points established in chapters 2 and 3 could be reaffirmed.

According to all three studies, in the long term, all categories of bidders will suffer loss

over time following the announcement of M&A. The reasons for this phenomenon are not yet understood. Future investigations could seek to determine how to achieve long-term synergies instead of short-term market reactions.

Table 4.1 Sample tabulate of completed and failed deals with payment methods and advisor tiers.

Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period from January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking among the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved.

Year	Completed Deals			Form of Payment			Advisor Tiers			
	Total	Yes	No	Cash	Stock	Other	Top	Median	Low	In House
1985	50	25	25	23	14	13	12	0	12	26
1986	55	28	27	25	14	16	12	1	14	28
1987	57	18	39	25	13	19	5	0	15	37
1988	84	29	55	44	12	28	13	1	20	50
1989	81	27	54	27	31	23	6	0	15	60
1990	54	24	30	21	17	16	3	0	8	43
1991	40	4	36	7	13	20	3	0	2	35
1992	41	20	21	7	20	14	5	1	9	26
1993	59	23	36	20	21	18	8	0	11	40
1994	83	42	41	25	42	16	11	1	20	51
1995	98	54	44	32	49	17	15	4	27	52
1996	120	57	63	51	48	21	14	0	44	62
1997	132	84	48	53	66	13	25	4	52	51
1998	133	89	44	52	68	13	16	7	53	57
1999	145	87	58	68	62	15	32	6	38	69
2000	203	80	123	117	65	21	39	5	32	127
2001	98	54	44	48	37	13	21	3	21	53
2002	45	27	18	27	10	8	5	2	11	27
2003	52	32	20	28	21	3	11	1	15	25
2004	53	35	18	33	12	8	13	6	13	21
2005	62	39	23	37	18	7	19	5	14	24
2006	67	48	19	43	18	6	24	5	20	18
2007	69	43	26	44	16	9	27	2	11	29
2008	68	34	34	39	22	7	25	2	11	30
2009	53	30	23	27	17	9	16	5	13	19
2010	60	35	25	43	12	5	22	2	9	27
2011	47	25	22	31	12	4	14	2	9	22
2012	76	42	34	58	14	4	20	5	10	41
2013	67	36	31	51	11	5	18	4	14	31
2014	97	58	39	55	30	12	29	7	23	38
2015	12	6	6	7	1	4	5	1	1	5
	2361	1235	1126	1168	806	387	488	82	567	1224

Table 4.2 Summary statistics.

The objective variables include Advisor_fee, which is the total fees associated with acquisition in millions. A dummy variable "Completed" is equal to 1 if a deal is completed, and 0 otherwise; DNH, the nearness of the announcement date to the 52-week high date, is calculated as a percentage of "Number of workdays from 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the 52-week low date, is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Other outcome variables include CAR, the 5-day CAR from CRSP centred on the announcement date from Thomson; BHAR12/36/60 is the 12-/36-/60-month BHARs from CRSP. The control variables include the dummy variable "Cash_only", which takes the value of 1 when the bidder uses only cash to complete the deal and 0 otherwise; the dummy variable "Stock_only", which takes the value of 1 when the bidder uses only stock exchange to complete the deal and 0 otherwise; the dummy variable "Friendly", which takes the value of 1 when the bidder attitude is friendly and 0 otherwise; the dummy variable "Hostile", which takes the value of 1 when the bidder attitude is hostile and 0 otherwise; the dummy variable for diversifying deals, which takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target and 0 otherwise.

Panel A: Objective Variables	N	Mean	SD	Min	Max
Advisor_fee	381	3.763971	7.398746	0.011	57
Completed	2366*	0.521978	0.4996223	0	1
*5 duplicated samples with different permno No.					
DNH	2181	0.4503587	0.3534718	0	1
DNL	2181	0.5312072	0.3517186	0	1

Panel B: Other Outcome Variables	N	Mean	SD	Min	Max
Cumulative Abnormal Return (-2,+2)	2139	-0.0019114	0.1253743	-1.126695	1.436994
12-month Buy Hold Abnormal Return	1882	-0.2070893	0.4561351	-2.110995	2.849774
36-month Buy Hold Abnormal Return	1383	-0.5194106	0.7491756	-3.203724	8.311247
60-month Buy Hold Abnormal Return	1036	-0.6763112	-0.6763112	-3.976755	19.93834

Panel C: Control Variables	N	Mean	SD	Min	Max
Payment - Cash Only	2361	0.4947056	0.5000779	0	1
Payment - Stock Only	2361	0.3413808	0.4742734	0	1
Attitude - Friendly	2361	0.717069	0.4505186	0	1
Attitude - Hostile	2361	0.0406607	0.1975449	0	1
Diversifying or Not	2361	0.7020287	0.4574635	0	1

Table 4.3 Results of Wilcoxon rank-sum tests of payment methods controlling the employment of different levels of financial advisors.

The dummy variable "Cash_only" takes the value of 1 when the bidder uses only cash to complete the deal, and 0 otherwise. The dummy variable "Stock_only" takes the value of 1 when the bidder uses only stock exchange to complete the deal, and 0 otherwise. Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking in the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	Cash Payment Controlling top tier advisor	Cash Payment controlling median tier advisor	Cash Payment controlling low tier advisor	Cash Payment controlling inhouse advisor
Mean	.5122951	.4512195	.4109347	.5294118
Std. Dev.	.5003617	.500677	.4924379	.4993382
N	488	82	567	1224
Wilcoxon rank-sum Test of Cash Payment	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Low Tier
P-Value	0.3065	0.4894	0.0010***	0.0000***
Panel B	Stock Exchange controlling top tier advisor	Stock Exchange controlling median tier advisor	Stock Exchange controlling low tier advisor	Stock Exchange controlling inhouse advisor
Mean	.352459	.4634146	.4973545	.2565359
Std. Dev.	.4782262	.5017284	.5004345	.4368995
N	488	82	567	1224
Wilcoxon rank-sum Test of Stock Exchange	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Top Tier
P-Value	0.0542	0.5659	0.0000***	0.0001***

Table 4.4 Results of Wilcoxon rank-sum tests of announcement timing controlling the employment of different levels of financial advisors.

DNH, the nearness of the announcement date to the date of the 52-week high, is calculated as a percentage of "Number of workdays since 52-week high to date of announcement/254". DNL, the nearness of the announcement date to the date of the 52-week low, is calculated as a percentage of "Number of workdays since 52-week low to date of announcement/254". Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking in the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	DNH controlling top tier advisor	DNH controlling median tier advisor	DNH controlling low tier advisor	DNH controlling inhouse advisor
Mean	.4135754	.4240359	.4484935	.4716365
Std. Dev.	.3555153	.3677625	.3516664	.3514043
N	457	78	535	1111
Wilcoxon rank-sum Test of Nearness to	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Top Tier
P-Value	0.6348	0.6676	0.1128	0.0014**
Panel B	DNL controlling top tier advisor	DNL controlling median tier advisor	DNL controlling low tier advisor	DNL controlling inhouse advisor
Mean	.5654991	.6025641	.5382736	.5168281
Std. Dev.	.3353089	.3379751	.3473114	.361775
N	457	78	535	1111
Wilcoxon rank-sum Test of Nearness to Low Date	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Top Tier
P-Value	0.3769	0.1454	0.2501	0.0044**

Table 4.5 Results of Wilcoxon rank-sum tests of being a timer/signaller controlling the employment of different levels of financial advisors.

Signallers, which announce pure cash acquisitions a certain number of days away from the 52-week peak as a percentage of 254 (20% in this table), the average number of trading days, receive the value of 1, 0 otherwise. Timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week peak as a percentage of 254 (20% in this table), the average number of trading days, receive the value of 1, 0 otherwise. Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking among the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	Signaler (20%) Controlling Top Tier	Signaler (20%) Controlling Median Tier	Signaler (20%) Controlling Low Tier	Signaler (20%) Controlling In-house
Mean	.182377	.195122	.1322751	.1521562
Std. Dev.	.3865512	.3987333	.3371627	.3593185
N	488	82	567	1229
Wilcoxon rank-sum Test of Bidder Being Signaler (20%)	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Top Tier
P-Value	0.8180	0.1258	0.0201*	0.1012
Panel B	Timer (20%) - Top Tier	Timer (20%) - Median Tier	Timer (20%) - Low Tier	Timer (20%) - In-house
Mean	.1454918	.1585366	.1781305	.0781123
Std. Dev.	.3529578	.3674911	.3829604	.2684574
N	488	82	567	1229
Wilcoxon rank-sum Test of Bidder Being Timer (20%)	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Top Tier
P-Value	0.7580	0.6632	0.1526	0.0000***

Table 4.6 Results of Wilcoxon rank-sum tests of being anti-signaller/anti-timer controlling the employment of different levels of financial advisors.

Anti-signallers, which announce pure cash acquisitions a certain number of days away from the 52-week low as a percentage of 254 (20% in this table), the average number of trading days, receive the value of 1, 0 otherwise. Anti-timers, which announce pure stock exchange acquisitions a certain number of days away from the 52-week low as a percentage of 254 (20% in this table), the average number of trading days, receive the value of 1, 0 otherwise. Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking among the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	Anti-Signaler (20%) Controlling Top Tier	Anti-Signaler (20%) Controlling Median Tier	Anti-Signaler (20%) Controlling Low Tier	Anti-Signaler (20%) Controlling In-house
Mean	.0983607	.0609756	.0828924	.1554109
Std. Dev.	.2981073	.2407581	.275963	.3624434
N	488	82	567	1229
Wilcoxon rank-sum Test of Bidder Being Anti-Signaler (20%)	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Top Tier
P-Value	0.2812	0.4948	0.3817	0.0021**
Panel B	Anti-Timer (20%) -Top Tier	Anti-Timer (20%) -Median Tier	Anti-Timer (20%) -Low Tier	Anti-Timer (20%) -In-house
Mean	.0737705	.097561	.1269841	.0691619
Std. Dev.	.2616653	.2985461	.3332492	.2538326
N	488	82	567	1229
Wilcoxon rank-sum Test of Bidder Being Anti- Timer (20%)	Top Tier = Median Tier	Median Tier = Low Tier	Low Tier = Top Tier	In-house = Top Tier
P-Value	0.4555	0.4491	0.0045**	0.7365

Table 4.7 Results of Wilcoxon rank-sum tests of advisor fees controlling the employment of different levels of financial advisors.

Advisor_fee is total fees acquired in millions. Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking among the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	Top Tier advisor Fee	Median Tier advisor Fee	Low Tier advisor Fee
Mean	7.918826	2.537885	1.94297
Std. Dev.	10.71035	3.600012	4.400913
Min.	0.25	0.075	0.015
Max.	57	16.25	52
N	115	26	235
Wilcoxon rank-sum Test of Advisor Fee	Top Tier - Median Tier	Median Tier - Low Tier	Low Tier - Top Tier
P-Value	0.0002***	0.1924	0.0000***

Table 4.8 Results of the correlation between the advisor fees and short- and long-term returns.

Advisor_fee, is total fees acquired in millions. CAR is the 5-day CAR from CRSP centred on the announcement date from Thomson; BHAR12/36/60 is 12-, 36- and 60-month BHARs from CRSP.

	Advisor_fee	CAR	BHAR12	BHAR36	BHAR60
Advisor_fee	1.0000				
CAR	-0.1434	1.0000			
BHAR12	-0.1226	-0.0069	1.0000		
BHAR36	-0.0586	0.0627	0.2954	1.0000	
BHAR60	-0.0518	0.0672	0.1849	0.8885	1.0000

Table 4.9 Results of probit regressions for the completed M&A on adviser ranks as well as other variables.

The dependant variable "Completed" is equal to 1 given a deal is completed, and 0 otherwise. The vector of explanatory variables includes a dummy variable for diversifying deals take the value of 1 when the acquirer's two-digit SIC code is different from that of the target's, and 0 otherwise. Hostile deals as attitude take the value of 1, and 0 friendly. Payment takes 1 if the deal is completed by pure stock exchange, 0 by cash only. Int_fund deals take the value of 1 when the acquiring company financed the transaction in some portion with its own internal resources, and 0 otherwise. DNH/DNL is the percentage of the days of the announcement date away from the date of 52-week peak/low to the average trading days of 254. The larger of DNH means further away of the announcement from the 52-week peak date while the smaller of DNL means closer of the announcement from the date of 52-week low. Toptier are advisors that represent top-8 investment banks according to the value of deals on which they advised for a sample of M&A transactions targeting U.S. firms during the period January 1, 1996 to December 31, 2009 drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking the top 9-25 investments banks while the remainders are lowtier advisors. In-house deals are transactions with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	(1)	(2)	(3)	(4)
	Completed	Completed	Completed	Completed
Diversifying	0.232**	0.231**	0.202*	0.170*
	(0.0826)	(0.0823)	(0.0830)	(0.0843)
Attitude	-2.393***	-2.369***	-2.441***	-2.466***
	(0.248)	(0.246)	(0.249)	(0.253)
Payment	-0.398***	-0.410***	-0.447***	-0.444***
	(0.0878)	(0.0875)	(0.0884)	(0.0893)
Int_fund	0.460**	0.486**	0.460**	0.362*
	(0.160)	(0.159)	(0.159)	(0.161)
DNH	-0.323**	-0.336**	-0.339**	-0.315**
	(0.113)	(0.112)	(0.113)	(0.114)
Toptier	0.294**			
	(0.0973)			
Mediantier		0.223		
		(0.200)		
Lowtier			0.389***	
			(0.0901)	
Inhouse				-0.594***
				(0.0822)
_cons	1.003***	1.072***	1.012***	1.396***
	(0.104)	(0.101)	(0.102)	(0.113)
N	1412	1412	1412	1412
Pseudo R^2	0.1206	0.1151	0.1274	0.1501

Panel B	(1)	(2)	(3)	(4)
	Completed	Completed	Completed	Completed
Completed				
Diversifying	0.231**	0.231**	0.202*	0.170*
	(0.0825)	(0.0822)	(0.0829)	(0.0842)
Attitude	-2.373***	-2.348***	-2.421***	-2.448***
	(0.247)	(0.245)	(0.248)	(0.253)
Payment	-0.381***	-0.393***	-0.429***	-0.428***
	(0.0878)	(0.0875)	(0.0884)	(0.0893)
Int_fund	0.456**	0.486**	0.459**	0.358*
	(0.159)	(0.158)	(0.159)	(0.160)
DNL	0.236*	0.239*	0.248*	0.230*
	(0.114)	(0.113)	(0.114)	(0.115)
Toptier	0.301**			
	(0.0971)			
Mediantier		0.209		
		(0.200)		
Lowtier			0.390***	
			(0.0900)	
Inhouse				-0.597***
				(0.0821)
_cons	0.720***	0.782***	0.716***	1.124***
	(0.105)	(0.103)	(0.104)	(0.115)
N	1412	1412	1412	1412
Pseudo R^2	0.1180	0.1120	0.1244	0.1476

Table 4.10 Results of regression for cumulative abnormal return on advisor rankings, controlling for payment method, timing effects and other variables.

The dependent variable CAR is the 5-day CAR from CRSP centred on the announcement date from Thomson. The vector of the explanatory variables includes a dummy variable for diversifying deals, which takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. Attitude takes the value of 1 if the deal is hostile, and 0 if friendly. Payment takes the value of 1 if the deal is completed by pure stock exchange, 0 if it is completed by only cash. Int_fund deals take the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources and 0 otherwise. DNH/DNL is the percentage of days the announcement date is from the date of the 52-week peak/low to the average number of trading days, 254. A larger DNH indicates that the announcement is further from the 52-week peak date, while a smaller DNL indicates that the announcement is closer to the 52-week low date. Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking among the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	(1)	(2)	(3)	(4)
	CAR	CAR	CAR	CAR
Diversifying	0.00500	0.00494	0.00673	0.00653
	(0.00684)	(0.00684)	(0.00687)	(0.00688)
Attitude	0.00524	0.00649	0.00650	0.00523
	(0.0177)	(0.0177)	(0.0177)	(0.0177)
Payment	-0.0330***	-0.0329***	-0.0313***	-0.0323***
	(0.00715)	(0.00713)	(0.00715)	(0.00713)
Int_fund	0.00944	0.00886	0.0103	0.0117
	(0.0106)	(0.0106)	(0.0106)	(0.0107)
DNH	0.0198*	0.0200*	0.0200*	0.0193*
	(0.00926)	(0.00924)	(0.00923)	(0.00924)
Toptier	-0.00265			
	(0.00750)			
Mediantier		0.0247		
		(0.0154)		
Lowtier			-0.0170*	
			(0.00698)	
Inhouse				0.0135*
				(0.00681)
_cons	-0.00565	-0.00748	-0.00301	-0.0127
	(0.00836)	(0.00809)	(0.00818)	(0.00866)
N	1371	1371	1371	1371
R^2	0.025	0.027	0.029	0.028
adj. R^2	0.021	0.023	0.025	0.024

Panel B	(1)	(2)	(3)	(4)
	CAR	CAR	CAR	CAR
Diversifying	0.00531	0.00526	0.00706	0.00689
	(0.00685)	(0.00684)	(0.00687)	(0.00688)
Attitude	0.00401	0.00529	0.00527	0.00401
	(0.0177)	(0.0177)	(0.0177)	(0.0177)
Payment	-0.0342***	-0.0342***	-0.0325***	-0.0335***
	(0.00716)	(0.00714)	(0.00716)	(0.00715)
Int_fund	0.00956	0.00892	0.0104	0.0118
	(0.0106)	(0.0106)	(0.0106)	(0.0107)
DNL	-0.0221*	-0.0226*	-0.0224*	-0.0219*
	(0.00938)	(0.00938)	(0.00936)	(0.00937)
Toptier	-0.00312			
	(0.00749)			
Mediantier		0.0258		
		(0.0154)		
Lowtier			-0.0171*	
			(0.00698)	
Inhouse				0.0138*
				(0.00680)
_cons	0.0158	0.0141	0.0186*	0.00810
	(0.00879)	(0.00858)	(0.00868)	(0.00920)
N	1371	1371	1371	1371
R^2	0.026	0.028	0.030	0.029
adj. R^2	0.022	0.023	0.026	0.024

Table 4.11 Results of regression for 12-month buy-and-hold abnormal return on advisor rankings, controlling for payment methods, timing effects and other variables.

The dependent variable BHAR 12 is 12-month BHARs from CRSP. The vector of the explanatory variables includes a dummy variable for diversifying deals, which takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. Attitude takes the value of 1 if the deal is hostile, and 0 if friendly. Payment takes the value of 1 if the deal is completed by pure stock exchange, 0 if it is completed by only cash. Int_fund deals take the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources and 0 otherwise. DNH/DNL is the percentage of days the announcement date is from the date of the 52-week peak/low to the average number of trading days, 254. A larger DNH indicates that the announcement is further from the 52-week peak date, while a smaller DNL indicates that the announcement is closer to the 52-week low date. Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking among the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

Panel A	(1)	(2)	(3)	(4)
	BHAR12	BHAR12	BHAR12	BHAR12
Diversifying	0.0413	0.0411	0.0441	0.0402
	(0.0267)	(0.0267)	(0.0269)	(0.0268)
Attitude	-0.131	-0.131	-0.130	-0.132
	(0.0683)	(0.0684)	(0.0684)	(0.0684)
Payment	-0.186***	-0.188***	-0.185***	-0.188***
	(0.0280)	(0.0280)	(0.0281)	(0.0280)
Int_fund	-0.0754	-0.0729	-0.0701	-0.0743
	(0.0412)	(0.0412)	(0.0413)	(0.0415)
DNH	0.0916*	0.0902*	0.0907*	0.0903*
	(0.0365)	(0.0366)	(0.0365)	(0.0366)
Toptier	0.0417			
	(0.0293)			
Mediantier		0.0125		
		(0.0621)		
Lowtier			-0.0291	
			(0.0275)	
Inhouse				-0.00937
				(0.0266)
_cons	-0.193***	-0.181***	-0.175***	-0.176***
	(0.0323)	(0.0313)	(0.0315)	(0.0335)
N	1241	1241	1241	1241
R^2	0.043	0.042	0.043	0.042
adj. R^2	0.039	0.037	0.038	0.037
Panel B	(1)	(2)	(3)	(4)

	BHAR12	BHAR12	BHAR12	BHAR12
Diversifying	0.0389	0.0388	0.0417	0.0380
	(0.0268)	(0.0268)	(0.0270)	(0.0269)
Attitude	-0.130	-0.130	-0.129	-0.131
	(0.0685)	(0.0687)	(0.0686)	(0.0686)
Payment	-0.186***	-0.189***	-0.186***	-0.189***
	(0.0282)	(0.0281)	(0.0283)	(0.0282)
Int_fund	-0.0738	-0.0714	-0.0688	-0.0727
	(0.0413)	(0.0413)	(0.0414)	(0.0416)
DNL	0.00870	0.00863	0.00820	0.00882
	(0.0370)	(0.0371)	(0.0370)	(0.0371)
Toptier	0.0395			
	(0.0294)			
Mediantier		0.00889		
		(0.0623)		
Lowtier			-0.0278	
			(0.0276)	
Inhouse				-0.00818
				(0.0267)
_cons	-0.156***	-0.145***	-0.139***	-0.141***
	(0.0345)	(0.0337)	(0.0341)	(0.0360)
N	1241	1241	1241	1241
R^2	0.038	0.037	0.038	0.037
adj. R^2	0.034	0.032	0.033	0.032

Table 4.12 Results of regression for 36-month buy-and-hold abnormal return on advisor rankings, controlling for payment methods, timing effects and other variables.

The dependent variable BHAR 36 is 36-month BHARs from CRSP. The vector of the explanatory variables includes a dummy variable for diversifying deals, which takes the value of 1 when the acquirer's two-digit SIC code is different from that of the target, and 0 otherwise. Attitude takes the value of 1 if the deal is hostile, and 0 if friendly. Payment takes the value of 1 if the deal is completed by pure stock exchange, 0 if it is completed by only cash. Int_fund deals take the value of 1 when the acquiring company finances the transaction in some portion with its own internal resources and 0 otherwise. DNH/DNL is the percentage of days the announcement date is from the date of the 52-week peak/low to the average number of trading days, 254. A larger DNH indicates that the announcement is further from the 52-week peak date, while a smaller DNL indicates that the announcement is closer to the 52-week low date. Toptier are advisors that represent the top 8 investment banks according to the value of the deals on which they advised for a sample of M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Mediantier are advisors ranking among the top 9-25 investment banks, while the remainder are low-tier advisors. In-house deals are transactions with no financial advisor involved. Standard errors are in parentheses. Significance levels at 0.1%, 1% and 5% are represented by ***,**, and *, respectively.

	(1) BHAR36	(2) BHAR36	(3) BHAR36	(4) BHAR36
Diversifying	0.0703	0.0699	0.0811	0.0695
	(0.0485)	(0.0486)	(0.0488)	(0.0488)
Attitude	-0.0595	-0.0545	-0.0567	-0.0589
	(0.116)	(0.116)	(0.116)	(0.116)
Payment	-0.301***	-0.303***	-0.294***	-0.304***
	(0.0515)	(0.0516)	(0.0517)	(0.0516)
Int_fund	-0.180*	-0.179*	-0.165*	-0.178*
	(0.0756)	(0.0758)	(0.0758)	(0.0761)
DNH	0.200**	0.198**	0.202**	0.197**
	(0.0674)	(0.0675)	(0.0673)	(0.0675)
Toptier	0.101			
	(0.0529)			
Mediantier		0.0862		
		(0.116)		
Lowtier			-0.112*	
			(0.0514)	
Inhouse				-0.0000602
				(0.0492)
_cons	-0.538***	-0.513***	-0.489***	-0.508***
	(0.0595)	(0.0577)	(0.0579)	(0.0619)
N	922	922	922	922
R^2	0.051	0.048	0.053	0.048
adj. R^2	0.045	0.042	0.046	0.041

Panel B	(1)	(2)	(3)	(4)
	BHAR36	BHAR36	BHAR36	BHAR36
Diversifying	0.0773	0.0772	0.0886	0.0766
	(0.0486)	(0.0486)	(0.0488)	(0.0489)
Attitude	-0.0764	-0.0705	-0.0740	-0.0758
	(0.116)	(0.116)	(0.116)	(0.116)
Payment	-0.316***	-0.318***	-0.309***	-0.319***
	(0.0515)	(0.0516)	(0.0517)	(0.0517)
Int_fund	-0.182*	-0.181*	-0.167*	-0.179*
	(0.0756)	(0.0757)	(0.0758)	(0.0761)
DNL	-0.209**	-0.214**	-0.216**	-0.209**
	(0.0677)	(0.0680)	(0.0678)	(0.0679)
Toptier	0.0969			
	(0.0529)			
Mediantier		0.109		
		(0.116)		
Lowtier			-0.114*	
			(0.0513)	
Inhouse				0.000884
				(0.0491)
_cons	-0.330***	-0.305***	-0.277***	-0.303***
	(0.0627)	(0.0610)	(0.0618)	(0.0650)
N	922	922	922	922
R^2	0.052	0.050	0.054	0.049
adj. R^2	0.046	0.043	0.048	0.042

Chapter 5: Conclusion

5.1 Summary of Findings

The study examines whether the bidder 52-week high/low dates have reference point effects on M&A and discusses how the other most straightforward elements, such as payment method and the choice of financial advisor, impact the deals under the influence of the reference points. Clarifying the answers would help businesses wisely invest in M&A. The thesis argues that the bidder 52-week high/low dates do act as effective reference points in M&A. Second, M&A near the 52-week low date could even bring better results in terms of cumulative abnormal return (CAR) and buy-and-hold abnormal return (BHAR) for the acquirers (less reversal). Moreover, the reference point effects are discovered as even more significant than the choice of a top-tier advisor.

The first part of the thesis focuses on how the acquirer's 52-week high and low prices and dates affect the completeness and the performance of the acquirers in M&A. Endogeneity is discussed, and the thesis eventually shows that the dates of the bidder 52-week high/low do have reference point effects on M&A.

Taking both the payment methods and M&A announcement timing into consideration, the second part of the thesis compares the contradictive market timing effects and signalling effects in M&A and ranks the different categories of acquirers by performance. The comparison documents anti-signallers as winners in terms of both short- and long-term performances.

The third part of the thesis discusses how the choice of financial advisor affects bidders in M&A under the influence of payment method and the psychological reference points of the 52-week high and low. It turns out that even the contribution from top-tier advisors is simply not as significant as the payment method and announcement timing.

Specifically, in the first part of the thesis, bids announced closer to the acquirer's 52-week high price or date indicate significantly higher probability of deal completion, while bids announced closer to the acquirer's 52-week low date either have no impact on deal completion, for cash deals, or are significantly associated with deal failure, for stock deals.

Announcement of M&A with the bidder stock price near the 52-week peak is associated with higher bidder CAR (with endogeneity problem). When the instrumental variable is used to measure the deal timing, the further the announcement is from the 52-week high date (the closer the announcement is to the 52-week low date), the higher CAR and BHARs are. The results indicate that peak announcing bidders with fluctuating stock prices seem to have better speculative opportunities in the short term, although their short-term performance will be reversed in the long term.

According to the existent reference point theory, the proximity of announcement to the 52-week high stock price of the target proportionally influences the offer prices and positively affects the probability of deal success. In comparison, this study provides another perspective to complement the reference theory, whereby bidder announcement timing has an important effect on the completeness and performance of the M&A transaction. Therefore, we can further document the dates of the bidder 52-week high and 52-week low as psychological anchors in completing M&A.

The second part of the thesis presents more specific findings. In the short term, being a market timer, a bidder has a significantly negative CAR, which is not consistent with the traditional market timing theory. The result shows that the market takes a bidder announcement date close to the peak as a negative signal in the transaction. In the long term, market timers' performance reverses the most; thus, the theory is not applicable.

For the signaller, announcing a cash deal at or near the 52-week high date entails a positive CAR, which is in line with the signalling theory. In the long term, however, similarly to the market timers, signallers' performance also reverses, but the reversal is significantly less severe than the reversal experienced by market timers.

Anti-timers and anti-signallers have better and more stable performance than timers and signallers, respectively. They also experience significantly less reversal than market timers and signallers.

Among the four categories of market players, anti-signallers have the best CAR and BHARs, while the timers have the worst CAR and BHARs.

In addition, under the influence of the proximity of announcement to the 52-week low, anti-signallers and anti-timers lose the least in M&A, and the "psychological reference point" established from the perspective of the acquiring firms can be reaffirmed.

In the third part of the thesis, the empirical findings suggest that in-house acquirers and bidders hiring top-tier advisors are most likely to use cash to conduct M&A transactions, while low-tier advisors are more inclined to perform stock exchange deals. Acquirers with top-tier advisors frequently announce the transaction near the date of the 52-week peak, while oppositely, in-house bidders announce the deals closer to the date of the 52-week low. Both signallers and timers are more willing to employ top-tier advisors, while anti-signallers and anti-timers tend to be lower profiled in terms of financial advisor, preferring in-house transactions and hiring low-tier advisors, respectively.

Top tiers advisors charge significantly more but do not guarantee better short-term or long-term performance, while low-tier advisors charge remarkably less, but accordingly, they provide acquirers with negative CARs and BHARs. Bidders who conduct in-house deals are more likely to give up the intended acquisitions due to their limited know-

how and experience in the field. Because neither the top-tier nor the median-tier advisors signify better performance, taking advisor fees into consideration, median-tier advisors are more cost effective in M&A.

Compared to the effects of the employment of financial advisors of different tiers in M&A, both the payment method and the proximity of the deal timing to the 52-week high and low play significantly more important roles in the deal completion and bidder performance, and the bidder's 52-week high and low as reference points are reaffirmed.

5.2 Research Contributions

This thesis provides a bidder perspective to complement the reference theory from the target point of view, whereby bidder announcement timing has an important effect on the completeness and performance of the M&A transaction. The dates of the bidder 52-week high and low are newly established as psychological anchors in completing M&A.

This thesis considers the announcement timing to measure the intensity of the market timing and market-signalling effects and justify the contradictive theories. Sub-sample bidders are divided into signallers, timers, anti-signallers and anti-timers. Their performances are compared, and anti-signallers are found to be the winners. The results will help investors use the correct investment theories and help acquirers correctly predict the market reaction to their acquisition plan.

This thesis clarifies how different tiers of financial advisors are connected to payment method and announcement timing of M&A. It discloses that payment method and announcement timing have greater influence on bidder performance than do financial advisors. To achieve cost effectiveness, bidders are suggested to employ median-tier financial advisors in practice when engaging in M&A.

5.3 Research Limitations and Further Research Areas

The thesis conducts various regressions to study the correlation among deal completion, bidder performance, announcement timing and other variables. Most of the coefficients of determination are relatively low, which means that a very limited amount of the variation in deal completeness and bidder performance can be explained by the payment method and announcement timing, although both payment method and announcement timing are found to be the most significant variables affecting the dependent variables.

Instead of combined synergies, the thesis takes only the bidder performance into consideration, which might lead to bias on the overall effectiveness and efficiency of the research methodology. To measure advisor reputation, the thesis ranks financial advisors according to the value of the deals on which they advised for M&A transactions targeting US firms during the period January 1, 1996, to December 31, 2009, drawn from the Thomson Financial SDC Mergers and Acquisitions Database. Although the 2000 dot-com bubble and 2008 subprime mortgage crisis significantly influenced the landscape of the finance industry during this period, the period is still inconsistent with that considered in the overall sample, which included the years 1985 to 2015, and might imply inaccurate estimates of advisor performance.

Because the long-term gains of all acquirers are reversed, is it in vain to conduct M&A at all? What are the most important factors affecting long-term success? The reasons for this phenomenon are not yet understood. Future research could seek to determine how to achieve long-term synergies instead of short-term market reactions. Identifying these factors would facilitate the efficiency of resource allocation in M&A transactions.

References

Allen, F. (1984). Reputation and product quality. Rand Journal of Economics, 15(3), 311-327.

Allen, L., Jagtiani, J., Peristiani S., & Saunders, A. (2004). The role of bank advisors in mergers and acquisitions. Journal of Money, Credit&Banking 36,197-224.

Amihud, Y., Lev, B. and Travlos, N. G. (1990). Corporate-Control and the Choice of Investment Financing - the Case of Corporate Acquisitions, Journal of Finance, 45(2), 603-616.

Ang, J. and Cheng, Y. (2006). Direct Evidence on the Market-Driven Acquisition Theory. The Journal of Financial Research, 29, 199-216.

Ang, J. and Kohers, N. (2001). The take-over market for privately held companies: the US experience. Cambridge Journal of Economics, 25, 723-748.

Antonios Antoniou, Jie (Michael) Guo, & Dimitris Petmezas. (2008). Merger momentum and market valuations: the uk evidence. Applied Financial Economics, 18(17), 1411-1423.

Asquith, P. (1983). Merger bids, uncertainty, and stockholder returns ☆. Journal of Financial Economics, 11(1), 51-83.

Bae, S. C., Kwon, T. H., & Lee, J. W. (2011). Does corporate diversification by business groups create value? evidence from korean chaebols ☆. Pacific-Basin Finance Journal, 19(5), 535-553.

Baker, M., & Wurgler, J. (2002). Market timing and capital structure. Journal of Finance, 57(1), 1-32.

Baker, M. P., Pan, X., & Wurgler, J. (2009). A reference point theory of mergers and acquisitions. Social Science Electronic Publishing.

Bao, J., and Edmans, A. (2011). Do investment banks matter for M&A returns? Review of Financial Studies 24, 2286-2315.

Barry, C. B., Muscarella, C. J., & Vetsuypens, M. R. (1991). Underwriter warrants, underwriter compensation, and the costs of going public ☆. Journal of Financial Economics, 29(1), 113-135.

Bell, D. E. (1982). Regret in Decision Making under Uncertainty. INFORMS.

Bie, T. D., & Haan, L. D. (2007). Market timing and capital structure: evidence for dutch firms. De Economist, 155(2), 183-206.

Billett, M. T., & Qian, Y. (2008). Are overconfident ceos born or made? evidence of self-attribution bias from frequent acquirers. Management Science, 54(6), 1037-1051.

Blackburn, V., Dark, F., & Hanson, R. (1997). Mergers, method of payment and returns to manager-and owner-controlled firms. Financial Review, 32, 569-589.

Bodnaruk, A., Massa, M., & Simonov, A. (2009). Investment banks as insiders and the market for corporate control. Review of Financial Studies, 22(12), 4989-5026.

Bondt, W. F. M. D., & Thaler, R. (1985). Does the stock market overreact?. Journal of Finance, 40(3), 793-805.

Booth, J. R. , & Smith, R. I. . (1986). Capital raising, underwriting and the certification hypothesis. Journal of Financial Economics, 15(1-2), 261-281.

Bouwman, C. H. S., Fuller, K., & Nain, A. S. (2009). Market valuation and acquisition quality: empirical evidence. Review of Financial Studies, 22(2), 633-679.

Bowers, H. M., & Miller, R. E. (1990). Choice of investment banker and shareholders' wealth of firms involved in acquisitions. Financial Management, 19(4), 34-44.

Bradley, M. H., & Sundaram, A. K. (2004). Do acquisitions drive performance or does performance drive acquisitions?. Ssrn Electronic Journal.

Bradley, M. (1980). Interfirm tender offers and the market for corporate control. Journal of Business, 53(4), 345-376.

Bradley, M., Desai, A., & Kim, E. H. (1988). Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms ☆. Journal of Financial Economics, 21(1), 3-40.

Cahan, B. R. M. R. M. (2005). Is the 52-week high momentum strategy profitable outside the us?. Applied Financial Economics, 15(18), 1259-1267.

Campa, J. M., & S. Kedia, (2002). Explaining the diversification discount, Journal of Finance 57, 1731-1762.

Carleton, W. T., Guilkey, D. K., Harris, R. S. & Stewart, J. F. (1983). An Empirical-Analysis of the Role of the Medium of Exchange in Mergers, Journal of Finance, 38, 813-826.

Carter, R. , & Manaster, S. . (1990). Initial public offerings and underwriter reputation. The Journal of Finance, 45(4), 1045.

Chang, S. Y. (1998). Takeovers of privately held targets, methods of payment, and bidder returns, Journal of Finance, 53, 773-784.

Chang, X., Shekhar, C., Tam, L., & Zhu, A. (2008). Prior relationship, industry expertise, information leakage, and the choice of m&a advisor. Social Science Electronic Publishing.

Chemmanur, T. J., & Fulghieri, P. (1994). Investment bank reputation, information production, and financial intermediation. Journal of Finance, 49(1), 57-79.

Coase, R.H. (1937). The nature of the firm. Economica, 4, 386-405.

Cooper, R. N., & Shiller, R. J. (2015). Irrational exuberance. American Theatre, 38(3), 49-64.

Daniel, K., Hirshleifer, D., & Subrahmanyam, A. (1998). Investor psychology and security market under- and overreactions. Journal of Finance, 53(6), 1839-1885.

Daniels, K. N., & Phillips, R. (2006). The valuation impact of financial advisors: an empirical analysis of reit merger and acquisitions. Social Science Electronic Publishing, 29(1), 57-64.

Devos, E., Kadapakkam, P. R., & Krishnamurthy, S. (2009). How do mergers create value? a comparison of taxes, market power, and efficiency improvements as explanations for synergies. Review of Financial Studies, 22(3), 1179-1211.

Dickey, D., & Pearson, C. (2005). Recency effect in college student course evaluations. Practical Assessment Research & Evaluation.

Dong, M., Hirshleifer, D., Richardson, S. & Teoh, S. H. (2006). Does investor misvaluation drive the takeover market? Journal of Finance, 61, 725-762.

Doukas, J. A. & Kan, O. B. (2004). Excess cash flows and diversification discount. Financial Management, 33, 71-88.

Doukas, J. A. & Petmezas, D. (2010). Acquisitions, overconfident managers and self‐attribution bias. European Financial Management, 13(3), 531-577.

Draper, P. & Paudyal, K. (2006). Acquisitions: Private versus public. European Financial Management, 12, 57-80.

Doukas, J. A. & Travlos, N. G. (1988). The Effect of Corporate Multinationalism on Shareholders Wealth - Evidence from International Acquisitions. Journal of Finance, 43, 1161-1175.

Drucker, S., & Puri, M. (2010). On the benefits of concurrent lending and underwriting. Journal of Finance, 60(6), 2763-2799.

Du, D., (2008). The 52-week high and momentum investing in international stock indexes. Quarterly Review of Economics and Finance 48, 61-77.

Dunbar, C. G. (1995). The use of warrants as underwriter compensation in initial public offerings. Journal of Financial Economics, 38(1), 59-78.

Eisenhardt, K. M. (2004). The seller's side of the story: acquisition as courtship and governance as syndicate in entrepreneurial firms. Administrative Science Quarterly, 49(3), 366-403.

Elliott, W. B., Koëter-Kant, J., & Warr, R. S. (2007). A valuation-based test of market timing ☆. Journal of Corporate Finance, 13(1), 112-128.

Ertugrul, M., & Krishnan, K. (2008). Advisor skill and acquisition performance: do investment bankers make a difference?. Social Science Electronic Publishing.

E. Vagenas-Nanos. (2012) The benefits of market timing: evidence from mergers and acquisitions, Working Paper, University of Glasgow. [online]. Available at: http://www.efmaefm.org/0EFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2012-Barcelona/papers/EFMA2012_0349_fullpaper.pdf. [Accessed 30 June 2015].

Faccio, M. & Masulis, R. W. (2005). The choice of payment method in European mergers and acquisitions. Journal of Finance, 60, 1345-1388.

Faccio, M., Mcconnell, J. J., & Stolin, D. (2006). Returns to acquirers of listed and unlisted targets. Journal of Financial & Quantitative Analysis, 41(1), 197-220.

Fama, E. F. . (1965). Random walks in stock market prices. Financial Analysts Journal, 21(5), 55-59.

Fang, L. H. (2005). Investment bank reputation and the price and quality of underwriting services. Journal of Finance, 60(6), 2729-2761.

Fishman, M. (1989). Preemptive bidding and the role of the medium of exchange in acquisition. Journal of Finance, 44, 41-57.

Fuller, K., Netter, J. & Stegemoller, M. (2002). What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. Journal of Finance, 57, 1763-1793.

Gande, A., Puri, M., & Saunders, A. (1999). Bank entry, competition, and the market for corporate securities underwriting ☆. Journal of Financial Economics, 54(2), 165-195.

Gande, A., Puri, M., Saunders, A., & Walter, I. (1997). Bank underwriting of debt securities: modern evidence. Review of Financial Studies, 10(4), 1175-1202.

George, T. J., & Hwang, C. Y. (2010). The 52-week high and momentum investing. Journal of Finance, 59(5), 2145-2176.

Golubov, A., Petmezas, D., & Travlos, N. G. (2012). When it pays to pay your investment banker: new evidence on the role of financial advisors in m&as. Journal of Finance, 67(1), 271-311.

Graebner, M.E., & Eisenhardt, K.M. (2004). The seller's side of the story:Acquisition as courtship and governance as syndicate in enterpreneurial firms. Administrative Science Quarterly, 49, 366-403.

Graebner M E. (2009). Caveat vendor: Trust Asymmetries in Acquisitions of Enterpreneurial firms. Academy of Management Journal, 52(3), 435-472.

Greenwald, A. (1980). The Totalitarian Ego. Fabrication and Revision of Personal History, American Psychologist, 35, 603-618.

Grinblatt, M., & Han, B. (2005). Prospect theory, mental accounting, and momentum ☆. Social Science Electronic Publishing, 78(2), 311-339.

Gruber,M.J. (1996). Another puzzle: the growth in actively managed mutual funds. Journal of Finance 51, 783-810.

Grullon, G., Michaely, R. & Swary, I. (2003). Capital adequacy, bank mergers, and the medium of payment. Journal of Business Finance and Accounting, 24, 97-124

Guo, (Jie) Michael & Petmezas, Dimitris (2012). What are the Causes and Effects of the M&A? The UK Evidence, Multinational Finance 16 (1-2), 21-47.

Hansen, R. G. & Lott, J. R. (1996). Externalities and corporate objectives in a world with diversified shareholder consumers. Journal of Financial and Quantitative Analysis, 31, 43-68.

Harackiewicz, J. M., Sansone, C. & Manderlink, G. (1985), Competence, Achievement Orientation, and Intrinsic Motivation - a Process Analysis. Journal of Personality and Social Psychology, 48, 493-508.

Harford, J. (1999). Corporate cash reserves and acquisitions. Journal of Finance 54, 1969-1997.

Harford, J. (2005). What Drives merger Waves?, Journal of Financial Economics, 77, 529-560.

Hartzell, J. C., Ofek, E., & Yermack, D. (2004). What's in it for me? ceos whose firms are acquired. Review of Financial Studies, 17(1), 37-61.

Hayes, S. (1971). Investment banking, power structure in flux. Harvard Business Review, 49, 136-152.

Heckman, J. J. (1979). Sample selection bias as a specification error. Econometrica, 47(1), 153-161.

Hoberg, G., & Phillips, G. (2008). Product market synergies and competition in mergers and acquisitions: a text-based analysis. Social Science Electronic Publishing, 23(10), 3773-3811.

Houston, J. F., James, C. M., & Ryngaert, M. D. (2001). Where do merger gains come from? bank mergers from the perspective of insiders and outsiders ☆. Journal of Financial Economics, 60(2), 285-331.

Hunter, W. C., & Jagtiani, J. (2004). An analysis of advisor choice, fees, and effort in mergers and acquisitions. Review of Financial Economics, 12(1), 65-81.

Ismail, A. (2010). Are good financial advisors really good? the performance of investment banks in the m&a market. Review of Quantitative Finance & Accounting, 35(4), 411-429.

Jarrell, G. & Poulsen, A. (1989). The Returns to Acquiring Firms in Tender Offers: Evidence from Three Decades. Financial Management 18, 12-19.

Jegadeesh, N. and Titman, S. (1993) Returns to buying winners and selling losers: Implications for stock market efficiency. Journal of Finance, 48, 65- 91.

Jensen, M. C. (1999). Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review, 76(2), 323-329.

Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control ☆ : the

scientific evidence. Journal of Financial Economics, 11(1－4), 5-50.

Jiang, G., Lee, C. M. C., & Zhang, Y. (2005). Information uncertainty and expected returns. Review of Accounting Studies, 10(2-3), 185-221.

Jovanovic, B., and P. L. Rousseau, (2001). Why Wait? A Century of Life Before IPO. American Economic Review, Vol.91, No. 2, 336-341.

Kale, J. R., Kini, O., & Ryan, H. E. (2003). Financial advisors and shareholder wealth gains in corporate takeovers. Journal of Financial & Quantitative Analysis, 38(3), 475-501.

Kaustia, M., Alho, E., & Puttonen, V. (2008). How much does expertise reduce behavioral biases? the case of anchoring effects in stock return estimates. Financial Management, 37(3), 391-411.

Khan, A. M. (1986). Conformity with large speculators: a test of efficiency in the grain futures market. Atlantic Economic Journal, 14(3), 51-55.

Klein, B., & Leffler, K. B. (2000). The role of market forces in assuring contractual performance. Journal of Political Economy, 89(4), 615-641.

Kliger, D., & Kudryavtsev, A. (2008). Reference point formation by market investors. Journal of Banking & Finance, 32(9), 1782-1794.

Kolasinski, A. C., & Kothari, S. P. (2004). Investment banking and analyst objectivity: evidence from analysts affiliated with m&a advisors. Social Science Electronic Publishing, 43(4), 817-842.

Kreps, D., Milgrom, P., Roberts, J. and Wilson, R. (1982). Rational Cooperation in the Finitely Repeated Prisoners Dilemma. Journal of Economic Theory, 27:245-252.

Lang, L. H. P., Stulz, R., & Walkling, R. A. (2011). A test of the free cash flow hypothesis : the case of bidder returns, ☆. Journal of Financial Economics, 29(2), 315-335.

Lang, L. H. P., Stulz, R., & Walkling, R. A. (2008). Managerial performance, tobin's q, and the gains from successful tender offers ☆. Journal of Financial Economics, 24(1), 137-154.

Lee, L. F. (1978). Unionism and wage rates: a simultaneous equation model with qualitative and limited depended variables. International Economic Review, 19(2), 415-433.

Levicki, P. (1984). Self-schema and social information processing. Journal of Personality and Social Psychology, 47, 1177-1190.

Lewicki, Roy. J. (1984). Lying and deception: A behavioral model. Negotiation in organizations. Edited by M.H. Bazerman and R.J.Lewicki, Beverly Hills, CA: Sage Publications, 68-90.

Li, K., & Prabhala, N. R. (2007). Self-selection models in corporate finance. Social Science Electronic Publishing, 1, 37-86.

Loomes, G. and Sugden, R. (1982). Regret theory: An alternative theory of rational choice under uncertainty. Economic Journal, 92(4), 805-824.

Loughran, T. & Vijh, A. M. (1997). Do long-term shareholders benefit from corporate acquisitions? Journal of Finance, 52, 1765-1790.

Maddala, G. S. (1983). Limited-dependent and qualitative variables in econometrics /. Cambridge University Press.

Mahajan, A., & Tartaroglu, S. (2008). Equity market timing and capital structure: international evidence. Journal of Banking & Finance, 32(5), 754-766.

Malkiel, B. G., & Fama, E. F. (2012). Efficient capital markets: a review of theory and empirical work*. Journal of Finance, 25(2), 383-417.

Malmendier, U., & Tate, G. (2005). Ceo overconfidence and corporate investment. Journal of Finance, 60(6), 2661-2700.

Malmendier, U., & Tate, G. (2010). Does overconfidence affect corporate investment? ceo overconfidence measures revisited. European Financial Management, 11(5), 649-659.

Malmendier, U., & Tate, G. (2008). Who makes acquisitions? ceo overconfidence and the market's reaction ☆. Journal of Financial Economics, 89(1), 20-43.

Maloney, M. T., Mccormick, R. E., & Mitchell, M. L. (1993). Managerial decision making and capital structure. Journal of Business, 66(2), 189-217.

Mann, H.B. and Whitney, D.R. (1947). On a Test of Whether One of Two Random Variables Is Stochastically Larger than the Other. Annals of Mathematical Statistics, 18, 50-60.

Martin, K. (1996). The method of payment in corporate acquisitions, investment opportunities, and management ownership. Journal of Finance, 51, 1227-1246.

Masulis, R. W., & Wang, C. (2007). Corporate governance and acquirer returns. Journal of Finance, 62(4), 1851-1889.

Mclaughlin, R. M. (1992). Does the form of compensation matter?. Journal of Financial Economics, 32(2), 223-260.

Mclaughlin, R. M. (1990). Investment-banking contracts in tender offers : an empirical analysis. Journal of Financial Economics, 28(1), 209-232.

Megginson, W.L. and Weiss, K.A. (1991) Venture Capitalist Certification in Initial Public Offerings. The Journal of Finance, 46, 879-903.

Michel, A., Shaked, I., & Lee, Y. T. (1991). An evaluation of investment banker acquisition advice: the shareholders' perspective. Financial Management, 20(2), 40-49.

Miller, J. R. E. . (1988). Investment banker prestige and the underpricing of initial public offerings. Financial Management, 17(2), 19-29.

Mitchell, M. L., & Lehn, K. (2010). Do bad bidders become good targets?. Journal of Applied Corporate Finance, 3(2), 60-69.

Mitchell, M. L. & Stafford, E. (2000). Managerial decisions and long-term stock price performance. Journal of Business, 73, 287-329.

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2004). Firm size and the gains from acquisitions ☆. Journal of Financial Economics, 73(2), 201-228.

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2007). How do diversity of opinion and information asymmetry affect acquirer returns?. Review of Financial Studies, 20(6), 2047-2078.

Mohrman, A. M., Resnickwest, S. M., & Lawler, E. E. (1989). Designing performance appraisal systems.

Morck, R., Shleifer, A., & Vishny, R. W. (1990). Do managerial objectives drive bad acquisitions?. Journal of Finance, 45(1), 31-48.

Moskowitz, T. J., & Grinblatt, M. (1999). Do industries explain momentum?. Journal of Finance, 54(4), 1249-1290.

Mulherin, J. H., & Boone, A. L. (2000). Comparing acquisitions and divestitures. Social Science Electronic Publishing, 6(2), 117-139.

Murdock Jr.,B.B. (1962). The serial position effect of free recall. Journal of Experimental Psychology 64, 482–488.

Myers, S. C. & Majluf, N. S. (1984). Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. Journal of Financial Economics, 13, 187-221.

Myers, S. C., (2001). Capital Structure. Journal of Economic Perspective15, 81-102.

Odean, T. (1998). Volume, volatility, price, and profit when all traders are above average. Journal of Finance, 53, 1887-1934.

Officer, M. S. (2003). Termination fees in mergers and acquisitions ☆. Journal of Financial Economics, 69(3), 431-467.

Officer, M. S. (2007). The price of corporate liquidity: acquisition discounts for unlisted targets ☆. Journal of Financial Economics, 83(3), 571-598.

Officer, M. S., Poulsen, A. B., & Stegemoller, M. (2009). Target-firm information asymmetry and acquirer returns. Social Science Electronic Publishing, 13(3), 467-493.

Pettway, R. H., & Yamada, T. (1986). Mergers in japan and their impacts upon stockholders' wealth. Financial Management, 15(4), 43-52.

Pollock, T. G., & Gulati, R. (2007). Standing out from the crowd: the visibility-enhancing effects of ipo-related signals on alliance formation by entrepreneurial firms. Strategic Organization, 5(4), 339-372.

Puri, M. (1996). Commercial banks in investment banking conflict of interest or certification role?. Journal of Financial Economics, 40(3), 373-401.

Ragozzino, R., & Reuer, J. J. (2007). Initial public offerings and the acquisition of entrepreneurial firms. Strategic Organization, 5(2), 155-176.

Rau, P. R., & Vermaelen, T. (1996). Glamour, value and the post-acquisition performance of acquiring firms 1. Journal of Financial Economics, 49(2), 223-253.

Rau, P. R. (2004). Investment bank market share, contingent fee payments, and the performance of acquiring firms ☆. Journal of Financial Economics, 56(2), 293-324.

Reuer, J. J., Tong, T. W., Tyler, B. B., & Ariño, A. (2013). Executive preferences for governance modes and exchange partners: an information economics perspective. Strategic Management Journal, 34(9), 1104-1122.

Reuer, J.J., Tong, T. W., & Wu, C. W. (2012). A signaling theory of acquisition premiums: Evidence from IPO targets (J). Academy of Management Journal, 55(3), 667-683.

Rhee, M., & Valdez, M. E. (2009). Contextual factors surrounding reputation damage with potential implications for reputation repair. Academy of Management Review, 34(1), 146-168.

Rhodes-Kropf, M., & Viswanathan, S. (2004). Market valuation and merger waves. Journal of Finance, 59(6), 2685-2718.

Roll, R. (1986). The Hubris Hypothesis of Corporate Takeovers. Journal of Business, 59, 197-216.

Rosen, R. J. (2006). Merger momentum and investor sentiment: the stock market reaction to merger announcements*. Journal of Business, 79(2), 987-1017.

Rosenberg, M. (1979). Conceiving the self. American Journal of Sociology, 6(2).

Savor, P. G., & Qi, L. U. (2009). Do stock mergers create value for acquirers?. Journal of Finance, 64(3), 1061-1097.

Schwert, G. W. (2010). Hostility in takeovers: in the eyes of the beholder?. Journal of Finance, 55(6), 2599-2640.

Servaes, H. (2012). Tobin's q and the gains from takeovers. Journal of Finance, 46(1), 409-419.

Servaes, H., & Zenner, M. (1996). The role of investment banks in acquisitions. Review of Financial Studies, 9(3), 787-815.

Shapiro, C. (1983). Premiums for high quality products as returns to reputations. Quarterly Journal of Economics, 98(4), 659-679.

Shiller, R. J. (2005). Irrational Exuberance. Princeton University Press.

Shleifer, A., & Vishny, R. W. (2003). Stock market driven acquisitions ☆. Journal of Financial Economics, 70(3), 295-311.

Sibilkov, V. , & Mcconnell, J. J. . (2014). Prior client performance and the choice of investment bank advisors in corporate acquisitions. Review of Financial Studies, 27(8), 2474-2503.

Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order

models of capital structure 1. Journal of Financial Economics, 51(2), 219-244.

Slovic, P., & Weber, E. U. (2013). Perception of Risk Posed by Extreme Events. Risk Management strategies in an Uncertain World.

Smith, R. L., & Kim, J. H. (1994). The combined effects of free cash flow and financial slack on bidder and target stock returns. Journal of Business, 67(2), 281-310.

Song, W., Wei, J., & Zhou, L. (2013). The value of "boutique" financial advisors in mergers and acquisitions. Journal of Corporate Finance, 20(1), 94-114.

Stein, J. (1996). Rational capital budgeting in an irrational world. Journal of Business 69, 429-55.

Sudarsanam, S., & Mahate, A. A. (2003). Glamour acquirers, method of payment and post‑acquisition performance: the uk evidence. Journal of Business Finance & Accounting, 30(1‑2), 343–350.

Svenson, O. (1981). Are we all less risky and more skillful than our fellow drivers?. Acta Psychologica, 47(2), 143-148.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: a social psychological perspective on mental health. Psychological Bulletin, 103(2), 193-210.

Travlos, N. G. (1987). Corporate takeover bids, methods of payment, and bidding firms' stock returns. Journal of Finance, 42(4), 943-963.

Tubbs, R. M. (1990). Recency effects in the auditor's belief-revision process. Accounting Review, 65(2), 452-460.

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: heuristics and biases. Science, 185(4157), 1124-1131.

Villalonga, B. (2010). Diversification discount or premium? new evidence from the business information tracking series. Journal of Finance, 59(2), 479-506.

Villalonga, B. (2004). Does diversification cause the 'diversification discount'?. Financial Management, 33(2), 5-27.

Wansley, J. W., Lane, W. R., & Yang, H. C. (1983). Abnormal returns to acquired firms by type of acquisition and method of payment. Financial Management, 12(3), 16-22.

Wansley, J.W., Lane, W.R., & Yang, H.C. (1987). Gains to Bidder Firms in Cash and Securities Transactions. The Financial Review, 22(4), 403-414.

Wiatrowski, M. (1991). Designing performance appraisal systems: aligning appraisals and organizational realities. Hospital Topics, 69(2), 41-42.

Wilcoxon, F. (1945) Individual Comparisons by Ranking Methods. Biometrics, 1, 80-83.